

ABSTRACT

Title of dissertation: THE BODY MADE VISIBLE:
SCIENTIFIC PRACTICES OF
SEEING AND LITERARY NATURALISM

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This study examines how ideas about the body in the late 19th century--how to see them better and how best to represent them--are circulating in discussions among physiologists and sociologists, and how naturalist writers engage these discussions with their own representational strategies. Often, what their works create is a strong tension between methods of corporeal control--immobilizing bodies, abstracting bodies, establishing distance from bodies--and the fact that many bodies refuse to submit to any normative power. I argue that scientists develop visual strategies as a way of learning more about bodies, and ultimately this knowledge can be used for purposes of social reform and regulation. Likewise, naturalist writers focus their narrative upon the body as a way of

demonstrating lack of agency and problems with developing identity. In using some of the strategies for bodily representation that physiologists and sociologists do, naturalist writers also point to social problems that warrant change.

In Chapter One, I trace the desire for bodily penetration on the part of physiologists and naturalist writers such as Émile Zola and Frank Norris. I argue that the bodily interior is conceived of as mechanistic and that naturalist writers use visual methods of magnification and immobilization—successful in the physiological field—to elicit a sense of the interior. In Chapter Two, I discuss how physiologists and sociologists use abstraction to reduce bodies to an essence as a way of ordering excessive detail for measuring purposes. I argue that naturalist writers like Norris and Stephen Crane also engage in abstraction, producing familiar types on the one hand and surreal figures on the other. Finally, in Chapter Three, I examine the multitude of bodies—the crowds. Again, I examine the relationship between social science and visual strategies of order. I juxtapose the early actualities of Edison and the Lumière Brothers with naturalist texts by Edith Wharton, Norris, and Crane, examining ways that visual strategies of ordering crowds—chiefly by

establishing distance and perspective—are used and subverted in literary texts so as to highlight the disruptive power of the crowd.

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AND LITERARY NATURALISM

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Introduction

. . . the novelist is equally an observer and an experimentalist. The observer in him gives the facts as he has observed them, suggests the point of departure, displays the solid earth on which his characters tread and the phenomena to develop. Then the experimentalist appears and introduces an experiment, that is to say, sets his characters going in a certain story so as to show that the succession of facts will be such as the requirements of the determinism of the phenomena under examination call for. . . The novelist starts out in search of a truth. (8)

So writes Émile Zola in his literary manifesto, The Experimental Novel. Throughout his essay, he forges a connection between medicine and art, using the work of Claude Bernard, a prominent French physiologist, as his authoritative source. Both disciplines, Zola asserts, intertwine the modes of observation and experimentation as a way of establishing scientific knowledge about human beings. Bernard's theory of experimental medicine argues for using the experimental method, which had already been

used to study inanimate bodies, in order to establish the physical and material conditions of animate bodies that produce various phenomena. In extending Bernard's theory of experimental medicine to the writing of novels, Zola aims to uncover not only the laws of corporeal selves but of humankind's "passionate and intellectual life" as well (2). As a naturalist writer, Zola champions the idea of modification; the novelist should not merely be an observer and recorder--although accurate documentation is necessary--but one who arranges and sets an experiment in motion based on a hypothesis about the behavior of men and women, particularly what sort of conditions would induce specific behaviors. He writes, "We must modify nature, without departing from nature, when we employ the experimental method in our novels" (11). In arming himself with the necessary step of modification for experimental science, Zola can counter the critique against naturalism, that it is overly informed by the ostensibly observational stance of photography (11). Instead, naturalism fuses both sciences, that of observation and experimentation. Observation is the first step, but a naturalist needs to do more. Zola notes, with his example of Balzac, the naturalist novelist "does not remain satisfied with photographing the facts collected by him, but interferes in

a direct way to place his character in certain conditions, and of these he remains the master" (9).

By rejecting photography as an analogous representational tool, Zola suggests that he is not overly concerned with accuracy, at least not in terms of offering a transparent representation of surfaces. Instead, Zola desires to penetrate the surface--particularly the body's surface--and access the interior. Interestingly, part of Zola's contempt for photography as a naturalist tool stems from his complete acceptance that photography lacks any artifice whatsoever and merely documents facts. He cites and agrees with critics who suggest photography is not an art form since it does not arrange facts (11). Because he emphasizes the role of experimentation to accompany observation, photographic methods will not suffice. Experiments call for arrangement or modification--a much more active role than simply a passive receptor and recorder of data. This is not to say that visual technology is not important to Zola. In fact, it is my contention that visual practices and technologies, particularly those associated with scientific inquiry regarding bodies, inform naturalist representational practices to a large degree. However, he bristles at the association of naturalism with photography because for him

naturalism is not simply a collection of facts. Instead, the naturalist must adopt the posture of interference, arranging facts or known conditions.

Despite Zola's repeated and passionate claims for using the experimental method as a foundation for novel writing, his discussion of experimentation is not without contradictions. First there is the matter of how the scientist conceives of the experiment. On the one hand, Zola claims, "the experimentalist should have no preconceived idea, in the face of nature . . . (3), but later he writes of an experimental idea which guides the experiment. The goal of the experiment is to verify this idea (7). Zola wants the experimentalist--and the novelist--to be active, to engage in interpreting observed phenomena, but he does not want simply to manipulate characters and events because this maneuver would rob them of the authenticity for which he strives. It is a fine line between arranging facts and manipulating them, and Zola never resolves the confusion about working from a hypothesis without a preconceived idea to much satisfaction.

Similar contradictions crop up in his discussions of the experimental novel's social function. At some points in his manifesto, he argues that the "noble" goal for the

experimental novel, after all, is to affect social policy to some degree. Zola stresses the importance of the social condition of man, that man does not live in a vacuum; thus, experiments should be conducted with social conditions in mind. Then, if we can discern the laws dictating certain behaviors, the way "a passion acts in a certain social condition, . . . we gain control of the mechanism of this passion [and] we can treat it and reduce it, or at least make it as inoffensive as possible" (25). It would appear that Zola conceives of the experimental novel as part of a restorative project; he argues that when the experimental novel "experiments on a dangerous wound which poisons society," (28) it will be able to determine causes for the infection that taints other members of society. Consequently, the entire social body can be cured. While the progression from illness to diagnosis to treatment does seem logical, the problem with Zola's rhetoric is that he collapses all three when discussing the role of experimentation. With his continuous assertions regarding arrangement and modification, he suggests that the experimental novel arranges the plot so as to emphasize or even elicit disease. In some ways, then, the experimenter himself, not only society, is the one who is infecting his characters when he decides which hereditary factors and

which environmental conditions to modify. Zola wants to have his characters in a diseased state so he can discern the causes for disease. And while it is noble to want to treat disease, his role as a novelist is ambiguous because he also, by virtue of his active role of modification and arrangement, is creating the disease. Is he simply showing how certain factors and conditions come together to cause social disease and illness or is he conducting an experiment that has him as an active participant in achieving the end result?

Throughout his treatise, Zola aligns the individual body with the social one as he posits the body as a site for physiological and social experimentation. In particular, he is impressed by Bernard's description of the "vital 'circulus,'" which essentially is a summary of the interdependence of the systems of organs in terms of blood circulation: the muscular and nervous systems protect the blood-making organs which in turn nourish those systems. Zola follows Bernard's definition by saying:

There is in this a social or organic solidarity, which keeps up a perpetual movement, until the derangement or cessation of the action of a necessary and vital element has broken the equilibrium . . . (28)

What causes the "derangement" or "cessation"? In Screening the Body, Lisa Cartwright discusses some of Bernard's experiments in which he caused "derangement" or "cessation" in order to understand the normal function. For example, by severing a certain nerve in the face and subsequently noting the loss of movement, he could confidently assert the function of that nerve was movement (26). Cartwright argues that Bernard is intervening to an invasive and destructive extent (27). It would be difficult for him to find many subjects who "naturally" had their nerves severed, and so Bernard circumvents nature by destroying the nerves himself. Similarly, Zola in following Bernard's conception of experimentation, confuses how he is working with "natural phenomena" because by experimenting--arranging and modifying characters and events--he may be circumventing nature as well, creating disease that might not naturally present itself were it not for his interventions.

In his preface to The Drunkard, Zola admits that in his other works he has had to "probe far more disgusting sores" (5). That he characterizes his subjects--the working class particularly--as "sores" certainly suggests his colored attitude toward such matter, despite his continual professions of objectivity. More importantly,

however, his continued use of metaphors of sores and wounds reiterates his notion of manifested phenomena resulting from certain social conditions. "Probing" the "wounds" might lead toward an understanding of what is causing them, of which passions coupled with certain social conditions bring about such wounds. At some points, he suggests this knowledge will provide the basis for treatment. When we learn the laws that govern these passions, "we can act upon the social conditions" (20). In fact, according to Zola, those who practice the experimental novel, will construct a "practical sociology" with which one will be able

to be the master of good and evil, to regulate life, to regulate society, to solve in time all the problems of socialism, above all, to give justice a solid foundation by solving through experiment the questions of criminality . . .

(26)

Elsewhere, however, he retreats from the call for social change, in some ways retreating to the laboratory, for he asserts that:

as we are experimentalists without being practitioners, we ought to content ourselves with searching out the determinism of social phenomena, and leaving to legislators and to men

of affairs the care of controlling . . . these
phenomena. (31)

How much the experimental novel is meant to participate in a regulatory project is a question about which Zola appears unresolved.

I begin this study with Zola because as he attempts to map out his artistic and social agenda for naturalist novels, he raises a number of key issues that are central for my own work. First and foremost, I capitalize upon his sense of the novelist as having the dual role of observer and experimenter. While June Howard, in her book Form and History in American Literary Naturalism, notes the strong role of observation in naturalist texts as it contributes to the "documentary logic that is one of the most important narrative strategies of the naturalist novel" (146), she mainly describes it as a way for both character and narrator to organize details and information in their efforts to perform a "rigorous investigation of reality" (147). However, for Zola and the other naturalist writers I discuss, observation is also linked to a scientific enterprise, one that works from a strong belief that thorough research and analysis of observed data will lead to larger bodies of knowledge and the authoritative power

to render order to the natural and social world. Thus, Zola strengthens his construction of novel writing as a scientific project by linking observation with experimentation.

In particular, Zola holds up the human body as deserving of observation and experimentation. The desire to know more about the body motivates different visual practices in scientific inquiries and literary texts. Late 19th century visual culture founded in scientific practice forms the backdrop for my study by providing the context from which I examine certain literary texts produced at the same time. This dissertation, then, is interdisciplinary in that I examine critical ideas about the body and representational strategies coursing through scientific culture of the late 19th century, the offshoots of these practices into more mainstream visual culture, and literary texts. My aim is to explore how these various disciplines, because of their overlap, represent particular bodies. To see more is certainly to know more, but what is to be done with that knowledge? I also argue that those engaged in visual practices are conflicted about how much scientific and social control they want over the body.

Zola's emphasis on observation as one role of the novelist can be seen as part of a larger cultural preoccupation with the process of vision. New discoveries about optics were being made throughout the 19th century with subsequent developments in visual technology. In Techniques of the Observer: On Vision and Modernity in the Nineteenth Century, Jonathan Crary documents these developments and argues that a paradigmatic shift occurs over the course of the 19th century in which the model of representation dominated by the *camera obscura* is supplanted by a "modernized" model of vision with the stereoscope as the emblematic instrument. In this modern model of vision, because vision becomes situated within the body, blurring the once distinct categories of subjectivity and objectivity, the spectator becomes not just a passive receiver of images but also an active producer of visions (136). As Crary argues, what partly makes such a shift possible is all that 19th century physiology offered in terms of scientific discourse and technological apparatus (79).

In some ways, Crary's model of a corporealized observer who is subject to the sensations of visual stimuli and thus is active in producing vision is just the sort of observer Zola desires since he is so keen on the novelist

as an active participant.¹ But Zola is still clearly a product of his time, still demonstrating a faith in observation and even photography as able to provide a single, objective reproduction of the "solid earth on which his characters tread" (8). If observation is merely passive reception, Zola feels compelled to ensure the naturalistic novelist is performing a more active and manipulative role; thus, he forms inextricably links observation with experimentation. By adopting the experimental mode as well, Zola grounds his own project more firmly in "science," affording it legitimation and authority, constructing the novelist as demonstrating the intellectual acumen to design a social experiment much in the way the physiologist would design a scientific experiment. Consequently, the novelist can translate theories about the body's mechanisms--physical and social--into operative laws.

While Crary does trace physiological developments, he remains focused on how they shape knowledge of vision. In her book, Screening the Body: Tracing Medicine's Visual

¹ For an interesting account of Crary's argument, see Linda Williams, "Corporealized Observers: Visual Pornographies and the 'Carnal Density' of Vision," Fugitive Images: From Photography to Video, ed. Patrice Petro (Bloomington: Indiana UP, 1995) 3-41. While Williams finds much of Crary's argument useful, she expresses some unease at his lack of consideration of gender for the observer and also challenges his claims that tactility and sight become disassociated from one another.

Culture, Lisa Cartwright also examines 19th century physiology, but she looks at physiological studies geared toward learning more about the living body, particularly the body in motion. Physiology requires experimentation in order to analyze the "transient, uncontrollable field of the body" (xiii). Cartwright shows how physiologists helped to develop technology in order to represent the experiments that subsequently "explain" bodies in motion. She includes Zola's muse Bernard as she analyzes the ideological implications of his experiments as well as those of Etienne-Jules Marey, a key figure in developing the technological apparatus for representing movement. As physiologists, both men were dedicated to understanding the laws of the human body although they were critical of one another. As Marta Braun writes in her comprehensive study of Marey, Picturing Time, Bernard did not embrace Marey's passion for complex machinery, and Marey disparaged Bernard's use of vivisection since it "interfered with the regular function of life" (37). Still, the goals of both men were the same--to gain more knowledge about how the human body operates. In order to do this, more access to the body was required.

Extending vision was a key enterprise for physiologists and other scientists, leading to the production of devices that would allow for greater fields of vision, including the body's interior. Of course, the desire to see more of the body is not limited to scientists, as Peter Brooks makes clear in his book, Body Work: Objects of Desire in Modern Narrative. Clearly, novelists and those in the visual arts often work from a curiosity about the body. Brooks argues wanting to see more is intertwined with wanting to know more and ultimately wanting to possess (11). Such possession is frequently sexual in nature, as he describes in his various accounts of representations of women's bodies, but there are other kinds of possessive desires in operation as well. Certainly, as Cartwright argues throughout her book, 19th century physiologists and others working in medicine use their visual technology in a disciplinary manner, subjecting bodies to experimentation and supervision.²

In his book Photography, Vision, and the Production of Modern Bodies, Suven Lavlani agrees that much of 19th century visual technology participates in a project of

² Cartwright relies extensively on the writings of Michel Foucault, aligning many of the visual practices she discusses with Foucault's idea of "disciplinary technologies," particularly those that fulfill the function of surveillance.

surveillance. However, he also argues that when attempting to understand modern vision, it is important to consider the role of the spectacle as well; indeed, spectacle and surveillance complement one another (170-171).³ Someone like Marey is, on the one hand, providing a means of surveillance through his use of chronophotography to chart the motion of bodies, one result of which can be the establishment of a standard for movement. On the other hand, his work contributes to the regime of spectacle, providing new images for consumption, at first by other scientists, but with his work's influence on other fields such as cinema and modernist art, by a larger audience as well. Throughout this dissertation, I offer examples in which bodies are viewed and represented in such a way that they are shown to be objects to be regulated and reformed. Regulation involves an establishment of norms and then coaxing bodies to operate according to those norms. Reform implies problems that warrant change; in this case, bodies pose problems—whether they are subject to fatigue or disease or decadent behavior. Institutional change is designed to rid the individual body and the larger social

³ Lavlani's argument is informed by Guy Debord's influential work, The Society of the Spectacle. Jonathan Crary also notes how Foucault and Debord echo one another as he discusses "the management of attention" in his book Suspensions of Perception (Cambridge: October, 1999) 73-75.

one of such problems. Bodies are also represented as objects for visual consumption and pleasure and are shown to be capable of surveillance and spectatorship themselves. While I do examine projects explicitly engaged in a "hard" science like Marey's physiological experiments, I also study those informed by social science as well, and most importantly, the outgrowths of both sciences in more mainstream visual culture and turn-of-the century literary texts.

It would be difficult to discuss the overlap of late 19th century visual and scientific practices without referring to emerging cinema⁴ and subsequently the studies of Marey and his American counterpart Eadward Muybridge, both men being credited for setting cinematic technology into motion.⁵ In this dissertation, I aim to examine how

⁴ Crucial texts for scholarship on early cinema include Noel Burch, Life to those Shadows, ed. and trans. Ben Brewster (London, BFI, 1990); Charles Musser The Emergence of Cinema: the American screen to 1907 (New York: Scribner, 1990); Thomas Elsaesser, ed. Early Cinema: Space, Frame, Narrative (London: BFI, 1990), which features Tom Gunning's influential article, "The Cinema of Attractions."

⁵ For thorough arguments detailing Marey's contributions to not only the development of cinematic technology but other important innovations, see Marta Braun, Picturing Time: The Work of Etienne-Jules Marey (1830-1904) (Chicago: University of Chicago P, 1992) and Francois Dagognet, Etienne-Jules Marey: A Passion for the Trace, trans. Robert Galeta with Jeanine Herman (New York: Zone, 1992); for a comprehensive treatment of Eadward Muybridge's role in the development of motion pictures see Gordon Hendricks, Eadward Muybridge: The Father of the Motion Picture (New York: Grossman, 1975).

these innovators of optic technology use it to reveal "truths" about the bodies that are their experimental subjects. To this end, I have followed a similar method as early film scholar Tom Gunning does in that I am examining the representational practices and effects of these early films, whether it is the fulfillment of a "gnostic mission" or to "incit[e] visual curiosity and supply pleasure through an exciting spectacle."⁶ Of course, cinema is not the only instance of visual culture I examine; I also analyze other visual practices relating to physiology and sociology because these two scientific discourses have much to say about bodies.⁷ While examining these visual representations of bodies, I also examine verbal ones. In so doing, I sort through differences and similarities between the images of bodies in both discourses--in

⁶ In his essay, "In Your Face: Physiognomy, Photography, and the Gnostic Mission of Early Film," Gunning examines early cinema's "gnostic impulse," which redefines "the role of visual evidence and new methods for investigating the visual world" (3) as is evidenced by its treatment of close-ups. For his compelling argument for a category that does not submit to narrative conventions, see "The Cinema of Attractions."

⁷ In studying the interplay between vision and science, one would be wise to read the work of Barbara Stafford and Jonathan Crary. Stafford takes on the project of outlining the many strategies and theories regarding vision and visibility over the course of the Enlightenment in her book Body Criticism. In a similar vein, Crary provides a thorough investigation of modern vision in Techniques of the Observer. Both works are comprehensive while this dissertation has a much more limited scope by concentrating on the visual practices of scientific inquiry about the body, particularly those aspects that were initially difficult to visualize.

representational practices for dealing with bodies as subjects as well as the effects such representations engender.

If we return to Zola, we see both experimental science and social science coming together in a single project. Using the methodology of the physiologist, Zola asserts that the novelist can then design an experiment that will perform social diagnosis. To arrive at diagnosis, one must denote a pattern, a term that resonates not only in terms of the social, but also of the visual as well. We seek visual patterns. Their predictability pleases, and for scientific purposes, discernible patterns are necessary. Marey, for example, uses his camera to trace a pattern of moving limbs in order to better measure that movement. When motion exhibits a predictable pattern, that information is then useful--for providing a model of efficient movement. Tracing, predicting, and establishing patterns are how an institution can establish standards and norms. Similarly, a social scientist sets out to discover behavioral patterns. If such patterns can be attributed to certain individuals, then social types can be constructed. Those types with the undesirable behaviors can be targeted for reform measures or subject to normalizing pressures.

In order to predict and establish patterns, scientists often use two paradigms: that of the machine and that of the animal. As a physiologist, Marey approached the body as if it were a machine, and his experiments were meant to predict and explain how that machine works. What are the automatic processes? How does the body act and react? These questions are at the core of his work.⁸ On the other hand, a social scientist, such as Gustave Le Bon, often conceived of humans as animals, with innate instincts and impulses that guide their behavior. In both models, the machine or animal acts and reacts automatically. Because there is nothing to mediate the behavior, it becomes easy to predict behavior and to trace patterns. Every time x happens, the body does y , either because it is operating according to mechanistic or animalistic impulses. Not surprisingly, then, scientists engaging in visual practices create representations that highlight the body as machine and/or animal. This permutation continues into more mainstream representations, both in visual and verbal media, a point made by Mark Seltzer in Bodies and Machines.⁹

⁸ For a more detailed account of Marey's "passion for machines," see Braun, 11-15.

⁹ Indeed, I build upon Seltzer's work as I analyze this conflation of scientific discourse, visual practice and automatism/animalism, but unlike Seltzer, I limit my mechanical focus to either those used for visual purposes or the idea of the body as a machine. Seltzer uses a

The visual and verbal imagery of the body as machine and/or animal result partly from the attempt to represent "Things Normally Unseen," to use Siegfried Krakauer's term; scientists, filmmakers, illustrators, and naturalist writers aim to extend vision toward various bodies so as to gain a deeper understanding about human mechanisms. To a certain degree, it is this drive that I am tracing in the visual representations as well as the literary texts that could be termed naturalist. Here, I am capitalizing on Christophe Den Tandt's recent reformulations of naturalism and realism as interrelated genres. Den Tandt argues that the realist mode suffices itself with documentary discourse that has the familiar as its scope whereas naturalism, while often using a similar documentary approach, is not satisfied with such limits and instead strives to extend its visual parameters into more hidden realms (17).

"Things Normally Unseen" includes the transient, the too small, and the too big, all of which can pertain to the body: its motion, its microscopic entities, its transformation when it agglomerates into a larger "body" or a crowd. Subjecting bodies to such extensive and heightened visualization results in certain

much more extensive account of machinery, including the systematic machine of making men as well as machines for production and reproduction.

representational strategies that, I argue, often align with ideological beliefs held about those bodies, particularly those that emphasize the animalistic and mechanistic nature of human beings.

Den Tandt is certainly not the only literary critic to examine the role of visuality in naturalism and realism. Recall, for example, Howard's claim that "documentary logic" and the act of looking are central narrative strategies for naturalism. And Seltzer aligns realism with a project of "compulsory and compulsive visibility," with bodies subject to constant surveillance (95). In his book The Material Unconscious, Bill Brown refers to machines of vision, such as the camera, as well as theatrical spectacles like the minstrel show, as a way of situating Crane's work within a history of American visual experience. Critics also analyze the influence of the visual production of spectacle in realist and/or naturalist works--whether it be that of consumerist displays as Rachel Bowlby describes in Just Looking: Consumer Culture in Dreiser, Gissing, and Zola or the spectacular displays of war that Amy Kaplan analyzes in her essay, "The Spectacle

of War in Crane's Revision of History."¹⁰ My work is in this vein though I place much more emphasis on how certain literary texts and visual practices are informed by scientific discourse about the body. Although scientists might seem to have an authoritative view on such matters, particularly in the late 19th century, I argue that they operate under certain precepts about particular bodies. For example, Muybridge's "scientific" documents of female bodies in motion may be colored by his own notions regarding female sexuality and a physiognomic illustrator like Dr. Joseph Simms makes his racial prejudices transparent in his "scientific" classification system of types.

In structuring this dissertation, I examine various visual and scientific practices with specific regard to the human body, and by doing so, I map out certain desires at play within such practices. While some of the men engaged in this work, like Marey and Bernard, are clearly

¹⁰ See also Giorgio Mariani, Spectacular Narratives (New York: Peter Lang, 1992). Mariani considers Crane's mode to be "visual and theatrical." In his opening chapter, he reviews assessments of late 19th century society as a consumerist one and a society of spectacle (7). He also links consumers and spectators to Impressionism. For an account of Zola working from a visual mode, see William J. Berg, The Visual Novel: Emile Zola and the Art of His Times (University Park: Pennsylvania State UP, 1992). Berg provides some formal analysis of Zola's novels in terms of visual composition, such as vertical and horizontal dimensions (159).

"scientists," I also discuss others who might not be considered "scientists" primarily but whose projects are rooted in science. The Lumière Brothers and Thomas Edison, for example, have made their mark in cinematic history as key developers of the technology but also were established scientists. In addition, I refer to sociologists, who, in the 1890's, are attempting to formulate their field of study in line with established scientific disciplines. The scientific and visual practices are then used as points of access to certain naturalist texts. Here, I have chose to examine works by Zola, Frank Norris, Stephen Crane, and Edith Wharton. I am less concerned with their generic status--what makes them "naturalist" as opposed to "realist"--than with their shared focus on using visual techniques under the guidance of certain scientific concepts as they represent bodies.¹¹ The texts chosen for study range roughly from the 1890s to the 1920s. Their publication tends to coincide with the development of certain visual technologies of representation, including emerging cinematic practices as well as illustrations based in physiognomy. However, I am not trying to merely outline

¹¹ For a thorough and recent assessment of the effort to define realism and naturalism, see Christophe Den Tandt's chapter, "Critical Reassessments of American Realism and Naturalism" in his book The Urban Sublime in American Literary Naturalism (Urbana: U of Illinois P, 1998).

a causal chain of developing visual technology followed by similar techniques appearing consequently in turn-of-the-century literature. Instead, the developing visual technology and literary representational practices emerge amid other cultural forces.¹² For instance, it is not simply the scientists who are engaged in the quest to extend vision and subsequently enlarge bodies of knowledge about bodies, but writers as well. Similarly, the standardization of living bodies is a social goal that finds expression in both scientific and literary practices.

In the first chapter, I examine how and why bodies are placed into arrested states and subjected to close-ups. Both scientists and naturalist writers work from a strong desire to extend vision, either by penetrating the interior or by accessing other "normally unseen" entities, in this case moving bodies and microscopic ones. I argue that Zola and Frank Norris, a conscious imitator of Zola, articulate their desire to use the novel as a way of penetrating

¹² Modernity could be considered the largest force influencing visual technology. This issue is too dense and complicated for me to give full attention to. Instead, I try to narrow my attention to more specific trends of thought and behavior. For discussions of modernity and the visual, see Martin Jay, "Scopic Regimes of Modernity," in Vision and Visuality, ed. Hal Foster (Seattle: Bay, 1988) 3-28 and Crary's Techniques of the Observer. For the more specific link of modernity and cinema, see Cinema and the Invention of Modern Life, eds. Leo Charney and Vanessa R. Schwartz (Berkeley: U of California P, 1995).

bodily surfaces and viewing interiors. However, as evidenced in their novels McTeague and The Drunkard, rendering interiority becomes complicated. Rejecting the methods of psychological realism that have hitherto provided inner access, Zola and Norris aim to expose an alternative interiority, one couched in mechanistic and animalistic terms. I propose this rejection stems from a suspicion regarding thought processes as overly influenced by social mores and principles whereas the more immediate and automatic reactions cannot be faked. While a graphic method like Marey's would be ideal with its ability to translate inner movements and processes with little mediation, Zola and Norris, because of their linguistic medium, must satisfy themselves with eliciting corporeal interiors. To this end, they use similar techniques as scientists working at capturing the invisible, chiefly Marey, Eadward Muybridge and W. K. L. Dickson, all major contributors to the field of emerging cinema. In these visual efforts, "reconstituting the visible" is not the goal: for Marey and Muybridge, bodies are retarded, sped up, and/or fragmented into frozen stills for the purpose of measuring limb and muscle trajectories. For Dickson, Edison's collaborator, representing the "normally unseen" category of the microscopic by use of magnification

constructs horrific images. I argue that, because naturalist writers cannot use a graphic method like Marey's to represent interiors, they resort to other "scientific," visual techniques meant to imply interiors: immobilization and magnification. These techniques, in both the visual and verbal media, result in the creation of corporeal spectacles that challenge ideas of what it means to be human by highlighting the body as animal and/or machine.

In the following chapter, I analyze the practice of abstracting bodies. In both visual and verbal media of the late 19th century, there is an effort to reduce the body to an essence. In terms of scientific practices, the physiologist and the sociologist perform such abstraction so as to eliminate distracting and irrelevant details, thus, affording them the opportunity to view patterns and types more clearly. This desire to get at and represent the essential permeates the work of naturalist writers as well, and to this end, I examine a number of Norris's sketches of types as well as Stephen Crane's novella, Maggie: A Girl of the Streets. For examples of abstraction occurring in visual culture, I rely on Marey's geometric chronophotography, which abstracts the body by suppressing surface details, and I also look at illustrations that

while being in popular magazines have roots in physiognomic and sociological trends. Abstracting individual bodies results in a sacrifice of dimensionality, and such a loss can either be taken as troubling or liberating. For visual experimentation, leaving the confines of pictorial conventions such as perspective and dimensionality allows for alternative ways of accessing and representing the body, letting it be seen in a new light, but when issues of identity are at stake, the replacement of dimensionality with an essence runs the risk of creating rigid models of personhood that leave little room for individuality. Both Norris and Crane, I argue, wrestle with identity issues for their characters. Using visual cues that reaffirm notions about types of people affords them opportunities to engage with their audiences on a certain intimate level. Norris constructs familiar social types by highlighting bodily details, such as facial characteristics, but other surface details as well, such as clothing or accessories or other props that signal a certain "type" to the reader. Crane's style of visualizing types is more radical; the strategy of reducing to essence encourages narrative experimentation that has him swinging on a pendulum between oblique epithets and scenes of vivid intensity that lends the novella a strange and somewhat surreal quality. Both

Norris and Crane, however, suggest deep ambivalence about personhood--how one's identity and body are constructed--and their own roles in representing it.

Finally, I explore visual and verbal representations of bodies *en masse*--the crowd. The crowd was a growing concern in the late 19th century, especially because of the massive influx of immigrants but also because of the increasing expansion of leisure activities that drew masses. In his article on French *physiognomies*, Richard Sieburth argues that the desire to classify the population into social and visual types stems from a deep anxiety about the modern urban crowd populated by unfamiliar or undesirable bodies (175). Not surprisingly, then, representations of crowds reaffirm this anxiety. One way to contain the fear of the crowd is to impose order upon it. In this chapter, I trace certain techniques of "visual management" in early films of crowds by the Lumière brothers and Thomas Edison and his collaborators, notably the establishment of distance and perspective as well as the use of the cinematic pan. While the crowd can appear chaotic, these films show the possibility to impose order upon the multitude of bodies, although to some degree the crowd always simmers with disruptive power. In fact, I

argue that in certain naturalist texts--Norris's Vandover and the Brute, Edith Wharton's Summer, and Crane's "The Men in a Storm"-- this disruptive power is deliberately cultivated. By emphasizing the crowd as irrational, threatening to infect anyone with its chaotic and primitive impulses, these texts link the crowd to other overwhelming social forces that also transform individuals into dehumanized figures: mechanistic animals or animalistic machines. Thus, while Norris, Wharton, and Crane use certain visual management techniques in their efforts to represent the crowd, they also show how these techniques have no permanent control over something as powerful as the crowd.

What this dissertation provides is another useful entry into turn-of-the century texts, beyond the discussion of whether they are generic examples of naturalism or realism. Instead, by looking at the visual technology contemporary with the production of such texts, I will have uncovered ideological implications behind the visual and verbal methods used by analyzing relations within scientific and social discourse. In particular, my argument generates a useful discussion about images of bodies. How do scientists and those who have projects rooted in science, by those working in visual and verbal

media, construct certain bodies? What are these images of bodies supposed to reveal? My argument consistently faces these questions as I examine visual and verbal representations of bodies, providing close readings of each kind.

One difficulty arising from an interdisciplinary project is that, at times, different categories, terminologies, and rules come into play simultaneously, so that I could be accused of comparing apples and oranges, so to say. Is a picture of a body the same as a written description of one? They are not the same. They are borne from very different technologies, and while such technological gaps are fascinating, this dissertation does not explore those differences. Instead, I focus on the overlap by viewing both forms of representations as ways of working out ideas about bodies in creating images of those bodies. In some ways, I am answering Zola's call, for he so ardently wanted experimental science and novel writing to be of the same vein. He was right to imagine the scientist and novelist as not so different after all. Both want to know more about the body, ultimately, perhaps, to control it. However, as my argument makes clear, that body does not always submit to such scrutiny or control.

Frozen Poses, Magnified States: The Naturalist Attempt
To Penetrate the Body

In Body Work, Peter Brooks describes a literary break from a realist vision of the body, a vision investing that body with romantic desire and allowing glimpses of the body's mysteries, but never providing full access to that body. Such a break is made by a naturalist novel, with its strong affiliation to science and physiology, a naturalist novel that would "reveal the material body as determinate of meaning" (123). The work he refers to is Emile Zola's Nana, a novel with a woman's physical and sexual body at its center. Brooks contextualizes Zola's novel by discussing it in relation to the popularity of painted nudes. An important distinction for how Nana's body is represented, according to Brooks, is that she is shown undressing or stripping. This act of stripping implies a somewhat aggressive stance as well as one that makes Nana somewhat responsible for what befalls her. She is choosing to "expose the secrets" of her body (124). Nana's body and what she chooses to do with it are the source for all that happens in the novel, including her ultimate demise in the social and the physical world. Given his fascination with physiology, the study of living bodies, it is not

surprising that Zola would choose to emphasize the corporeal and material while simultaneously examining social behavior.

The field of physiology radically altered the conception of the human body during the 19th century. While there was some debate over what governed the laws of operation, there was a general sense that the body operated according to mechanical properties and laws.¹³ Etienne-Jules Marey, a leading figure in the field of physiology, was determined to discover these laws governing physiological processes. In his view, the body was less a vessel of mysterious and metaphysical phenomena than an animate machine subject to physiochemical laws (Braun 12). Marey's particular interest in physiology lay in movement, what he considered the defining characteristic of life. Early in his career, Marey focused on circulation and cardiac physiology as he developed graphic inscriptors that would record these inner workings with little interference. In a sense, he was studying the engine driving the overall machine.

Viewing the body as an animate machine as well as wanting to understand its interior were also important to

¹³ For a description of the debate between "vitalists" and "materialists," see Braun, 12, and Rabinbach, 92.

naturalist writers like Zola and Frank Norris, a conscious imitator of Zola. In a number of essays, both write of a desire to penetrate the body and access its interior. Like Marey, they feel if they can record these inner workings, they can establish scientific laws and gain a more thorough understanding of the human body with all its inherent mysteries. In this chapter, I examine some of the visual technologies developed to record motion, the first being Marey's graphic method which offered an alternative visual language for the body's interior. I situate Marey's work within a larger project of visualizing the body, one that pursues the representation of material that previously went unseen. Thus, not only was interiority an important subject, but so too were the moving body as well as microscopic bodies. In response to these constraints of time and size, two techniques emerge: magnification and immobilization--the manipulation of space in the former and of time in the latter.

Working with these late 19th century visual technologies and systems of representation for the body provides a provocative lens with which to view contemporary naturalist novels. Surely, it is not their plot that engages readers--they tend to follow a fairly formulaic cycle of degeneration. Instead, much of the naturalist

novel's power can be located in its various spectacles; thus, anchoring the text in strong visual systems is crucial.¹⁴ Here, I have chosen to focus on Zola's The Drunkard and Norris's McTeague, particularly because these authors align themselves with a scientific project, for instance, the method of discovering operative laws for the body, and because they, like Marey, discuss an intense desire to penetrate the body, to access territory that seems invisible. Both writers concern themselves with working out a new concept of interiority, different from the psychological consciousness hitherto attributed to characters. As opposed to being driven by a moral code of some sort, their characters are represented as having a combination of machine and animal characteristics as their interiority. Interestingly, Zola and Norris reject the more obvious method of representing interiority--the thought process. Unlike a modernist writer such as Virginia Woolf, who is also invested with working out an

¹⁴ In analyzing the role of spectacle, I am joining a number of scholars who likewise consider spectacle in naturalist and/or realist works. For example, Mariani discusses spectacular rhetoric in Stephen Crane's work, but where he relates "Crane's visual obsession to larger social circumstances" such as consumerism, I aim to examine spectacles created alongside scientific inquiry about bodies. See Mariani, 7. For an account of theatrical spectacle in Crane's work, see Amy Kaplan, "The Spectacle of War in Crane's Revision of History," New Essays on The Red Badge of Courage, ed. Lee Clark Mitchell (Cambridge: Cambridge UP, 1986) 77-108. In addition to spectacle, there is the visual mode of surveillance, which Seltzer invokes in his account of realist texts. See Bodies and Machines (New York: Routledge, 1992) 95-103.

alternative representation of interiority, Zola and Norris offer no stream of consciousness or workings of the mind. Instead, they emphasize interiority as material, as simply another bio-chemical system like one that a physiologist would examine in his experiments upon the body.

To record the body's inner workings, Marey--who also views the body and the interior systems as mechanical--develops a visual technology that translates inner systems. His graphic method offers a representation of the body's interior in an alternative language. The "traces" his graphing apparatus collect are "to be considered nature's own expression, without screen, echo or interference" (Dagognet 63). It is as if the body were writing itself then. The scientist is there to translate the graphic images the body produces. For Zola and Norris, as novelists, their project becomes more complicated. They, too, are drawn to the idea that the interior consists of automatic processes, yet they must use conventional language, creating or writing the body that must then write itself. Thus, the graphic method eludes Zola and Norris; nevertheless, they still make attempts at penetration, magnifying and immobilizing their characters' bodies in effort to reveal what Norris calls "the raw truths."

Penetrating Interiors

Before discussing certain visual technologies, I would like to expand on this heightened emphasis on the body's interior for both a physiologist like Marey and for writers like Zola and Norris. Marey's task was to uncover the laws governing motion within and of the body. To do so, Marey would use the methodologies and technologies previously used by the physicist and chemist (Braun 15). For example, graphic inscriptors were already used in physics; Marey could build upon these instruments in his own pursuit. His first graphing instrument, the sphygmograph, contributed greatly to the understanding of cardiology. With it, he was able to represent pressure changes in the pulse. Instead of the subjective interpretation of feeling a pulse, Marey's instrument gave a visual record of the event.¹⁵ He then collaborated on a rubber bulb and tubing system and tambours to measure cardiac movement, attaching detectors and recording cylinders. As Braun asserts, Marey's graphic method "allowed him to penetrate the most mysterious workings of the animate machine--to make visible the language of life itself" (22). While Marey is not actually breaking through the barrier of the body's surface, he is ingeniously developing methods of recording

¹⁵ For more thorough discussion of Marey's technological developments, see Braun and Dagognet.

through the surface, allowing the interior movements as felt by veins and membranes to record themselves.

While Marey would go on to study other types of motion, it is important to note the prominence of the body's interior in his work. His early work with circulation and cardiology highlights the fact that there is important motion *within* the body; in fact, these motion systems are, for him, the essence of life. Even when he does turn his attention to the body itself in motion, Marey is nonetheless measuring what happens beneath the surface with the skeletal and muscular systems. It is the interior of the body, then, wherein the source of understanding motion resides.

Zola and Norris also conceive of interiors as sources of an important secret, as the means toward understanding the language of life, as the basis for uncovering the laws governing humankind. It is simply not enough to just observe the surface of an individual. With his technology, Marey performs a "virtual penetration." The question is whether Norris and Zola can do the same. In their writings about their literary projects, both Zola and Norris repeatedly refer to the act of penetration as a necessary step for their artistic endeavors and link this act of

penetration to visualization. Penetrating surfaces allows us to see, and thus know more of, the interiority of human bodies where the mysteries governing our behavior lie.

Throughout The Experimental Novel, Zola aligns the function of the novel with a scientific project preoccupied with observing and directing physical causes and physical effects. Relying on known properties of physiology and chemistry, a scientist, through observation and experimentation, is able to uncover the governing laws which dictate the mechanisms of the human body, precisely Marey's position. Zola takes this notion further and reasons if the body of man is a machine, then all actions, not simply movement, are mechanical. His project is to uncover the "natural phenomena" which govern human behavior. The experimental novel, as Zola sees it, explores the relationship between determining forces and inner mechanisms. Thus, in his novelistic experiments, he sets out to expose the inner machinery of man, to induce the "manifestation" of certain phenomena by placing his subjects under the influences of heredity and environment.

While the interior and exterior are both important for Zola, particularly in the way these concepts relate to the causality he sets out to trace, he is inconsistent when he refers to them. The interior bears the causes for symptoms

manifested upon the exterior. In this sense, the exterior refers to the body's surface. He describes his work as "probing . . . disgusting sores" (Drunkard 5). Sores appear on the surface; it is Zola's aim to discover the causes of these sores. Remembering the common trope of disease for Zola and other naturalists, we can read Zola as performing a social diagnosis, one that would not only detect outer symptoms on various bodies but also explain social conditions as exterior forces that act upon these bodies. While Zola would like his conception to align with Bernard's, because he is adding the social dimension to his project, he has more difficulty with demarcating interior from exterior. For example, alcohol is seen as an exterior force acting upon the body and setting forth a chain of behavior, but it also can be seen as an interior force because of its link to genetic makeup. Much of his social diagnosis remains focused on exterior conditions such as poverty. Nevertheless, Zola is determined to penetrate into an interior condition of the body as well. However, Zola appears unresolved about what constitutes this interiority. Here reside the "presence of truths little known and phenomena unexplained" (13). Like Marey, whose graphic method allows him to chart inner rhythms, Zola expresses the desire to delve beneath an exterior surface

and extend man's accessibility to certain phenomena. The novelist's role, according to Zola, is: "to penetrate to the wherefore of things, to become superior to these things, and to reduce them to a condition of subservient machinery" (25). Zola repeatedly asserts the subsequent ability to "master" the inner phenomena and conditions that this process of penetration reveals.

But just what are these inner "phenomena?" Zola refers to them as having cerebral and sensory capacity and stresses their mechanistic quality, wanting to align them with the physical-chemical properties that experimental medicine would examine. He rejects the thought of the vitalists who, according to him, "admit a vital force in unceasing battle with the physical and chemical forces neutralizing their action" (14). Although Anson Rabinbach, in his discussion of Marey's relations with other prominent physiologists, characterizes Bernard as a vitalist in contrast to Marey's rationalist viewpoint (92), Zola states that he subscribes to Bernard's view as one which insists on an "inter-organic condition" but not one obscured by any such "mysterious force" (14, 15). Herein lies an essential contradiction for Zola who wants to deny the existence of "mysterious forces" yet elsewhere describes "mysterious phenomenon" within the interior. The body is a mechanism;

all parts are subject to laws and react to physical and chemical properties. Marey's argument, according to Rabinbach, was that at one time scientists thought movement "mysterious," but with new theories and continual experimentation, the muscular apparatus and systems of energy could now be explained (91). The laws of the "inter-organic condition" likewise might seem mysterious but would eventually be explained as simply another mechanical system. Zola, however, seems to want to occupy both positions. He refers to "mysterious phenomena," and these are what provoke his intense probing. Yet, what his detailed experiments ultimately show is a decided lack of anything mystical residing in his human subjects.

This contradiction is somewhat worked out in his distinction between naturalists and idealists. The idealist writers are those who accept mysterious and unknown phenomenon and are content to let them remain so, "tak[ing] refuge in the unknown for the pleasure of being there" (36). Zola criticizes such writers as promoting "error and confusion" (37). He argues writers instead should submit such phenomena to hypotheses, even if they are "risky," attempting to shift these phenomena from indeterminate to determinate. Thus, he admits the presence of mysterious forces--"the stimulus of the ideal"--but does

not believe they must remain so. Rather he has such overwhelming faith in the experimenter's ability to "pierce" the unknown and explain it all (37).

Frank Norris, a conscious imitator of Zola, adopts a similarly assertive stance and relies on a similar binary of exterior and interior in his writings about fiction and his brand of naturalism in particular. For example, he calls for writers to "penetrate deep into the motives and character of type-men" in his essay, "The Novel With A 'Purpose.'" If writers rely on types, they rely on surface attributes, leaving the more provocative interiors unquestioned. While Norris does not concentrate on the mechanistic aspects of this interiority in the way Zola does, he does argue for the presence of mysterious phenomenon, which can be found via penetration and subsequently explained. In his "A Plea for Romantic Fiction," he asks:

Can we not see in [Romance] an instrument, keen, finely tempered, flawless--an instrument with which we may go straight through clothes and tissues and wrappings of flesh down deep into the red living heart of things? (1165)

Here, Norris has Romance writers assume the role of the experimenter set forth by Zola and Bernard and also uses the human body as a metaphor for novelistic experimentation, a body to be violated to some degree. Instead of unfolding the various layers or waiting for the subject to strip away these layers, Norris proposes a more aggressive and direct method. For Zola, the experimental method is a "tool," for Norris an "instrument." Like those who champion the emerging visual technology as one which compensates for human inadequacy, Norris compares his narrative style to a perfect technology, celebrating its ability to extend vision beyond a normal and concealing surface and provide access to the private and the mysterious, to Zola's "unexplained phenomena."

For Norris, Realism satisfies itself with "only the surface of things" (1166). In his extended analogy of Realism and Romance as visitors to a neighbor's home, Realism simply appears at the door and has seen enough. Romance, on the other hand, searches until it can offer "a complete revelation of my neighbor's secretest life" (1167). Words like "prying," "peeping," and "peering" are attributed to Romance, suggesting not merely a documentary mode for Norris's sense of naturalism but a much more intrusive one. Norris's analogy also suggests that the

subject is deliberately concealing matter and in some ways this makes the novelist's work, as he outlines it, all the more challenging. A subject that is not complicit is one that must be conquered then. The justification for such prying is that this method will "teach . . . by showing" (1168). It is for writers to explore and expose the "unplumbed depths of the human heart, and the mystery of sex . . . and the black, unsearched penetralia of the soul of man" (1169). Norris's use of the word "black" reveals his assumption that what is below the surface of men and women will be dark and morally corrupt, and his novelistic experiments will be guided by this assumption as well as the suggestion of a need for regulation. He also transforms his crucial verb into an object--"penetralia"--the ultimate object of his narrative quest, a word that recalls the term "genitalia", where the mysteries of sex reside, and for the female body, are essentially hidden from view.

Analyzing the figure of the erotic body in modern narrative, Brooks demonstrates the centrality of privacy as an essential trait of the novel and shows how readers and writers want to "penetrate into a situation of privacy" in a similar way that scientists want to penetrate invisible matter (34). Part of this desire for such penetration

stems from a belief that the more a body is secret and veiled, the more curious we become since it becomes invested with more meaning and to possess something more meaningful increases the pleasure. Such a cognitive urge toward the enigmatic nature of sexualized bodies, particularly the female body, certainly drives a number of Zola's and Norris's novels. Norris explicitly refers to sex as one of the mysteries residing in the interior realm, and Zola also expresses a fascination with the woman's body, particularly its sexual secrets and its ability to reproduce.¹⁶

Like Marey, who was convinced that "mysterious phenomenon" such as movement could be explained via experimentation and observation, so too do Norris and Zola strive to explain sexuality and other inner workings, often in a way that reasserts the body as acting automatically. "Instinct" and "intuition" are seen as the forces causing bodies to react in a certain way. For example, when Norris describes Trina in his novel McTeague, he writes that her body reacts to McTeague's violence because of the

¹⁶ Dorothy Kelly, "Experimenting on Women." Spectacles of Realism: Body, Gender, and Genre, ed. Margaret Cohen and Christopher Prendergast (Cultural Politics 10, Minneapolis: U of Minnesota P, 1995) 238. Kelly argues that Zola identifies with Bernard's experimental method as a manly project, with the male scientist distanced from, and dominant over, his female subject. And although sexuality is equated with filth, it is also that which is supremely mysterious and thus a great challenge for any investigator.

"intuitive fear of the male" (473). This automatic quality is strongly linked to animals, with their primitive urges that instigate certain human behavior, and is also linked to machinery, machines that can act with little interference, machines that only need to be started but will then run by themselves. Consequently, this automatic capacity inspires both awe and anxiety. While it is amazing to witness the power of machinery, particularly the body as such with its intricate complexity of various mechanisms all working together, there is also the sense that such a body is somewhat robotic. When emphasizing the automatic, one also emphasizes the lack of volition, of consciousness and will, the very characteristics we often see as human. Conceiving the human body and its interior as animalistic and/or mechanistic disturbs partly because it calls to mind that we are animals--which threatens those who want to see us as morally superior--and that we are machines--which can imply robotic acting without thought.

Visual Technologies for Representing the Unseen
Whether to uncover the mechanics of motion or the

mechanics of human passions, both physiologists and writers like Zola and Norris figure the interior realm as the site

for intense scrutiny. That this inner space was not visible to the human eye was part of its appeal, but other subjects also belonged to this category of "things normally unseen."¹⁷ For instance, moving bodies and microscopic bodies attracted the attention of physiologists as well as other optic innovators. In this section, I will examine the technologies developed in order to access and represent "invisible" material: the graphic method, which penetrated the interior of bodies; chronophotography, which immobilized bodies in motion; and finally microphotography, which magnified microscopic bodies. Such technology competed with human vision, finding a way to capture images that went previously unseen. Partly because of this veil of invisibility, these bodily subjects gained an aura of power, of being the bearers of important "truths."

Certainly, Marey established the interior as the source of understanding the human mechanism. In order to access the body's interior motion, Marey needed to create additional machinery that would act as super eyes, a sort of prosthetic vision. Such tools as the sphygmograph and the myograph not only performed a virtual penetration but

¹⁷ Siegfried Kracauer, Theory of Film: The Redemption of Physical Reality, (1960; New York: Oxford UP, 1971) 46-57. In using Kracauer's category of "things normally unseen," I discuss mainly the too big, the too small, and the transient; however, Kracauer also includes other "invisible" matter such as "refuse" and "blind spots of the mind."

also were able to produce a representation of the motion of processes occurring within. Indeed, movement of the interior such as blood pulsing and a heart beating could now be transcribed into a visible representation, fluid markings across a grid of time intervals. Rabinbach describes Marey's graphic method as able "to decipher the language of duration within the space of the body as well as to map the body in space" (94). It is as if Marey is providing a way to turn the body inside out. Furthermore, using graphic inscriptors has the advantage of recording internal movements without interference of subjective human vision--instead it was as if the body was writing itself. Marey's graphic method obtained access to the body's interior and then translated the movement within seemingly without mediation; in fact, he presented an alternative visual language with his graphic charts, the various lines and trajectories representing interior movement. It was of no importance for Marey to have his representations of the inner body adhere to realistic conventions such as those associated with photography and its privileging of dimensionality. Instead, Marey's graphic method championed a fluid linearity as an optimal representation of movement, through time, across space. Having lines that mark the body along the coordinates of time and space provides the

means for measurement and the ability to make and predict calculations regarding motion. This fluid linearity would be a constant throughout his work.

Not only did motion within the body intrigue Marey, but so too did the surface body in motion. He was not alone in wanting to establish the laws of movement in his larger project of setting forth laws of operation for the body. Eadward Muybridge, for one, would develop his own technology and representational system in order to document the moving body. Muybridge is the man responsible for providing visible proof that all four of a horse's hooves leave the ground during its gait.¹⁸ Like Marey, Muybridge developed his work in order to demonstrate what the human eye could not, capturing transient images beyond human access. By setting up a battery of cameras in a sequence, Muybridge was able to fix certain moments of motion, eventually isolating that particular moment in which all four hooves did indeed leave the ground.

¹⁸ For a more detailed account of the relationship between Leland Stanford and Eadward Muybridge and their documentary project to confirm whether or not all four of a horse's hooves leave the ground during its gait, see Francois Forster-Hahn, "Marey, Muybridge and Meissonier: The Study of Movement in Science and Art," Eadward Muybridge: The Stanford Years, 1872-1882, (Palo Alto: Stanford U Dept of Art, 1972) 85-109.

Upon seeing the Muybridge photographs, Marey enlisted Muybridge's help in developing a camera that could capture images of flight. Overall, he was shifting his focus toward using chronophotography in his study of motion. Here, he could combine photographic technology with his systematic method of charting. As Braun observes, when Marey began blending the power of the photograph (with its dimensionality) and the graph (with its regular intervals), he could fulfill a project of truly capturing movement since objects move through space over a period of time (xiii). The moving body needed to be mapped along both spatial and temporal coordinates.

However, the surface details now available because of his chronophotographic methods resulted in such distraction so that precise measurement--a key goal for Marey--became increasingly difficult. In contrast to his graphs with their single trajectories across a grid, he was now faced with two-dimensional figures with an abundance of visible minutiae. Consequently, Marey began suppressing bodily details by costuming his human subjects in dark suits with dots and lines superimposed to indicate the skeletal and muscular structures he was attempting to measure. (see figures 1 and 2) This geometric chronophotography is quite abstract and harkens back to his earlier graphic method, a

trajectory Mary Ann Doane also notes in her essay "Freud, Marey, and Early Cinema." Doane also argues that Marey is driven by a need for "horizontality," placing his bodies along the same line that his graphic method would produce

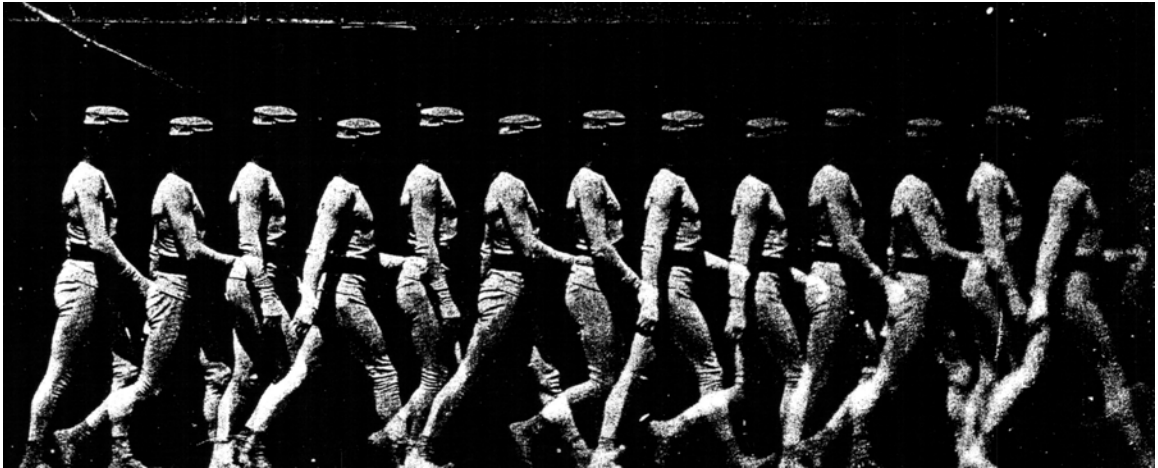


Fig. 1: Etienne-Jules Marey, Chronophotographs (Braun 106)

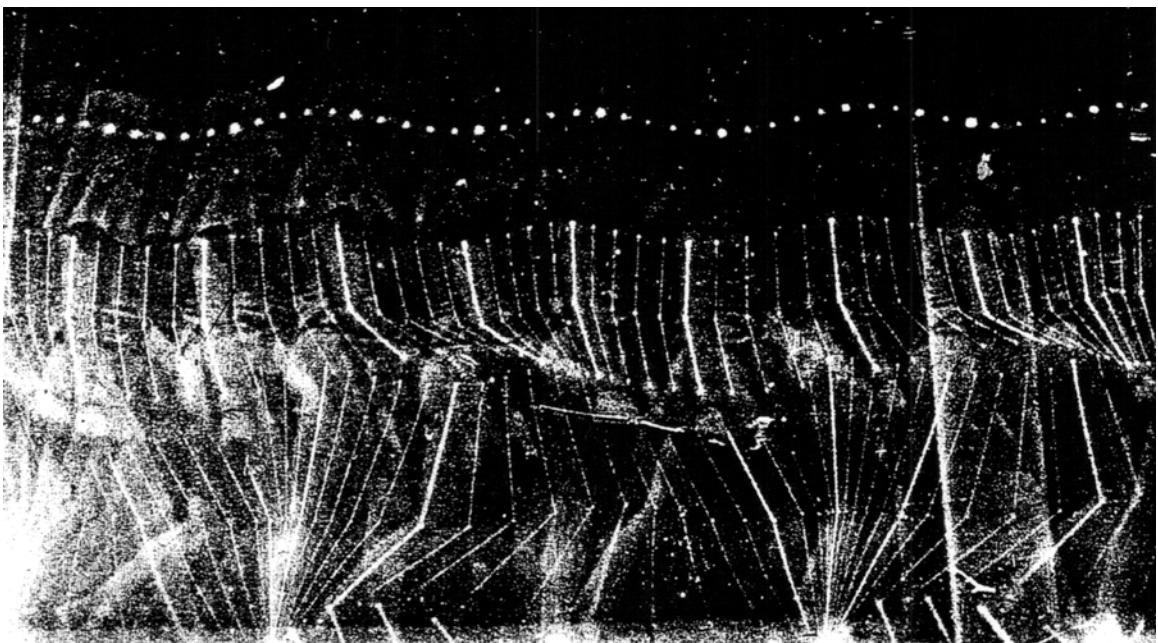


Fig. 2: Etienne-Jules Marey, Chronophotographs (Braun 106)

and hoping to obscure the time gaps--infinitesimal though they may be--of chronophotography. Haunted by the "lost time" of these gaps, he works to increasingly eradicate the discontinuities inherent in the photographic technology of Muybridge's system with its single camera taking isolated shots at intervals, creating representations of bodies more akin to his graphs (332-3).

Muybridge would opt for a different strategy in his recordings and representations of movement. Where Marey's images of bodies in motion are depersonalized, abstracted into series of lines and curves, Muybridge's series of bodies in motion draw attention to unique details, such as props and gestures. Furthermore, in his system of representation, Muybridge deliberately separates his bodily images into separate frames, explicitly rendering the discontinuity of the movement. (see figure 3) It would be for the observer to fill in those gaps or simply to absorb each image singularly as opposed to Marey's desire for fluid linearity. In fact, Muybridge's series of posed bodies were far less grounded in scientific accuracy than Marey's work, as Braun makes fairly clear. For example, Muybridge would often rearrange photos to suit his aesthetic, creating an illusion of chronological movement, and he did not care to make the intervals between shots

uniform and exact (Braun 237-38). Instead of a single camera capturing motion intermittently, Muybridge set up multiple cameras, each with the task of capturing an isolated pose. When ordering these poses, often against a grid background, he implied movement, if he did not always accurately document it.

These key differences between Marey and Muybridge make sense in terms of their backgrounds and purposes. Marey's work, though it contributed to an array of fields from social policy to Modernist art, was grounded in physiological science. In contrast, Muybridge began his career as a photographer, often using the stereoscope, for instance, to reproduce images of expansive vistas of the West. It is not so surprising, then, that Muybridge would cultivate pictorial conventions such as dimensionality and perspective whereas Marey would eschew these practices in favor of techniques that aligned themselves with precise measurement.

Nevertheless, while Muybridge may have been more attuned to pictorial conventions of his time, he did not wholly subscribe to them in his work. Besides the arresting quality of bodies immobilized amid movement, his images often relied on foreshortening, a trait that rendered his subjects in extremely awkward poses.

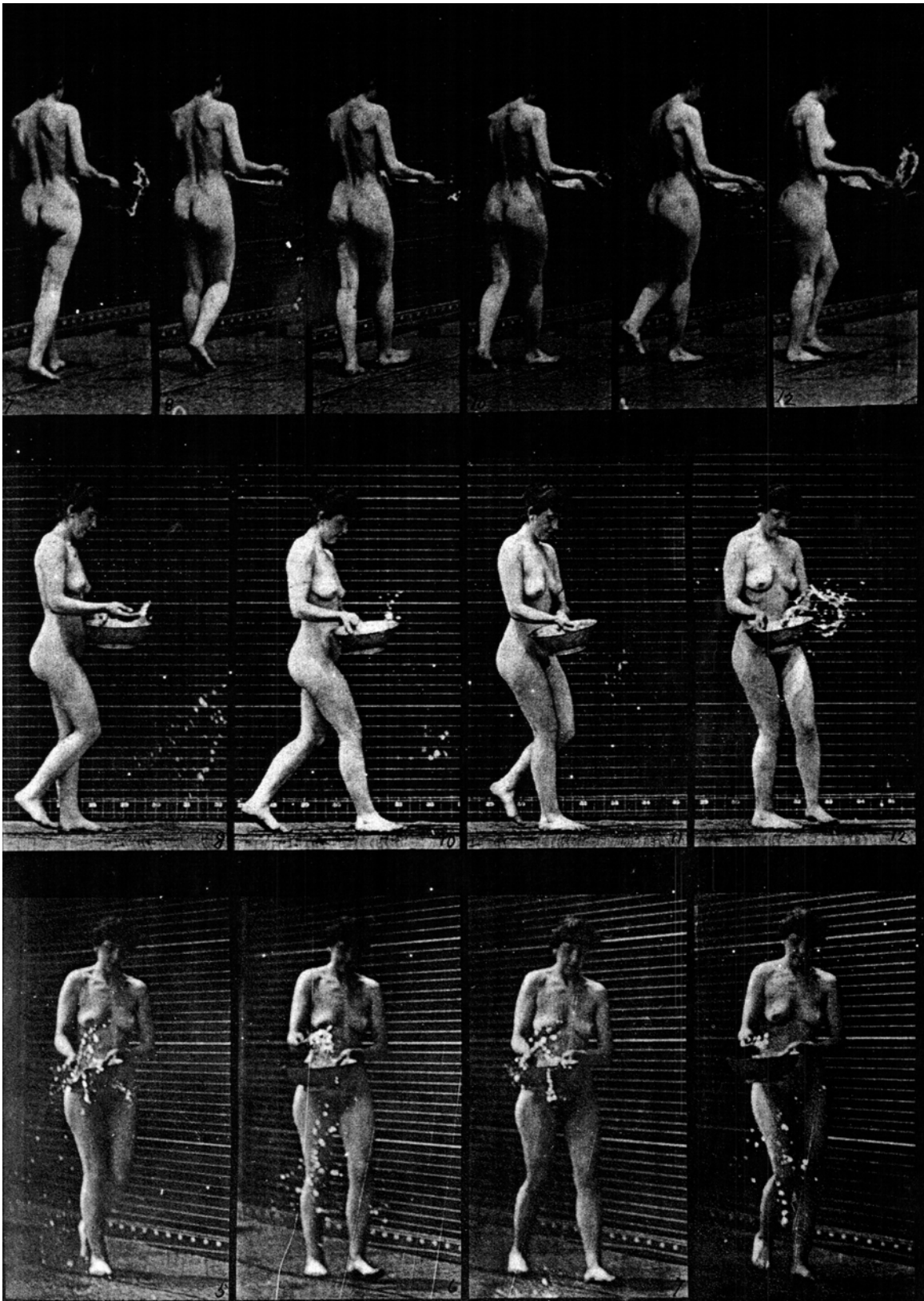


Fig. 3: Eadward Muybridge, Plate 102, The Human Figure in Motion

Such ugliness troubled some viewers of Muybridge's zoopraxiscopic demonstrations who found the stills awkward while others such as the artist Francis Bacon found the apparent distortion provocative.¹⁹ This distorted appearance kept some viewers from believing in Muybridge's ability to provide visual evidence regarding movement since the series of stills challenged the current aesthetic conventions. The artist Messonier, for instance, required some convincing of Muybridge's authenticity because he found the frozen photos of horses galloping so ugly and "unnatural" (Braun 53).

Translating movement, that most essential trait of life to use Marey's terms, then, can adhere to different techniques: the suppression of detail and a tendency toward abstract lines and trajectories in Marey's case--a technique to be taken up further in the following chapter--and the frozen, awkward, discrete poses against a gridded background in Muybridge's case. Both systems of representation challenge "normal perception" as well as contemporary methods of representing the human body. Thus, Marey and Muybridge construct alternative ways of seeing and knowing. In immobilizing the body amid a trajectory of

¹⁹ Descriptions of responses to Muybridge's demonstrations can be found in Forster-Hahn, 86; for more on Bacon's reaction, see 103.

movement, Muybridge appears to disrupt the seemingly natural flow, something Marey did his best to avoid. In some ways his photos stood as a challenge to the human eye, questioning its record; the camera did not lie, so the eye must be fallible. Part of the pictorial strength of the work of Marey and Muybridge is their connection to a scientific pursuit of accuracy, of measurement for another purpose. In Marey's case, his motion studies of athletes and workers served to "communicate the superiority of those movements to others less adept" (Banta 324). In this way, his work participates in a regulation of movement, a project to normalize it so that the body would not experience fatigue. Thus, measurement of the body through time and space, not the ability to recognize the dimensional body, is what matters. Naturalist writers Zola and Norris construct their narrative experiments in a similar vein, challenging the current mode of realism, willing to immobilize their subjects as well, displaying their bodies in unnatural and distorted poses if such representations will reveal important truths.

While the inner body and the moving body are considered "things normally unseen," eliciting, then a desire for visualization, there are still other seemingly

inaccessible subjects for scientific and visual technology to capture. Where Muybridge's chronophotography was able to immobilize the moving body, new developments with the kinetoscope allowed it to magnify and document "microscopic subjects, a class of especial interest as lying outside the unaided vision of man" (41) according to William Kennedy Laurie Dickson, Thomas Edison's chief cinematic collaborator.²⁰ In his history of the kinetoscope, written with his sister Antonia, Dickson discusses the possibility of projecting images using an adaptation of the kinetoscopic method: the nickel-in-the-slot machine. Later, he writes, at some length, of the difficulties in capturing "infinitesimal types" but given the right chemical treatment and technological "contrivances," he eventually reaches success. He then begins to speculate at a marriage of the two processes, stating, "We will suppose that the operator has at last been successful in imprisoning the tricky water-goblins on the sensitive film, in developing the positive strip, and placing it in the projector" (42-3). What this method will do, to some

²⁰ Throughout his book, Dickson trumpets his prowess in terms of mastering a new technology. In this way, he echoes Zola who also, throughout The Experimental Novel, emphasizes the ability to conquer the unknown, mastering the human condition vis-à-vis the experimental method. Both men emphasize their projects as victorious conquests over material that previously seemed inaccessible.

degree, is ensure that the resultant image appear as a distorted, grotesque spectacle. Even for subjects one can see without a microscope, such as insects, when magnified, their proportions and dimensions are skewed. Yes, minute details, like the hairs on a fly's leg can now be observed, but the image as a whole with its enlarged proportions defies "normative perception," generating an intense defamiliarization. Dickson describes the effects of magnifying and projecting "tricksy water-goblins" or amoebae on film as such:

A series of inch-large shapes then springs into view, magnified stereotypically to nearly three feet each, gruesome beyond power of expression, and exhibiting an indescribable celerity and rage. Monsters close upon one another in a blind and indiscriminate attack, limbs are dismembered, gory globules are tapped, whose battalions disappear from view . . . A curious feature of the performance is the passing of these creatures in and out of focus, appearing sometimes as huge and distorted shadows . . . (43)

Are these amoebae we're talking about? Because it is unclear as to whether such a projection actually occurred, we are made even more aware of Dickson's own psychological

projections. Dickson projects all sorts of violent emotions onto presumably harmless creatures, creating a scenario of war, perhaps to provide a thrill for potential audiences. What seems particularly threatening about these creatures is not just how violent they presumably are but that their violence is not borne from any particular cause. Instead, they attack anything that comes into their range with absolute malevolence. Again, the notion of the automatic exposes an anxiety about creatures that simply act without thought. Furthermore, Dickson's description, despite his desire to demonstrate the perfection of this new technology, demonstrates results of magnification with an unstable focus as "distorted shadows." What his cinematic endeavors will produce is not realistic, not even an illusion of realism. Instead, what will be produced is a "gruesome" monstrosity.

The aggressive language of "gory globules" permeates much of their chapter. When describing the microscopic image of a flea, the Dicksons question, "Who would not prefer the mosquito as we know him . . . to this monstrous Afrite with its hungry and innumerable eyes, its ribbed bat-like pinions, and its formidable arsenal of weapons" (46)? [see figure 4] Instead of the dry language one might expect from a scientist recording the image of a

microscopic subject, we are privy to a sensationalized description, creating enemy soldiers out of fleas and mosquitoes. It is also important to note the racial characterization with the unseen enemy being revealed as a "monstrous Afrite." This inclusion suggests that Dickson is taking his descriptors from a lexicon of images that already provoke fear in a mainstream American audience.



Fig. 4: W.K.L. Dickson, Microscopic Enlargement of a Flea, History of the Kinetograph

In part, this representation serves to highlight the figure of the scientist as powerful in his constant contact

with such creatures and his ability to confine and contain them. Frederick Talbot, another in the field of developing cinema, in 1912 describes micro-cinematography as an endeavor that "makes one feel that there is no limit to the power of man over the natural world" (161). However, while Dickson's description rings of a martial spirit, with its vivid account of violence and aggression, he also recognizes that witnessing these projected images is "scarcely conducive to domestic comfort" (43). Although he acknowledges that the "unseen" is often considered an "enemy" since we are often most afraid of the unknown, this other transformation of seemingly harmless creatures into "unimaginable horrors which micro-photography reveals in connection with the kinetoscope" is possibly more threatening. Dickson emphasizes the intervention of the technology--and the experimenter who uses it--in the creation and projection of such images. He claims "the kinetoscope steps in and reveals the malign activities beneath these awful shapes," and surprisingly, he even suggests it may be better to remain ignorant of such revelation since he worries about "the effect of this torrent of appalling impressions upon the mental and physical tissues" (46, 47). But calling these microscopic creatures "malign" reveals Dickson's own anxiety about

microbes, mosquitoes, and houseflies. In the case of the housefly, he mentions its "virulent poison" for instance. The anxiety about microscopic creatures as carriers of violence, disease, and death already exists; the visual projections of these specific creatures, magnified and distorted, now appear to embody these fears.

All three technologies serve to access and represent previously unseen moving subjects: Marey's graphic method provides a virtual penetration of the body by translating interior processes; Muybridge's chronophotography immobilizes bodies in motion; and Dickson's account of micro-photography magnifies infinitesimally small, mobile bodies. As systems of representation, all three have very little interest in providing a faithful replication of the illusion of reality. Although Jonathan Crary has rightly called the notion of a shared, common perception into question, as it is highly subjective and dependent on the observer (17), one could still argue that there is agreement between various observers as to what looks "real." What these visual technologies offer are alternative visions, more "real" than realism in their capacity to go beyond what the human eye can normally

perceive and thus aim for a new understanding of "the real."

For example, although Marey celebrated the camera because, unlike the human eye, it was not subject to error, he was not even interested in recreating the illusion of movement. As Braun states, Marey's chief interest lay in "capturing the invisible, not reconstituting the visible" (195). Because Marey's purpose was to analyze movement, being able to measure temporal and spatial coordinates was of primary importance. When using his graphic method, he did not bother with photographic conventions or replicating inner anatomy. Instead, he chose to represent the interior as a trajectory spanning specific intervals. Even when he turned his attention to surface motion, when projecting images of movement, he purposely slowed down or sped up the movement of the body in order to accurately measure the various coordinates. While Muybridge was not as invested in scientific accuracy, he still was engaged in scientific inquiry as he also set out to capture the "invisible" mechanics of motion. Placing a living body into an arrested state and then sequencing these captured images allowed him and other scientists to study the subjects more thoroughly and carefully, despite them appearing "unrealistic" in such a state for the eye does not normally

register a moving body as a chain of frozen, disjointed poses. Similarly, placing a subject into a state of magnification, as Dickson describes, allows for a more thorough examination of minute detail, but at the same time challenges our perception of "the real." We must reconsider what the insect, for example, really looks like since our eyes do not actually work like microscopes, magnifying what we cannot see until its proportions are visible but exaggerated.

Consequently, all three of these visual technologies for representing movement have a transformative power, potentially defamiliarizing the observer who approaches the subject--whether it is the body's interior processes, a body moving through space, or a microscopic one in motion--with a set of expectations based on experience. And if we take Dickson's hyperbolic statements to heart, such defamiliarization is potentially dangerous, damaging the sensitive brain and soul, enveloping the observer in a new state of horror. "What howls of mortal anguish one may expect and what an unpleasant stir generally in [a] gentleman's domestic economy" (47).

Experiments of Destruction

Now that I have laid out these different visual technologies, I would like to examine how they are put to the service of "experiments of destruction."²¹ First, let us return to Zola and Bernard and their sense of the relationship between the experimenter and the body.

Building upon Bernard, Zola repeatedly asserts the experimenter's role to master and conquer anything mysterious about the physical and social body. For example, the experimenter is the one who causes a "cessation" or a "derangement" in order to understand the system. In outlining his "experiments of destruction," Bernard describes the severing of certain facial nerves in order to learn their function. As Cartwright argues, Bernard's method relies on the suppression or destruction of bodily activity in order to understand its "normal behavior" (26). In their visual experiments, Marey and Muybridge follow a similar pattern, with Marey suppressing the surface of the body in his geometric chronophotography and Muybridge causing cessation by freezing the body in various poses. The result of such physiological

²¹ Cartwright titles one of her chapters "Experiments of Destruction" outlining Bernard's work on experimental medicine in which physiology exercises disciplinary and transformative power upon the bodies it visually experiments upon and records.

experimentation can lead to a diagnosis. For example, with Marey's work, the results of understanding the mechanics of motion in skilled bodies would lead to a possible "cure" for fatigue, a condition plaguing workers of the late 19th century. The narrative experiments of Zola and Norris ostensibly serve to change social conditions which produce the sorts of bodies they represent although rarely is there an explicit agenda presented to effect social change. Indeed, Zola directly disowns such responsibility, claiming the novelist need only present the "determinism of social phenomena . . . leaving to legislators and to men of these affairs the care of controlling sooner or later these phenomena in such a way as to develop the good and reject the bad, from the point of view of their utility to man" (31). Diagnosis, treatment, and illness all seem to collapse upon one another in the naturalist attempt to work on social policy. But certainly, before anyone can provide a diagnosis, the body must be subject to experimentation.

Both Norris and Zola are compelled by the sense of mysterious phenomena covered by the veil of the human body, and they operate under the premise that if they could just penetrate this veil, then these most profound mysteries would be explained. How to represent surfaces and interiors, then, becomes an essential question. Zola

rejects the model of photography as being only observational, not experimental. In Bodies and Machines, Mark Seltzer likewise dismisses photography as having a definitive kinship with naturalism when he suggests a possible distinction between naturalism and realism; by building on an observation by Oliver Wendell Holmes, he compares the camera--its product, the photograph, being the standard of realism--to an instrument that skins its subjects whereas naturalism is more akin to taxidermy in that it freezes not just the outer surface but the entire animal as well (170). While the photograph provides a simulation of the body's surface, any other dimension is left for the viewer to supply. One can project an interiority upon the subject; we often ask what was this person thinking as she posed for the camera? But the body that has been subject to taxidermy does not register in the same way for the viewer. Seltzer describes such subjects as "hover[ing] midway between the *tableau vivant* and the *nature morte*" (170).

Not satisfied with the mere skin that realism would produce, Zola and Norris as naturalists attempt to freeze their subjects in entirety. In her discussion of Carl Akeley, the taxidermist responsible for figures in The American Museum of Natural History, Donna Haraway describes

taxidermy as an art that typifies, condensing the essence of the animal in one singular pose (40). While Akeley was concerned with capturing a moment of perfection, the naturalist who performs a similar taxidermy reveals the essential imperfection of the human subject. Even if Akeley believed he was constructing paragons of prowess, there is nevertheless something grotesque in seeing a gallery of stuffed animals, fixed forever in poses, which might suggest their strength but clearly, by virtue of their being stilled, undermine that very notion. If Marey is correct in isolating movement as the essential characteristic of living bodies, then being without motion, despite being three-dimensional, must appear decidedly unnatural. However, as Bernard's experiments show, cessation can be key in revealing truths about the human body. As a representational technique, then, the act of freezing a body results in an unnatural spectacle, but as an experimental technique, it illustrates certain functions. For example, when Bernard would sever a certain nerve, he did so in order to see what function would cease—a particular movement, perhaps, or a specific bodily function, like aiding another organ in its work.

If we follow this conjunction of naturalism and taxidermy, we are left without successful penetration

however. Despite their desire to penetrate the body's surface, Zola and Norris do not find a viable way of rendering their conception of the human interior visible. They make attempts to explain behavior with references to a biological interiority, particularly in terms of inherited traits passed down through bloodlines from generations to generations, but these explanations are often oblique and are difficult to render in visual terms. They avoid examining an inner life of the mind for their characters, opting instead to remain focused on those processes that seem automatic and mechanical for these process are not tainted in any way by social attitudes and beliefs and therefore seem more authentic, more of a "raw truth." In lieu of a method that works like Marey's graphic method, an actual translation of interior processes, the naturalist turns to other techniques which emphasize the corporeal and imply and elicit a sense of the interior: immobilization and magnification, techniques used for representing the body, techniques that also are guided by desires to see what has been invisible and thus, establish new knowledge about the body beneath the glare of the lens.

Neither method is able to provide a direct representation of the interior; instead, each implies interiority. Immobilization, as our taxidermy scenario

suggests, can, by arresting a dimensional body, heighten the realization that the subject is corporeal, so it must be composed of an exterior and interior. Magnification can work similarly. Accessing and representing infinitesimally small matter confirms the possibility of rendering other territory—such as the interior—visible. Following the zoom of the camera, one is able to imagine that penetration to the interior is only a mere step away. Of course, this barrier is precisely what troubles the naturalist. Zola and Norris place bodies under a narrative magnifying lens, often fragmenting them into separate parts. Again, the corporeal aspects of their subjects are highlighted in this process, but no matter how close they attempt to get, the skin will always prevent them from getting in.²²

Whether or not these representational techniques are successful in eliciting a strong sense of the interior is undoubtedly questionable. What these naturalist, novelistic experiments do achieve by using these visual technologies is that same sort of defamiliarization that characterizes the work of Marey, Muybridge, and Dickson.

²² Although Kracauer is referring to classical cinema, he makes a similar point about the close-up as a visual technique that creates an illusion of penetration into an interiority. He describes how the logical progression of the close-up of a woman's face followed by a certain image leads the audience to feel as if they have followed the camera's trajectory beyond the skin of her face into her mind. See Kracauer, 46. However, Zola and Norris are aiming for representations of other interior processes, ones that are more automatic.

For example, when Norris presents Trina's body immobilized by McTeague's anesthesia, he does so partly in order to understand an interior mechanism of hers--her sexuality, as I will discuss in more detail shortly. However, the immobilization and magnification that occur serve to disturb the reader. These bodily representations as they appear in Norris's and Zola's work--immobilized and/or magnified--by virtue of the nature of these technologies, embody the anxieties about the relationship between humans, animals, and machines. Arresting bodies takes them out of their seemingly natural flow through time and space. This immobilization, since it is motivated by a desire to disassemble the mechanics of the body, ends up highlighting the body as mechanistic, a robot that can be started or stopped at someone else's will. It also suggests the animalistic nature of humans--the human body as simply a stuffed animal. Furthermore, magnifying bodies creates distortion by blowing up the familiar into outsized proportion and creates monstrosity by piling on excessive detail.

Recall Dickson's account of how the kinetoscope achieves this process with darting amoebae being magnified and thus transformed into "gory gobules." We see a similar process occurring in Zola's novel, Nana. Throughout the

novel, Zola subjects the figure of Nana, a figure who elicits both fear and fascination, to constant magnification, ultimately rendering her as a completely hideous spectacle, as if thrilled with the visual embodiment of all anxieties toward Nana the prostitute, the fly-like being who has been poisoning society with her sexuality. At the novel's end, some of Nana's "friends" come to visit her and find that she has just died of smallpox. As they leave, they light a candle as a proper gesture only to be horrified by the sight of her body:

[Her face] was a charnel-house, a mass of matter and blood, a shovelful of putrid flesh . . . The pustules had invaded the entire face, one touching the other; and faded, sunk in, with the greyish aspect of mud, they already seemed like a mouldiness of the earth on that shapeless pulp, in which the features were no longer recognisable. One of the eyes, the left one, had completely disappeared amidst the eruption of the purulence; the other, half open, looked like a black and tainted hole . . . A reddish crust starting from one of the cheeks, invaded the mouth, which it distorted in an abominable laugh.

(408)

In this case, Zola not only magnifies each detail with something like glee, but he immobilizes her as well. With a frozen body such as this one, the desire is no longer to penetrate the interior to see what mysterious workings are occurring but rather to perform an experiment of destruction. Death assures no inner processes are at work. Part of the force of this representation is its stark contrast to the erotic power of Nana's nude body in the beginning of the novel. Here, she has been utterly transformed: "Venus was decomposing." As Kracauer suggests, magnification creates a metamorphosis of familiar reality into some other organism (48). What better way to highlight Nana's transformation from object of desire to object of repulsion than by subjecting her body to the magnified lens? Like Dickson, who armed with his kinetoscope and magnifying technology can reveal "truths" about "the malign" behavior of amoebae and insects, Zola uses a system of magnification which allows us to see the "truths" about Nana.

Initially, Dickson celebrates such technology, just as Zola and Norris praise their "instrument" and "tool" as able to reveal truth. However, Dickson's description also emphasizes the troubling aspects of such results. "Domestic comfort" is not an option upon witnessing such spectacles

as the violent amoeba or the monstrous Afrite mosquito. Yet, "domestic comfort" is precisely what Zola and Norris do not want their readers to be able to retreat into--a place populated by the "broken teacup" and "the tragedy of a walk down the block," which Norris rails against.²³ In this sense, we can read the novels of Zola and Norris, particularly The Drunkard and McTeague, as perverted domestic novels.

Although they are, to some degree, concerned with the realm of domesticity--the home, the family, women's work--these novels freeze and magnify subjects within this realm so that what is highlighted is their grotesque nature. By intervening in this manner, Zola and Norris create powerful spectacles of monstrosity by virtue of their methods of representation. Indeed, much in the way Dickson describes his kinetoscope as having the power to "reveal malign activities beneath awful shapes," Zola and Norris use their system of naturalistic representation as a way of doing the same. By immobilizing and magnifying bodies, they support a hypothesis, which suggests particular bodies contain important hidden facts that must be revealed. Whether these bodies are contributors to or victims of social ills

²³ Norris, "A Plea for Romantic Fiction," Frank Norris: Novels and Essays, (New York: Library of America, 1986) 1166.

is never clearly resolved. By freezing and magnifying their subjects, Zola and Norris are able to represent them in a minutely, perhaps excessively, detailed fashion but also as frightening embodiments of their own fears--fears about corporeal behavior that is either mechanistic or animalistic or a combination of the two.

In both The Drunkard and McTeague, the plot unfolds amid a familiar, domestic backdrop. In both novels, a marriage between protagonists happens early on, and there is a focus on the work done to set up and attempts made to maintain their households. But Zola and Norris mean to enact an experiment; thus, certain conditions are introduced, conditions guided by an "experimental idea" to use Bernard's term. Both novels operate from an idea that these working class couples, these human machines, have serious inner flaws. For Norris, there are "malign activities" acting within; for Zola, there is some disease causing the "sores" and "wounds." In addition, the novels introduce certain social conditions--for example unemployment--to elicit the "malign" behavior. Penetrating their characters' behavior more often involves placing

their subjects in arrested states and subjecting them to relentless magnification.

One of the most disturbing scenes in McTeague occurs during McTeague's operation on Trina. In setting up a situation of dentist and patient, Norris provides an active example of the narrative experiment he is attempting. In his position as a medical professional, McTeague is afforded access to the human body. Although the narrator's descriptions of McTeague are not always glowing--he is forever being called "stupid"--his decision to tackle Trina's difficult surgery is admirable: "All at once he grew obstinate, resolving, with all the strength of a crude and primitive man, to conquer the difficulty in spite of everything" (280). Here, he will put to service the dentistry technology of crowns and bridges and in doing so will be able to observe and experiment upon Trina's body.

He assumes that his past experience, slipshod as it may be, along with the ownership of volumes of "Allen's Practical Dentist" and "'The American System of Dentistry,'" are enough to enable him to perform a technological feat. He certainly understands the technology, and although he "bungles" Trina's operation a bit, he is able to succeed in his own experiment. By conceiving and acting out an experiment, McTeague is able to engage intimately with

Trina. He is responsible for making Trina's body submit, and this submission takes on a darker tone as the two characters continue their appointments. "While at his work McTeague was every minute obliged to bend closely over her; his hands touched her face, her cheeks, her adorable little chin . . ." (282). Note the word *obliged* for it is his position as a "doctor" that requires him to be in such close presence with her body or at least authorizes his proximity to her.²⁴

Norris likewise can partake in such detailed examination because he is engaged in a scientific experiment, a new way of constructing a novel. Like the films of Dickson which represent the strongman Eugen Sandow's body, gliding over and recording various parts in an erotic fashion, or Muybridge's photos of some of his favorite models which place them in flirtatious poses, so too does Norris's description of Trina lying prone in the

²⁴ Charles Musser, Edison Motion Pictures, 1890-1900: and Annotated Filmography, (Washington, DC: Smithsonian Institution P, 1997) 38. Musser notes how the mantle of science allowed Muybridge to document and exhibit nude bodies, a pattern of combining science with eroticism also followed by Dickson and his fellow cameraman William Heise with their films of Eugen Sandow. Although he was not entirely nude, he wears very little in effort to display his muscular body. Musser's argument is that Dickson and Heise call to mind the work of Muybridge because of formal similarities. In this way, eroticized bodies are acceptable in the name of science. Similarly, as a practitioner of dentistry, a field that is on the verge of becoming an established science in the novel, McTeague has some authority for acting intimately with female bodies.

dentist's chair provide such eroticized lenswork. The narrator actually describes their interactions--Trina lying still, McTeague operating-- as having all the "charm of secret appointments and stolen meetings under the moon" (282). Their meetings soon become more explicitly sexualized when McTeague anaesthetizes Trina. Here, we read of a frozen fragment akin to Muybridge's series, a body that also calls to mind the experiments of Bernard in which he severs nerves. Norris describes the moment of Trina's immobilization: "Her breathing became short and irregular; there was a slight twitching of the muscles . . . she lay there, unconscious and helpless, and very pretty" (283).

Such a representation falls in line with what Teresa deLauretis calls "to-be-looked-at-ness," a position of unsettling power to some degree (110). However, what is more peculiar about Norris's initial representation of the female body is that in its arrested, inactive state, it is nevertheless presented as a sexual object for McTeague, since the sight of Trina's inanimate body overwhelms him with desire. Is this an alternative fantasy of female sexuality? Not a coy and flirtatious body but one that has been knocked unconscious? It is important to note that this moment of explaining sexual desire occurs while Trina

is anaesthetized. In her book Hard Core, a study of how sexual bodies have been represented, Linda Williams notes how Charcot's studies of hysterical women, which relied heavily on Muybridge's technology, were invested in recording the female body precisely when the subject did not have control over her own body. The involuntary confession was considered the most valuable because it would reveal the truth about women's bodies and their sexualities (50-51). The implication is that the mind, including its absorption of social mores, impedes the penetration of the body's interior because it can influence control over the body. If one can get the mind to relinquish control, then one will get closer to the unexplained mysteries of the body. This is all the more important for the female body whose sexual pleasure does not conform to the concept of maximum visibility which Williams sees as driving the construction of a *scientia sexualis* (48). By representing Trina as unconscious, without control over her own body, Norris attempts to elicit and record some sort of confession that will compensate for the fact that much of her sexuality is invisible.

Emphasizing the unconscious helps Norris work out his construction of the interior for what he wants to reveal

about his subjects is both the machine and animal like quality of their inner beings, the "unsearched penetralia" that will explain their behavior. Rejecting a Jamesian model of psychological introspection, Norris instead has his characters act based on automatic instincts and impulses. Instead of weighing out choices and considering outcomes, the characters simply act. A character whose consciousness has been momentarily stilled is even less responsible for her behavior and less in control of it. And just as Akeley's constructed poses were meant to reflect the essence of the various animals he froze, Norris also sets out to capture the essence of the feminine as embodied by Trina in the still pose of absolute submission. By immobilizing Trina, Norris provides a taxidermist's product--a stuffed animal as it were--ostensibly expressing some sort of essential truth.

Just what does Trina's body reveal as she lies unconscious? Well, it seems that a woman can be at her most sexually powerful when she is unconscious if one takes Norris to heart, for it is in this state only that Trina arouses the "animal" within McTeague. Certainly, in earlier scenes, her attractive figure and her frank conversation have stirred McTeague's desire for her. But when she lies "helpless"--that is when McTeague finds

himself in a sexual "crisis." Stripped of any social behaviors, Trina's body is still figured with the ability to trigger a powerful and dangerous reaction, one that completely weakens a man and causes him to lose all self-control. Although McTeague tries to restrain himself by turning his attention away from her stilled body to his work, he nonetheless looks once more and "the charm of her innocence and helplessness [comes] over him afresh . . . Suddenly he lean[s] over and kiss[es] her, grossly, full on the mouth" (284). What is disturbing about this scene is how Norris tries to place McTeague's reaction into the automatic capacity that dominates the naturalist representations of bodies. Both bodies are figured as dangerous because there is a lack of conscious control: Trina cannot control the sexual appeal that simply exudes from her inert body nor can McTeague control the animal reaction.

At another key point in the novel, Norris reverses the scenario of McTeague looking closely at Trina's immobilized body. Three weeks after the wedding, upon returning from an afternoon with Miss Baker, Trina walks into the suite to find McTeague asleep in the very same dentist's chair where she once lay:

The dentist sprawled his gigantic limbs over the worn velvet of the operating chair; his coat and vest and shoes were off, and his huge feet, in their thick gray socks, dangled over the edge of the foot-rest; his pipe, fallen from his half-open mouth, had spilled the ashes into his lap .

. . His head had rolled limply upon one shoulder, his face was red with sleep, and from his open mouth came a terrific sound of snoring.

(393)

Trina's motionless body is figured as "pretty" in its helpless state while McTeague's body is decidedly not. It certainly is not rendered as a sexual object for its spectator is not overwhelmed by feelings of lust but by feelings of remorse for having wedded such a body.

Perhaps one reason for this difference in reaction could be a certain power dynamic over the body. McTeague, after all, is responsible for placing Trina's body into its arrested state since he gives her the ether. Their relationship is premised on this sort of control--he has the power to reconstruct her mouth and even put her entire body to sleep. Part of his reaction to her stilled body, the strong desire he feels for her, stems from his own feelings of prowess, of being able to manipulate another

living body. Trina, on the other hand, is unable to partake in such feelings of conquest. She is not able to control his body at all; the various times she attempts to rebuff his advances, she winds up submitting to his physical exertions. Her reaction of terror toward his prone body instead highlights her own inability to affect McTeague's body. She has made attempts to "civilize" him by changing his tastes, for example getting him to drink finer beer and to care more about his appearance in general. Yet, despite these gestures, his body nevertheless easily resorts to this primitive state. She realizes she will be subject to the relentless monotony of having "to see the same face, with its salient jaw" forevermore. Where McTeague falls under an erotic spell upon seeing her still and "helpless" body, Trina is made to confront the possibility of "one long continued revulsion" (394).

In both cases, Norris immobilizes the body in a state in which the subject lacks consciousness and volition; his goal is to reach some "raw truth." The close-up of Trina's body lying prone highlights erotic desirability, at least for McTeague (although infused with a certain unease as if this were some sort of necrophiliac spectacle), but with the description of McTeague's body, we see something more

like erotic undesirability. Cartwright discusses a "cinema of repulsion" while relying on Tom Gunning's model of early cinema--or at least one genre within this body of work, which he labels a "cinema of attractions." This cinematic mode relies not so heavily on narrative conventions and strategies but instead uses devices meant to prompt immediate responses to visual stimuli (Gunning 58-59). In analyzing a "cinema of repulsion," Cartwright zeroes in on films that highlight abnormal bodies, particularly those that demonstrate facial disfigurements. These long close-ups on human faces are not meant to contribute to a narrative but serve a more visceral purpose. In her analysis of both The Edison Kinetoscopic Record of a Sneeze (1894) and Photography of a Female Crook (1904), she notes how these films draw attention to abnormal physiology, presumably for visual pleasure. Indeed, there is something that binds most of us as spectators to spectacles of the gruesome and the repellent. Physiologists and naturalist novelists are no exception.

Both Cartwright and Williams argue that physiologists and other scientists are propelled by the desire to see the body when there is no voluntary control in order to have its secret, mysterious inner workings revealed. Thus, bodies with a diseased condition, like the patients with

cerebral palsy that Muybridge photographed, are a fine subject because there is a schism between conscious control residing in the interior and the behavior manifested. A sneeze is a perfect example of a moment when the body is momentarily at a loss of control. What is interesting is how much the method of representation contributes to eliciting a sense of visual pleasure in the viewing of not only the previously invisible but also the grotesque. We see each other sneeze all the time without much sense of being witness to an intriguing spectacle. Edison's kinetoscopic record of a sneeze never even became projected by the kinetoscope. Instead, based on a solicitation by Barnet Phillips, a reporter for *Harper's Weekly*, "Fred Ott's Sneeze" was represented on the pages of the magazine in a similar fashion as Muybridge's photographic series and accompanied by an article by Phillips lauding the kinetoscope's ability to capture what is normally invisible--the various stages of grimace and contortion that make up a sneeze.²⁵ A sneeze by itself bears nothing but normalcy. However, once the normally fluid motion is represented as frozen fragments, it becomes a series of abnormal looking gestures, strange looking grimaces and

²⁵ For more background on "Fred Ott's Sneeze," see Linda Williams, Hard Core: Power, Pleasure, and the "Frenzy of the Visible," (Berkeley: U of CA P, 1989) 51-52.

contortions. Furthermore, what is revealed by these moments is that same lack of control that Norris continually emphasizes when he disrupts his narrative with the spectacle of an immobilized and/or magnified body. The body acts automatically in order to produce a sneeze--a mechanistic force contorts the face without the individual's permission. What the body confesses then, in these moments, is an interiority that is either machine or animal, and this realization contributes to the monstrosity of the spectacle because it deeply challenges readers' sense of what it means to be human--to have thoughts, choices, and the ability to act accordingly.

The experimenter participates, then, in creating such images of monstrosity by virtue of the method of representation. Immobilization of the body as an attempt to study and measure the body or elicit an interior truth will result in an unusual representation. Recall Bernard's practice, which suggests the need to either suppress or destroy normal activity in order to understand the function of that activity (Cartwright 26). For example, an experimenter might sever a nerve in order to note what is then lost--facial motion, for instance. Stopping the normal activity of the nerve has a twofold effect: one

understands normal functioning in witnessing what occurs in its absence; and one bears witness to a gruesome spectacle.

Norris likewise performs "experiments of destruction" upon McTeague and Trina. In addition to immobilizing their bodies at critical junctures in the novel, rendering them as spectacles of automatism, he also follows Zola's narrative method, introducing certain conditions that will likely produce a certain effect on behavior. Besides the immigrant blood of his characters, he also introduces the social condition of unemployment. When McTeague loses his job (the nerve of financial stability and masculine identity permanently severed), he begins his decline, taking up with alcohol and falling into poverty, partly because Trina will not allow them to use her lottery winnings. As the two sink further into poverty, Norris creates an atmosphere of gruesome fascination with McTeague's brutality, now using the technique of magnification. Just as Dickson's kinetoscope "steps in and reveals the malign," Norris attempts to illustrate the inner workings of male rage as externalized upon the body. Thus, he describes the dentist's body and face in a detailed close-up:

[His] mane of yellow hair was disordered and
rumped upon his great square-cut head; his big

red ears were redder than ever; his face was purple; the thick eyebrows were knotted over the small, twinkling eyes; the heavy yellow mustache, that smelt of alcohol, drooped over the massive, protruding chin, salient, like that of the carnivora; the veins were swollen and throbbing on his thick red neck . . . (473).

Norris's method of representation--magnification--is an extension of an experiment that "deranges" in order to see what is lost for it exaggerates certain physiological characteristics as a way of revealing a visible expression of an interior mechanism. Note the attention to bodily detail here, in grim fashion, again at a point where presumably the subject lacks control. Thus, readers witness the "truth" of male rage. Violence, like sex, is one of the mysterious phenomenon that intrigues Norris, but unlike other writers, like say, Dostoevsky in Crime and Punishment, who attempt to explain the nature of violence by delving into a character's thoughts, Norris's refuses to examine the possibility of McTeague having inner thoughts, instead reducing him to an automaton or animal--he is the embodiment of an inner passion as if the rage has a life of its own. Each facial feature is described in a series of fragments; the isolate parts are shown having changed color

or in the midst of action like "throbbing" or "drooping", reinforcing the sense that his body is reacting automatically when seized by anger.²⁶ McTeague, never one to articulate much anyway, is increasingly reduced to a person who has no say in any of the household matters. The ensuing frustration of being silenced, captured in a frozen moment and magnified, results in bodily monstrosity.

Zola also performs narrative "experiments of destruction" in a similar fashion. In terms of narrative, he reinforces the contradictions noted in his manifesto by making sure to introduce conditions that elicit the automatic behavior of his subjects. Thus, he manipulates and acts as experimenter, but, at the same time, he strives to ensure that conclusions do not arrive from a preconceived idea. He complements this strategy with the visual technologies of immobilization and magnification as well, so that they serve to make visible the social ills he perceives. For example, Zola explores how drunkenness works as a physiological condition that tends to immobilize

²⁶ Susan Donaldson, "Making a Spectacle," *Mississippi Q*, 579. Although she is discussing Eudora Welty's use of grotesque female bodies, Donaldson makes an interesting point that could apply to McTeague as well. She argues that such bodies bear marks of disfiguration and the like because they are inarticulate. The rage at being unable to speak is expressed by inscribing itself on the body.

a subject. In his novel, The Drunkard, he includes a number of moments when Coupeau, the titular character, is passed out from having too much alcohol in the body. Yet, Zola does not choose these moments for using the visual technologies of immobilization and magnification. Instead, the narrative turns attention to what events his drunkenness sets into motion. The absence of a father/husband, allows for Gervaise, for example, to re-instate a liaison with Lantier, her former lover. In this way, Zola severs an important nerve in the body of the family or at least anesthetizes it occasionally in order to see what will occur in the absence. Without the figure of a watchful patriarch, the family structure degenerates.

When Zola does finally provide a close-up of Coupeau's body, it is toward the end of the novel when Coupeau has been placed in an asylum, the years of alcohol intake finally having wreaked permanent havoc upon his mental well being in addition to his body. During his final hours, Coupeau's body begins to "dance" incessantly, creating a continual flurry of twitching. Even when he falls asleep, his feet keep moving. In contrast to the freezing motion seeming unnatural and grotesque, as in the frozen poses of Muybridge's subjects, here it is the continual motion that renders his body freakish. In Nature, waters are frozen

and all life is eventually stilled. As Seltzer notes, it is "unnatural mastery" of men who attempt to circumvent Nature in this way, to keep bodies in perpetual flow (166). The interplay between mechanics and natural processes that Seltzer describes is evidenced in the description of Coupeau's dying body, a body that refuses to be stilled:

It was complete now, the trembling had gone down the arm and run up the legs . . .the whole body seemed to shake with laughter. And it all kept time, naturally, the muscles took up their positions, the skin vibrated like a drum, the hairs waltzed and bowed. (405-6)

Once again, consciousness has no control over the body, and we see monstrous results when the body becomes master of itself. In this account, the body is likened to a machine, particularly in the way it "keeps time." Like some sort of wind-up toy, the body keeps moving but not out of any volition. It is odd that Zola uses the word "naturally" here to describe what seems so unnatural. However, as Seltzer argues, the body-machine complex so prevalent in naturalist texts is just this sort of conflation of nature and technology. Despite the strong desire to view the body as a machine, in seeing efficient movement as a natural

phenomenon, there is also anxiety about such a complete mechanistic transformation occurring.

This same sort of coupling of the natural process of death with the body as machine occurs in McTeague when Trina's beaten body finally succumbs to death:

Trina lay unconscious, just as she had fallen under the last of McTeague's blows, her body twitching with an occasional hiccough that stirred the pool of blood in which she lay face downward. Towards morning she died with a rapid series of hiccoughs that sounded like a piece of clockwork running down. (526)²⁷

Norris also compares the dying body to a machine that keeps time, although eventually this process stops. Even machines cannot go on forever; they will eventually break down. Ultimately, we cannot "keep time." Instead, time is the master. Indeed, it is important to note that Trina is not being compared to any machine but a clock in particular. In her chapter on McTeague, Jennifer Fleissner argues that by referring to Trina as a clock, Norris

²⁷ I find it interesting that Norris's description of Trina's body as it dies echoes the description of her body after she has been anesthetized, "twitching" being the important word. In both cases, Norris emphasizes the automatic response of the body, with the twitching signaling a triumph, of sorts, of the corporeal over the mind as it loses control over the body.

demonstrates how women's bodies are subordinate to nature in the way they must answer to their own "biological clock" (204). Figuring Trina as a clock, according to Fleissner, allows Norris to demonstrate "the transformation of the natural body into a machine becom[ing] indistinguishable from the uncanniness of nature itself" (205).

Another reason Zola's representation of Coupeau's dying body as a mechanical process is disturbing is because the body becomes separated from consciousness with various parts becoming discrete entities. Muscles do what they will, as do the various hairs. The description of Coupeau's feet renders them as if they were their own persons:

Oh! their master might snore, it was no concern of theirs, they continued their even course, without hurrying or lingering. Regular mechanical feet, feet which took their pleasure where they found it. (406)

With "the master" no longer in control, the feet can do as they please. This scene is reminiscent of the hideous punishment in a Grimms' fairy tale in which the Queen is punished by having to wear shoes that will never stop dancing. When a single body part gains autonomy, the rest of the body will suffer. The juxtaposition of such

pleasurable motions as laughing and dancing against the backdrop of a dying man in the throes of nightmares serves to heighten the repellent effect of this scene. A source of this repulsion is that the feet are not only in control of themselves but are completely mechanical about finding pleasure. Again in this passage, Zola stresses the manner in which they keep time; here it is described as "even," as if they have achieved optimal efficiency like a production line that does not move too fast nor too slow. Instead of drawing from leisure time for pleasure, these feet would rather be machinelike.

This scene transfixes both the group of physicians and Gervaise, precisely because it is so unnerving. Gervaise is described as "devouring" Coupeau with her eyes. The hideous sight of a madman continuously dancing draws her in even though it is most unpleasant. Eventually, the physicians and Gervaise begin to touch Coupeau's body in hopes of gaining knowledge about the body in this fashion. Here, we observe a return to an earlier diagnostic procedure since vision is unable to penetrate to the body's interior:

Shivers, undulations, came from a distance, and ran like rivers under the skin . . . To the naked eye there were only little waves dimpling

out, as on the surface of a whirlpool; but, inside, it was a terrible destruction that was going on. It was like a mole working underground, sapping the whole structure . . . and it only had to finish its work, crumbling down, bearing the man away in the general, continuous trembling of the whole carcass. (406)

Human vision is inadequate for seeing and knowing what is happening to Coupeau. The body refuses to be immobilized in this scenario, and even a magnifying lens, although it provides a gruesome spectacle, does not explain the "truth" of what is happening to Coupeau. Zola employs his exterior/interior dichotomy and not surprisingly, locates the source of the strange action of Coupeau's body by attempting to penetrate the skin and represent what is underneath. Coupeau's inner body, having soaked up all the alcohol poison that it could, is now in charge, having taken over the last bit of work the mind could do: exercise control over the body. And note, that once again, the process of labor is raised as a means of explaining the body's interior system just as the various body parts were also rendered machinelike.

Finally, Coupeau's body is ultimately brought back into representational control for Zola stills it with

death. Indeed, dying bodies are prevalent in this novel with both the corpses of Coupeau's mother and a neighbor, Lalie, given detailed scenarios. In describing Old Madame Coupeau, Zola focuses less on her body and more on the fact that Nana, the granddaughter, is fixated upon this dead body, particularly because it represents something taboo. Nana, of course, has already become accustomed to watching what she should not, having been watching her mother's trysts with Lantier. Viewing her dead grandmother's body sends "that shiver down her spine which nailed her to the glass of the door, when she was spying out for things that don't concern brats" (276). Thus, for Nana, the dead body has an erotic attachment to it precisely because it represents something she is not supposed to see. The secrecy surrounding death is similar to that surrounding sex as one of life's mysteries in which the body plays a central part.

Zola, in his attempts to register the body's mystifying phenomena, turns his attention to corpses over and over again. Assuming his readers share the position of both Nana and Gervaise, of wanting to consume sights not generally meant for our eyes, Zola determinedly sets out the body, frozen in death, for close inspection. With Lalie, the "little mother," a child habitually abused by

her drunken father, Zola captures her final moments. In the way he describes Lalie, there is a schism between her body's surface and her interior being. Lalie has been described as an innocent angel, suffering quietly and still being affectionate and good. If there were purity of soul in this novel, then it would have to reside within Lalie.

Yet, in the end, her body does not reflect any of her inner goodness whereas with Coupeau and other diseased individuals, the body bears the marking of their flawed natures. Zola and Norris depict diseased bodies in magnified and immobilized states to register horror. One might expect that Lalie might, because of her inner goodness, escape such representation. But that would be sentimental--she is just as subject to the social conditions that oppress the other characters. Instead of witnessing a reflection of Lalie's purity, Gervaise views the:

sorrowful nudity of a martyr. On her sides thin purple weals covered her to the thighs, where the lash of the whip had stamped them. A livid streak circled her left arm, as if the jaws of a vice had crunched the fragile limb, no bigger than a match. On the right leg there was a half-

closed wound which had never healed up . . .

From head to foot she was one livid mass. (374)

Instead of bearing the marks that would signify Lalie's inner being, here Zola creates a body that bears the markings of poverty and violence, externally inflicted by her cruel father. Many of the other characters are also described in link to their impoverished surroundings; Gervaise, like Trina, begins to lose her good looks as she sinks lower into poverty. But with Gervaise and Trina, there is the sense that they partially necessitated their own downfall to some extent. Both women have an inability to control their appetites; however, Lalie is not described with any similar flaw. Her only crime is that she lacks the power to stand up against her overpowering brute of a father. Each wound bears witness of the cruelty done to her, and bears witness to her position of complete submission, her complete lack of agency. Like Coupeau's drunken body, Lalie's body has no volition. It is merely the plaything of her father, as evidenced by his wicked game of making her dance by lashing his whip at her body.

Conclusions

In examining this overlap between physiology, naturalism, and visual technologies, we can see experiments performed upon bodily subjects, often resulting in representations of those bodies that emphasize their animalistic or mechanistic qualities in their focus on automatic behavior. What is the purpose of all this experimentation? When Marey and Bernard describe their physiological experiments, they describe an overarching goal of understanding how the body operates, how the mechanisms work and function. Visual technology aids in this acquisition of information--probing the body, freezing the body, magnifying the body. However, there is a larger goal in place beyond simply gaining knowledge. Once one can accurately describe the operative laws of the body, one can perhaps manipulate the body.

In Marey's case, seeing more of the body, and gaining subsequent knowledge about the body, allows for greater control over that body. Initially, he charted the movements of athletes, demonstrating the "best" movement. Later, he could use the same technique of chronophotography to document the movements of skilled workers, so that other "less adept" workers could adopt these movements by watching and imitating (Braun 324). As Braun notes, "The

wealth of nations depended on the output of the laboring body—the harnessing of the body's energies to perform valuable work" (321). To some degree, then, Marey's project of studying and representing bodies in motion is one of establishing standardized movements.

Similarly, Muybridge's experiments serve to control the body. In addition to the information for understanding movement, Muybridge's work also contributes to "knowledge" about gender. In her discussion of Muybridge, Braun notes how Muybridge engages in creating a model of female sexuality, an argument echoed by Linda Williams. Braun describes Muybridge's work on human locomotion as a series that produces different images of sexual difference with women engaged in domestic activities or awkward forbidden activities such as smoking or dancing suggestively, images of "human activity that usually remained unseen--not because of invisibility but because of social conventions--which dictate they remain in the world of private fantasy" (249). By arranging his models in such a fashion, Muybridge constructs a model of female sexuality that merely cooperates with preconceptions as well as contemporary discourse regarding female bodies.

In constructing the character of Trina, Norris also performs an experiment at the service of a larger need for

diagnosis. For Trina, the symptoms that call out the loudest for diagnosis are her hoarding and her sexuality, which are conflated. Fleissner, in fact, makes a compelling argument which links Trina's hoarding of gold coins with Trina trying to recapture the value of her yielded virginity (211-13). Norris does stress the allure of Trina's purity when he describes her anaesthetized body, but here it provides more of an explanation for McTeague's sexual desires than for hers. However, Norris does offer other bodily representations of the female mystery of sexuality when he describes Trina alone with her gold.²⁸

Williams asserts that Muybridge did not know how to represent active women so instead constructed fantasies of women who flirt, touch themselves, use props, and present themselves as sexual objects for the viewer (41). We see Norris describing Trina in such a fashion, albeit in a much more extreme and perverse fashion, as she engages in an erotic encounter with her money:

²⁸ In her essay, "Feminism/Foucault--Surveillance/Sexuality," Griselda Pollock argues that it was important for the bourgeoisie to regulate female sexuality, and domesticity was an important ideology for doing so. Working women were then "made suspect as sexual and immoral." See Griselda Pollock, "Feminism/Foucault--Surveillance/Sexuality," Visual Culture: Images and Interpretations, ed. Norman Bryson, Michael Ann Holly, and Keith Moxey (Hanover, NH: Wesleyan UP, 1994) 25. Trina is both a domestic and working woman. She is very preoccupied with domestic matters, but she also gains her own income painting figurines for a toy manufacturer. Her sexuality seems not to have submitted to the regulatory force of domestic ideology for she has not reproduced. Perhaps her perverse sexuality is linked not only to her failure to reproduce but also to her status as a working woman in some way.

She would draw the heap lovingly toward her and bury her face in it, delighted at the smell of it and the feel of the smooth, cold metal on her cheeks. She even put the smaller gold pieces in her mouth. . . She would plunge her small fingers into the pile with little murmurs of affection, her long, narrow eyes half closed and shining, her breath coming in long sighs. (478)

This description bears out the fetishization of women's bodies as sexual objects as Williams notes (40). Norris provides the props--the metal coins--as well as self-touching and self-gratification in an attempt to render the mystery of Trina's sexuality visible.

But the scene is also meant to explain the mysteries of Trina's inner desires and how they are gratified. Interestingly, by putting the gold into her mouth, she is occupying the same position as McTeague had done with his dentistry early in their relationship. In featuring the mouth prominently in both erotic scenes, we may see some evidence of oral pleasure as a primal one that would coincide with Norris's concept of animalistic instincts as driving one's behavior. The mouth, because it functions as a portal, also works well in terms of straddling both interior and exterior, these two conditions together

holding the key to understanding the human mechanism as a whole.

Social problems such as disease, alcoholism, and poverty certainly deserve attention, and one can see how they could be perceived as "dangerous wounds." Sexuality, while figured as a "mysterious phenomenon" residing in the interior, thus deserving of an attempt at penetration, also reads as something that, like alcohol or hygiene, needs to be regulated. However, unlike Muybridge's representations, which serve to regulate female sexuality by establishing visual norms that coincide with conventional male fantasy, Norris's representation of Trina's sexuality, linked to her hoarding instinct, is meant to regulate by offering a disturbing portrait of perversity. Illness manifests itself through her bizarre behavior and her deteriorating appearance. Unfortunately, his skill at providing a helpful diagnosis falls short. If we recall Zola's emphasis on disease metaphors, looking at the symptoms manifested by the exterior is a chief method in discerning causes within. One such corruptive force of Trina's "inter-organic being" is the "good deal of peasant blood sill [running] undiluted in her veins" (358). Does an inner bodily fluid adequately account for her bizarre behavior? Norris only provides fleeting accounts of her "peasant blood" and does not fully

follow through with a detailed exploration of this interior mechanism, certainly not in the way Zola does with his extensive and detailed genealogical systems. Norris's attempt to explain Trina via genetic disposition is brief at best. Herein lies the problem. Despite all the eagerness of wanting to penetrate, in terms of providing a representational transcription, Norris is not quite able to fully get under Trina's skin. His best chance is to use similar techniques as Muybridge and Marey do--in an effort to get some visible proof--so he often relies on immobilization and magnification to elicit the interior.

Abandoning a moral code or other volition and instead highlighting the automatic, mechanistic, animalistic nature of his characters leave Norris left without a clear sense of psychological motivation, precisely what would help for diagnostic purposes. While Zola also de-emphasizes volition, because he charts his characters over a span of numerous novels, he is able to perform a more thorough diagnosis. What has caused these "disgusting sores?" Zola asks in regard to alcoholics and prostitutes and other corrupt characters. In this case, the alcoholic has engendered the prostitute who in turn will taint others. Family dynamics clearly play a key role in determining inner passions and external behavior if one traces the

lengthy genealogy Zola provides. Still, this knowledge does not come from his individual experiments of destruction or his moments of using the visual technologies of immobilization and magnification. What function do these spectacles serve then? They disrupt the narrative, by virtue of their excessive and disturbing nature. Like the "intense visual communication" of taxidermy (42), to use Haraway's words, the frozen poses of naturalist bodies, even when magnified, strain to reveal their inner essences, but often these *tableaux* are vivid precisely because they only reveal themselves as mere bodies.

Experiments in Abstraction

While discussing cinemicroscopy in her book Screening the Body, Lisa Cartwright places it into a larger context in which scientific projects enact a desire for "flatness" by manipulating instrument and image to create flatness in the frame for easy measurement. She writes:

This penchant for flatness was symptomatic of a more pervasive cultural disavowal of the physical body as phantasm, as nightmarishly visceral and disorderly--a denial rationalized by a modernist demand for order . . . By purging the familiar signifiers of corporeality from the body image, microscopy relieved itself of the need to address issues such as subjectivity, history, and identity. (91)

Certainly, as Cartwright herself suggests, the field of physiology was already contributing to this flattening out process. In particular, Marey's geometric chronophotography demonstrates an absolute willingness to forego dimensionality in favor of a reduced, abstracted representation of the human body, ostensibly to make studying that same body easier. We see a similar process occurring in the field of sociology as it emerged as a discipline in the late 19th century with its emphasis on

"types." As Howard Horwitz notes in his essay "*Maggie and the Sociological Paradigm*," sociologists were set to "resolve particularity into typicality [for] if particular actions and elements were merely particular, social organization would appear chaotic and 'unintelligible,' and sociological observation would be merely random" (608). Just as the physiologist is willing to reduce the human body in an effort for greater accuracy and for an easier method of distinguishing functions, so too is the sociologist willing to reduce persons, individual identity being of little interest in comparison with patterns of typical behavior. The patterns are what are most instructive. Marey sets out to chart the movement of bodies, to trace their trajectories, creating graphs or visual representations akin to graphs, so that predictions about movement can be made and bodies can adopt similar behavior.

In the previous chapter, I demonstrated how naturalist writers such as Émile Zola and Frank Norris adopted certain physiological constructs, particularly the conception of the body as an inanimate machine, the inner workings of which could be mapped out. Not surprisingly, then, the physiologist and the naturalist writer also share the tendency to reduce and abstract the individual body, a

tendency that is bolstered by a sociological thrust as well. This denial of dimensionality pervades visual culture, not only in the physiological field but in the pseudo-scientific field of physiognomy as well, which then impacts visual culture in more mainstream ways, particularly in caricature and other illustrations that rely on types. In this chapter, I examine how abstraction and reduction work in these visual representations of bodies. It is in this context, then, that I discuss how Frank Norris and Stephen Crane work with types and abstractions. In some cases, the writers' method of attenuation is useful for creating familiar types, but it is this very reduction that can then trouble and disturb. For Norris, this ambivalence centers on the issue of identity while for Crane a very real tension emerges between visual reduction of the body and intensely corporeal moments.

Abstracting Bodies

The physiologist and the sociologist both have human behavior as their subject. For the former, the interest lies in the mechanical actions of the body whereas the behavior of interest for the latter is social which is

often meant to be divorced from the corporeal. As a physiologist, Marey's chief concern was to analyze the workings of living bodies, and the most fascinating workings for him were those of locomotion. Movement itself was the essence of all life, and in order to analyze and represent the flight of a dragonfly or the leap of a man, he found it necessary to focus his attention toward only the distinct parts of the body that would signal whatever movement he was studying. In order to resolve issues of speed--the difficulty in capturing and recording movement--he developed a system of chronophotography. When the image appeared illegible, Marey then worked out a system in which he modified his subject. He would clothe his subject entirely in black except for either lines of shiny metal or dots of white paper placed strategically upon the parts of the body set up for examination [see figure 5]. To use Francois Dagognet's words from his work on Marey, "the animal [was] stripped of all unnecessities, optically speaking" (104). In doing so, Marey could capture hundreds of poses and arrange them on one still plate. By "stripping" the subject of surface attributes, normally those features that would help identify it, Marey was abstracting his subject into the essential forms of movement--stripes and zones. Cartwright argues that by

abstracting the body into a "formalized system," Marey is working to disguise its corporeal elements, concealing within the "flat" image attitudes toward the body and subjectivity (105).



Fig. 5: Etienne-Jules Marey, Man Dressed in Black, Movement

I would argue that we see a similar elision of corporeality in the work of early American sociologists who often relied on a system of types or that of statistics as a way of analyzing human behavior. Both Albion Small and Franklin Giddings are considered pioneers in American sociology, and both engaged in the effort to establish the field as a scientific discipline in their respective

institutions, the University of Chicago and Columbia University. Gidding, in particular, was a champion of the statistical method and elaborate categories of sociopsychological types, a tendency further analyzed by Mark Seltzer in his chapter on "statistical persons," whereby a number or label stands for a person despite any individual efforts to be represented as unique. Edward Ross also figures into this historical moment with his emphasis on using types for a program of social control.²⁹ In her article on Herman Melville's Billy Budd and the emerging discipline of sociology, Susan Mizruchi criticizes the leveling nature of these early sociological arguments "that emphasized the ultimate uniformity and limitedness of all social understanding; the regulatory power of social models or types, and the elusiveness of causal explanation" (27).

In many sociological studies, human bodies are abstracted in their representation so as to determine an essence, an essential behavior. Identity is conceived of in terms of assigning a subject to the appropriate group: what is the gender, age, occupation of the individual? These

29 For a comprehensive discussion of Small, Giddings and Ross, see Dorothy Ross, *The Origins of American Social Science*, (Cambridge: Cambridge UP, 1991) 219-257.

are the questions that matter, not what is this person's value system or unique perspective on life or specific emotional experience. The goal is to map out certain behaviors, trying to link such behaviors with various categories. The individual body matters little in such a project.

Physiognomy also works toward classification, in this case, foregrounding the visual details of the body as the means for reducing the individual subject and placing it into a system of classification. In the preface to her book The Artist as Anthropologist, Mary Cowling describes physiognomy as "the visible embodiment of those ideas and assumptions which invariably structure our perceptions of human types" (xvii). The relationship between exterior and interior features is key to physiognomy, and while the notion that one could accurately read a person by analyzing facial features including largeness of skull and angle of forehead turned out to be less scientifically valid than early physiognomists had hoped, the belief that surface features had meanings regarding human character was largely accepted in the latter half of the 19th century (Cowling 38-9). All that was necessary was a systemic foundation in order to decipher the surface of fellow human beings.

Histories of physiognomy generally go back to Johann Caspar Lavater, who published his works on physiognomy in 18th century Germany, causing quite a stir. Like other physiognomic treatises, his Essays on Physiognomy provides "rules" for reading the countenances of others so that one could learn how to detect traits from eloquence to stupidity to a character of worthless insignificance. In addition, Lavater's work placed physiognomy into a scientific context. Although he did not exactly offer a systemic foundation, he implied one could be established and his call was often picked up on by those in the 19th century.

For instance, Dr. Joseph Simms' Illustrated Physiognomy (1872), which was widely popular for both British and American audiences, begins to offer detailed descriptions of features and their significance along with a breakdown of five chief types which reflect a preponderance of a certain form: the Abdominal, the Thoracic, the Muscular and Fibrous, the Osseous or Bony, and the Brain and Nerves. Each of these physiognomic types with their recognizable characteristics corresponded to a type of personality. Along with Lavater, Simms saw both practical and artistic applications for being adept at physiognomic reading. For practical matters, one could

learn which persons were suitable for courtship purposes. Why bother with a woman with eyes that are far apart? After all, she is likely to be very stupid. Similarly, in business matters one would be well advised to know which characters are worth dealing with and which are to be avoided. In terms of the usefulness of physiognomy for artists, they would be able to accurately render inner character--conveying a fuller resonance than the medium has difficulty with since it cannot rely on language--by representing the scientifically predicted surface features.

Although we might perceive the system of classification into types to be based in a sort of abstract generalization, the Victorian physiognomists and artists who were interested in physiognomy were actually responding to a desire to have more specific, individualized representations so as to more truthfully represent the diversity that was humankind. Many of these perceived differences in both exterior features and inner qualities were nevertheless directly tied to notions about nationality and social class. Thus, although physiognomy offers a way to distinguish individuals from one another, it also serves to organize subjects together into types. Cowling describes a popular anthropological context when she emphasizes how many Victorian practitioners were

"concentrating on the strongly marked features or essential forms and the shapes they prescribed . . . ignoring the half-shades and deviations" (185). By zeroing in and selecting the most prominent details, the confusing masses could be systematically organized and reduced into a more manageable group of types.

In the physiological, sociological, and physiognomic disciplines, the individual is observed and documented for a variety of purposes. Essential traits need to be determined, and it is this essence that then gets foregrounded while any other characteristics are suppressed or ignored. For a physiologist like Marey, the essence to be captured was movement. For a sociologist like Ross, the essence was a behavioral trait. For a physiognomist like Simms, the essence was a personality trait, often with an accompanying moral quality. For all, representing these various essences meant abstracting them from the subject, with the subject consequently losing dimensionality in the process.³⁰

³⁰ In her book Sociology and Visual Representation, Elizabeth Chaplin argues that the visual was marginalized by early sociologists like Small who worried that "the presence of photographs in a sociological text threatened the theoretical status and the purpose of sociology itself" (197). Furthermore, photography was associated with women as well as a device that appealed to sentiment instead of hard evidence. While they could be used to effect social change, as Jacob Riis surely did, they had no place in a scientific journal like the American Journal of Sociology. (198). Although anthropologists have long considered photographs as sound visual evidence, many sociologists in

The chief strategy for such representation rests with the careful selection and suppression of detail. Such concentration on a select number of features is also essential in the art of caricature, which is, as James Sherry describes it, an art of exaggeration and economy, inflation and deflation (32). Caricatures are economical visual representations that necessitate selecting exterior details and foregrounding these as signifiers of some sort of inner character whether with regard to intelligence or morality. Features are exaggerated at the same time an economical approach is taken, for caricature is not meant to be fine, detailed art of a painstaking sort, but rather a quick sketch. Thus, a feature--an expression, a prop, a gesture--is highlighted while other features may not enter the representation at all. In addition, in order for audiences to "get the joke" as it were, the artist has to make the caricature based in the familiar--hence, the frequent use of popular figures and types.

In his article on the phenomenon of the French *physiologies*, Richard Sieburth analyzes the conflation of the pseudo-science of physiognomy, with its "firm belief

the past have not. Instead, they have favored generalizations and statistics. Although these sociologists are then lacking the visual representational systems that physiologists and physiognomists have demonstrated, they nevertheless do conceptualize individual bodies as attenuated; they still abstract their subjects so that individual bodies become translated into numbers or positions on a scheme.

that man's exterior features are the infallible signs of the inner being," and the art of caricature. Indeed, the format of taxonomic text in conjunction with an image of "the utter banality of the social species in question" resonated with humor and reinforced an intense desire for codification (171). Sieburth attributes this desire to the anxiety incurred by the modern urban crowd with its overwhelming numbers of anonymous and unfamiliar figures (175).

Sorting into types is, of course, not the sole reaction to the modern crowd, and I will examine other responses in the next chapter. However, classifying others into types is one way to make them more readily familiar, and visual and verbal media, like the *physiologies*, aid in this familiarization by teaching the public how to read the various peoples with whom they are now coming into contact. In fact, as Martha Banta argues in Imaging American Women, the artist is an important component of the evolution of social types since visual images firmly embody and feed back into cultural assumptions, both confirming and inventing "truths" about others (5). The scientific discourse associated with a system of typing, as produced by physiognomy or sociology for instance, lends an air of authority and objectivity, but of course the types

concretized by both visual and verbal media often serve to foster anxiety toward others and solidify negative assumptions about these observed and documented subjects. In addition, the construction of an elaborate system which relies so heavily on visual and verbal codes allows the reader and observer to feel as if by mastering these codes, i.e. knowing that a certain expression or article of clothing means a person is inherently dim-witted, one can also master the social world.

Recall Cartwright's assessment of how Marey abstracts the body into a "formalized system," and by doing so, he manages to suppress the corporeal elements and the anxieties that attend those elements (105). Similarly, the images throughout both the *physiologies* as well as Simms' Illustrated Physiognomy, participate in a process of attenuation, reducing figures chiefly by forcing them into a rigid system or what Sieburth refers to as "a rigorously determined grammar" (180). When a study is focused on the body, as Marey's would certainly be, it may be easier to suppress anxieties toward that body by forcing it into a "formalized system," something easier to manage. But once a social element is introduced and one is trying to understand how that body operates in society, it becomes much more difficult to suppress anxieties regarding certain

bodies, particularly those that are most unfamiliar. Instead of suppression, what these "formalized systems" end up achieving is a deflection of anxiety toward all these other bodies that make up the system. According to Sieburth:

. . . the *physiologies* produce a system of differences whose primary purpose would seem to lie in the *reduction* of alterity, or in the masking of those genuine social antagonisms or class conflicts which might otherwise imperil the nervous complacency of their readers. (176)

Like the abstracted and flat images of Marey, which Cartwright sees as suppressing the actual body, the images in the *physiologies* likewise serve to conceal attitudes toward the various types emergent in the modern urban crowd by virtue of reducing them into more manageable figures.

Visual Representations of Abstracted Bodies

Before examining Marey's geometric chronophotographs in more detail, I would like to turn attention from the French *physiologies* to two illustrations from turn of the century American magazines. These illustrations are also based in the art of caricature and in the project of

physiognomic classification. Just as the French reading public desired the knowledge of how to read the urban types populating Parisian streets, so too did turn of the century Americans want this same legibility, particularly because of mass immigration as well as a shifting within the realms of social class and gender.³¹

When representing types, artists place their focus on a few, surface features, generally laden with shared cultural meaning, for instance a certain hairstyle corresponding with a specific type of person. Often, added props also signaled meaning about the person. In honing in on a select number of details, artists often exaggerated the way these looked. Types could be easily demarcated from one another by having starker contrasts, by featuring only the prominent details and ignoring the more subtle nuances. For example, we see such a strategy of representation in Richard Kemble's "Some Studies in Motion" from the November 1896, issue of *Harper's*. [see figure 6] With this slight parody of Muybridge's work, Kemble strikes a comic chord by using the pseudo-scientific underlay as a

³¹ In Imaging American Women, Martha Banta analyzes the process of visual typing at the turn of the century. For example, she writes of the American Girl being further sorted out into three types: the charmer, the New England Woman, and the Outdoors Pal. Through a combination of visual and verbal details, these types were concretized as a way for the public to recognize and become more comfortable with the changing role of women.

way of representing "Some New York Waiters," subjects normally out of the realm of scientific inquiry.³²

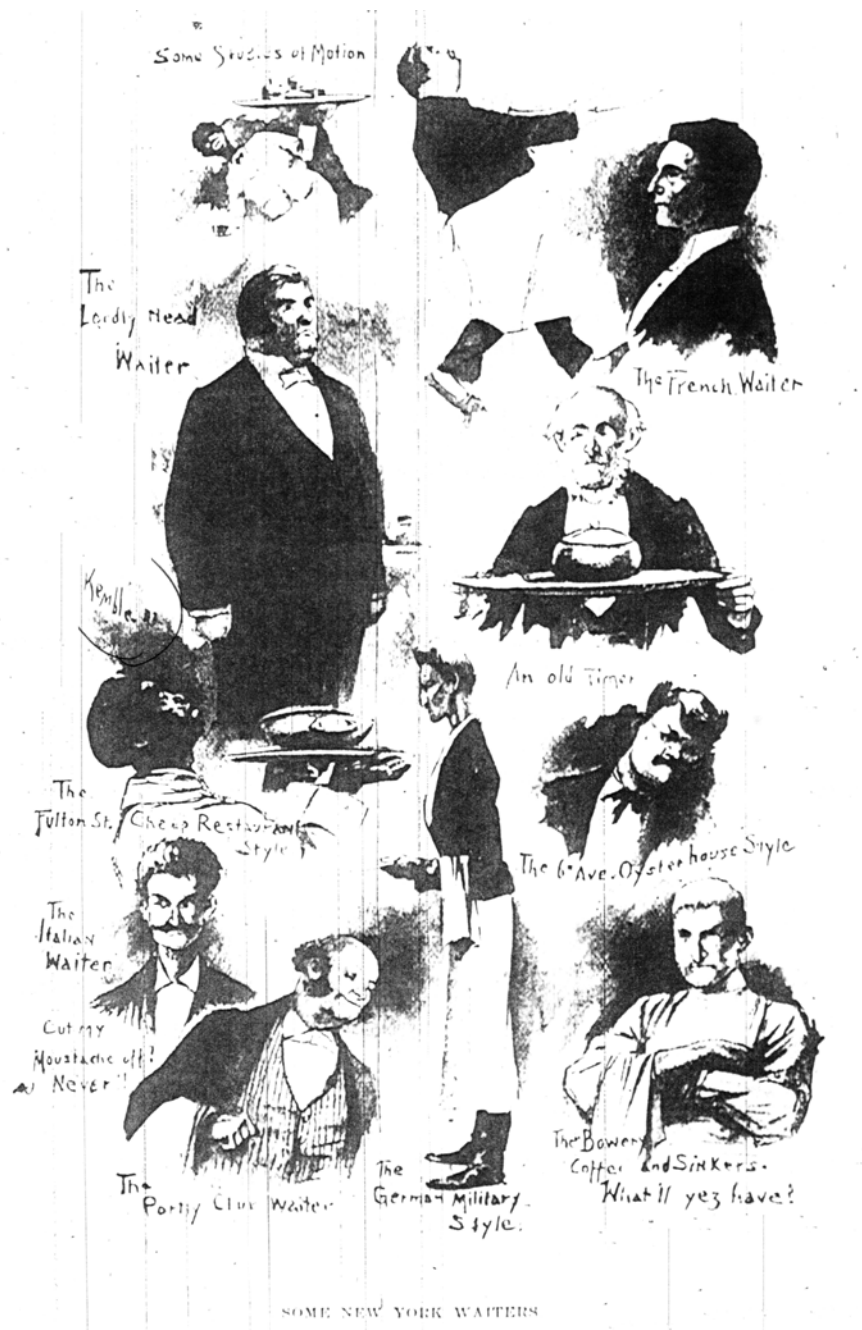


Fig. 6: Richard Kemble, *Some Studies of Motion: Some New York Waiters*

³² This method of representation has much in common with the French *physiologies*. Both juxtaposed a scientific system—that of taxonomy and classification—with mundane subjects. Sieburth locates humor in such a juxtaposition (171).

Furthermore, he assumes his readers will recognize the types of waiters, in their various poses, to some degree and laugh with this recognition. The success of a humorous effect depends upon selecting the appropriate details, features that already have status of identification. A visual exaggeration of such select features heightens the chances of recognition and consequently a comic effect.

Kemble pokes particular fun at the Italian Waiter by giving him a rather long moustache, a scowl, and a certain glint in his eye. These features, following physiognomic logic, reflect a certain inner essence. He is also one of two waiters who get a caption that reads: "Cut my moustache off? Never!" Here, his visual representation and accompanying text confirm possible attitudes toward Italians--that they are vain and somewhat absurd. Certainly, Kemble pictures the Italian Waiter in stark contrast to "The Lordly Head Waiter" or "The French Waiter", both with their stern expressions and formal poses. Instead, the Italian is visually more akin to The Bowery Waiter, who does not wear a suit, has his arms folded, and an equally sour expression as the Italian Waiter with a caption reading, "What'll yez have?" Again, Kemble's illustration confirms his readers' expectations--those in the Bowery are likely to be coarse. For each

type, Kemble strives to represent essential details only, most often relying on facial expression and style of dress to convey a cultural assumption about the subject.

We see a similar display of types in the November 1897, issue of *Life* magazine. In this case, Florence Scovel treats us to a menagerie of "The Girls We See." [see figure 7] Again, the main thrust is to represent these girls as familiar, the first person collective pronoun maintaining that "we" all recognize these figures and that our assumptions about them are correct. For instance, it is no surprise that Scovel represents "The Improving Lecture Girl" in a fairly unattractive way. She is the only one pictured with short, straight hair and wears a frown. Her monocle and dark cape are props signaling a serious, perhaps overly so, nature. Scovel gives "The Athletic Girl" very dark eyebrows and broad shoulders while "The Matinee Girl" receives more delicate features and a fancy dress; in both cases, the physiognomy marries exterior and interior in accordance with expectation.

Finally, at the bottom of the page, Scovel places a most interesting type--"The Girl We Hear Most Talked About." Her style of dress is very similar to that of the "Shop Girl," but this girl's face displays a sad expression. The girl we hear most about is not a dazzling



Fig. 7: Florence Scovel, The Girls We See

beauty full of confidence, but a somewhat dejected figure. If we can safely assume that the reason for her status as "most talked about" has to do with a level of promiscuity, it is interesting that Scovel chooses to portray her as less than seductive. Despite having such a precarious label, this figure manages to elicit some sympathy. This illustration stands in contrast to the others because the visual image does not serve to confirm the assumption elicited by the label. Whereas the other figures correspond to their tags, their visual features evidencing essential traits, i.e. dark eyebrows equaling mannish behavior, "The Girl Most Talked About" registers dissonance between image and social expectation. Perhaps, then, the image works less at the service of solidifying cultural attitudes than at standing as a warning for readers.

By abstracting various Americans into types, visual artists depended on the factor of recognition. For example, a representation of a poor person could be determined as one of the impoverished working class or as a member of the undeserving poor, people who would normally be middle class, down on their luck because of hard times. The visual details would mark such a figure so a reader would know how to respond, probably with more sympathy for the undeserving poor, recognized by having finely drawn

features and an upright posture. In this way, social typing grounded its readers and observers so they could navigate their chaotic landscape more easily. Of course, by choosing to foreground and even exaggerate only these select features or details, an artist ignores or suppresses others that would allow for more dimensionality of an individual. Such a representational strategy surely satisfies the desire for a formal system and, combined with humor, has the effect of both making the reader feel familiar with the modern urban crowd and distant from them.

For Marey's chronophotographs, the selective tendency is taken even further to the extreme so that the entire surface is masked and the only detail allowed to be visualized is the linear movement of musculature. [see figure 8] Like a statistical bar graph, Marey's pictures translate human beings into another visual language--shaded-in bars or series of lines.

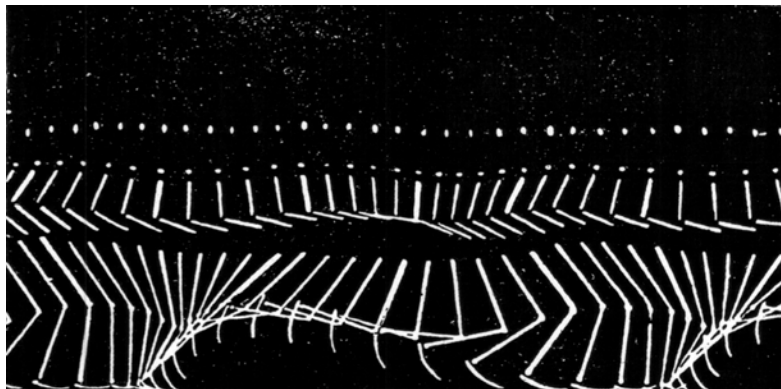


Fig. 8: Etienne-Jules Marey, Images of a Runner, Movement

In both cases, the representation is meant to aid in measurement. The data gained from such measurement is in turn meant to help with regulation. Recognizing the figure is of little importance. In fact, without the text accompanying the chronophotograph, for instance "Jump from a height with stiffened legs," [see figure 9], average readers would be hard pressed to know exactly at what they are looking.

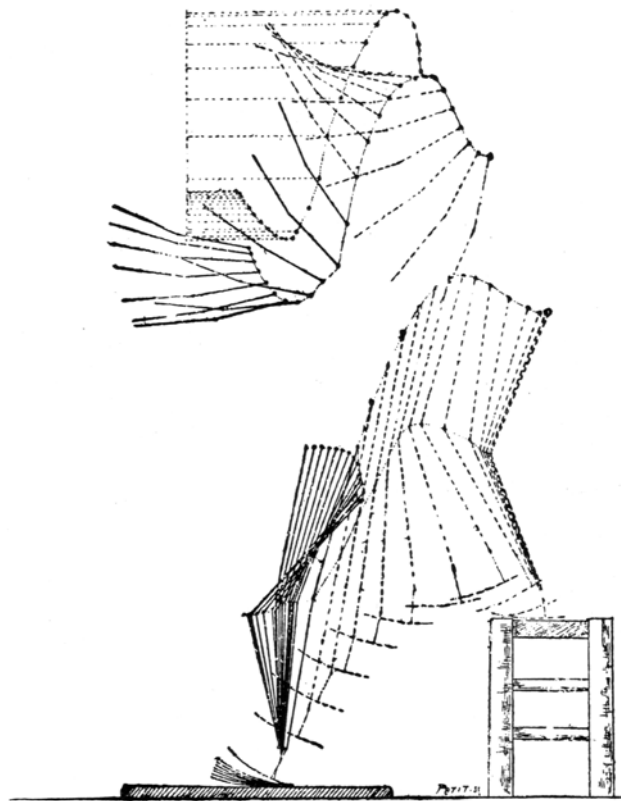


Fig. 9: Etienne-Jules Marey, Jump From a Height with Stiffened Legs, Movement

For Marey, the purpose for abstracting the figure in such an exaggerated economy is to learn more about the

system of locomotion which is more readily measured and documented when a single element is highlighted and tracked.

Although Marey was initially attracted to chronophotography because, unlike his graphic method, it could represent changes in spatial configuration, he became distracted by the surface detail in his resulting images. In contrast to Eadward Muybridge's stills, which reveled in depicting curious details, hence the abundance of special props for women, Marey's work suppressed these details (Braun 254). Individual characteristics were impeding his ability to distinguish the intervals of musculature; thus, he devised systems for effacing such distractions, in many ways returning to the representational strategies of his graphic method. By dressing his subject in a black body suit with silver lines and points inscribed only on the limbs of the subject, Marey conceals surface details like facial expression and the dimensions of muscles and limbs. Instead, by using his black suits with silver lines and dots, Marey transposes an interior structure much like a skeleton onto the surface, so again interiority is privileged in a way, but certainly not the sort of interiority that suggests personal identity. It is merely

the inner, physical mechanism that gains clarity with his procedure.

Such suppression and selection allowed for measuring distance and trajectories more precisely even though the images of his geometric chronophotography no longer looked like a three-dimensional, moving body. Instead, what signified the body was a series of abstract lines connected to each other. According to Anson Rabinbach:

Marey achieved an extraordinary economy of representation--the reduction of the body to a 'geometric' pattern of lines in space along a line in time . . . the body became a trace on a glass surface, a trajectory of decomposed movement. (108).

A mimetic representation of the moving body was not part of Marey's agenda. Instead, he was perfectly willing to let go of mimetic conventions in order to obtain accurate measurements. In his book, The Domain of Images, James Elkins observes that images of unrepresentable objects put a strain on the pictorial conventions they inherit, finally breaking them down and becoming different kinds of pictures (44). Such an observation certainly pertains to Marey's representations of moving bodies that challenge conventions of time and space. Also, recall that Marey deliberately

avoided cinema that merely reconstituted what the eyes could already perceive. His goal, instead, was to use cinematic technology to get at truths normally hidden from view, hence his attention to movement. Indeed, one of his key contributions is his presentation of alternative visual strategies that reject mimetic techniques and surface realism.

Marey is supremely efficient in representing models of efficiency. His work challenges a host of conventions regarding dimension. The human figure traditionally is represented according to rules of perspective, and a three-dimensionality is desired. In contrast, Marey's geometric chronophotographs flatten out perspective--there is no background and foreground--and similarly the figure itself is flattened into a two dimensional representation with a simple series of lines standing for a human subject.

His purpose for such abstraction is for easier measurement, but his images produce other effects as well. First, his images tend to defamiliarize any observers who are unclear about exactly what they are observing. In this manner, his work does deny the corporeality of the human figure as Cartwright argues. She also criticizes this disengagement, believing that by reducing the body to a flat abstraction, physiologists lay the groundwork for

potentially destructive experimentation (91). Barbara Stafford, author of Body Criticism, also discusses how abstraction can be seen as a "demolition of the body" (148). In her chapter on abstracting, she describes the abstract diagram as involving "violent oversimplification," a process that strives to purge the body of any sensual features instead opting for a "virulent purity" (148). She writes:

Taut and unsuperfluous lines visibly dispelled obscurity by strictly defining and limiting meaning. The analytical composition was the equivalent of decontaminating criticism. Both systematically annihilated sensory digression by hitting the mark with precision and clarity. (149-50).

Likewise, Marey, in his efforts to have utmost precision for his measurements, necessary in order to accurately document the hitherto unseen system of motion, sacrifices much of the body. By doing so, his work makes the eventual manipulation of real bodies--the workers or soldiers whose movements Marey's studies were meant to inform---easier

because the project is already disengaged from actual bodies.³³

While Cartwright and Stafford emphasize the destructive nature of such a representational strategy, Marey's chronophotographs also have a liberating effect. By providing an alternative way of visualizing the human figure, his work also offers seed for experimental artists searching for just such a change in representational strategy. Both Braun and Dagognet discuss Marey's influence on modernist art. Indeed, Marey's geometric chronophotographs emit a startling beauty in the crisp lines, the fluidity across space, and a strange feeling of surprise upon the eventual recognition, if one reads the caption, that these are representations of bodies in motion. Dagognet suggests that Marey's physiological and biomechanical representations encourages the avant-garde to embrace new values, in both the desire to represent and celebrate speed and motion and the techniques for doing so (149). Dagognet discusses Duchamp in particular who made his indebtedness to Marey known as he chose to pursue a

³³ In her chapter, "Marey and the Organization of Work," Marta Braun shows how Marey's motion studies contribute to the "scientific management of movement," demonstrative of a "union of scientific methods and commercial enterprise" (335). The science of work would "realize the productive potential of the nation by discovering the most energy efficient methods of work and determining the laws fatigue that limited its production" (321).

project of "scientific cubism" (149). Certainly, cubism is an extension of abstracting the figure into a flat image with its emphasis on planes, and so, along with Marey's physiological project, according to Cartwright, this particular brand of modern art is indicative of a cubist visual culture, one that "reconfigures the bodily interior as an endlessly divisible series of flat surfaces and mobile networks" (91). What this reconfiguration does is either deny or liberate one from dimensionality. In terms of social possibilities, denying dimensionality is part of a process that serves to limit bodies in other important ways, but in terms of aesthetic possibilities, liberating the body from dimensionality allows for alternative ways of seeing and knowing.

To conclude, the abstraction of individual bodies necessitates a degree of loss. By reducing to essence--whether mechanical or moral--the abstracter sacrifices dimensionality. Marey's geometric chronophotographs suppress the surface and sacrifice dimensionality in favor of more precision and accuracy, qualities necessary for a scientific project of documenting motion. The illustrated types also sacrifice dimensionality. In this case, the visual form is meant to correspond with inner character;

thus, the visual style is one that marks and exaggerates few features. Instead, of a fuller portrait, caricature provides simple lines that serve to bear out a simple equation of exterior features signifying determined inner qualities. A feeling of familiarization compensates for the loss of a more complicated understanding of the various peoples making up the modern urban American crowd. If the goal is to easily categorize others, then one prefers not to have too many distracting details just as Marey needed to suppress such distraction. For Marey, one of his operating beliefs is that the human body is a machine, and thus he treats the body as such, even in his representational strategies. Suppressing details is akin to performing some other mechanical feat that serves to make understanding the machine better. But the bulk of middle class readership of the late 19th century resists the idea that people are merely machines. Such discourse can work only if the other, unfamiliar bodies can be reduced to machines, but not their own bodies and selves. Thus, human abstraction breeds both reassurance and anxiety for the middle class: reassurance that they can categorize and understand strangers, anxiety that all people can be reduced to a label. With what we have learned from examining visual representations of abstracted bodies, I

would now like to shift to analyzing verbal representations of abstracted bodies as read in some of the works by Frank Norris and Stephen Crane.

Norris's Type-Sketches

Like the exaggerated economy of illustrated types and Marey's geometric chronophotographs, Norris experiments with similar strategies of abstraction in his "Type-Sketches," written for The Wave, a San Francisco chronicle that gave Norris a rather long leash in terms of what sort of copy he was to produce for the paper. Following earlier American writers like Irving and Hawthorne, Norris experiments with the form of the literary sketch.³⁴ In terms of formal properties, according to Allison Beyerly who discusses the link between the literary and the artistic sketch in her essay "Effortless Art," the literary sketch exploits the idea of the visual sketch as "a rapidly drawn picture that sacrifices aesthetic finish for a sense of spontaneity" (349). Indeed, by emphasizing the sketch's status as provisional, an artist could avoid serious criticism; at the same time, because of the strong link to

³⁴ For a discussion of the origins of the literary sketch and its ties to the visual sketch, see Jeffrey Rubin-Dorsky, "Washington Irving: The Genesis of the Fictional Sketch," Early American Literature 21.3 (1986-87): 226-247.

visual art, that same sketcher could emphasize his role as artist over his role as a professional dictated by pressures from the economic market (Beyerly 350). Norris certainly straddles the roles of Romantic poet and professional journalist, but unlike Thackeray and Dickens--Beyerly's main subjects--Norris would likely have disdain for the sketch's strong association not simply with visual art, but with its status as a bourgeois hobby. Thus, he appears more ambivalent toward his role as sketcher. The form suits his professional platform, the newspaper, and, because of its association with neutrality and instantaneity, the sketch is also useful as a documentary strategy, although as Richard Sha notes, the sketcher often adopts a "pose of disinterest" so that there is an "illusion of objectivity" as well as a "false neutrality" (85, 87). Nevertheless, the sketch, with its emphasis on freedom and immediacy, is credited with "unmediated accuracy of representation" (Beyerly 351). For a project of scientific accuracy, minimizing the degree of mediation was of utmost importance. Certainly this was true for Marey who was constantly retooling his technological apparatuses to erase traces of mediation, and Norris, who in following Zola and the scientific method of an

experimental novel, would also be attracted to a form that would seem to be offering a scientific accuracy.

Besides such scientific authority, the sketch also had the power of visual vividness, which generally would provoke an immediate response. Gregory Wegner describes the sketch as having "character or spectacle . . . [as] the tonic note in the fictional scale" (58). Wegner argues that Hawthorne's sketches, as opposed to being unsatisfactory stories because of a lack of plot, can be seen as successful "living pictures in prose" in their ability to nevertheless evoke strong, emotional responses (58). Furthermore, Sha suggests part of the reason for the sketch's popularity was its relief from the onslaught of "overwhelming detail." He also describes how the verbal sketch, in aligning itself with the visual sketch's "pictorial vividness," aimed to "deliver the essential in an instant" (154). Herein lies another advantage of reducing to essence. The illustrated types offer the advantage of feeling reassured in the ability to familiarize oneself with and categorize the conglomeration of others populating urban streets; Marey's chronophotographs offer the advantage of precision and clarity for scientific measurement; and the verbal sketch,

with its basis in the visual sketch, offers the advantage of more easily digested synthesis.

Of course, the sketch is also commercially viable. Thus, Norris takes advantage of the form, which works well for newspaper publication, to make spectacles out of the various types he observes in San Francisco, eliciting emotions from his readers not based on any action taking place but solely on who these people are and what they look like. The construction of such social types often involves assumptions regarding both ethnic and class identity. Like the advertisements and illustrations that are part of a cultural exchange between artists and the public that Banta traces in Imaging American Women, Norris's sketches offer themselves up as contributions to an understanding of new types with whom readers must cope.

For example, in May 1896, he provides a sketch of a "Western Type," typically recognized by his fellow San Franciscans as "The 'Fast' Girl":

She dresses in a black, close-fitting bolero jacket of imitation astrachan with enormous leg-of-mutton sleeves of black velvet, a striped silk shirt, and a very broad hat, tilted to one side. Her hair is blond, though, somehow, coarse and

dry, and a little flat curl of it lies over her forehead. She is marvelously pretty. (33)

Launching into this description, Norris calls attention to her apparel, as he does in his other "Western Type" sketches, as a way for his readers to immediately identify her. Furthermore, he elicits a condescending reaction to "the fast girl," as he renders her, for she wears "imitation astrachan" marking her immediately as someone of a class who cannot afford the real thing. In general, her outfit is described in fairly grand terms as one who is a bit flamboyant and extravagant, always a crime for the middle class as far as fashion rules go. The fact that her hair is blond but also "coarse and dry" suggests the same for her character. Thus, Norris's claim that "she is marvelously pretty" has a bite to it. The word "marvelously" emphasizes the superficiality of the fast girl motivated by fancy finery, less distinguished than her upper class counterparts. It also could be read as being a marvel, a complete surprise, that someone like her is pretty at all.

Indeed, a primary feature of "the fast girl," as Norris depicts her, is her status as a member of a burgeoning middle class with her father owning a carpet-cleaning business and her mother giving lessons in hand

painting. Norris suggests a lack of propriety for such a class of young women who are neither of upper class gentility nor of working class drudgery. The working class girl would be too tired to be out and about having the "gay" time that the fast girl so earnestly seeks, and the upper class girl would not think it proper to do so. Thus, Norris's sketch in part seems to express a need to cope with a changing world, a city in which leisure spaces are created--whether they are the park for a picnic as we see in McTeague and this sketch, or the Mechanics' Fair or the theater--and this new class of people coming together. In fact, he describes a working middle class struggling to be like an upper class in the type of entertainment they seek--art museums and theater for instance. Despite their ability to now afford such leisure activities, they are still marked by class distinction.

It is important for Norris to demarcate his types with some clarity so that he fulfills the function of providing readers with the means to better navigate the city and read its masses. Knowing who fit into which type helped people know who really belonged and who might be trying to shift social status. In his book The Real Thing, Miles Orvell characterizes the tension between imitation and authenticity as a pervasive one in the late 19th century

(xv). While at first Victorian society was willing to accept simulacra and enjoyed a mixture of mimesis and illusion, by the late 19th century, people were beginning to feel a real need to establish authenticity. With regard to people, as Orvell writes, such tension is not surprising when the social environment is more heavily populated with strangers than neighbors (xvii). Furthermore, a new class mobility, particularly held by such working middle class folks as business owners and financial middlemen, created a wealth of anxiety toward those who might be able to "pass" as being of higher social stature than their breeding authorized. Orvell highlights this anxiety, citing a debate about portraiture where some worried about the upper class backdrops of velvet curtains and marble columns being appropriated by anyone visiting a portrait studio (91).

Clearly, Norris also shares a certain anxiety regarding those who strive to imitate. When he describes the fast girl's assimilation of external props and apparel and her decision to copy certain behaviors like attending the art museum, Norris is not portraying a girl able to pass herself off as one of good family, but instead one who marks herself as a new type--"the fast girl." The implication is that her type is inferior to that of a proper girl. His representational strategy, which focuses

upon surface features such as her coarse hair and her imitation clothing, meant to register notions of inferiority, creates comic distance much in the way the illustrated types of Kemble and Scovel do.

Not only does Norris typify this girl by concentrating on those features which mark her as part of an emerging middle class,³⁵ but he also links this social standing with a dangerous sexuality. The changing world of the late 19th century not only consisted of an abundance of strangers but also the appearance of what some concerned speakers were calling "superfluous women."³⁶ Norris demonstrates his anxiety about these "superfluous" women who may also begin to deviate from the social mores of Victorian womanhood. After marking the fast girl, or Ida as she is eventually named, by her apparel, he also comments on her purity: "She is virtuous, but the very fact that it is necessary to say so is enough to cause the statement to be doubted" (33).

While Norris appears troubled by the existence of these

³⁵ For a thorough discussion of the concept of an emerging middle class in 19th century America, see Melanie Archer and Judith R. Blau, "Class Formation in Nineteenth-Century America." One of the categories they describe in the heterogeneous and shifting set of the middle classes is small entrepreneurship, to which the Wade family belongs.

³⁶ Mary A. Livermore. What Shall We Do With Our Daughters? Superfluous Women and Other Lectures. (Boston: Lee and Shepard, 1883) 143. Livermore is entering the debate about education for women, challenging those who strive to keep them out of educational institutions and better jobs because they are only fit for marriage. She explains that there is a surplus of unmarried women who need other means of being productive.

common girls, he also registers some sympathy for their plight. The changing codes allow women to be in places from which they were once denied access; yet, in doing so they compromise their status as moral examples.

He introduces himself into the sketch, deliberately using first person to recall a specific instance when he encountered Ida and her "fellar" at the Mechanics' Fair. Despite the class differences Norris perceives between Ida and "girls of good family," his use of first person is an admission that he regularly comes into contact with girls of her type. Even with this contact, however, he demonstrates the need to maintain a distance from her and so adopts an ironic posture. The fact that it is "men, amongst each other" who define Ida as "gay" demonstrates the hierarchy at work in the social structure of the turn of the century urban landscape. That men seek out her company and encourage her to engage in "gay" activities like drinking champagne and attending baseball games yet will categorize her as a lower form of woman is certainly unfair to say the least. When men behave in this sort of carousing manner, as is clear in Norris's "College Man" sketch, it is acceptable, admirable even, to some degree. When women behave this way, it surely marks an incipient downfall.

Norris, in part, demonstrates how certain types coalesce in an intricate interplay of agency. Certain social advancements allow for a girl like Ida to have more leisure time. She then attempts to define herself more like the "girls of good family" with whom she has gone to school and distinguish herself from her more working class roots. Men, while enjoying her company because of their "brute" instincts, are at the same time threatened by her and so re-define her as a type, a type one can accompany amid the bustling city streets but not one to admit into the family parlor for courtship purposes. Like Norris and his readers, they are not fooled by her attempts to pass as a "proper" girl. Of course, as much as Norris allows that men are partially responsible for the categorization of the fast girl, he is complicit as well in reifying her as a type, offering her up to his readers to share a joke at her expense and to remind them why it is important to keep their distance from her.

Her willingness to let go of repressive codes regarding sexual behavior--to sit in a dark corner with a "fellar" and allow him to sit close to her, and "let his forearm drop at full length" (heaven forbid!)--is particularly threatening. Such carelessness is evidence that she will never be a substitute for the upper class

girl she tries to imitate. The physiognomic treatises that helped sort people into types declared that a person would not be able to disguise his or her true self and then provided the visual cues that would reveal such inner truths. For instance, that mole on the left shoulder would reveal how insidious the woman truly was despite many attempts to clothe and make up herself as otherwise. Those inner traits would always be read eventually upon the surface. Norris's sketch performs a similar service, for though Ida can be seen in fine clothing and engaging in similar activities as "proper girls," her "true" character will eventually emerge, marking her for what she really is. Thus, he highlights certain bodily features, such as her "coarse and dry hair" to emphasize her low character. Indeed, when Norris performs his abstraction, the essence he determines is a pleasure-seeking one. And while such gaiety might seem liberating and even inspiring, in a woman, Norris renders it as dangerous.

Ida's dangerously sexual moments are couched in description of her other leisure activities, consequently linking her irresponsible and dangerous sexuality to her class. For instance, the reader is meant to share Norris's disdain for the sort of art Ida's mother pursues--hand painting--as well as the general way Ida appreciates art.

Her visit to the art gallery is very much described as a performance of sorts, one in which she "professes to be very fond of hand painting." Saying she "professes" such a fondness places it in doubt, as if she were saying such a thing only because that is what she imagines she is supposed to say. Like the imitation astrachan she wears, she is portrayed as imitating what a "girl of good family" would likely say and do. Instead of appreciating the art based on authentic response, Ida "ha[s] her fellar buy a catalogue and ma[kes] it a duty to find the title of every picture," mistakenly assuming such knowledge to be indicative of an appreciation and understanding of art.

Creating a catalogue has much in common with sketching types. The catalogue provides a brief abstract of the picture, making it easier for the viewer to interpret. Ida is like an entry in a catalog. Ida's imitation clothing and her hairstyle are supposed to signal to readers who she is: the common fast girl, a new breed of young women populating city streets. To this end, when imposing an exterior type--the label "fast girl"--Norris seems to ignore any interior except for what he ascertains are the generalized assumptions and fears of his readers as well as himself regarding social class and gender. His narrative distance mirrors the social distance his middle to upper

class readers would want to maintain. However, Norris's acknowledgement that men like himself are responsible for "defining" Ida as such suggests the possibility that there is more to Ida, something which escapes their classification system, that loss of dimensionality that is inevitable when abstraction occurs. Furthermore, just as he criticizes Ida's dependence upon the catalogue, he could extend that criticism to the way society catalogues people, even though he himself is contributing to this catalogue of types.

His ambivalence toward the type as an adequate label is demonstrated in the closing scene that takes place in a museum. Norris does critique Ida's method of art appreciation, and he also mocks the sort of art she prefers: "a picture of the head of a young girl with disheveled brown hair and upturned eyes. The title of the picture [is] called *Faith*" (34-5). Indeed, this portrait of an "ideal head" is itself a form of visual abstraction, and Norris's scorn for it could be directed back at his own sketching. Norris finds this art preference evidence of a lack of taste and another example of Ida adopting what she projects as upper class values, particularly an appreciation for sentimental bourgeois art. Although he is once again marking her as a member of an emerging and

troubling class in her attempts to imitate "proper" behavior, at the same time, he indicates some sympathy toward Ida. The portrait is clearly linked to Ida as the key feature of dishevelment resonates from his preceding description of Ida on her somber boat ride after a Sunday outing. Here, she is also called "disheveled." The hopeful title, "Faith," indicates a certain genuine earnestness, making it difficult to completely dismiss Ida.

There are moments, like these, where Norris seems to be hinting at some sort of interior lurking beneath the surface, the "real" Ida as it were. So, while it is true that she does fit into the social category of "fast girls," she is something else as well. There are desires, sexual and otherwise, inside this girl for which the mere label "fast girl" does not seem to account. Despite his participation in the construction and confirmation of a social type, Norris simultaneously offers a critique of this rigid instinct. He chooses to label his sketches as types, demonstrating how useful such a classification system can be for familiarizing oneself with new groups of people and how as brief amusement they work well as verbal caricature. Yet, he acknowledges some of the unfairness of a type in the way that labeling Ida as "a fast girl" judges her according to rules that are unfairly rigid and do not

take full account of her as a whole person. When Norris expresses sympathy for Ida, he emphasizes just that tension between the familiar type and a more provocative identity. Like the catalogue that provides only a title but not the full meaning of a piece of art, the tendency to type others glosses over crucial information.

Still, Norris directs some of the responsibility not only upon the readers who may have an over reliance on types but on the subjects as well since Ida herself works so hard to conform to an ideal type. Norris is most disdainful of Ida when she tries to imitate the "girls of good family." In fact, this behavior is partly what marks her as a "fast girl;" the fact that she needs to copy proper behavior and appearance belies the truth that she does not have a "natural" grasp of such things. Therefore, even though Ida may try to transcend her class, she will nevertheless be set apart as different and inferior by being placed into a common type.

In many ways, then, Norris uses similar techniques as those who render visual types. His sketching, or "creating a living picture in prose," performs an abstraction with the essence of Ida being that she is "fast." In selecting details for representation, Norris privileges a few surface elements that will be familiar to readers, details meant to

evoke a shared disdain, for example that very blond hair which is also "somehow, coarse and dry" (33). That "somehow" reads as if the narrator is actually not surprised at all. Furthermore, it makes perfect sense to concentrate on surface details since keeping up appearances is part of what typifies the fast girl. However, Norris complicates the process by implying another dimension. Unlike an illustrated caricature of a fast girl, Norris does not only represent her as a target for derision. She is flawed, to be sure, but there is also something attractive and sympathetic about her as well.

Using the form of the type-sketch, Norris observes and documents other flawed social types as well including "The College Man," and "An Art Student." In both "The College Man" and "An Art Student," Norris does not give his subjects a name, reinforcing their status as respective types. In "The College Man," Norris is flexible enough to acknowledge there are "varieties of the type," but once he begins honing in on a description, the terms become fairly rigid. For instance, in describing the traveling college man he writes: "If you belong to this variety you must wear either a cloth cap or a battered "plug," you must smoke a briar pipe, must own a dog, must carry a cane, and believe

that the captain of the football team can do no wrong" (23). The shift here to a second person address is interesting in that although the sketch is directed toward readers of The Wave, familiar with this new breed, this sudden direct address to the actual college men offers to provide a template for aspiring imitators. In discussing the iconography of the New Woman, Banta describes a similar process wherein poses, gestures, and props of various representations provided women with choices to make regarding their own appearance and behavior. Similarly, Norris's sketch, in this instance, offers up a host of props a young man could procure to firmly express himself visually as The College Man type. The repetition of the word "must" firmly and rigidly places his subject into fixed patterns of behavior, emphasizing a lack of choice once a person becomes a member of this community. In fact, Norris's tone suggests some disappointment with the fixity of such behavioral patterns among these young men. For if they do not adopt these customs, Norris suggests they will not then be "popular" and able to join a fraternity. (The horror!) What is odd then, for this and other sketches, is that Norris directs his representational energy toward codifying a certain type only to be a bit disappointed when they behave predictably.

The construction of social types has a double edge to it: on the one hand, sorting the masses into types creates an illusion of order and puts readers at ease as they gain the skills necessary to become familiar with so many different individuals; on the other hand, if people can be so easily classified, they begin to lose any sense of human individuality. Instead, like any other animal or plant that can be classified, so too can human beings. No transcendent or unique quality emanates from men and women. Actually, this transcendence is what sociologists like Small and Giddings, according to Horwitz, incorporated into their paradigm of social types, as if it could make the classification process more palatable. Horwitz describes their model as proposing that certain special individuals could transcend their type-classification and more importantly, that because of their consciousness or interiority, middle class readers were exempt from the stagnation of type (610, 625). But as Horwitz rightly notes, this sort of distinction is illusory (625). Norris's Ida believes she is transcending her class and type only to have readers disdain her for such a pathetic attempt at transcendence. Although readers may feel superiority toward a character like Ida, they may also feel an unease if they confront the fact that they are no

different than Ida. Somewhere, someone could observe the pattern of their lives and also sort them into a type lumping them into a mass of sameness, despite their own perceived uniqueness.

Thus, Norris's sketches embody the paradox of becoming different only to become the same. With both the fast girls and the college men, self-typing occurs because an emerging crop of young men and women who do not need to work right away are in the presence of masses of other young men and women. In White Collar Fictions, Christopher Wilson remarks that because "the middle class" was still so amorphous at the turn of the century, young people from this class tried to find some common ground as they hovered in between "the classes and the masses." The fear of being lumped together with common laborers pressed certain groups to make heated efforts to distinguish themselves somehow (103). Like the fast girls who strive to be like the girls of proper families and distance themselves from working class roots, the college men also join ranks to assume positions of leisure once only afforded to the very wealthy, and through their dress and their behavior distinguish themselves from the working class fellows. However, in this attempt at distinction, they only end up

forming a different predictable group, still to bear the disdain from upper classes.

Not only do the college men and their community serve to construct themselves as types, but also Norris again is codifying the type and offering it to his readers of The Wave. His use of the first person plural strengthens the idea that "the college man" is a recognizable type, a figure who a collective "we" finds familiar. Furthermore, by referring to him as "our Westerner," there is a sense of establishing a certain regional identity and ownership, one in which Norris himself has something at stake. In "An Opening for Novelists," Norris calls for young writers to take advantage of San Francisco as a city worthy of one of his literary heroes, Rudyard Kipling. In a larger project of establishing American masculinity, Norris repeatedly plumbs the Western landscape as the ideal place and situation for real men to be made. Yet, he draws collective attention to the college man, partly in order to poke light fun at these young men with whom the readers are familiar as these fellows can often be found carousing on the city streets. While he seems to be chiding these young men for their lack of serious attention to worthwhile work and study, he also renders them as fairly harmless, just young men going through a predictable phase. He also

appreciates their manly qualities: their athletic capability, their fraternal bonding, their fondness for the outdoors.

Like an ethnographer, Norris documents only external behaviors and appearances. Part of this selectivity derives from the fact that he is, after all, producing a sketch. Norris possesses a keen sense of what is needed to make a good sketch. In writing about "The Sketch Club Exhibit" in The Wave, he notes that "It will not do to attempt to do too much in a sketch, else it ceases to be a sketch. It must be rapidly handled, and--perhaps, most important of all--you must know just exactly where and when to stop" (188). Here, Norris emphasizes the sacrifice one must make in order for the form to work; the desire to add detail must be resisted. In order to have that sense of unmediated accuracy, the sketch must appear to have been conceived of rapidly. In this way, the essence of the subject stands out, before it becomes mediated by other ideas and preconceptions.

Like Marey's work and the work of caricature artists, Norris's sketches can economically distill a figure into an essential register. The essence of the college man--at least in California--is a fraternal playfulness. By highlighting behaviors in a way that makes them patterns--

not individual acts but shared behaviors of this type--and cataloging various external details, particularly apparel and props--again, not in order to render a distinctive character but instead to render a familiar type--Norris teaches his readers how to detect the presence of "The College Man." While Marey is also concerned with determining an essence--the bare boned mechanics of motion--he is not concerned with helping a middle class reader become familiar with his bodily subjects, except in an indirect way. His representations can serve as models for motion, teaching people, workers, soldiers, and athletes in particular, how to move more efficiently so as to avoid fatigue. He needs none of the surface details that register familiarity or that will help codify a type. He needs only the precise trajectories of the body moving through space. Norris, on the other hand, highlights details that will breed a sense of knowingness among his readers, so they can poke fun at the type as a way of tempering the anxiety they might be feeling toward these young men who have begun to populate their city streets.

Unlike his sketch of "The 'Fast' Girl," Norris does not even hint at any sort of interior or other dimension for The College Man, and he appears less troubled with sticking this label, perhaps because he sees the college

years as a passing and somewhat harmless phase (though we can see in *Vandover and the Brute* how if left unchecked such playfulness can blossom into full-blown decadence). In his sketch of "The Art Student," probably because he has a good deal of affinity with this character, an interiority is more fully implied. He still uses a comic effect when concentrating on the surface details, just as he does with *Ida* and the college men, but there is much more introspection here. When discussing the artist's Bohemianism as "the wearing of large soft felt hats and large bow scarfs and the drinking of beer in German 'resorts'," (48) he gently pokes fun at such posing of the young artist. Again, external apparel is shown to be an indicator of an entire identity.

Unlike a snapshot that would capture a single moment of a subject, this type is shown in a condensed version of time. In the art student sketch, the passing of time is referred to explicitly so we can see the changes in such a type of person. Now the tone is no longer quite so tongue in cheek:

A year passes, two years, then five, six and ten, he is still working as hard as ever, and he is nearly a middle aged man now. You meet him on his way home in the evening and he takes you to

supper and shows you his latest 'piece.' It is a study of turnips and onions, grouped about a dusty stone jug. (48)

Earlier in the sketch, he has portrayed the artist's pursuit as predictable and a bit laughable--as in the way the young art student leaves notices about his work in "conspicuous places in his studio" and in his praise for Bouguereau and in his Bohemianism--and he has maintained distance from such a figure. However, the distance between narrator and subject is bridged when he uses the second person pronoun. Here, when Norris says, "You meet him on the street," it is a way for him to interpose himself into this scenario as well as establish such a meeting as common to his readers. By making such a rhetorical move, Norris reveals that despite the desire to keep a distance from these new people--art students, college men, fast girls--he and his readers will establish contact with such persons any time they venture into their contemporary city streets.

Furthermore, the fact that now a "dusty stone jug is his ideal" can be emblematic of naturalism itself, an aesthetic Norris was beginning to work out. The art student wants to reproduce beauty but in a faithful way so as to capture the dirt, a desire Norris shares. And certainly, the fact that the art student dedicates his life

to work that does not pay deserves no scorn from Norris. Yet, Norris clearly had much larger ambitions for himself. He appreciates sketches in his review of an art exhibit, claiming that for every "twenty artists who can paint really fine finished picture," there is only "one who can dash off even a fairly good sketch" (188). Despite this appreciation, Norris does not want to place himself into that same category. His goal is to be a novelist, not forever doing hackwork. Thus, with a mixture of sympathy and admiration and anxiety, Norris ends the sketch by depicting what the art student has transformed into:

He's over thirty by this time, and is what he will be for the rest of his life. All his ambitions are vanished, his enthusiasm's dead, but little by little he comes to be quite contented. (48)

Norris's art student begins very clearly as a type from the Western City, a statistic of those streets; yet, the more details, predictable as they may be, Norris adds, the more complicated his type becomes. The gap between narrator and subject begins to close. The irony is tempered, and, instead, empathy for the middle-aged artist is generated. Nevertheless, the emphasis on the idea that this man's life

is a predictable pattern, even as it changes, weighs heavily.

In the type sketches, Norris consistently emphasizes the tension between the system of standardization that generates recognizable types, transforming Others into norms with predictable features and behavioral patterns, and the sense that there are more provocative interiors that his documentary strategy fails to capture. Partly this limitation may be a genre distinction. All three of these sketches are distillations of characters from his novel Vandover and the Brute.³⁷

As a method of abstraction, the type-sketch affords Norris a number of possibilities. Apart from being a way to get at and represent the essence of various people, the type-sketch also falls in line with Norris's position as a naturalist/scientist. According to Max Beerbohm, a prominent caricature artist, caricature is an art that lacks moral judgment (qtd. in Sherry), an aesthetic that falls in line with the sense of the sketch as neutral method of observation and representation because of its instantaneity. This purported objectivity of sketching

³⁷ Joseph McElrath and Douglas Burgess, The Apprenticeship Writings of Frank Norris, 1896-1898 (Philadelphia: American Philosophical Society, 1996) xxxiii. According to Joseph McElrath and Douglas Burgess who edited the "apprenticeship writings," it is not clear whether "The Fast Girl" was extracted from or added to the novel.

would certainly appeal to Norris who sets out to observe and record. Norris's project seems to be less inclined to judge *The Fast Girl*, *The College Man* and others than to simply present them as they are. Of course, caricature is never quite so neutral. For instance, Beerbohn himself, in response to his own caricature of Rudyard Kipling, wanted a neck that was more "brutal" (qtd. in Sherry). This change certainly suggests a desire to portray Kipling in a very specific light, and Norris's descriptions are no different. He displays some attitude toward all three types, but while they are all the targets of some disdain, they also are the recipients of some sympathy and admiration as well.

Presenting types also works as an economical strategy, useful for serial publication and a mass readership. The visual details of all three western-types are quickly presented to familiarize and humor readers, but, for Norris, such a strategy would ultimately be less than fully satisfying. Recall from the previous chapter how Norris wanted to penetrate the surface of the "flesh [and get] down deep into the red living heart of things" (1165). Thus, he finds himself complicating his representation of types, normally defined only by surface detail. Not surprisingly, Norris would end up leaving the short prose

behind and would ultimately find himself in the thick of a lengthy trilogy.

Crane's Maggie: surreal abstractions

When Norris's Western types appear in his novel Vandover and the Brute, he provides more interiority, though, as evidenced by the discussion in the previous chapter, this interiority is less a psychological and moral depth conventional in realist novels than one that is animalistic and mechanistic. Still, the sketch characters do become more fleshed out. In contrast, Crane seems satisfied to keep his characters in a most reduced state in his novella Maggie. Crane's characters, despite populating a novella that could afford possibilities for complexity of interiority, remain experiments in abstraction. Just as Norris presents types observed on the San Francisco streets, so, too, does Crane work with familiar New York City urban types--like the Irish drunken and belligerent father as well as the simple but pretty girl of the tenement. And like Norris, Crane often creates ironic distance and raises questions regarding class mobility. Furthermore, Crane also expresses ambivalence toward the

types he constructs as well as toward the overall process of labeling others so rigidly.

However, Crane's flattened representational strategy is quite different from Norris's sketching. In Crane's text, any sense of familiarization on the reader's part is more likely to be fleeting. It is also exposed as a false project. As with the subjects of sociological inquiry, Crane's characters are rendered less as human individuals than as points that make up a pattern. Crane also seems less interested than Norris in penetrating and representing an interior for his types. Ultimately, Crane's mode of abstraction with its dependence on epithets and fragmentation of the body, punctuated by intense spectacles, achieves a surreal and startling effect.

What Crane and Norris mean by type is markedly different. Norris's sketches, with his attention to props and poses, bear resemblance to the illustrations and caricature of social types, and like a bemused ethnographer, he seems intent upon portraying the odd behaviors of these social curiosities. They are abstractions, with an essence being determined and represented. Still, though few, the visual details are sketched as a way of establishing these characters as familiar representations, and the hint at interiors

provides a sense that Norris is presenting "real" people. Crane, on the other hand, seems not to care how real his characters appear, and in this way, his work is more akin to the abstractions of Marey. His subjects are depersonalized, with details being hyper-compressed; often an epithet or a few impressionistic strokes serve as a representational strategy in Maggie.

The subtitle of Stephen Crane's novella Maggie is "A Girl of the Streets." Even before the text begins, the implication here is that Maggie could stand for any girl, that her fate of becoming a prostitute and later dying is a common one for girls who live in urban poverty. She is not always described, however, as merely any girl. Early in the novella, Crane makes a point of marking her as different from the masses living in the tenements. Once Jimmie and Maggie have outgrown their urchin childhood, she is portrayed as "a rare and wonderful production of a tenement district" (24). Crane may be relying on a familiar romantic type--the lone flower of a girl amid a backdrop of squalor. As Giorgio Mariani argues, Crane partly sets out to parody the sentimental genre of slum fiction, which often had a working class heroine at its

core, one who, despite her circumstances, was able to elevate her status, usually through marriage (74).³⁸

However, I also think Crane has Maggie begin as markedly different from the lot of tenement denizens because he wants to illustrate how Maggie's illusions of self-realization will ultimately be dispelled, not only by the fixedness of class structures but also, as Horwitz suggests, by the mythical status of self-direction via the development of internal consciousness (625). Her difference sets her up as seemingly individuating her from the type, or a label like Irish Factory Girl, which middle class readers and others want to categorize her as. Her beauty and a romantic disposition that has her imagining "dream-gardens [where] there had always walked a lover" (26) serve both as sources for parody, in that such bourgeois fantasy cannot successfully operate in her ghetto environment as Donald Pizer has suggested, and as ways for Crane to signal an attempt at self-individuation only to later illustrate how futile such attempts are. Jimmie, in particular, wants to see Maggie as "diff'ent" than "all sisters [who] could advisedly be ruined" (44). His marking her as different serves various functions--in part, he can

³⁸ Mariani is building upon Eric Solomon's study of Crane's use of irony.

then make allowances for his own ruinous behavior toward other women. Because Maggie is "diff'ent," she is supposed to be exempt from such treatment otherwise acceptable for the masses of young, poor women. He also can live vicariously through Maggie, perhaps even transcend the common portrait of their working class family headed by a pair of violent drunks.

What is most surprising about Crane's treatment of Maggie as a character has more to do with an absence of details. One would think with the numerous references to her "rare" beauty that Crane would provide some detailed description of her appearance. Unlike Zola, who offers numerous detailed descriptions of his female beauty Nana, Crane's representational strategy is oblique when it comes to portraying Maggie. She first appears "unseen," disguised by dirt, and then suddenly she is simply referred to as "a looker," presumably meant as someone worth looking at, though she also is frequently figured as someone who looks, constantly absorbing various scenes from the theater to the saloon. Pete takes note of her and admits he is "stuck on [her] shape," but still Crane offers no detailed description of that shape.

And it certainly is not as if corporeal realization is beyond Crane for he lavishes details, grotesque as they

might be, on the spectacle of the drunken mother or on the fighting Jimmie. At one point the mother is described as leaving a saloon as such:

Her gray hair fell in knotted masses about her shoulders. Her face was crimsoned and wet with perspiration. Her eyes had a rolling glare . . . Her hair straggled, giving her crimson features a look of insanity. Her great fists quivered as she shook them madly in the air. (38)

While at least with the mother, Crane does offer details, they are offered as a series of fragments as opposed to a comprehensible whole, serving to highlight her monstrosity.

Later, when Jimmie goes to punish Pete for ruining his sister, he and his "combatants" are described in similar detail:

The faces of the men, at first flushed to flame-colored anger, now began to fade to the pallor of warriors in the blood and heat of a battle. Their lips curled back and stretched tightly over the gums in ghoul-like grins. Through their white, gripped teeth struggled hoarse whisperings of oaths. Their eyes glittered with murderous fire (49).

In stark contrast, Crane only briefly describes Maggie in any visual detail twice. Once at the theater, Pete watches her: "Her cheeks were blushing with excitement and her eyes were glistening" (33), and later in the saloon she is described with Pete vaguely: "Maggie was pale. From her eyes had been plucked all look of self-reliance" (52). Thus, Crane's representational strategy with regard to visual detail has him swinging on a pendulum between extremes: intensely visual moments with acute attention to detail and fairly vague visual accounts of characters.

If Cartwright and Stafford are correct in their assertion that abstraction is a form of violence subjugated upon the body, it is interesting to note that it is precisely at moments of bodily violence that Crane refrains from using a strategy of abstraction and opts for one of intense scrutiny and revelation. While Maggie registers quite flat, with little details of her exterior or interior to offer much in the way of dimensionality, other characters like Jimmie and Maggie's mother erupt with brief bursts of visual vividness. It is as if at these moments of violent spectacle, the body cannot be ignored, and thus, it explodes onto the page. Maggie warrants no such treatment because she never experiences moments of violence, never seeks a fight or an outlet for any rage

like the other members of her family. Instead, she merely drifts along, suddenly attaining an attractive shape and Pete as her suitor with little action from herself. This destruction or denial of any agency--perhaps this is the violence Crane enacts upon Maggie by abstracting her.

Although Crane offers her a flimsy sense of distinction by portraying her as a "flower", Maggie's eventual ruination is precisely what reasserts her status as simply "a girl," a statistic of the streets, enacting a "normal" pattern in urban lower-class life. Crane emphasizes this reassertion by performing an extreme abstraction upon Maggie, emphasizing her anonymity. Like Marey, who went out of his way to suppress the very details that identify a figure as human, Crane decides to obliterate one of her few identifying features. Since her behavior has re-established her as not different but actually the same as the multitude of other young ruined women, Crane erases her name. After her mother, brother, and lover spurn her, she is no longer referred to by name or even as daughter, sister, or girlfriend because all those who would confer such status upon her have rejected her. Only at the novella's end, when she is dead, does she regain her name as Jimmie utters, "Mag's dead." The social roles of daughter or sister or girlfriend, Crane suggests,

are partly what allow people to establish certain identities. In reducing her to a nameless figure, Crane not only locates the tension between collective types and individual identity, but he also demonstrates how prescribed and predetermined behavioral patterns will ultimately thwart any attempts at individuation.

This same tension appears in Norris's sketches with his type figures caught between individuation and predictable behavior. While both Norris and Crane recognize some of the unfairness of applying a reductive label to human beings, neither simplifies the process by suggesting individuals are merely victimized and sacrificed by an oppressive class system needing to reduce them. Instead, both authors show their characters trying to conform to a certain type. Maggie's perception of imitation as a way to transcend her status as a factory girl and perhaps stave off what she imagines as "an exasperating future" for herself echoes the way Norris depicts his character, "the fast girl," with her attempts to imitate the look and behavior of "girls of good family." That both characters fail at creating a seamless copy of what they desire to be suggests a critique of such aspirations by both Norris and Crane. In fact, the implication here is that if Maggie would simply stay

content with her "Irish Factory Girl" label, instead of attempting to occupy the more middle class position she imagines Pete wants and can help her achieve, she would be better off than what such presumption leads her toward. On the one hand, Crane is making visible the social problems--poverty in particular--which create Maggies and Jimmies and Petes, but he also voices the suggestion that they should stay what they are: poor, Irish, and working class for when they try to imitate middle class behaviors, they are only marking themselves more clearly as inferior.

Norris has Ida more successful in her imitative attempts, despite his critique, because of her material conditions. She is, after all, able to purchase clothing and props closer to "the real thing" whereas Maggie must make do with very little as we see with her desperate attempt to make over her hovel with a pretty lambrequin. Furthermore, Norris strives somewhat to understand Ida and hint at a more provocative interior whereas Crane emphasizes a distance from Maggie. Norris certainly creates more depth for Ida when she appears in Vandover and the Brute, attributing a sense of daring to her and acknowledging her ability, despite being a woman, to relish the pleasures of being young in a modern city. In contrast, Crane never really attempts to simulate an

interior for Maggie; rather, he focuses on making visible the social conditions of Maggie's life that suppress attempts at inner growth. While Norris depicts the veil between surface and interior as something penetrable, Crane makes such a curtain more formidable. In his short story "When Man Falls," he writes of the "impenetrable fabric suddenly intervening between a suffering creature and [the crowd's] curiosity [which] seemed to appear to them as an injustice" (604). He could just as well be talking about Maggie here as the suffering creature who cannot be penetrated, despite readers' curiosity. Thus, where Norris tends to fill in his type and provide commentary on the surface details, Crane provides no such commentary--though both offer an ironic perspective toward their characters. For Crane, people really can be reduced to just a phrase--a painted girl, a youth, a forlorn woman.

June Howard also notes Crane's lack of interest in causal details, arguing that he does not bother much to explain how Maggie becomes what she becomes--Maggie simply "is" (99). Crane provides little development or thought process. For example, when Maggie departs her home to live with Pete, Crane does not present a moral crisis as reflected by an inner dialogue one can imagine with a weighing of consequences, a thoughtful consideration of

what it might mean to be "ruined." Indeed, her move is presented without much comment, based in practical concerns. One place is a hovel in which she receives daily doses of verbal abuse. Pete's place, on the other hand, is surely better, so she moves there.

There is a similar absence of explanation or description when she becomes a prostitute. The 17th chapter begins, and suddenly, she simply is now "a girl of the painted cohorts of the city". In his analysis of Maggie, James Giles argues that Crane "telescopes" her situation in this chapter in order to ensure that Maggie retains her status as "idealized victim" (23). In many ways, Crane does present Maggie as a victim, particularly in the way she is at the mercy of a hostile family and environment. But I disagree with Giles when he argues that the absence of a moral crisis at the point of becoming a prostitute shows Crane's difficulty in opting for an "idealistic" character rather than a realistic one (26). It is rather difficult to view Maggie as a romanticized ideal, considering the degree of irony often directed at her, and it is not simply at this moment that Crane decides to avoid portraying inner turmoil. Instead, it helps to place her into the context of abstraction discussed at the beginning of this chapter. Marey, as a physiologist, needed to

abstract human bodies to gain a better understanding of the mechanics of motion. For sociologists like Gidding, Small, and Ross, abstracting persons into statistics or positions on a scheme allows them as sociologists to more easily observe behavioral patterns. To some degree, one can read Crane's text as a conflation of these two projects. Maggie is represented as an abstraction--not an identifiable human figure really. Like Marey, Crane is willing to sacrifice not only dimensionality but other identifying features as well. Her status as a human individual is less important than an understanding of the social system of which she is a mere part. Maggie's inner struggle has never been the point. Her character is ever more flattened out; any possible dimension is reduced as her possibilities for a better future are.

We also see Crane merely highlighting only the essential features to represent minor characters. For example, he writes of "the forlorn woman," the epithet like Norris's "Fast Girl" meant to elicit recognition. This is her defining identity. She is meant to stand for a common occurrence, and her presence--particularly the way she now moves through the city streets--foretells Maggie's fate, but unlike the manner in which Norris describes Ida, the "fast girl," with a detailed account of her clothing and

appearance, Crane prefers to recast a brief impression of the forlorn woman's face: "in repose her features had a shadowy look that was like a sardonic grin, as if someone had sketched with cruel forefinger indelible lines about her mouth" (64). While Norris recognizes the quickness of the sketch as an art form and its objective merely to establish a singular mood, he does so in a documentary fashion. Crane, on the other hand, offers very little in terms of familiar and authenticating details, confident that the mere epithet and a brief impression will be enough to convey what he needs from this character. This quick glimpse is all Crane offers in contrast to a description one could imagine Norris writing, which would be replete with details about her dress and her appearance.

Nevertheless, Crane's text resonates some ambivalence toward the sketching of types for the sketcher is characterized as "cruel." This "someone" is whatever is responsible for reducing Hattie, transforming her from a person to the overly familiar face of "the forlorn woman." And just as Maggie and Pete's "true" types prevent their individuation, the lines being sketched can never be obliterated or erased. But again, responsibility for this constraint is complicated. In many of the physiognomic illustrations, the sketches of highlighted facial details--

a crooked chin, eyes too close together, and so on--are meant to represent the true character, one that cannot be disguised, so it is Nature that reasserts "true" character for various types. Yet, the illustrators, physiognomists, and caricature sketch artists are the very people who help to codify such equations between exterior details and inner character. Similarly, Crane can be read as occupying this position of a "cruel" sketcher. While on the one hand, the plight of his characters calls attention to an inherent injustice regarding the fixity of patterns for types based on class--his readers are perhaps overly predisposed to assume that lower class girls become forlorn women, one way or another--Crane enacts a similar stronghold on his own characters by reducing them this way.

In the penultimate scene, not only has Maggie been reduced to "a girl of the painted cohorts of the city," but also Crane now thrusts her among varying types. As readers accompany Maggie through the city streets, they encounter a series of familiar figures in a somewhat surreal episode: the first man is somewhat of a dandy with his "evening dress, a moustache, a chrysanthemum, and a look of ennui, all of which he kept carefully under his eye;" next a "philanthropic" gentleman, a businessman, a laborer, a youth, a drunk, until she finally meets up with a huge fat

man, brimming with menace (71-2). All these types are being circulated as common figures to recognize from the urban landscape. Indeed, this heavy population of types adds to the nightmarish effect of this chapter since Maggie cannot seem to establish contact with human beings. Again, Crane suggests that people do fall into recognizable types, much to the detriment of a sense of community. In some cases, as with the dandy and the philanthropic gentleman, there is the suggestion that people willingly conform to type out of a desire to represent themselves in a certain fashion. In other cases, the forces of poverty and urbanization seem more responsible for ensuring that the streets will be populated by drunks, "ragged beings," and menacing figures.

Crane's representations are so reduced, so abstracted, that they have a similar effect as Marey's models in his chronophotography. The few details he does provide are not about establishing authenticity the way they might be for Norris. Like Marey's chronophotographs, which suppress almost all surface detail in order to more efficiently represent movement and have little regard for mimesis, Crane experiments with narrative, forgoing details which establish an interior as well as those which fiercely mark "the real thing." That Nell is a "woman of brilliance and

audacity" or that Hattie is "forlorn" is the reiteration of an essence that actually has little to do with familiar visualization. The language itself is quite oblique, discouraging readers to see various characters in any specific way. Norris uses an epithet--"fast girl," "college man," "artist"--as a starting point and then proceeds to give visualized embodiment to these labels whereas Crane is fairly content to let the labels speak for themselves with only the briefest additional information.

In this way, Crane resists conventional means of establishing character. There is less a sense of getting to know and feel for these characters than being fascinated despite the lack of familiarity. Seltzer describes this characterization, of Maggie's mother in particular, as Crane's "corporeal model of the social" (100). The function of such characterization is less to engage readers into feeling insight into individual natures and more to show readers characters who embody social concepts. By using epithets and brief impressions, Crane creates a dual effect: these labels have a generic quality that suggests that anyone could occupy the position of "girl of the streets" or "forlorn woman." Various observers can project themselves onto a model like a mannequin or the lines of movement that Marey's models offer. Moreover, the fact

that such depressing outcomes are a norm for masses of people should disturb his readers. Crane's abstractions also resonate thematically: what little identity one might construct--a flower of the tenement who may have the possibility to bloom, for instance--will ultimately get reduced, flattened out, by social conditions so that one becomes merely a statistic of the streets.

Marey's experiments reduce the body, abstract the body, so that the system and mechanics of movement can be measured and understood. Individual identity features--those residing on the body's surface--are erased because they distract from the purpose of scientific study. By using a method of abstraction like Marey's, Crane also erases features that mark individual identity. However, unlike Marey who offers his studies of movement as exemplar, for the goal is to have an efficient system of motion to adopt, Crane is certainly not suggesting poverty as a similar model. Instead, his abstractions are meant to illustrate the social system that produces such persons. But for Marey, eliminating distracting details allows him to measure more accurately and understand the mechanical system of movement more clearly, and with this clarity comes scrutiny and eventual reform. Crane seems to be undertaking a similar project in that he is attempting to

understand a mechanical system as well--but the social paths of people proves to be much more complicated than the trajectories of moving bodies. In contrast to the specifics that Marey is able to provide because of his methods of abstraction, Crane avoids offering specifics regarding the social processes that seem to be the crux of his narrative. Consequently, the notion of any specific reform is likewise neglected. Instead, we are left with a sense of unease at the bleakness of such a world and life as that of Maggie and her kin. But by sacrificing dimensionality, Crane also loses the potential to transform that unease to outrage from his readers, which in turn could lead to action.

Despite their differences in representation, the abstractions of Norris and Crane both serve the same function of registering a normal pattern associated with their class. When Eric Sundquist observes that in naturalism "the abnormal becomes the barely submerged norm" (13), he suggests a duality felt by middle class readers. These readers are meant to see naturalist characters as abnormal, since the situation of Maggie and the others who inhabit the Bowery will be removed from their own experience, yet they are also supposed to see these

characters as registering the norm for the underclass. It is this normative process that defines the cultural work of these texts then, despite occasional hints at the need for less rigid social systems and more environmental reform.

Certainly, Norris and Crane use abstraction strategies to explore issues of social class. Many of Norris's sketches focus on an emerging middle class, certainly causing anxiety among upper class members, particularly because of the possibility of these new people "passing." Norris, to some degree, reassures them that despite their ability to acquire material props and access leisure spaces hitherto reserved for upper class society, these middle class people, "fast girls" like Ida Wade for instance, will never be authentic enough to truly infiltrate upper class company. Crane shows how the fixity of social class hierarchy is likewise entrenched for lower class; the only character from Maggie with a position worth envying is Nell, and she can only be powerful with men of Pete's caliber. It is also unlikely her "brilliance" and "audacity" will last forever. Yes, Maggie and Pete have fleeting moments of "transcendence," but they will always be brought down to their roots. Both Norris's and Crane's decisions to experiment with abstractions allow the threads of determinism that inform their work to flourish. The

system of social classes can be seen as an attenuative force, reducing individuals until they can be fixed into a given social category. While Crane's and Norris's methods of abstraction do not necessarily deny corporeality in the same way Marey's work does upon his subjects, they do deny dimensionality in terms of limiting interiority and reducing social possibilities.

Conclusions

Abstracting bodies, whether in visual or verbal media, necessitates a denial of dimensionality, a suppression of corporeality. Cartwright argues this suppression fits into the "modernist demand for order," and to some degree, many of the works discussed in this chapter offer themselves as the means toward creating order out of chaos whether that be the blurred and confusing images of bodies in motion or the peoples inhabiting the modern urban landscape.

Abstracting bodies can offer the opportunity for familiarization, but not necessarily. Instead, one can apply so much pressure upon the body in an effort to abstract its essence, that one produces a defamiliarizing image. For Marey, such an image works well for precise and selective analysis. However, by denying dimensionality and corporeality, those who choose abstraction as a

representational strategy effectively dehumanize their subjects.

For a physiologist like Marey, dehumanization matters little. He treats all bodies the same, whether horse, bird, or man; he dresses all of them in black suits with silver dots and strips and represents them all in the same fashion of trajectories. All bodies that *move*--not think or feel or behave--are of equal fascination to him. In the typical manner of physiology, his work emphasizes mechanistic qualities, not traditionally humanistic ones. Similarly, the charge that caricatures of social types might be perceived as flat or reductive would hardly be troubling, for that effect is part of the point of caricature or any illustrations based on physiognomy--that in order to achieve legibility amongst the increasingly diverse types of the modern urban era, one must distill subjects to their essential register.

Writers such as Crane and Norris are clearly drawn to some of the advantages that abstraction as a representational strategy affords. That abstraction emphasizes the mechanical as seen in Marey's work corresponds with their view of the workings of social class being as mechanistic as locomotion. Their characters are distressingly predictable, enacting patterns that emphasize

society as an impersonal system that simply grinds along, manufacturing the same types over and over again.

However, both Crane and Norris, although effectively abstracting their characters, do not always maintain the pressure of abstraction that visual media affords. For Crane, the dehumanization that accompanies abstraction suits his surrealist mode in which there are no people with interiors--all is superficial, and character are less than persons. Maggie's descent into working the streets reads as a bizarre nightmare in which a disembodied girl floats through a landscape of ever-deteriorating characters. However, there are moments in which the corporeal surfaces, where bodies refuse to be abstracted. Those moments of spectacular violence, as when the mother spends herself in a drunken rage or when Jimmie unleashes a torrent of blows, provide corporeal access to the text. In this way, we can see Crane's pendular swing from oblique abstraction to intense vividness as his expression of both the animal and machine impulses of the body that naturalist writers tend to emphasize. When highlighting the mechanistic, Crane abstracts bodies so that characters are flat and impersonal, but when he examines and represents their more violent animalistic natures, he must allow the body to

surface, and thus he finds himself compelled to render vibrant details.

Norris, also, does not always allow his characters to remain in their state of abstraction. Like the sociologists who in order to provide a counter-option to the concept of types invoked the idea of transcendence, Norris represents his type-sketches with underlying glimpses of more substantial identity. Identity does matter in the representation of social types, whether in caricature-like illustrations or in the type-sketches of Norris. However, as Norris himself indicates, the identity afforded by abstract types is severely limited and limiting. Norris's narrative experiments, on one level, serve to sort out unfamiliar strangers. His selection of details codifies them into somewhat familiar types, even when he undermines such classification. Still, Norris points toward an unknown interior, suggesting that although readers may recognize the subjects of his sketches and share a certain attitude toward them, they actually do not know all there is to know. To some degree, Norris believes it is the writer's job to "penetrate into the characters of type-men," to force readers to delve a bit deeper beyond their assumptions.

The fact that both Crane and Norris undermine their own methods of abstraction attests to the power of the human body. While order is perceived as an attractive alternative to chaos, and contributing to the flat perspective Cartwright critiques does participate in establishing order in terms of familiarization or precise scientific analysis, the narratives of Crane and Norris cannot help but admit that persons and their bodies will resist such order. Whether it is the idea of an interiority hinted at by Norris or the sudden ruptures into sensational behavior that Crane relays, these writers not only allow for the disorderly but appear to relish it.

Lost in a Crowd: Representing the Masses

While all our ancient beliefs are tottering and disappearing, while the old pillars of society are giving way one by one, the power of the crowd is the only force that nothing menaces, and of which the prestige is continually on the increase. The age we are about to enter will in truth be the ERA OF CROWDS. (xiv-xv)

Such is the somewhat ominous assertion by French physician Gustave Le Bon in his pioneering work on crowd psychology, *The Crowd: A Study of the Popular Mind* (1895). Its publication marks the importance, particularly to the ruling elite, of understanding crowds for they had come to dominate the late 19th century landscape, not only in France, but in other countries as well. Le Bon paints much of his portrait of crowds with an anxiety already felt by the upper classes. Indeed, his book serves to offer guidance so the elites can manage to control crowds, chiefly by means of providing the appropriate illusions to divert them. Le Bon counsels on the importance of successful rhetoric that would appeal to primitive emotions and desires. There is no need for elaborate and detailed

social policy when one can offer language studded with symbols and emotionally charged imagery.

While crowds certainly have a long representational history, reaching back to ancient times when mobs gathered together to overthrow rulers, the late 19th century saw the crowd growing as a permanent construct, a commonplace of everyday life, not just one emerging at momentous historical occasions. Le Bon's assertion was everywhere felt; the era of crowds had begun, and so it is not surprising to find various turn of the century media preoccupied with the image of crowds. Some of the very first films by the Lumière brothers as well as Thomas Edison and his cinematographers feature crowds as their subject. Likewise, a number of naturalist texts from writers such as Stephen Crane, Edith Wharton, and Frank Norris, show crowds forming an important backdrop or coming into the spotlight themselves.

In this chapter, I examine how crowds are represented in these visual and verbal media. Crowds are significant in these works not only because they ground the reader or observer in an urban reality but also because the crowd serves to highlight many turn of the century concerns, particularly the dehumanization of individuals as well as their lack of agency, both results of a modern,

industrialized world. The rhetoric of crowd representation often relies on references to hypnotism and contagion, popular issues at the turn of the century.³⁹ Hypnotism and contagion, because of their association with the automatic capacity of human beings, are also ideal mechanisms for illustrating a loss of agency and a submission to more powerful forces. Furthermore, the techniques for representing crowds in either medium often hinge on simultaneously conveying order and disorder. The crowd can create chaos--hence, the intense anxiety directed toward the crowd--but it also can submit to order. In sorting through representational strategies and significance, one can also locate the potential subversive element in crowd representations, which often serves as a warning to the middle class: how the lower classes form potentially disruptive crowds and also how the middle class themselves behave when in a crowd.

³⁹ For an insightful account of hypnotism, see Jonathan Crary, Suspensions of Perception: Attention, Spectacle, and Modern Culture, (Cambridge, MA: MIT P, 1999) 65-71. Crary also notes that an association with automatism results in a falling from favor for hypnosis as a practice. The notion that a doctor could control a person beyond his or her will so that a person was merely acting in an instinctual manner as opposed to a rational one was too disturbing.

Crowd Behavior

I would first like to return to Le Bon's theories of crowd behavior before examining their representations in verbal and visual media. Le Bon expresses dismay that crowds in the late 19th century are now dictating conduct whereas previously the masses' opinions were not often given much weight if even considered. His writing serves to stir up fear toward the crowd as he reminds readers how crowds have been responsible for the fall of great empires. Throughout much of the book, he emphasizes that crowds are precivilized and barbaric, reverting to instinct and abandoning reason. Although there are occasions where he points out that crowds can act heroically, given the right impetus, more often he describes their destructive impulses, devoting two chapters to the discussion of criminal crowds. Interestingly, he feeds into the late 19th century preoccupation with germs and disease, making the analogy of crowds to microbes in their ability to bring about the dissolution of a civilized society.

Le Bon was certainly not alone in viewing the crowd in such pessimistic terms. Both Susanna Barrows and Jaap van Ginneken in their respective books on crowd representations in 19th century France place Le Bon at the end of a list of theorists including the historian Hippolyte Taine, the

novelist Émile Zola, and social scientists Scipio Sighele, Henry Fournial, and Gabriel Tarde. What Le Bon offered to crowd psychology was not so much original theory; rather, he was adept at synthesizing elements from these other scholars, without much acknowledgement. He also succeeded in taking the debate on crowd mechanisms out of the academic realm and addressing it to a more broad and popular audience. What he shared with all these theorists was a vision of the crowd as pathological (Barrows 191). Even Zola, who demonstrated the most sympathy for the crowd, warning others not to think of the people as bestial lest they retaliate in a beastly manner, nevertheless represented the crowd as a nightmarish monster in his own novel Germinal.

Basically, Le Bon's argument combines two models from the field of social psychology: that of hypnotic suggestion and the evolution-dissolution model. Theodule Ribot, a friend of Le Bon's, and a psychologist and founder of the Paris school, worked with Spencer's ideas on evolution and dissolution as he developed a systematic study of mental functions. The basic premise of Ribot's theory was that during evolution, the more advanced species achieved higher mental functions. The more civilized the species, the higher the mental functions. When a human being

experienced mental disturbance, his higher functions dissolved and he then experienced a resurgence of lower functions (van Ginneken 139). Le Bon capitalizes on this model, arguing that certain conditions cause dissolution in men--such that they revert to the state of primitive species. As van Ginneken notes, Le Bon attributes such dissolution to two primary causes: a weakened national character or the impact of agitated crowds (141).

At the same time the evolution-dissolution model was being constructed, many studies on psychic dissolution focused on hypnotic suggestion, itself the subject of heavy debate. On the one side was Jean Marie Charcot, who argued that hypnosis worked only with hysterics, and this hysteria was a result of an "organic predisposition" (van Ginneken 144). On the other side, Hippolyte Bernheim, who had worked with hypnosis as a therapy, maintained that hypnosis was a mental mechanism, and that anyone could fall sway to hypnotic suggestion to different degrees. Le Bon, following the eventual tide that would side with Bernheim and the Nancy school, capitalized on Bernheim's notion of a "cerebral automatism." Normally, people were regulated by their superior faculties of the brain, those higher mental functions, but if these faculties weakened, then the

automatism would be reinforced, and the primitive being would reemerge.⁴⁰

Hypnotic suggestion performs a crucial role in Le Bon's theory for it works as a twofold mechanism. First, he describes the crowd as basically performing hypnosis on itself: "In a crowd every sentiment and act is contagious to such a degree that an individual readily sacrifices his personal interest to the collective interest" (10). This concept of contagion is key because it suggests a spontaneity as well as a lack of agency in the way the crowd self-hypnotizes. Individually, these people would behave along different lines, but merely by amassing, they subject themselves to psychic dissolution. Then, once the crowd falls into this hypnotic state, they are quite vulnerable and are susceptible to further hypnosis--even to the point of being goaded into action--by a charismatic leader. Unfortunately, according to Le Bon, the crowd's leader is frequently one of its own, who becomes hypnotized by an idea, often an irrational idea, and, by sheer force of will, can convince the masses of this idea, regardless of its soundness. Consequently, the crowd acts like those possessed of religious fervor with intense faith.

⁴⁰ For a more thorough discussion of the Salpêtrière-Nancy debate, which took place in the 1880's, see van Ginneken, 138-148.

However, it is in this observation of the leader who can manipulate the masses that Le Bon offered something new to crowd theory. While others were bemoaning the crowd's prevalence and barbarism, they did not offer any solution. Le Bon, on the other hand, by detailing how the collective mind works, describes the means of usurping this leadership role too often adopted by a naïve member of the crowd. What the authorities must provide is a *proper* leader, and what the ruling elite must understand is that crowds do not need complicated truths. Instead, simple images, ones that can easily enter the domain of the unconscious, are much more useful. Crowds are like people asleep: reason is suspended and illusory images take over (55).

Furthermore, Le Bon more than once suggests that the crowd actually wants to be dominated. He often likens crowds to women, children, or other precivilized sorts. Not only do they lack strong reasoning skills, but they are also extremely servile and seek a dominating force. Consequently, an adept leader needs to master the art of constructing the right images--and here it is more their symbolic power than their soundness that makes them work--and then, much in the way we think of the modern advertising industry, this leader needs to use affirmation, repetition, and contagion to channel the crowd into desired

action (120). For Le Bon, it is important to isolate the key characteristics of crowds so the appropriate measures can be taken when dealing with crowds. Reasoning with a crowd, for instance, would be all but a futile gesture since, according to Le Bon, once an individual coalesces with a crowd, he or she loses the capacity for reason. Furthermore, it would make no sense to appeal to individual consciousness at all since it disappears instead into a "collective mind." Instead, the key to controlling the crowd is to master the flow of images and symbols.

Le Bon's sense of the hypnotic tendencies of the crowd concentrates on the crowd becoming hypnotized by itself and hypnotized by a charismatic leader. He does not discuss the crowd's hypnotic power on other spectators, interestingly enough, for one would think such power would feed into his anxiety regarding the masses and their display of chaotic force. However, other writers certainly discuss this influence; for example, Walter Benjamin's familiar analysis of Baudelaire's and Poe's representations of crowds emphasizes the crowd's impact on the *flâneur*.⁴¹ In this case, a spectator may be lured by the crowd's hypnotic presence but does not necessarily become one of

⁴¹ Both Frisby and Den Tandt in analyzing modernity find themselves needing to address the situation of crowds. Not surprisingly, they both refer to Benjamin's take on the modern crowd and the figure of the *flâneur*. See Frisby, 249-52; Den Tandt, 38-39.

the crowd. Instead, the *flâneur* hovers on the threshold, becoming visually absorbed by/with the crowd but not physically. Such spectator paralysis is a common feature of naturalist texts as well, according to June Howard, who cites Theodore Dreiser's story "Nigger Jeff" as an example. Howard notes that the character Davies, a journalist, has an ambivalent relationship to his subject, the mob. A mob is basically a crowd that has reached its pinnacle in irrational and chaotic fury. While Davies is emotionally shaken by the events and behavior of the mob, he does not join them or stop them. He merely watches and even feels some thrill because the events will make a good story (Howard 106).

In either case, where individuals become physically absorbed by the crowd or simply visually absorbed, the crowd has tremendous power, inspiring irrational behavior or enacting a sort of paralysis by virtue of its spectacular force. It is not surprising, then, that Le Bon would urge the ruling elite to intervene and channel this force, lest society is trampled by it. It is this powerful force that also links the crowd to early cinema and naturalist texts. For example, in his book on American naturalism, Christophe Den Tandt argues, "By organizing his argument around the concept of contagion--the spontaneous

tendency of the mass to hypnotize itself--Le Bon confers to his vision of the crowd the oceanic aura that is predominant in American naturalism . . . (154). For Den Tandt, a key construct in naturalism is "the naturalist sublime" of which the crowd is but one outward manifestation, usually grotesque and abject (9). In his discussion of vitalist rhetoric in naturalist texts, he notes two discourses: that of the oceanic sublime and the naturalist gothic. According to Den Tandt, the "oceanic aura" is often evoked in naturalist depictions of crowds to highlight not only their status as hypnotic spectacle but also as a potentially destructive force. Certainly, such a depiction falls in line with how crowd theorists like Le Bon characterized the masses.

I would argue that the "oceanic aura" is also evoked in cinematic representations of crowds. Recall that a salient purpose of early cinema was to capture movement. In cinematically representing crowds, flow is extremely important, and the masses are depicted as ocean tides, with their continuous movement becoming somewhat hypnotic. According to Tom Gunning, Louis Lumière thought the crowd to be the "finest spectacle the *cinématographe* could manage" ("Whole" 193). Besides confirming the spectacular power of the crowd, this statement also demonstrates an

anxiety toward the masses, a belief that the crowd needs to be managed. Again, crowds are conceived of as potentially threatening--in fact, this contingency is partly what makes them so fascinating as a cinematic subject--and as visually absorbing.

The "oceanic aura" is not the only discourse shared by Le Bon, naturalist texts, and early cinema; there is also a similarly pervasive use of machine and animal imagery in representing the crowd. For example, Le Bon underlines the mechanistic properties of the crowd when he sets forth Bernheim's notion of cerebral automatism. While it may be thrilling for scientists to view the body as machine and discern its means of operation, there is something frightening about this as well. Le Bon projects the idea of mechanical behavior onto the masses, arguing that once amassed, the crowd is like a machine, operating automatically without the intervention of conscious reasoning, the very element that makes us human. He also portrays the crowd in animalistic terms, particularly in his frequent assertion of animal instinct as a controlling factor of crowd behavior.

This abandonment to primal urges is a common thread in naturalist texts as evidenced in the analysis of McTeague and Coupeau in chapter one. How much more threatening,

then, is such a transformation to barbaric animal when it is not just an individual but rather a mass of people? Much more so because when an individual, McTeague for instance, submits to animal desire, it affects only himself and his small circle. In contrast, the crowd has the power, by virtue of its contagiousness, to induce widespread barbaric behavior or sheer paralysis. We have already noted how certain bodies, lower class ones in particular such as McTeague, Trina, Coupeau, and Maggie to name a few, in naturalistic texts are couched in animalistic and mechanistic terms. Both types of representation work as means of human degradation—supplanting the notion of a transcendent, inner individuality with the idea that we are either simply beasts or machines. The crowd multiplies this unsettling idea of transformation with individuals losing their unique identities as they amass into a conglomerate that emphasizes humans as animals--think swarms of insects--or automatons--robotic machines simply behaving without thinking.

In early cinematic representations of crowds, this dynamic of machine and animal appears as well. On the one hand, because of the emphasis on continuous movement, the crowd is almost figured as an ideal machine, always going,

never slowing down or stopping. However, in the way these early actualities have very little, if any, other context in which to situate the crowd, the crowd appears to move for movement's sake alone. That is, the crowd appears robotic, as a machine that can run endlessly because new cogs are forever replacing others. While such continuous movement bespeaks a model of efficiency and a possibility of avoiding fatigue, it also, then, suggests something other than human, as human beings cannot and should not be forever moving. A person needs moments of rest and repose, after all. Along the lines of animalistic associations, this continuous motion that seems at once chaotic and also extremely ordered evokes the image of insect colonies, of bees swarming or ants marching. From one perspective, one sees an ostensible chaos of jostling bodies. However, as the eyes sharpen their focus, one can also detect an ordered movement with purpose.

Thus, for various observers of the turn of the century crowd, the spectacle of the crowd elicits awe as well as anxiety. That the crowd has the power to hypnotize, to become as indifferent as the ocean tides, to transform individuals into automatons or "lesser" animals, is fascinating to watch, yet deeply disconcerting. Consequently, a call to order is put forth by social

scientists such as Le Bon. To some degree, this call is taken up, at least with regard to representation, by early filmmakers and naturalist writers.

Imposing Visual Order

There are many reasons the crowd functioned as an early subject for emerging cinema. Cinema scholars, such as Gunning, as well as social theorists like Siegfried Kracauer and Walter Benjamin among others, align crowded urban streets with modernity, making crowds an ideal subject for a modern representational technology. For Baudelaire, a cornerstone for Benjamin and others in terms of theorizing modernity, the crowd is set off as an ideal social space for the *flâneur* to occupy. The crowd provides a "kaleidoscope" within which to experience the "multiplicity of life" (Frisby 19). Another effect of immersing oneself in the crowd according to Benjamin is the creation of a protective veil. Not only does the crowd shield the spectator's gaze from the naked city, obscuring its horrors, but it also provides an anonymity, which can be especially useful for the criminal.⁴²

⁴² For a very useful delineation of three important social theories of modernity, that of Georg Simmel, Siegfried Kracauer, and Walter Benjamin, see David Frisby, Fragments of Modernity: Theories of

The crowd is replete with dualities linking it with modernity: Benjamin notes how it provides a narcotic to compensate for the humiliations of the *flâneur* who at the turn of the century was being devalued in a culture that began to see idleness as a vice. At the same time, both Georg Simmel and Benjamin discuss shock as a key byproduct of living and moving among urban crowds (Frisby 251-52). The constant contact with stimuli creates a bombardment of energy; while it might be seen as creating a hyper-stimulation, it could also very well induce the hypnotic effect also seen as a consequence of interacting with the crowd.

How does cinema relate to crowds and modernity? Gunning links the experience of the crowd with his sense of early cinema as an "aesthetic of attractions" by noting its shared qualities with Baudelaire's oft-quoted description of modernity: "the ephemeral, the fugitive, [and] the contingent" (193). Of course, the other half of his equation is the constant and the eternal--also descriptors of cinema since the camera--cinematic and otherwise--was celebrated partly because of its ability to fix an image forever. In some ways, just as early filmmakers seemed

thrilled with their ability to capture previously invisible things, so too do they mark their prowess in the ability to tackle such an object as large and spectacular as the crowd. The cinema has an advantage over photography because it can capture movement, an essential ingredient for representing the urban crowd. It also makes use of a number of representational strategies that serve to highlight the spectacular power of the crowd while simultaneously attempt to impose an order, a system of visual management, in other words. In order to map some of these strategies, it would make sense to examine a number of actualities featuring crowds including the Lumières' first film, *Sortie des usines Lumière*, (Workers Leaving the Lumière Factory) (1895), as well as a few from Edison's repertoire: *Bargain Day* (1905), *Lower Broadway* (1903), and *Ghetto Fish Market* (1903).

In their first film, *Sortie des usines Lumière*, the Lumières set a stationary camera at a somewhat elevated perspective with their goal being to capture the continuous flow of the crowds of workers leaving the factory for the day. Actually there are three versions of this film with basically the same event--the exit of the workers--being filmed on different days, even at different times of the year. This repetition suggests that there is a degree of

staging present in the film, not simply the capture of a spontaneous moment. To be sure, there are moments of spontaneity: the dog in one version disrupts the steady flow for a moment; one woman starts to go in one diagonal, only to change her mind suddenly; very rarely someone does look at the camera. But overall the crowd is remarkably controlled in its movement. There are three lines of people leaving, yet rarely do the people bump into another or even stray from their linear path. The crowd of workers moves steadily from the center of the frame outwards, diagonally.⁴³ Another exit has people feeding into these two lines. Such trajectories emphasize the dimensionality and perspective of the motion picture,⁴⁴ but what is most important for the Lumières is that the movement continues. The workers rarely stop to say one final goodbye or turn back or change their minds about what direction to go in.

⁴³ For a discussion of some of the Lumières' compositional techniques, particularly how they contrasted with Edison's lack of a "pictorial awareness," and for their relation to amateur photography, see Tom Gunning's essay: "New Thresholds of Vision: Instantaneous Photography and the Early Cinema of Lumière." Impossible Presence: Surface and Screen in the Photogenic Era, ed. Terry Smith (Chicago: U of Chicago P, 2001) 71-100.

⁴⁴ Eric Faden, "Crowd Control: Early Cinema, Sound, and Digital Images," Journal of Film and Video 53 (2001): 93-108. Faden makes a similar observation, noting that the Lumières "regularly framed on a curvilinear movement . . . to emphasize depth, but, at the same time, they demonstrated that the masses were not entirely unpredictable—the consistent use of curvilinear framing shows crowd movement could be anticipated" (96). My question for Faden would be if the movement is anticipated or is it perhaps staged to some degree. Either way, there is a sense that the cinema is being used to visually control the crowd.

Instead, they move in a continuous, steady stream. While this continuous motion is visually absorbing, there is a degree of artificiality in this representation of workers leaving with such a high degree of order.

The tightly controlled movement supports Le Bon's idea of the crowd as one that is made up of automatons. He asserts that individuals lose their own conscious rationales and instead revert to robotic figures, merely following what the others are doing, and to some degree, the factory workers in the film do appear a bit robotic. They reflect what was seen by some, Benjamin for one, as a "threatening aspect of urban life" (40), that of the absence of individuals, especially within the masses (Frisby 249). Because movement was an inherent ingredient of the cinematic spectacle, movement of the crowd is what is highlighted. It is almost as if Lumière deliberately instructed his workers to keep moving. Certainly, they are motivated by a desire to leave work and return home, so movement on their part is not so surprising. However, it is the almost perfect steadiness of the flow that is striking in the absence of more disruptive figures in the midst of an exodus. While this motion is visually absorbing, it also has the consequence of subsuming any individual. The spectator cannot focus on an individual as

long as there are so many to choose from and because they are always moving outside the borders, beyond the frame. Without the ability to attach oneself to individual or small group, the spectator sees another entity, one that displays a tension between an uncanny automatism as well as a familiar collectivity. The Lumières do not depict their crowd of workers as menacing--they are, after all, their own employees; thus, it behooves them to create a portrait of rather happy workers. No weary, bedraggled workers here. Nevertheless, they do convey a certain uniformity that is both fascinating and depressing.

Two of Edison's films, *Bargain Day* (1905) and *Lower Broadway* (1903), display this same sort of uniformity in terms of ongoing crowd movement, but not in quite so controlled a fashion. While these films also use strategies to impose an order upon the crowd as subject--the choices about particular framing and distance for instance--in general, the crowd is represented with more underlying chaos. It is this simultaneity of order and chaos that cinematically emphasizes the hypnotic power that Le Bon discusses. *Lower Broadway* depicts heavy traffic. The camera is set up so we see the street at a diagonal, receding far into the distance, with the crowds stretching

out into that distance making it appear as if the crowds are endless. Indeed, even in the foreground, the crowd never gets any smaller. Despite people leaving the frame, new people are always entering, so the size of the chaos remains the same. In contrast, the Lumières' factory workers or train travelers are eventually gone from the frame, consumed as subjects, because there is a limited number of workers or travelers in these specific situations. *Lower Broadway*, on the other hand, seems to suggest that there is an inexhaustible supply of city walkers. The upper left corner and the lower right corner contain dense traffic, constantly moving in more than one direction. When figures do break from the pack into the more open, central space, the eye tends to focus on them, almost grateful for the opportunity to focus on something, because for the most part the eye wanders as restlessly as the people moving on the screen do. In this case, the spectator is occupying the role of Baudelaire's *flâneur*, mesmerized by the crowd, perhaps trying to read the various types, but more so simply absorbed by the spectacle. The crowd of Lower Broadway does not bear the same menace Le Bon describes, but neither do they emit the buoyant order of the Lumières' factory workers. They do, however, emit the combination of animalistic and mechanistic qualities

again. The crowd could be described as indifferent ocean tides, endlessly marching automatons, or a swarming insect colony, and all would correspond to the cinematic representation of Lower Broadway.

Similarly, in *Bargain Day*, the movement of the hordes of people trying to squeeze into the five and dime store fascinates and disturbs. The view is from a second story window from across the street, so we achieve a semi-aerial view in which we are mostly watching the tops of heads move. In fact, because we are mostly watching hats move in multiple directions, it is difficult to tell that what we are watching are actually people. The tightly packed throngs move in various diagonals simultaneously. The camera captures a frenetic bustling, yet the commotion never gets too out of hand. Despite the close and constant contact between hundreds of people, no violence erupts.

A final example of cinematic crowd representation is *Ghetto Fish Market* (1903). The Edison catalog describes it as: "A fine panoramic view of this busy market on a Friday morning. Immense throngs of people are seen passing along the stands and making their selection of fish. A great character study." In this film we get a slow pan. Moving horizontally, slower than the people shopping, the camera captures different people as they move, surveying the

goods. Generally, whoever occupies the center of the frame gains the focus of our attention, especially since these people often look directly at the camera. Unlike the Lumières' workers, who avoid looking at the camera, many members of the crowd at the fish market turn their gaze back at the apparatus, suggesting they were unaware that they would be filmed that day. Furthermore, the technical apparatus itself, usually so cumbersome as to make it more likely that Edison would film inside a studio more often, was a spectacle in and of itself. The cameraman and his machine that weighed hundreds of pounds were likely to attract some attention. The effect of this return gaze is a bit unsettling as when a voyeur suddenly is discovered. Yet, at the same time, this crowd seems more human than Lumières' workers because of their gaze. There is at least a moment of some bond between spectator and subject.

In all these films, the filmmakers use specific strategies as an attempt to impose order upon their subject--the crowd. In the case of *Ghetto Fish Market*, the pan is used as a means of capturing what seems too large to fit in a single frame. The camera moves in a slow, controlled, horizontal fashion, all the while recording. As Mary Ann Doane suggests in her discussion of temporalities in early cinema, the pan is "resolutely

linked to the real" (145), partly because of its outgrowth from the panorama, an art form that was devoted to mimetically reconstructing a scenic reality. Here, I would like to briefly examine the panorama as an art form to give the cinematic pan some historical context.

In his book, The Panorama: History of a Mass Medium, Stephen Oettermann notes that the term "panorama", first a technical term to describe Robert Barker's paintings also called a *La Nature a Coup d'Oeill*, almost immediately achieved metaphorical capacity, most commonly to describe city skylines or vast natural landscapes. The panorama then, says Oettermann, is a "kind of pattern for organizing visual experiences" (7). And while many dictionaries describe the panorama as an art form imitating nature, Oettermann sees the reverse with the panorama being "the pictorial expression or 'symbolic form' of a specifically modern, bourgeois view of nature and the world" (7). In its early days, Oettermann describes the construction of panoramas as linked to the discovery and experience of the horizon. Thousands of people were climbing towers and mountains in order to fully achieve this experience. The panorama, with its completely circular view, modeled this experience and also taught people how they should be viewing nature. The desire for unobstructed views is borne

out of hope and optimism argues Oettermann, but he also sees the panorama as one that, although it liberates vision, because of a seemingly limitless access, re-imprisons it (7).

In her article on panoramas and early cinema, Angela Miller argues that the 19th century was a time of searching for more detailed reproductions of reality, and the panorama partly fulfilled that search. She also builds upon Jonathan Crary's theory of visual modernity with its essential shift in paradigm being from that of the *camera obscura* with its distinct subject and object to that of the stereoscope with its dependence on a physiological response situated within the viewer. The spectator, then, is responsible for producing vision, and with the appropriate technology and physiological knowledge and experimentation, this vision can be manipulated to manufacture a new reality (50). To some degree, the panorama serves to realize this project.

Miller notes an international revival of the panorama between 1872 and 1885. This resurgence, according to Miller, was partly because "the panoramic enjoyed a metaphoric reach that satisfied the nineteenth-century craving for visual--and by extension physical and political--control over a rapidly expanding world" (34-5).

Not surprisingly, the increased popularity of the panorama coincides with the increased experience of steamboat and railway travel. Traveling from railcar to some degree altered traditional perception. In his book on photography, Suven Lavlani describes this "panoramic perception" as one that is depthless because there is no point of origin upon which to fix the eye. Furthermore, there is an increased detachment from the landscape because panoramic perception entails constant flux in the landscape (180). In addition, Lavlani argues that this perception changed the larger relationship between the spectator and the landscape, primarily by imposing a certain order upon it: "[L]andscape space [changed] into disciplined and disciplinary geographical space" (177). The American landscape, once perceived as untamed and inaccessible, was now being traversed upon as well as visually captured and reproduced.

The panorama likewise imposed order upon large cities. Cities were considered as wild and exotic as vast landscapes; thus, it is no wonder people would use the panorama to control the chaos, at least in a representational way. We have discussed Muybridge in earlier chapters about motion studies, but he also had a career doing stereoscopes as well as panoramas. Lavlani

notes how middle-class monuments anchor Muybridge's panoramic representation of San Francisco, giving "a hierarchical order to the seeming chaos of urban reality" (183). He also notes that the panoramic photographs were taken from the highest point in the city, a wealthy and powerful man's home. Consequently, the representation of the city in panorama form is dictated by an upper class perspective, providing a visual order to alleviate the disorder the upper classes were feeling about the lower classes encroachment within "their" cities. While the word "panorama" in Greek means "to see all", one gets the distinct impression that these city panoramas purposefully leave much unseen. While Lavlani's discussion concentrates on the ordering of a landscape, a panoramic control of buildings, monuments, and other objects in the cityscape, the idea of the panorama as an ordering technique can be seen in how the cinematic pan furthers this impulse for order as it functions in crowd representation.

Establishing order is but one means of eliciting visual pleasure. Miller states, "What the panorama most consistently furnished was a steady flow of images whose narrative content was secondary to its promise of a vicarious visual experience of the real" (49). The cinematic pan bears much in common with this earlier

medium. It shares the capacities of emphasizing visual sensation and some stamp of reality, albeit one that is manufactured by the medium. In Doane's analysis of two early actualities, *Electrocution of an Elephant* (Edison, 1903) and *Electrocution of Czolgosz with Panorama of Auburn Prison* (Porter/Edison, 1901), she argues that the cinematic pan, an extension of the panorama, is a key component in establishing authenticity of the recorded event. Besides being made to feel as if the spectator were experiencing "the real thing", the spectator also gains the sense of having "seemingly limitless vision" since the cinematic pan, like the panorama, resists single frame and single perspective (Doane 146).

In terms of representing the crowd, the cinematic pan is useful for achieving a sense of authenticity as well as the visual pleasure of the hypnotic spectacle of endlessly moving people. But the pan also works to establish an order upon the potentially chaotic masses, much in the same way the panorama ordered and controlled the wild landscape and the confusing cityscape. The film *Ghetto Fish Market* displays a strong ethnicity, mostly Jewish and Russian according to the Edison catalog. It also shows three official looking men, who appear among the crowd, visually set apart by their formal appearance in contrast to the

more disheveled look of the shoppers. The catalog says these men are health inspectors, a reassurance that order is being achieved in terms of health and hygiene standards, and an authority is watching this immigrant crowd.⁴⁵ Furthermore, the filmmaker establishes a visual order. The camera, despite using a panoramic technique, which implies a sort of limitless vision according to Doane, actually does limit our view. The camera limits the speed of movement, the perspective and how a view is framed. The pan is slow, slower than the moving people, so instead of following an individual or even small group, we view different people as the camera makes a visual path alongside the crowd. The top and bottom of the frame have parallel bands of people moving constantly, but our eyes go toward center of frame. Here we see people who are stable, sometimes fish vendors. These people often look at the camera and so capture our attention, but only momentarily. Then, the camera moves on. Visually, the crowd is managed by simulating a controlled journey alongside the crowd.

The cinematic pan also works as an ordering force because it maintains a certain distance. For example, the

⁴⁵ The catalog to which I am referring accompanies a laserdisc of Edison actualities entitled *The Life of a City: Early Film of New York From the Paper Print Collection, 1898-1906* which is housed in the Motion Picture and Television Reading Room in the Library of Congress. See Kemp R. Niver, Early Motion Pictures Paper Print Collection. Ed. Bebe Bergston. Washington, D.C.: LOC, 1985.

camera continually offers medium shots of the people in the Fish Market, a safe distance but close enough to get a good look at these fascinating others. Establishing and maintaining distance is another visual strategy, then, for establishing order. With both the workers leaving the Lumière factory and the immigrants shopping at the market, we view them at a distance where we can see their faces, but we are never too close to any one individual because it is the crowd that is the subject. In fact, this distance coupled with the constant movement makes it quite difficult for the viewer to get attached to any individual or even consider the cinematic subject as individual human beings because no one person or even small group of persons is meant to make an impression. The greater the distance, the more the individual body is erased and assimilated into a larger entity--the crowd. In *Lower Broadway* and *Bargain Day*, the camera is at even a greater distance so we are even less likely to attach to an individual or even a small group. They are even less human because they lack faces. Instead, we are watching mere bodies. However, the distance also allows us to see order as well as chaos. In *Bargain Day*, the shoppers are tightly packed, straining themselves to get to the doorway. Like the people in the Fish Market, the crowd is moving because it wants to see

all the goods they might purchase. However, eh circumstances for this commodities exchange is different. The fish market is in open space and people need to shop around to see quality and cost before making selections. In Bargain Day, this step has been rendered moot, as the products are known ahead of time to be at a discount. There will be a limited supply and the buyers know it. If the camera were closer, capturing expressions and more specific movement, it would likely emphasize the chaotic nature of the crowd in their urgency. Instead, by taking the view from a far point, we are encouraged to view the paths people are creating. Just as the swarming hive may appear chaotic on one level, on another level we can see the hive working toward a common goal; the spectacular crowd creates a tension between a pattern of order and seeming frenzy in its movement.

It is as if it has already been decided that the crowd is a fascinating spectacle, but not something that anyone wants to be a part of or wants to know on any deeper level. For the most part, the camera is able to keep its distance from the crowd, but in the case of the Fish Market, because the camera is close enough to capture faces, a surprise occurs at the end of the film: a menacing man disrupts the order by breaking this zone of distance--

he makes some sort of gesture, scowls, and approaches the camera, at which point, the film abruptly ends. Cinematic technology does impose a certain order upon the crowd as it represents them, perhaps to contain anxiety about the crowd. Still, there is that element of surprise, that something unexpected might erupt from the crowd, which makes for fascinating spectacle.

Besides distance, there is also perspective, another tool for imposing order on various throngs of people. In all four of these early films, the crowd is filmed from an elevated perspective so we are not at eye level with the crowd. *Ghetto Fish Market* is closest to eye level, and the Lumières also give just a slightly elevated perspective for their workers' departure. However, in *Lower Broadway* and *Bargain Day* the camera is so elevated that we are looking down upon the tops of heads. Here, perspective is linked with distance, then, both in horizontal and vertical plane with the most elevated being also the furthest away. What such elevation does is reinforce the notion that we are looking down upon the masses, that the spectator is in a position of superiority over them. Recall the description of city panoramas in which the perspective is from the highest point in the city, the vantage point of the elite. The perspective of these films is never one from within the

crowd, but in these cases, always above the crowd. Again, by having a macro-perspective, we are encouraged to see that there is actually order to the hustle and bustle of the city crowd.

Despite these methods of visual management--the establishment of distance and perspective and the cinematic pan--the representations of crowds still unsettle the viewer. The order provided is at a cost. The distant perspective and the controlled journey show the possibility of order to the chaos, even celebrating the lively activity, yet because the view is from an elevated distance, it clearly does not represent the actual experience of being in the crowd or even close to the crowd, a reality that the modern, urban dweller was going to have to reckon with. Thus, the order appears artificial. In addition, because the films do not create personal connections with individual members of the crowd, the inhuman aspects--the mechanistic, the animalistic, the oceanic qualities--are what get emphasized. The recognition that there are so many people in small spaces and the way people appear not as individuals but as some other entity as they get assimilated into a dehumanized

public body only exacerbates the anxiety felt toward crowds.

Narrative (Dis)Order

Besides receiving a great deal of cinematic attention at the turn of the century, crowds also make their appearance in quite a number of naturalist texts, not surprising since these works often base their narrative in an urban, industrial environment. For naturalist writers, like Frank Norris, Stephen Crane and Edith Wharton, crowds bear some stamp of authenticity, signaling to readers a modern, urban reality, but the crowd also serves as a useful construct to address other key issues of naturalism: dehumanization, loss of agency, and the lure and threat of spectacle. At times, these writers do use some of the strategies of visual management as used by early filmmakers in their representations of crowds. For example, they represent a similar erasure of the individual body as it amasses into another entity and also make some effort to contain the unsettling crowd in their representations. However, for these writers, the focus is much more on showing the disorder and heightening the anxiety toward the masses, as they reflect the capacity of the modern

individual body to become transfigured into something other than human: mechanistic, animalistic, and/or oceanic.

While often associated with the urban scene, the crowd need not only appear in such an environment. As Le Bon states, the turn of the century ushers in "the era of crowds," and these throngs are likely to appear anywhere--even in the middle of the ocean as Frank Norris's Vandover and the Brute (1894-95) asserts. In this novel, Norris uses individual degeneration as the central plot but also includes a scene in which being in a crowd makes numerous people, including Vandover, behave uncharacteristically. In this case, the impulsive behavior is violent. The fact that Vandover is part of the crowd will make for a different representation than those found in the early films that choose to operate from a distance. Instead, Norris chooses to get a bit closer, although because of Vandover's temperament, a bit of distance remains.

About midway through the novel, the protagonist Vandover takes a sea trip aboard the *Mazatlan* in order to be out of the city when his part in a young girl's suicide becomes known. On the way home, the crowded ship has problems and begins to list and roll. The crowds react in panic for the most part. There is a moment where a leader emerges from the crowd and begins to assert control, and

Vandover admires this man greatly. The man has that charismatic quality that Le Bon describes as necessary for crowd control: "he seemed to dominate the excited throng in a moment, going about from group to group, quieting them all, spreading a feeling of confidence and courage throughout the whole ship" (96). However, this calm is only temporary as the boat does not right itself but instead starts to roll over. Then the leader shows himself to be one of those that Le Bon distrusts so much. "Some strange reaction seem[s] to have seized upon" the charismatic hero, and he suddenly jumps overboard. "His folly was as infectious as his courage" (98). Like Le Bon, Norris uses analogies of disease and contagion, describing the crowd behavior in similar terms to illustrate the lack of individual control over such behavior and to emphasize the threat of such erratic behavior.

Later, on one of the lifeboats, the crowd submits again to a leader with deadly result. The lifeboat that Vandover boards, built for thirty-five and already swamped with forty, is accosted by a passenger the narrator refers to as the Jew. At first when the engineer tries to shove him off, Vandover and some of the passengers protest. Eventually, however, they quiet and surrender to the engineer's will. "Vandover glanced at the fearfully

overloaded boat and saw the necessity of it and held his peace, watching the thing that was being done" (103).

Indeed, as the struggle between the Jew and the sailors continues, the scene turns violent, with one woman crying out for the Jew to be pushed away lest her girls drown.

"It was the animal in them all that had come to the surface in an instant, the primal instinct of the brute striving for its life and for the life of its young" (103). Such animal instinct overtakes the engineer as he beats away at the gripping hands of the Jew until he finally drowns. The crowd of passengers does nothing.

The behavior of the crowd, with its impulsiveness, its reversion to animal instinct, and its effect on an individual, offers Norris another possibility of examining the dynamics of brutish instincts and individual agency. The crowd is like the brute within Vandover on a larger scale, unable to act nobly and save others just as Vandover is unable, despite his constant assertions, to save his "better self" from the brute. Norris only offers a glimpse, however, into crowd dynamics with this scene. He does highlight the contagiousness as well as the irrationality of crowd behavior, but both qualities are also a result of being in a crisis, not only being in a crowd. Even though he places his protagonist in the midst

of the crowd, Norris does not actually offer much visual description of the crowd, so in some ways he echoes the distance that the Lumières and Edison establish with their subjects. The individual body does get eclipsed by the larger entity--the crowd--which takes over, although he does offer a bit of selective focus by mentioning various sub-groups that make up the crowd: the waiters, the Salvation Army members, the children, and the crew.

Norris's representation of the crowd here is less invested in constructing the crowd as spectacle. Instead, the crowd serves as a mirror for Vandover's own struggle with his primitive instincts.

In contrast, both Wharton and Crane capitalize on the spectacular nature of the crowd, allowing for much more visual intensity in their descriptions. Furthermore, because the crowds in Wharton's novella Summer (1917) and Crane's stories are those of the everyday, not of a extraordinary life-or-death crisis, they are even more troubling because they seem so pervasive for anyone living in the modern world. In Wharton's novella Summer, a work that depicts the harsh effects of heredity and environment on a rural girl, Charity Royall, the crowd certainly functions as a spectacle for the protagonist. Charity has

the dual burden of being born from mountainfolk, the lowest rung on the social ladder, and of living in a small town. After she begins a relationship with a visitor, Lucius Harney, they travel to a much larger town, Nettleton, to spend the Fourth of July holiday. Immediately, because they have to travel by train, they encounter crowds, something Charity is unused to because she is from such a small town. The platform is inhabited by "throngs" of middle class people--mothers, girls and their fellows, and older men described as "pale" "haggard" "sweating" and "dejected," basically feeling the effects of the July heat. Eventually, a train comes and "engulfs the multitude." Then, as they disembark, Charity and Harney are swept away once again: "The descending mob caught them on its tide and they were swept out into a vague dusty square thronged with seedy 'hacks' (86). Repeatedly, they are described as being somewhat at the mercy of the crowd, at least in terms of movement. Unlike the spectator of the crowd who becomes hypnotized by the spectacle, Charity and Harney find themselves as part of the crowd though similarly paralyzed in terms of dictating their own movements.

That the crowds are described as "tides" on more than one occasion recalls Den Tandt's argument that crowds in naturalism are often dominated by an "oceanic aura." The

oceans and seas suggest a sense of both force and formlessness, precisely what characters like Charity and Lucius are subject to. The crowd is also constantly changing. At first, when we see the crowd at the train station, they are depicted as throngs of "dejected" travelers. However, once in the town, the crowd looks different. For instance, when Charity decides to see the picture show, she is now surrounded by a more engaged and engaging spectacle: "the crowd around her, the hundreds of hot sallow candy-munching faces, young, old, middle-aged, but all kindled with the same contagious excitement, became part of the spectacle, and danced on the screen with the rest" (91).

Again, contagion is brought up in conjunction with crowds. With Vandover, it was the foolish behavior of jumping ship that appeared to "infect" fellow passengers. For Charity, the contagious behavior at first seems less dangerous. However, Wharton describes the crowd in this way to emphasize Charity's own loss of control. If something is contagious, a person cannot be held responsible for catching it. This lack of accountability is partly what leads to socially dangerous behavior. In addition, because of its association with disease, the contagious quality of the crowd suggests a precarious

outcome for Charity if she continues her exposure to the crowd.

But Charity has clearly fallen under the spell of the crowd. Watching the screen and watching the spectators generates the same thrill for her. At this point, Charity is more like the *flâneur* that Benjamin describes, a spectator who is hypnotized by the crowd's aura, which displays itself for contemplation. In many ways, the crowd satisfies certain desires for Charity. In her normal existence in North Dormer, she encounters lonely streets, peopled by the same few people she has known her entire life. Now she gazes upon strangers, hundreds of them, affirming a wider variety than she has ever known. In addition, the crowd offers what Den Tandt calls a "pseudototality" in that there is a strong sense of experiencing a feeling of being one with the crowd, of feeling like a unified entity. She also experiences the "contagion" that Le Bon discusses, but in this case, it is not a criminal idea being spread but a feeling of rapture.

This same sort of rapture is felt by Charity with the crowds bustling among the shops and restaurants as well. The various window displays, like the picture show, create a spectacle to lure a crowd who themselves become part of a larger spectacle. Indeed, both visual displays offer the

illusions that Le Bon believes are key for crowd control. Repeatedly, Le Bon asserts that reason has no effect upon crowds; instead, simple but powerful images are the best tools for influencing a crowd. Le Bon's belief that these images are able to enter the domain of the unconscious certainly calls to mind the power of modern advertising that is meant to reach the masses. As if in a dream, crowds simply lose their reasoning skills and give themselves over to consumerist fancy, so impressed by the images of attractive mannequins and sensational displays. Perhaps this behavior does not warrant the same anxiety Le Bon directs toward what he imagines as disruptive and rebellious crowds, although as the film *Bargain Day* suggests, the potential for disruption can even occur amid women shopping for hats. Likewise, Wharton touches upon a similar lack of agency in the consumerist crowd and her representational efforts signify an ambivalence toward the crowd. Crowds can boost the capitalist economy, but, for the individual, such abandonment to material and bodily pleasures has its costs. It certainly does for Charity.

Another reason why Wharton renders her crowd in less harsh terms than Le Bon is because she portrays it not simply as a throng of lower class subjects. Her crowd is a

mixture of various classes: the townspeople of Nettleton, the visitors from other towns, and the mill hands enjoying their holiday. Charity feels a real vibrancy from mixing with such a wide variety. In this way, Wharton differs from Norris and the filmmakers who establish distance between themselves and the crowd. While Charity does occupy the position of spectator at moments, she also gets caught up in the crowd and we get a more vivid sense of what this experience is like. Vandover is in the highest class of ship travelers and so wishes to keep social distance from most of his fellow passengers. In fact, he spends much of his trip avoiding a female acquaintance precisely because she is a member of the wrong class. Charity, on the other hand, finds herself surrounded by her peers. When she and Harney are unable to dine at a more formal establishment, Charity does not mind eating in the outdoor café, occupied by more bohemian and earthy folk. Despite the liveliness of such crowds, Wharton deliberately mentions the intersection of classes amid the crowd to highlight the clash between Charity and Harney's class status, central to the novel overall as this difference determines their fate. Lucius is also willing to become one of the crowd, to overcome that wall of distance, but only temporarily.

In the cinematic representations of crowds, the distant, elevated perspective remains fixed whereas Wharton is able to alter the perspective. At times Charity is a part of the crowd, caught up in crowd activity; at other times she and Harney are set apart from the crowd or at least attempting to set themselves apart from the crowd. When Wharton decides to represent the crowd as more of a backdrop, the result is similar to the distant effect of the filmed crowd of Lower Broadway for example. For instance, Wharton describes the crowd as "incessant" in their arrivals, in their ongoing encroachment upon the lovers' space. She too represents the crowd as constantly moving and continuously replacing bodies, so there is no respite from visual and physical contact with these people. As in *Lower Broadway*, the size of the masses remains the same--so the crowd demonstrates this exhausting quality. Repeatedly, Charity and Harney are described as struggling through the density of the crowd, suggesting that if one could, establishing distance from the crowds would be highly desirable.

Thus, despite the variety and vibrancy of the crowd, Wharton also reminds of the darker undertones of crowds. The potential for the crowd to absorb individuals can be overwhelming; thus, Wharton infuses her descriptions of

crowds with "the oceanic sublime" with its potential for both fascination and dissolution. For instance, the crowd offers a veil of anonymity behind which Charity and Harney hide. Being in a crowd, Le Bon asserts, removes the sense of responsibility usually governing individual behavior. Thus, the crowd allows Charity and Harney to succumb to their desire and share a first kiss. The same crowd, however, is also responsible for ending that kiss:

But the crowd was beginning to move, and he had to release her . . . he passed his arm about her waist, steadying her against the descending rush of people: and she clung to him, speechless, exultant, as if all the crowding and confusion about them were a mere vain stirring of the air . . . they walked as if they were one, so isolated in ecstasy that people jostling them on every side seemed impalpable . . . but the throng about the terminus was so dense that it seemed hopeless to struggle for a place. (98-99)

While on the one hand the couple is described as being unaffected by the crowd, the ending of the passage suggests otherwise. The feeling of ecstatic isolation for young lovers is transient; eventually, they will be brought back

to reality and feel the weight of the crowd as well as the weight of the strictures governing their society.

Overall, the crowd functions as an important backdrop for Charity, particularly for her relationship with Lucius Harney. The crowd inhabits the larger town, which already is associated with pleasure and even its negative consequences: Nettleton is, for example, the site of fancy clothing and finery as well as the abortionist's office. Thus, that their passion finally achieves expression here makes sense. The crowd allows for anonymity and the intersection of classes, encouraging the two to enjoy each other in public. Also, the crowd, with its association of contagion and a lack of agency, liberates the couple in a sense, frees them from the small town values that have thus far kept them in check. However, that same loss of agency is precisely what dooms their relationship--it is sacrificed to rules and social constraints beyond Charity's control. Just as it is pointless for the lovers to struggle against the crowd, it is useless for Charity to struggle against the social system that keeps the classes among their own kind.

For Wharton, the crowd echoes the overwhelming force of this social system. Similarly, Crane represents the

crowd in a way that shows how poverty, as an overwhelming force, performs a similar erasure of the individual as it initiates the creation of a crowd. In "The Men in the Storm" (1892-94) the crowd of men is very different from the middle class throngs enjoying the holiday and bustling in Wharton's novella or even the crowds in Norris's novel traveling aboard a massive ship. This crowd has not emerged because of the availability of leisure time but because of a shared lack of finances and a common need for shelter. Thus, Crane describes his crowd as turbulent and chaotic. Perhaps if each man were on his own in the street, looking for shelter, the mood would be different. However, as if to illustrate Le Bon's theory, when the men gather, they begin to revert to animal instinct as they push among one another to ensure their place. Here is how the narrator describes the men when they hear a rumor that the doors cannot open:

. . . a dull roar of rage came from the men on the outskirts; but all the time they strained and pushed until it appeared to be impossible for those that they cried out against to do anything but be crushed to pulp. (580)

Being civilized and proper will not result in a warm place to rest for the night, so instead each one must use his brute strength to make sure he gets into the shelter.

Like Wharton's crowds upon the streets of Nettleton and Norris's crowd aboard the ship, Crane's crowd of men contains a mixture of classes. The narrator distinguishes between them as such:

Many were strong, healthy, clear-skinned fellows with that stamp of countenance which is not frequently seen upon seekers of charity. There were men of undoubted patience, industry and temperance . . . [but] apt to wear a sudden and singular meekness, as if they saw the world's progress marching from them and were trying to perceive where they had failed, what they had lacked, to be thus vanquished in the race. Then there were others of the shifting Bowery lodging-house element who were used to paying ten cents cheaper for a place to sleep, but who came here because it was cheaper. (579)

The narrator is able to make this distinction, but makes particular note of the fact that such discrimination among the elements is quite difficult if one does not know what to look for. Instead, the men are all lumped into one

mass, precisely what the cinematic representations of crowds do. There is no focus on individual detail. Rather, the focus is on this new entity made up of seemingly arbitrary bodies. In Crane's story, the narrator clearly sympathizes with the laborers down on their luck and expresses anxiety on their behalf that they should lose their distinguishing characteristics and be misperceived as the Bowery sorts with whom they must now stand side by side.

Certainly, a key thrust of the story is to evoke a strong class consciousness. The story opens with a description of drivers and people on their way home to hot dinners as they make their way through the storm. This description is followed by a look at the crowd of men hoping to find shelter in the charitable house. The clash between the haves and the have-nots is most strongly evident when a storeowner watches them. At first, it seems as if the crowd is performing its function as spectacle, a visual entity to be consumed. As I argued in the previous chapter, Crane heavily invests his work with oblique descriptions of character as well as a visual intensity, capitalizing on the power of the spectacular. Seltzer argues that Crane participates in a "realist seeing machine" where "the power of seeing is quickly disrupted by

the pleasures of seeing" (97).⁴⁶ In terms of the spectacle of the crowd, with its hypnotic tendencies and ability to paralyze spectators, disempowerment surely can occur.

Indeed, Crane's representation of the men is highlighted as spectacle, often depicting the crowd with aesthetic pleasure. At one point, the narrator describes the men as the snow continues to fall down upon them:

. . . the crowd swayed gently with a unanimous, rhythmical motion. It was wonderful to see how the snow lay upon the heads and shoulders of these men, in little ridges an inch thick perhaps in places, the flakes steadily adding drop by drop, precisely as they fall upon the unresisting grass of the fields. (579)

The moments of animalistic violence are counteracted with moments of serenity as well as a sense of community. The shopkeeper, however, is not looking at the men in this fashion. Instead, he is accused of having a "supreme complacence," and he is wrong to conceive of them as "unresisting" grass, as a pastoral scene simply meant for him to consume. The sight of the men in their plight

⁴⁶ I do agree, however, with Mary Esteve when she complains that Seltzer relies on "totalizing hyperboles" when he writes that "everyone" and "everything" are caught up in the "realist seeing machine." Esteve, The Aesthetics and Politics of the Crowd in American Literature. (Cambridge: Cambridge UP, 2003). 219, n.22.

elicits not sympathy but a self-centered delight for his own situation. No wonder the crowd resists being a spectacle for this man. Instead, they begin to shout at him, mostly in a facetious manner. Eventually, they are victorious as the man leaves the window, and they "chuckle ferociously like ogres who had just devoured something" (582).

While the crowd is often portrayed as a spectacle to be consumed by the lone bystander, here the dynamic is reversed with the crowd turning upon the lone figure, resisting surveillance and spectacle alike. While a crowd can easily ignore a singular gaze, it is quite unsettling for a single person to experience a collective one. Thus, although the spectator initially has greater power in that he has socio-economic comforts, this power is temporarily displaced because he has allowed himself to be caught in a moment of visual absorption.

In some ways, Crane's fascination with spectacle and the act of looking provides a lesson for his readers, albeit an extremely complicated one. He encourages them to look at the crowd of unfortunate men since his readers most likely inhabit the position of those in the story rushing home to hot dinners. They do not take the time to look at these men nor do they inhabit the same space--the city

marks off places for different types of people. The unfortunate are in danger of becoming invisible; thus, Crane makes an effort to make them visible. Clearly, however, they should not merely look at the men as a means of feeling better about their own comfortable situations as the shopkeeper does. Still, Crane avoids sentimentalizing the men with the notion that looking upon their pathetic plight will move readers to pity. Too often, he highlights their crude and monstrous behavior, effectively reaffirming the distance between reader and crowd. So how are we to look upon such a crowd?

In Trachtenberg's analysis, Crane's gaze upon the lower classes lacks ideological apprehension. His descriptions do not register horror or disgust. Instead, Crane seems curious, finding urban life more interesting than his middle class background. For example, his niece, Helen Crane, describes his demeanor in the summer of 1894 when he spends part of the summer with his relatives:

My mother and aunts never got quite used to the idea that he might suddenly interrupt a dinner conversation which was running along smoothly on croup or hats to inquire earnestly if any of the guests had ever seen a Chinaman murdered in Mott Street. Nor did they feel any happier when he

called attention to his black eye and explained
how he got it in a grand fight on the Bowery.

(qtd. in Wertheimer 26)

Her account shows Crane as having difficulty making polite conversation with his own lower middle class family, instead only showing enthusiasm when he can talk of city life. He does not wish to keep his distance from the Bowery sorts but wants to live among them. Because of the excitement Crane feels when he is part of the urban world, for Trachtenberg, Crane is successful at rendering "the subjectivities of 'low life' characters with their little dramas, their imaginative worlds, and their escapist assent to the alienating forces of their urban environment" (145?) Den Tandt would also call Crane's gaze "classless," but he argues that Crane does make their subjectivities visible only to dismiss them as absurd or futile (31). Indeed, it is because of Crane's stance, which Den Tandt asserts as ironical, detached and defamiliarized, that Den Tandt chooses not to discuss Crane as part of the naturalist canon.

However, Crane's depiction of the men in the storm shows a writer neither as alienated as Den Tandt would argue nor as free from apprehension as Trachtenberg suggests. His is not a penetrating gaze in terms of

wanting to understand and represent the interiorities of the members of the crowd, but he does attempt to portray the crowd as fully as possible. In her book The Aesthetics and Politics of the Crowd in American Literature, Mary Esteve describes Crane's practice as a "documentary anaesthetics" (104). As a reporter and a figure associated with a documentarist like Jacob Riis, Crane participates in a documentary project. While documenting his subjects, Crane evokes the condition of anaesthesia, a condition seen as an accompaniment to the hypnotic state, a condition in which one has lost all sensations and subjective experience, in his efforts for a "gorgeous neutrality" (qtd. in Esteve 103). Esteve argues that while others set out to document various persons so as to make them "cognitively transparent," Crane instead "tends to draw out the human subject's pure experiential and consequently opaque ground, rendering the figure at hand epistemologically unavailable . . ." (106). In this way, according to Esteve, Crane undermines the realist and the Progressivist agendas by showing how the crowds complicate efforts of visualization and subsequent containment.

Nevertheless, Crane puts forth great effort toward an accurate representation of the crowd. Cinematically, the way to get a full portrait of the crowd is either to

capture it from a great distance or use the panoramic technique. Narratively, Crane has other options, ones that later cinema will begin to adopt, chiefly editing and montage. Like Wharton, Crane resists using a single perspective and instead alternates angles and distances to fully capture the crowd. He has long shots--descriptions of the men from a distance, even the aerial view from the window where we observe their heads being covered in snow--alternating with descriptions from within the crowd, the jostling and pushing of individuals. This strategy mirrors the ambivalence felt toward the crowd of men. From a distance, they appear as a growing mass, "swelling and persistent," and even at moments "wonderful." But when Crane's narrator gets within the crowd, closer to the door, the men are described in more menacing terms, very much in the way the cinematic representations work with the crowd of *Lower Broadway* acting as hypnotic spectacle in contrast with the disruptive behavior of at least one member of the crowd of the *Ghetto Fish Market*. Crane's perspective toward this particular crowd of men echoes that larger ambivalence: the anxiety that Le Bon has helped spread, particularly toward lower class crowds, but also the awe in facing the fascinating spectacle that is the crowd.

Interestingly, the situation of Crane's "Men in a Storm" is comparable to the crowd of shoppers in the film *Bargain Day*. In both cases, there is a large crowd all trying to gain entrance into a small space. Similarly, each swelling mass is depicted with constant joiners on the outskirts. In *Bargain Day*, the crowd is certainly shown with an underlying chaos amid the intense jostling and jockeying for position. However, because of the elevated and distant perspective, this jostling of individuals is precisely what creates a sense of hypnotic flow. At moments, Crane adopts the almost aerial perspective as well so that the readers and the spectator in the story are looking down at the tops of heads, and he too, then, emphasizes the "rhythmic motion" of the bodies below. Because such a perspective is fixed, the film maintains an order and contains the crowd, but only barely for the potential chaos still simmers and threatens to resist that order. Crane, on the other hand, lets loose the illusion of order. He closes the gap between spectator and crowd, situating his narrative lens within the crowd. Consequently, we see brute physical contact and angry expressions and gestures.

A key difference between the two crowds is that the shoppers have chosen to come to this place. Although they

likely did not assume they would be part of such a large crowd, they knew they would be part of one and were willing to brave that circumstance in order to receive the benefits of a sale. Crane's men have less of a choice. Shelter is not a luxury but a necessity during a winter storm--so the desperation and menace we see in contrast to the frenetic but contained bustling are not altogether surprising.

In the end, all the men do gain entrance to the shelter. However, once they arrive at the threshold, they change to "complacent" figures. "The fire had passed from their eyes and the snarl had vanished from their lips." Again, Crane's narrator shows an ambivalence toward this transformation. Certainly, the turbulent chaos of the crowd has now been calmed, but to what end? Their overall situation has not changed, and to some degree, it is even more depressing when they are rendered calm and complacent. When fighting they at least seem alive and have something to fight for, but when returned to state of calm, they have no animation left in them. Throughout the story, the movement and behavior of the crowd emphasize the lack of individual agency, echoing the effects of economic failure that has likely doomed these men to re-live this scenario repeatedly.

In contrast to Norris's and Wharton's representations, Crane is not simply using the crowd as a backdrop for the protagonists, as a construct that embodies the dehumanizing social forces that overwhelm the protagonists. Instead, Crane has the crowd itself as subject, the main character in a similar plot. Like the Lumières, he seems aware of the spectacular potential of the crowd and offers vivid visual description of the crowd. And while he does also provide a similar order for his crowd, eventually containing the threat of violence, showing the men tamed at the end, he emphasizes the threat of chaos much more. He suggests that next time, especially if there are more men--which there are likely to be if the gap between rich and poor continues to increase--there will indeed be violence, a fact that should trouble his readers.

Conclusions

In all three texts, the crowd is represented as fighting and struggling for space at some point: in Vandover and the Brute, they fight over limited space on the lifeboats; in Summer, Charity and Harney struggle with the crowd for limited seating spaces at restaurants, on boats, and on trains; and "The Men in the Storm" battle for

limited space within the shelter. Each representation illustrates the anxiety felt toward this predicament of the modern metropolis, of having more people than resources. By their sheer size and massive proportions, crowds can be overwhelming. With anything large--a vast landscape, for instance--an individual spectator can feel small and threatened in relation to such largeness. However, in addition to its overpowering size, the turn of the century crowd also bears the negative associations that Le Bon and others emphasize--particularly the ability to spread the contagion of irrational and primitive behavior.

What early filmmakers do, then, is to use strategies of visual management to contain the crowd, acknowledging that it does need to be managed somehow, that it is a threat. However, any order that is established is somewhat artificial and temporary. Keeping one's distance from or simulating a controlled journey alongside the crowd is hardly a practical solution. The crowd's potentially disruptive quality always manages to come through, a quality Wharton, Norris, and Crane deliberately cultivate. Le Bon's answer for dealing with this imminent subversion is to establish a leader who can control the crowd. This leader would have to display a charisma equal to the spectacular power of the crowd and have supreme mastery

over rhetoric and illusions. Although neither Wharton nor Crane offer such a leader and Norris's leader on the ship proves to be instable, their narratives do suggest a need for some sort of solution to counter the forces of both the crowd and the overwhelming social system it represents. A leader might indeed provide order, but it is doubtful these writers would want the elitist leader Le Bon envisions, one simply controlling the masses according to an upper class agenda. Instead, their texts suggest a need for a leader who would speak on behalf of the masses, someone who would initiate social reform whether it be with regard to the strict social rules governing relationships between classes or the capitalist economy creating such a large division between upper and lower class.

Besides the possibility of a charismatic leader, are there other possible strategies for controlling the crowd? Both the cinematic and textual representations of crowds show institutional forces that may have the power to channel the crowds. Just as the leader Le Bon posits must have a force equal to that of the crowd itself, so too do these other social institutions. Consequently, the system of commodity exchange described in Summer and evoked in the film *Bargain Day*, for instance, provides powerful visual displays to lure the crowd. Le Bon's main point is that

any leader of crowds must be masterful at designing and constructing images for the crowd's consumption. Thus, cinematic technology itself offers a possible solution. The crowd can be turned into a hypnotized audience, spectators entranced by various images, including themselves as crowds as Wharton describes the spectators of the picture show in Summer. With visual media and confined space, the crowd can be entertained, and then it can be contained.

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