IMAGINING BODIES:

TECHNOLOGICAL VISIONS OF DISPLACED MINDS

IN FRENCH SPECULATIVE FICTION

A DISSERTATION

SUBMITTED TO THE FACULTY OF THE

UNIVERSITY OF MINNESOTA

by

Lia Ardith Swope Mitchell

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

Adviser: Christophe Wall-Romana

May 2019

ACKNOWLEDGEMENTS

I would like to express my appreciation for my committee members, Dr. Bruno Chaouat and Dr. Margaret Hennefeld, for their supportive and helpful comments on my work, and to Dr. Mária Brewer for her detailed feedback and suggestions as well as her warm encouragement. I must extend special thanks to my adviser, Dr. Christophe Wall-Romana, for his careful reading of my work, his constructive feedback, and his enthusiasm for my topic, throughout my long exploration of this subject area as well as some digressions into related areas. Thanks, also, to the entire faculty of the Department of French and Italian, who have given me their support over my years as a graduate student. In addition, a personal thank you goes to my husband, Jeffrey Mitchell, whose support and confidence in my work was instrumental in its completion.

ABSTRACT

The twenty-first century has seen a dramatic shift in visual culture resulting from the expansion of digital technology, a shift that is still in progress today. A similarly seismic shift occurred in the mid-nineteenth century, with the introduction of photography, and around the *fin-de-siècle*, with the emergence of cinema. A number of scholars (including Maurice Merleau-Ponty, Paul Virilio, Jonathan Crary, Friedrich Kittler, and Vivian Sobchack) have argued that technological changes in visual media constitute new ways of seeing and consequently new ways of being in the world. *Imagining Bodies* examines the ways that these changes in visual culture emerge in representations of the body and of vision in French speculative fiction from around the time of the Third Republic. In particular, this thesis discusses visual paradigms associated with photography and film around the time of their emergence, and seeks reflections and echoes of those paradigms in textual descriptions of bodily experience. Such descriptions are especially suggestive in fictional works that problematize the relationship between body and mind, either by imagining a mind transposed or transplanted into a new and strange body, or imagining what lies beyond the limits of human sensory perception by removing minds from bodies altogether. By recognizing the ways that visual technology informs and structures our understanding of our world and our selves, we can better recognize the effects of new visual technology and their importance for our contemporary period.

TABLE OF CONTENTS

Introduction

This dissertation aims to explore the bodily experience of visual perception as it is represented in written texts, and asks more specifically how these representations reflect new ways of seeing made possible by technologies of vision that emerged in the mid- to late-nineteenth century. While photography and film take center stage in these chapters, other visual technologies that either were developed (radiography) or greatly advanced during the nineteenth century (microscopes, telescopes) also make appearances. My argument, put very generally, is that new kinds of visual experience constitute new kinds of bodily experience and new ways of being in the world, and that these experiences can be recovered from literary texts.

To support this argument, I examine speculative fictions[1] that disrupt the relationship between the body and the self in a variety of ways, thus problematizing the

[1] I use the term "speculative fiction" as an umbrella category that includes a range of works that examine a non-realistic element of some sort, which often receive labels like "science fiction," "fantasy," or "horror." The most pertinent such label for the *fin-de-siècle* period is Maurice Renard's iteration of the *merveilleux scientifique.* I have

experience of the body as a framework for perception. In daily life, the body's normal functions are often taken for granted, and neither we nor many fictional characters give serious consideration to what it might be like to be taller or more athletic, or disembodied, or, for that matter, a cow. The novels I will discuss, however, imagine the body as estranged, as a new and interesting experience rather than the semi-invisible ground of everyday life. Characters may exchange one body for another and then exchange back again, as in the now-traditional "body swap" trope; the mind may install itself, permanently or temporarily, in a different kind of body; or it may temporarily leave the body to seek new experiences rather than new moorings. The body becomes both a space and a means to explore, and its differences from the habitual body are noticed and marked through altered perceptions and interactions with the world. In order to convey these altered bodily experiences, the novels that I study frequently rely on evocations of visual experience that can be understood as derived from photography and cinema.

My overall argument rests on a theory that the way we see is an essential part of the way we perceive the world, and, consequently, that changes in the way we see are reflected as changes in the way we perceive the world and ourselves as bodies within the world. By changes in the way we see, I mean changes in what we can see, how we interact with visible objects and how they are presented to us; that is, changes in the kinds of visual experiences made available to us by technological innovations, which extend

---

discussed this extensively in my article "A New Genealogy of French Science Fiction," in *The French Review* 89:3 (March 2016), 107-121.

the category of what we can see, as well as the perspectives from which we can see, beyond what is available to unaugmented human vision.

This idea about perception is largely drawn from the work of Maurice Merleau-Ponty, whose *Phénoménologie de la Perception* argues that perception is the experienced interaction between the world (or objects in the world) and the embodied subject who perceives. For Merleau-Ponty, the mind and body are primordially integrated, such that "being" is always "being a body," and further, a body enmeshed in the world of which it is a part. Perception, and all the sensory experience it includes, is always anchored or situated in the body; every perspective is a bodily perspective, physically located and grounded in the body.

Merleau-Ponty's description of the embodied subject stands in contrast to rationalist or intellectualist ideas of perception, including what is frequently (though perhaps unjustly) referred to as Cartesian dualism, which Gilbert Ryle describes "with deliberate abusiveness" as "the dogma of the Ghost in the Machine" (Ryle 15-16). This "dogma" understands the body and mind as distinct from each other, with the body as physical, spatial, and temporary, and the mind as nonphysical, nonspatial, and eternal. The body gathers and transmits sensory data, which the mind then receives and interprets in the process called perception. The subject enters into interaction with the world by thinking about it, rather than being immersed in and part of it.

As the modern period progressed, the individual body became the focus of scientific study and disciplinary regulation that attempted to analyze and direct its movements and actions in greater and greater detail. Michel Foucault writes in *Surveiller et punir,* "une politique des coercitions qui sont un travail sur le corps, une manipulation

calculée de ses éléments, de ses gestes, de ses comportements" ["[A] policy of coercions that act upon the body, a calculated manipulation of its elements, its gestures, its behavior"] (*Surveiller et punir* 139/*Discipline and Punish* 138)[2] functioned together to produce a docile body of maximal utility and social coherence. These efforts included the work of schools, hospitals, military training, factories, and penal systems that organized and identified individuals and taught them the proper ways to move, to think, to live. From the eighteenth century onward, then, "L'homme apprend peu à peu ce que c'est que d'être une espèce vivante dans un monde vivant, d'avoir un corps, des conditions d'existence, des probabilités de vie, une santé individuelle et collective, des forces qu'on peut modifier et un espace où on peut les repartir" ["man was gradually learning what it meant to be a living species in a living world, to have a body, conditions of existence, probabilities of life, an individual and collective welfare, forces that could be modified, and a space in which they could be distributed"] (*Volonté de savoir* 187/*Introduction* 142). The visual technologies of photography and cinema arise during a time in which human beings were discovering this newly regulated experience of *having a body*, to which they contribute and which they reflect.

---

[2] I have used published translations when available, for which I have added page numbers for reference; these are also marked with quotation marks for bracketed in-line citations. Where there are no quotation marks and no reference given, the translation offered is my own, either because there was no published translation or none readily available to me, or because another translator's choices did not suit my analysis.

To imagine that a soul or mind could leave its original body and install itself in a different one while maintaining its original identity, one must first conceive of the mind as distinct from the body. This implies that the novels I examine here are based on a rationalist or dualistic understanding of perception. However, even though the authors might take the detachability of the soul or mind as part of their premise, they offer different ideas about how the newly adopted body affects perception. These novels thus go on to demonstrate how sensory (and especially visual) experience is framed and altered by the body, and in some cases, how that alteration affects mind and identity as well. In the decades around 1900, visual technology constituted a real destabilization of sensory experience, and thus offers a metaphor for the destabilization of the self that occurs in the fictional experience of a new body.

A second foundational idea for my argument is that the late nineteenth and early twentieth century was a transitional period for visual culture in the West, both resulting in and from the new technologies that emerged. Jacques Rancière speaks of a shift at this time in "le partage du sensible," or the distribution of the sensible. More generally, he argues that sense experience is organized according to different social orders or regimes:

> le système des formes a priori détermin[e] ce qui se donne à ressentir. C'est un découpage des temps et des espaces, du visible et de l'invisible, de la parole et du bruit qui définit à la fois le lieu et l'enjeu de la politique comme forme d'expérience. (Rancière 13)
>
> The system of *a priori* forms determin[es] what presents itself to sense experience. It is a delimitation of spaces and times, of the visible and the

> invisible, of speech and noise, that simultaneously defines the place and the stakes of politics as a form of experience. (Rancière 13)

What can be seen or heard, said or imagined or represented in art, is thus politically delimited in a manner that may serve to reinforce or to challenge the social order. *What* is considered visible or sayable is also tied to *who* is considered visible or who has a voice in the common, and the question of aesthetics is therefore a political question as well.

Rancière identifies three historical (overlapping, rather than successive) regimes of the arts in the West. First is the ethical, corresponding roughly to the Classical age in which the arts were understood more as "manières de faire" [ways of doing] than as a special class of objects (Rancière 27-28). The Renaissance and Enlightenment correspond to the poetic or representative regime, when the arts came to be viewed as imitations of nature, distinct from other images because they lacked practical use (Rancière 28-30). The third regime that Rancière identifies is the aesthetic regime of art, arising primarily in the nineteenth century with Flaubert, Mallarmé, Proust, surrealism and modernism, among other examples. In the aesthetic regime, Rancière writes: "Les choses de l'art sont identifiées par leur appartenance à un régime spécifique du sensible. Ce sensible […] est habité par une puissance hétérogène, la puissance d'une pensée qui est devenue étrangère à elle-même: produit identique à du non-produit, savoir au non-savoir, logos identique à un pathos […]" ["artistic phenomena are identified by their adherence to a specific regime of the sensible, which is […] inhabited by a heterogeneous power, the power of a form of thought that has become foreign to itself: a product identical with something not produced, knowledge transformed into non-knowledge, *logos* identical with pathos […]"] (Rancière 31/22-23). Whereas the arts of the poetic regime were divided by genre and

evaluated according to the external standard of their mimetic success, Art in the aesthetic regime is singular and autonomous, free from externally imposed hierarchies and standards. The profusion of speculative fictions that began in the nineteenth century might be possible, in part, precisely because mimesis was no longer a primary goal of art.

Jonathan Crary sees this major shift in visual culture as beginning in the early decades of the nineteenth century, as the industrial revolution and urban centralization demanded new ways of seeing, such as close observation and focused attention as well as selective inattention. Eighteenth-century thinkers like Immanuel Kant or Condillac did not accord attention a particularly special or instrumental role in the construction of lived experience. They believed that some basic human process synthesized the sensory input of the external world into a greater whole; a constantly attentive subject with a stable viewpoint was simply assumed, and distraction was understood as an external event, rather than an internal state or susceptibility. The inability to unify and synthesize input into experience was seen as anomalous, as evidence of mental illness (*Suspensions* 14-20).

In the early nineteenth century, however, the study of optics showed perception depended not only on external objects and conditions, but also on the individual observer looking at the world; and that observer's eye, optical illusions showed, was fallible and could be tricked. Crary describes this as a "severing of perceptual experience from a necessary relation to an exterior world" that exposes "possible ways that vision was open to procedures of normalization, of quantification, of discipline" (*Suspensions* 12). The perception of the seeing subject could no longer be imagined as an accurate rendering of the world resulting from a direct relationship between seer and seen. Rather, it became a

question of attention, which is at once the product of education, external influence, and technology, an effect of conscious will and of biological and psychological determination (*Suspensions* 5).

Attention was literally a matter of life and death in an industrial or urban environment; conversely, inattention might offer a necessary respite. These new kinds of spaces demanded "swift changes in focus" and, as a consequence, "mobility, novelty, and distraction became identified as constituent elements of perceptual experience" (*Suspensions* 29, 30). Faced with the increasing barrage of posters, newspapers, advertisements, and other images that characterized urban life, the subject withdraws into inattention as a defense against what Walter Benjamin characterized as frequent shocks of urban life. Sigmund Freud theorizes that the mind has "an external protective shield against stimuli whose task it is to diminish the strength of excitations coming in," which he compares to the celluloid coating on the layered sheets of the "Mystic Writing Pad" ("Mystic Writing Pad" 214-215). Just as marks on the pad's upper layer may be erased while leaving their trace on the wax layer below, stimuli may pass through awareness without seeming to leave a mark on conscious memory. This "zone of anesthesia," as Charles Féré and Binet named it (cited in *Suspensions* 39), includes stimuli that are consciously ignored, but more often applies to stimuli that are banal or uninteresting; the noise that must be filtered to find a signal. Inattention can therefore also be seen as an unconscious editing of experience, one that would be reflected in film editing, which removes routine or boring "dead time" in order to focus on what is novel or meaningful.

Media, along with the sociocultural discourses that surround and produce them, also play a role in determining what can be seen, heard, or imagined, or in distinguishing

information from noise. Friedrich Kittler proposes that optical media form an important part of what he terms *Aufschreibesysteme*, translated as "discourse networks" (more literally, "writing-down systems") and defined as a "network of technologies and institutions that allow a given culture to select, store, and produce relevant data" (*Discourse Networks* 369). Whether written or recorded or merely remembered, the production and reception of a text will select relevant information and exclude irrelevant information, so that the medium of "writing down" is both a condition of possibility for communication and its limitation (*Optical Media* 109-117). Using a Foucauldian model of discourse analysis, Kittler sees different chronological periods as different information networks of senders and receivers that must structure their messages, or "put things in order" according to what their medium provides (*Discourse Networks* 372). While these networks may seem natural or given from within, an exterior view reveals them, as Gilles Deleuze writes in his essays on Foucault, as an invisible diagram that organizes what is perceived as reality and determines what lies outside that reality (Deleuze 55-75). Navigating the discourse network through sensory perception, the subject receives information that he has been conditioned to deem relevant, rejecting that which seems unimportant or unassimilable.

Paul Virilio, as well, looks at ways that technology affects what sensory information can be received. Building on Merleau-Ponty's phenomenology of perception, he considers visual experience and technology with particular attention to the body's movement through the world as a form of interaction by which perception is organized. Beginning in the nineteenth century, these technologies include what Virilio calls "dromoscopes" and "stroboscopes" (*L'Horizon négatif* 144), which alter visual

experience through apparatuses of speed and of light, respectively. The effect of both is to collapse the distance between things, altering the perception of space and time so that a thing may be visible without being physically accessible, or within the active power of the viewer. This breaks the connection between visibility and presence, leading to what Virilio considers the "catastrophe nouvelle" [new catastrophe] of "téléscopage," [telescopage] "un emboîtement abusif du lointain dans le proche" [an abusive mixture of the distant within the near] (*L'Horizon négatif* 155). Even more dangerous in Virilio's view are new, technological "trans-apparences," like cinema or other audiovisual media, that put the viewer into contact with false times and false experiences (*La Machine de vision* 107-110). When the absent is embedded in the present, the distinction between them becomes tenuous; the experience of absence nullifies the present and leaves the viewer motionless and powerless.

While Rancière, Crary, Virilio, Kittler, and others have identified the nineteenth century as a period of transition in visual culture, a number of scholars have also sought to describe this transition and its effects through the examination of literary works. Andrea Goulet summarizes the epistemological questions regarding vision and truth that, although new, became more urgent in the nineteenth century, as technology showed the fallibility of human vision: "how can subjective perception guarantee knowledge of external reality? Or, what is the relation between what the eye sees and what the mind knows?" (Goulet 2). Her work shows visual epistemology and the search for truth as a structural concern of nineteenth-century French novels, just as photography and cinema were demonstrating a new separation between the vision and knowledge.

In her discussion of modernist aesthetics, Sara Danius considers the impact of technologies of perception developed in the nineteenth and early twentieth centuries, and argues that "the specific aesthetics of perception […] is tightly bound up with modern machine culture" (Danius 1). Her research demonstrates how "Specific technoscientific configurations and their conceptual environments enter into and become part of the aesthetic strategies, problems, and matters they help constitute" (Danius 11). The new perceptual experiences offered by technologies like the telephone or electric lighting, as well as photography and cinema, created "new optical and acoustic worlds" (Danius 17), and encouraged the kind of experimentation, as well as fragmentation, in sensory experience that comes to be associated with literary modernism.

Tim Armstrong writes that there was "a revolution in perceptions of the body in the nineteenth century" due especially to changes in medical discourse and theories of evolution and heredity that were on the rise, in tandem with new technologies for visualizing and understanding the body as a physical system (Armstrong 2, 3). The modern fantasy of the body that these discourses and technologies generated is "both a fragmentation and augmentation" (Armstrong 3), and consequently a source of anxiety. In modernist literature, Armstrong argues, this manifests in a "fascination with the limits of the body" and a "desire to *intervene* in the body: to render it part of modernity by techniques that may be biological, mechanical, or behavioral" (Armstrong 4, 5). The novels which I will discuss, especially those contemporary with or connected to modernism, demonstrate a similar fascination and anxiety, with a different approach to exploring the same questions.

My first chapter, "The Body in the Photograph," concerns new ways that photography depicts the body as well as how people interacted with and used photographs to represent themselves and others. First I consider the photographic portrait, especially the miniatures that became ubiquitous and were handed out as *cartes de visite* beginning in the mid-nineteenth century. I argue that the contemplation of one's own photographic portrait demonstrates a distinction between the lived experience of the body and the visual image of the body, one which splits the viewing subject from their own body as a viewed object. In addition, because portraiture has long been connected with memorialization of the dead, the body in the photograph is frequently identified with a dead relic. This sense of the photographic portrait as an encounter with one's own dead body is attested in contemporary writings of poets and writers like Nerval, Baudelaire, and Balzac, among others.

The same connection between the photograph and the dead self plays out in more dramatic fashion in Théophile Gautier's novel *Avatar,* in which a young man exchanges bodies with his romantic rival in order to gain access to the woman he desires. The characters struggle to integrate their minds with their new bodies or to control them, showing a dualistic division of the self into the subject-mind and the object-body, and are repeatedly stunned to stillness when they encounter each other and see their original bodies outside themselves, outside of their own control. Gautier repeatedly depicts the confrontation with one's own erstwhile body as a moment of shock that evokes the photographic image, both explicitly and implicitly framed as a memento mori or an omen of death.

Another new experience of the body that photography made possible was reproducibility. Not only did the photographic portrait offer up an image of the self as dead relic, it also multiplied and dispersed that image, depriving it of the unicity and presence of the individual subject. Composite photography and biometric measurements and categorizations, such as in the work of Francis Galton and Alphonse Bertillon, provided visual demonstrations of biologically predetermined types. The individual is imagined not as a unique person but rather as a reproduction whose features, both physical and mental, are determined by heredity and social milieu.

Reproducibility is the main feature of the characters in Auguste Villiers de l'Isle-Adam's novel *L'Éve future,* in which all of the characters are reproductions belonging to a type. The interchangeability and the non-singularity of people within a category—especially if that category is "woman"—are demonstrated throughout the novel. A fictional version of Thomas Edison attempts to create an "Andréide" for his friend Lord Ewald, a stereotypical English dandy. This mechanical object will be a physical copy of the beautiful yet personality-deficient woman Ewald loves, who is already a copy of a number of ill-defined "Venus" images (and, extradiegetically, of a woman who rejected Villiers's advances). Fitted with an array of set responses, Edison believes the *Andréide,* the artificial composite woman, will be more than capable of substituting for a real woman in Ewald's heart, although this belief does not, in the end, prove exactly true.

In my second and third chapters, I shift my focus to cinema and some of the different ways that it offers a new kind of visual perspective. Chapter 2, "Being the Body," considers the ways that the camera may attempt to imitate subjective experience and promote identification with a character, and argues that the filmic images that result

manifest in writers' attempts to imagine living in a changed body. Through their frequent focus on the human body and face, filmmakers built on nineteenth-century psychological and physiological research to normalize a rhetoric of facial and bodily expression and other kinds of visual imagery, in order to communicate emotional states to spectators. Color was also used to convey moods and narrative aspects of a scene, whether through tinting whole frames or handpainting, as were certain editing practices and special effects. These visual cues constitute an aesthetic program that invites the viewer to imagine the world through a character's eyes, reproducing their focus and gaze, as Jean Epstein in particular describes. In such films, the movie experience becomes a quasi-body swap, in which the viewer vicariously lives in the on-screen world through the character's eyes. Rather than dividing the self into subject and object, then, these visual experiences create an intersubjective spectatorial experience of the other.

The experience of the other as a new body that both frames and shapes the self and its perceptions is the central theme of the two novels I examine in this chapter, in which a character's mind moves into another body and experiences the influence of that body on their perception of the world. In *Le docteur Lerne, sous-dieu*, Maurice Renard evokes cinematic color and perspective changes as well as spectatorial experience in an effort to communicate the strangeness of the mind transplant experience. Expanding on H. G. Wells's *Island of Dr. Moreau* Renard relates the story of Nicolas, whose mad scientist uncle transplants his brain into a bull's body (and vice versa) and back again, and later develops methods of psychic possession. Nicolas's other-body experience is conveyed primarily through changes in color and perspective, but also translates into a shift towards bovine attitudes and desires. Later, after a return to normal, Nicolas has the

unnerving experience of another mind invading and taking control of his own body, in an experience explicitly related to the absorption of spectatorship. The conflation of spectatorship and possession continues in the novel's frame narrative, which places the reader in the position of the narrator.

Next, in Camille Marbo's *Le Survivant,* narrator Jacques finds himself transposed into a friend's body after a catastrophic injury at war. He undergoes a swift readjustment to his physical existence, but a more gradual transformation of his personality and emotional world as he discovers that his body retains the vices and desires that plagued its previous passenger. By the end of the novel, although the main character makes strenuous efforts to fight bodily impulses, he is no longer able to fully distinguish himself as the original spirit of "Jacques" from the physical body of "Marcel" that he inhabits. Throughout the novel, Marbo describes Jacques's views of the world with a near-obsessional focus on facial expression and gesture, reminiscent of the performance of emotion through face and body that was emphasized in film and especially in close-ups.

My third chapter, "Out of Body," considers the ways in which the body frames visual experience by imagining its absence, in a gaze that transcends physical boundaries. These textual representations of disembodiment, in which characters travel psychically or in dreams, evoke a different kind of filmic experience. While some films attempt to create an identification between spectator and character, as described above, others seek instead to produce images and perspectives that are unavailable to the naked eye. Examples of this are films that incorporate (or imitate) microcinematography and radiography, as well as trick shots, travelling shots and montage that simulate inhuman motion or inaccessible perspectives and dimensions. Further, I argue that, after a

nineteenth century in which the body became subject to new medical and sociopolitical discourses of discipline and heredity, the freedom that disembodiment seems to offer is not only physical, but political. To escape the real body means ascension to a state of higher knowledge and power, reminiscent of what Foucault calls the utopian body, a self without natural limits or flaws.

The first novel I examine in this chapter is Marguerite Berthet's novel *L'Ascète du Mont-Mérou*, a series of vignettes in which an unnamed narrator finds his perceptions and understanding of the world challenged by the mysterious figure of the Ascetic. Transported in dreams and moments of distraction to other planets and spaces, he encounters a variety of alien beings whose sensory capabilities and existences are profoundly different from his own. These scenes often contain imagery that recalls popular science films and other films that imitated them, including aspects of microcinematography, radiography, slowed and accelerated film, trick shots and animations. As a consequence of his travels, the narrator becomes aware of the limitations of human perception as well as what lies beyond them, and finds a new understanding of the world around him, which leads to the gain of unusual psychic abilities. Unfortunately, the demonstration of these abilities results in his incarceration in a hospital for "aliénés," where he writes his story.

Blaise Cendrars's *Moravagine* offers the story of a serial murderer of women who is freed from a sanatorium by his friend and doctor, and subsequently roams the world as a "fauve humain" [human beast], leaving a trail of destruction in his wake. Prior to his physical escape, however, Moravagine finds power and freedom through psychic escapes, visions that both float into the sky and delve into the human body, drawing on

images from popular science. When later Moravagine is hospitalized and approaching death, again he appears to travel psychically, entering trance states that are followed by hours of compulsive writing, which relate his experiences on the planet Mars. Since this novel began as part of a larger "Fin du monde" [End of the world] project that also resulted in the ciné-poem "La Fin du monde filmée par l'Ange N.-D.," [The End of the world filmed by the Angel ND] we can understand this latter piece as relating to Moravagine's Martian voyage. Cendrars's work combines imagery made visible through new technologies with present-tense, prose-poetic rhythms that evoke motion, transport, and machines.

These novels have in common their reliance on popular-science imagery, but also a professed or implied disdain for scientists and their institutions. In both cases, the doctors and researchers that treat and imprison the visionary characters are shown to be clueless: Berthet's absurdly named doctors fail to recognize the import of her narrator's writings, and the narrator of *Moravagine,* himself a doctor, rails against the medical community at large, freeing his murderous patient both as an experiment and as a revolt. Institutional science dismisses the travelers' writings as the nonsensical productions of disordered minds, rather than representations of real, though inexplicable, experiences. The release from the limited human body may offer a way to revelation, but limited humans must first be prepared to receive it—and the discipline of medicine seems to impede rather than encourage knowledge.

Through these explorations of vision and bodily experience as they were represented during a period of technological change, what I am hoping to show is how what we see and the way we see can change along with the media of vision, and how this

change affects our experience of the world and of ourselves as the vectors of experience in profound and subtle ways. Without examining such shifting possibilities, it may be easy to assume that what we see is simply what is there, and how an object appears to us is simply how it is. But technology alters the range of what is available to vision, as well as what draws our attention and how we interact with what we can see. Awareness of this mutability of perception and the consequent experience of the self and others is particularly imperative in our own contemporary period, considering the enormous technological and mediatic changes that the last few decades have brought.

Chapter 1:

THE BODY IN THE PHOTOGRAPH

In late 1853 or early 1854, writer Gérard de Nerval sat for a photographic portrait. He had disliked photographs from the first daguerrotype—like his contemporary Charles Baudelaire, he found them far inferior to paintings; perhaps they were useful, but they were certainly not art. Although Nerval brought a camera to document his *Voyage en Orient*, he did not record any attempts to use it, and no images were produced. Despite his distaste for the medium, however, he allowed Alphonse Legros to take this photograph, to furnish the basis for an engraved portrait in Eugène de Mirecourt's biography. The poet had been ill and was not feeling well that day; nevertheless, gamely he posed, leaning forward in his seat with his fingers set against his lips and chin, in a somewhat theatrical pensive gesture.[3]

[3] Both Legros's daguerreotype and Étienne Gervais's engraving (with Nerval's note) are included as illustrations in Jean-Nicolas Illouz's article, "Nerval et Baudelaire devant Nadar" in *Baudelaire et Nerval: poétiques comparées,* ed. Patrick Labarthe and Dagmar Wieser (Paris: Honoré-Champion, 2012). Reprinted (with images viewable) at http://phlit.org/press/?p=622, 31 January 2012.

The result, Nerval felt, was not good. The artist's work was "trop vrai," [too true] he wrote to his friend Georges Bell: "Dites partout que c'est mon portrait ressemblant, mais posthume, ou bien encore que Mercure avait pris les traits de Sosie et posé à ma place" [Tell everyone that it is a good likeness, but posthumous, or even better, that Mercury took on the traits of my double and posed in my place] (cited in Roubert 39). Later, underneath Étienne Gervais's engraving of the same photograph, Nerval wrote: "Je suis l'autre" [I am the other]. While that phrase takes on a larger and more metaphorical meaning in relation to his work and life, we can also read it quite literally and say that, when looking at his own portrait, Nerval saw something like his own corpse, or his uncanny double: something that looked like himself, that in a way *was* himself—and yet was, at the same time, utterly other than himself.

Over a century later in *La Chambre claire,* Roland Barthes describes a similar experience of posing for photographic portraits: "Dès que je me sens regardé par l'objectif, tout change: je me constitue en train de 'poser,' je me fabrique instantanément un autre corps, je me métamorphose […] je sens que la Photographie crée mon corps ou le mortifie" ["Now, once I feel myself observed by the lens, everything changes: I constitute myself in the process of 'posing,' I instantaneously make another body for myself, I transform myself in advance into an image […] I feel that the Photograph creates my body or mortifies it" (*Chambre claire* 25/*Camera Lucida* 10-11). He cannot be certain whether the resulting image will portray him as "un individu antipathique" ["an antipathetic individual"] or "un 'type bien,'" ["a 'good sort'"] but can only wish that the image "coïncide toujours avec mon 'moi'" ["should always coincide with my (profound) self"] even though "c'est le contraire qu'il faut dire: c'est 'moi' qui ne

coïncide jamais avec mon image" ["it is the contrary that must be said: 'myself' never coincides with my image"] (*La Chambre claire* 25, 26-27/*Camera Lucida* 11-12). For Barthes, as for Nerval, the moment of being photographed reveals a dissonance or a separation between the self and the image, and the resulting photograph shows the body not as it is experienced, but as it is seen from outside, as an object of vision.

Photography has, Jonathan Pulz claims, "done more than any other medium to shape our notions of the body in modern times" (Pulz 7); in part, I would argue, because it changes our perspective and our relationship to our bodies. That is to say, when *I* sees *me* in a photographic portrait, there is a split between the self as a subject who views, and the self as an object, an image that is viewed, imprinted, represented, blurred with others into composites, left as a *carte de visite,* displayed as evidence or counted as a specimen, and so on. This split is particularly uncanny because of the photograph's realistic and indexical quality, which identifies the subject and object as the single person existing in reality. Nerval and Barthes offer us clear examples of the photographic encounter between the self and the self.

This encounter is one that this chapter seeks to explore through two narratives that split bodies from selves—and recombine them—in ways that call to mind visual paradigms deriving from photography in the nineteenth century. The first of these is Théophile Gautier's *Avatar* (1856), which describes the *"I* sees *me"* experience of the body swap—the separation of mind from body and the contemplation of the outer self from a distance—that coincides with the photographic experience of the self as other. In the second section, I examine Auguste Villiers de l'Isle-Adam's novel *L'Ève future*, in which bodies, like photographic portraits, are reproducible, manipulable, and

interchangeable, and the value of any kind of inherent self or soul is placed in question. Both of these novels, I argue, describe an estrangement between body and mind that is demonstrated through visual imagery derived from the then-new medium of photography.

The act of looking at an external image of one's body—"se voir soi-même," ["to see oneself"] as Barthes says (*Chambre claire* 25/*Camera Lucida* 12)—is one that Jacques Lacan sees as constitutive of human subjectivity in general. In his writings on the mirror stage, Lacan describes how babies and toddlers react to their reflections in a process that effects both a self-alienation and an idealization of the image. Looking at her reflection, the toddler sees an image that is both of herself and not herself; at the same time, that image seems whole and perfect, in contrast to the fragmented and uncoordinated experience of the body at this young age ("Stade du miroir" 93-96/"Mirror stage" 1-5). The mirror stage is a moment of "transformation produite chez le sujet, quand il assume une image" ["transformation that takes place in the subject when he assumes an image"]; and "cette forme situe l'instance du *moi* […] dans une ligne de fiction, à jamais irréductible pour le seul individu" ["this form situates the agency of the ego […] in a fictional direction, which will always remain irreducible for the individual alone"] ("Stade du miroir" 94/"Mirror Stage" 2). This misrecognition, which substitutes an ideal whole body for a real fragmented body, persists in the subject as an adult. Although Lacan wrote very little about photography, Ruth Iskin argues that in his analysis of the picture ("Qu'est-ce qu'un tableau ?"/ "What is a picture?"), photographs should be understood as among other images that "function for adult humans in much the same way as mirrors do for infants" (Iskin 53). Like the body in the mirror, the body in

the photograph is both self and other; differently, however, the body in the photograph is a still, dead image from the past, rather than a living and moving reflection in the present.

Confrontation with one's own object-body out of the past is an experience that photography made possible in ways that did not previously exist. Prior to the mid-nineteenth century and the proliferation of commercial photography and particularly André-Adolphe-Eugène Disdéri's photographic *cartes de visite,* the possession of one's own portrait was relatively rare. Painted miniatures, the most common type of portrait before photography, were not cheap or easy to reproduce, and consequently not widely distributed. Such portraits were most often carried as mementos of loved ones, so that the person who gazed upon a painted miniature was not often the person there portrayed. In addition, any image produced by an artist's hand did not possess the photograph's claim to reality as an imprint of the original. The photograph thus allowed contemplation of one's own image in a way that the miniature simply could not (Pulz 16-17).

Reactions to the photographic experience demonstrate a powerful ambivalence. Although the daguerreotype was greeted largely with enthusiasm, the photographic portrait, like the painted portrait, was associated with melancholy and death. As Jérôme Thélot writes, this link was already commonplace by the mid-nineteenth century: "C'est encore un poncif, et déjà vivace à l'époque, d'identifier la prise de vue au meurtre, l'image-trace au masque mortuaire, la réproduction photographique à la contamination cadavreuse" [It was a commonplace, and already a stubborn one at this time, to identify the shot with murder, the image-trace with the mortuary mask, the photographic reproduction with cadaverous contamination] (Thélot 15). The relationship between the image and the dead was certainly not new; André Bazin writes in his essay "Ontologie de

l'image photographique" that, beginning with Egyptian embalming, continuing in painting and sculpture, the arts have always attempted to represent the dead, to preserve them in memory—"sauver l'être par l'apparence" [to save the being through the appearance] (Bazin 9). Photography only continued this purpose and made such preservation more widely available, as portraits were made of both the living and the dead. Post-mortem daguerreotypes allowed people to preserve images of their just-deceased loved ones—often posed as if alive, with eyes open—a service offered by the atelier Frascari in Paris beginning in 1842 (Héran 102). But even if the body in the photograph was alive when the image was made, for Bazin death inheres in the photographic image of stopped time: "D'où le charme des photographies d'albums. Ces ombres grises ou sépia, fantomatiques, presques illisibles, c'est la présence troublante de vies arrêtées dans leur durée" ["Hence the charm of family albums. Those grey or sepia shadows, phantomlike and almost indecipherable, are […] the disturbing presence of lives halted at a set moment in their duration"] ("Ontologie" 14/"Ontology" 8).

Aside from the haunting quality of the photographic portrait in general, though, the photographic process and its possible effects on the body portrayed was another source of anxiety. Félix Nadar gives a humorous account of suspicious early reactions to the daguerreotype in his memoir, *Quand j'étais photographe,* attributing such ideas to a natural fear of the new and unknown that arose predictably against something so mysterious as photography: "Rien n'y manquait comme inquiétant: hydroscopie, envoûtement, évocations, apparitions" ["Everything that unhinges the mind was gathered together there: hydroscopy, bewitchment, conjuration, apparitions"] (Nadar 5/3). Honoré

de Balzac professed his discomfort with the new technology, and developed the following theory, as Nadar reports:

> chaque corps dans la nature se trouve composé de séries de spectres, en couches superposées à l'infini, foliacées en pellicules infinitésimales [...] Chaque opération Daguerrienne venait donc surprendre, détachait et retenait en se l'appliquant une des couches du corps objecté.
>
> De là pour ledit corps, et à chaque opération renouvelée, perte évidente d'un de ses spectres, c'est à dire d'une part de son essence constitutive.

> each body in nature is composed of a series of specters, in infinitely superimposed layers, foliated into infinitesimal pellicules, in all direction in which the optic perceives this body. […] Every Daguerrian operation would catch, detach, and retain, by fixing onto itself, one of the layers of the photographed body.
>
> It follows that for that body, and with every repeated operation, there was an evident loss of one of its specters, which is to say, of a part of its constitutive essence. (Nadar 5/4)

Nadar doubts the seriousness of Balzac's fear, and notes that, in any case, Balzac had enough "ampleurs abdominales" ["abdominal abundances"] to tolerate some loss of mass (Nadar 7/5). His suspicion is supported by the fact that Balzac wrote enthusiastically to Ève Hanska about his portrait experience (Derville 143). Playful though it likely was, Balzac's idea of the daguerreotype as a spectral layer detached from the "corps objecté"

["photographed body"] echoes the sense of separation and loss that Barthes describes as the photographic subject sees his photographed object body.

Balzac's theory also appealed to Gérard de Nerval's friend Théophile Gautier, who "emboitèrent immédiatement le pas aux 'Spectres'" ["immediately followed suit to the 'Specters'"] since "Toute thèse en dehors de vraisemblance ne pouvait qu'agréer à Théo" ["Any thesis beyond verisimilitude could only agree with […] Theo"] (Nadar 8/5). But whatever misgivings Gautier may have had about photography's physical effects, he seems to have shed them quickly. In 1840 he brought a camera to document his travels in Spain with Eugène Piot, and sat for many portraits over his lifetime (without apparent loss of mass) with Nadar and others (Bernd Stiegler 93). In early 1857, Gautier wrote enthusiastically on photography as part of a review published in *L'Artiste,* lauding the new technology's swift improvement and its potential to liberate artists from the labors of realistic representation.

For Gautier, the daguerreotype image is physically and spiritually linked to the original subject, because, he says, it receives not only the impression of light, but also of the soul: "Tout ce que touche l'homme reçoit son empreinte; l'âme y est visible par quelques rayons" [All that man touches receives his imprint; the soul is visible there through some light rays] ("Exposition" 193). Further discussing how the daguerreotype may register both the soul of the sitter and that of the photographer, Gautier asks, "l'âme peut-elle agir sur la matière? Le magnétisme semble répondre: oui" [Can the soul act upon matter? Magnetism seems to answer: yes] ("Exposition" 194). The daguerreotype seemed to derive its ghostly specificity from contact with body *and* soul, both of which, for Gautier, can affect material things.

Like Nerval, Charles Baudelaire seems to have experienced his photographic portrait as an estrangement from himself, in what Barthes refers to as a "micro-expérience de la mort," ["a micro-version of death"] or "ce moment très subtil où, à vrai dire je ne suis ni un sujet ni un objet, mais plutôt un sujet qui se sent devenir objet" ["that very subtle moment when, to tell the truth, I am neither subject nor object but a subject who feels he is becoming an object"] (*Chambre claire* 30/*Camera Lucida* 14). Baudelaire relates this as a presage of death, in his poem, "Le Rêve d'un curieux" ["Dream of a Curious Man"] (poem 125, 1860), which is dedicated "À F. N.," or, in the handwritten version, "À Félix Nadar" [To Felix Nadar] (Thélot 6). While Baudelaire's more explicit reflections on photography included passionate disavowals of its artistic value, such as his scathing essay on the 1859 Salon titled "Le public moderne et la photographie," Baudelaire did not abstain from sitting for portraits with Nadar and other photographers. Numerous critics have found a photographic aesthetic in Baudelaire's poetry (Thélot cites "Obsession," "Paysage," "Miroir," and "Le Voyage"; Susan Blood "À une passante") and in essays like "Le Peintre de la vie moderne" [The Painter of modern life]. However ambivalent or even hostile Baudelaire's attitude was toward photography, he both recognized and participated in it as an aesthetic experience.

According to Thélot, Éric Darragon, and Dana MacFarlane, the dedication of "Le Rêve d'un curieux" in particular to Nadar invites a reading of the poem in relation to photography and Baudelaire's portrait sessions with the photographer. As in "Une Charogne," [A cadaver] "Un fantôme," [A phantom] and other poems, "Le Rêve d'un curieux" describes an enigmatic confrontation with death. Waiting for the curtain to rise on some unnamed spectacle with the unexplained sense that "J'allais mourir" ["I dreamed

of dying"] the poet feels "Désir mêle d'horreur, un mal particulier; // Angoisse et vif espoir, sans humeur factieuse" ["Desire and horror mixed, a strange mischance; // Anguish and ardent hope were tightly knit"]. But when "enfin la vérité froide se révélat," ["At last the chilling verity came on"] he finds that "J'étais mort sans surprise, et la terrible aurore / M'enveloppait [...] La toile était levée et j'attendais encore" ["Yes, I was dead, and in the dreadful dawn / Was wrapped. […] The screen was raised, and I was waiting still". The "rideau" or "toile" here can refer to the cloth that covers the camera and photographer; the poet waits for his image to be captured, until he finds himself enveloped in the "terrible aurore" or, as MacFarlane suggests, in the haloed center that was typical of Nadar's portraits (MacFarlane 3). After the shutter opens and closes, the poet remains—as a living subject, somewhat nonplussed and disappointed by this anticlimactic moment ("N'est-ce donc que cela?" ["And what! That's all there is to tell?"]); but also as the still, dead image of himself, now existing apart from him in the photograph.

Whether the photographic portrait captures an image of the body alone or adds the imprint of the soul, for all these authors, it is clear that the experience of seeing themselves in a photograph was a strange one. Like Barthes, Bérengère Chapuis writes of "l'étrangeté" [strangeness] of the daguerreotype portrait, due at first to the rigidity of long poses, later to the still-unsurpassed finesse of the image's resolution: "c'est l'acuité surhumaine du regard de l'appareil qui fonde l'étrangeté de cette expérience éminemment moderne où *soi* devient tout à fait *autre,* dans le portrait de soi que l'on ne reconnaît pas" [The superhuman acuity of the camera that is the basis for the strangeness of this eminently modern experience, where *self* becomes entirely *other,* in the portrait of the

self that one does not recognize]. This feeling of estrangement from one's own image—of seeing one's self as other, a foreign object or an uncanny remnant of the self—emerges also in the novels that literalize that very experience through the displacement of the self from the body.

One such novel is Gautier's *Avatar*, one of the first published body-swapping narratives, in which two people's souls move into each other's bodies and back again. This novel is primarily seen as a work of the fantastic, yet Gautier fortifies his unrealistic premise with references to animal magnetism, Braidism, spiritism, and Indian meditation practice, as he attempts to elaborate an impossible experience. His friend and contemporary Émile Bergeret writes that Gautier was "la superstition même" [superstition itself] and possessed "une croyance inébranlable aux influences occultes" [an unshakeable belief in occult influences]: "Il croyait aux sortilèges, aux enchantements, aux envoûtements, à la magie, aux sens des songes, à la divination des moindres accidents, couteaux en croix, salière renversée, trois bougies allumées, que sais-je encore?" [He believed in witchcraft, enchantments, spells, magic, in the meanings of dreams, in prophecies based on the slightest accidents, crossed knives, spilled salt, three lit candles, who knows what else] (Bergeret 166). Demonstrating these pseudo-scientific and occult influences, Gautier imagines his characters as having an essential spiritual self separable from a physical shell, which can be transferred into a different body to become a sort of strange ghost, operating an unfamiliar machine.

Gautier's work often combined fantastic themes with what contemporaries like Saint-Beuve and Arago referred to as a photographic style, emphasizing minutely detailed visual description; their choise of metaphor is likely connected to Gautier's own

photographic work in Spain (Bernd Stiegler 91). As Bernd Stiegler writes, "La neutralité et la précision de l'observation, la distance prise par l'opérateur et le devenir-image de l'objet évoquent la nouvelle pratique. Gautier traverse le monde comme un daguerréotype; il enregistre avec une précision photographique" [Neutrality and precision of observation, the distance taken by the operator and the becoming-image of the object, evoke the new practice. Gautier moves through the world like a daguerrotype; he records with photographic precision] (92). That is, regardless of how unlikely the story may be, Gautier tells it with the realistic and exhaustive detail of a camera, much as he describes monuments in Russia or Spain.

In the unlikely story of *Avatar*, the lovesick Octave de Saville enlists the aid of a mysterious Dr. Balthazar Cherbonneau to exchange bodies with the Polish count Olaf Labinski, in order to gain access to Labinski's beautiful and faithful wife, Prascovie. In Dr. Cherbonneau, Gautier combines the trappings of European science with signs of a deeper allegiance to Eastern teachings, particularly those of India,[4] as well as to

[4] The history and mythology of India became a subject of general interest in France in the mid-eighteenth century, with histories, studies, collections of fables and texts in translation being widely available. By the mid-nineteenth century, France had only a few territories on the Indian subcontinent, but India persisted in the public imagination as a place where ascetic figures could attain amazing mystical powers through meditation, stories which also surfaced in studies of mesmerism and hypnotism. Powerful Indian ascetics appear regularly in *merveilleux-scientifique* fiction; for example, in Gustave Le Rouge's *Prisonnier de la planète Mars* and Marguerite Berthet's *L'Ascète du Mont-*

mesmerism or magnetism and spiritism. The contrast is made concrete in the description of Cherbonneau's study, a warm room where the doctor sits surrounded by books in Sanskrit, in front of "une machine électrique, avec ses bouteilles remplies de feuilles d'or et ses disques de verre tournés par des manivelles […] à côté d'un baquet mesmérique où plongeait une lance de métal et d'où rayonnaient de nombreuses tiges de fer" ["An electrical machine, with its jars full of gold leaf, and its glass disks revolved by handles, […] by the side of a mesmeric tub into which was set a metal rod and from which radiated numerous iron bars"] (*Avatar* 66/70). The doctor himself is reputed to be a miracle worker, a "résurrectioniste" who can, if touched by their story, pull a patient from the very brink of death; he is also known as a "magnétiseur" whose séances produce "des merveilles à troubler toutes les notions du possible ou de l'impossible" ["prodigies that surpassed all notions of the possible or the impossible"] (*Avatar* 62-63/67-68).

Although he wears "le costume classique du médecin," ["the classical dress of a physician"] (*Avatar* 11/22) and deploys medical vocabulary, Cherbonneau looks like "une figure échappée d'un conte fantastique d'Hoffmann et se promenant dans la réalité stupéfaite de voir cette création falote" ["Cherbonneau seemed to have emerged from some fantastic tale by Hoffmann, and to be walking about in the midst of reality amazed

---

Mérou. While the reasons for this fascination with India are doubtless interesting, they are mostly outside the scope of my research. See: Kate Marsh, *India in the French Imagination: Peripheral Voices 1754-1814* (London: Routledge, 2015); Nicola Frith, *The French Colonial Imagination: Writing the Indian Uprisings, 1857-1858, from Second Empire to Third Republic* (Lanham, MD: Lexington Books, 2014).

at the sight of this droll character"] (*Avatar* 9/20). The doctor's skeletal body, along with striking blue eyes set in his "face de cadavre," ["cadavrous face"] reveal that he has been "soumis, dans quelque but d'initiation, aux longs jeûnes des fakirs et tenu sur la peau de gazelle auprès des yoghis" ["submitted, in the course of some initiation, to the long fasts of the fakirs and had sat with the yoghis on a gazelle skin"] (*Avatar* 11/21-22). But since Octave has no discernable physical ailment, "'la science, telle du moins que la pratique la vieille routine européenne, n'y peut rien'" ["'science, such as old European routine understands it, can do nothing for you'"] (*Avatar* 14/24), whereas Cherbonneau can put to use his knowledge of "'puissances occultes que méconnaît la science moderne'" ["'occult powers which modern science is unacquainted with'"] (*Avatar* 51/57). As Cherbonneau explains how he came by his *puissances occultes*, however, it becomes clear that these are not simply effects obtained by magic or spiritual intervention, but rather through the rigorous investigations that give access to them, through both European and Indian science and practice. Thus the "occult" power is achieved in the same way that scientific knowledge is achieved, and its effects are mysterious only in the same way that scientific accomplishments may seem mysterious to those who have not acquired the necessary education to understand them. Within the world of this novel, the "scientific" cannot be cleanly separated from the "fantastic."

In Cherbonneau's telling, in fact, it is his "scientific" research that led him to his "occult" power. While dissecting cadavers in the course of his medical research, Cherbonneau came to believe that these bodies are simply "formes vagues […] assemblages fortuits de molécules aussitôt dissous" ["'vague forms and chance aggregations of atoms that were forthwith dissolved'"] and working with them is nothing

but “la fonction d’un empirisme grossier” [“‘coarse empiricism’”] (*Avatar* 55/60). There is no point in seeking the secrets of life in a dead body. Consequently:

> “je formai le projet […] d’atteindre et de surprendre l’âme, de l’analyser et de la disséquer pour ainsi dire: j’abandonnai l’effet pour la cause […] J’essayai par le magnétisme de relâcher les liens qui enchaînent l’esprit à son enveloppe; j’eus bientôt dépassé Mesmer, Deslon, Maxwel, Puységur, Deleuze, et les plus habiles, dans des expériences vraiment prodigieuses, mais qui ne me contentaient pas encore: catalepsie, somnambulisme, vue à distance, lucidité extatique, je produisis à volonté […]”
>
> “I formed the project […] to find and seize upon the soul, to analyze it, and, so to speak, to dissect it. I abandoned the effect for the cause […] I endevored, by making use of magnetism, to relax the bonds that imprison the spirit within its frame, and soon I had gone beyond Mesmer, Deslon, Maxwell, Puységur, Deleuze, and the most skilful of them, in absolutely prodigious experiments, that, however, failed to satisfy me. Catalepsy, somnambulism, second sight, ecstatic lucidity, all these effects, […] I produced at will.” (*Avatar* 54-55/59-60)

Despite these successes, Cherbonneau still cannot find a way to find the soul itself until he goes to India. There, he travels and studies among brahmins and yogis for whom “‘leur enveloppe humaine n’est plus qu’une chrysalide, que l’âme, papillon immortel, peut quitter ou reprendre à volonté,’” [“‘their human frame is no more than a chrysalis, which the soul, the immortal butterfly, may leave or return to as it pleases’”] so that while the “‘maigre dépouille’” [“‘skinny frame’”] remains in meditation, “‘leur esprit, libre de

tous liens, s'élance, sur les ailes de l'hallucination, à des hauteurs incalculables, dans les mondes surnaturels'" ["'their mind, freed from all bonds, soars on the wings of hallucination, to measureless heights in the supernatural world'"] (*Avatar* 53/58). Finally he meets a Hindu priest who, through meditation, fasting, and the repetition of certain words, is able to show the doctor his soul: "'j'entendis un pétillement singulier; une étincelle bleuâtre passa devant mes yeux avec la fulgurante rapidité d'une lueur électrique, voltigea une seconde sur les lèvres entr'ouverte du pénitent, et disparut'" ["'I heard a strange crackling; a bluish spark flashed past my eyes with the lightning-like rapidity of electric light, fluttered for a second upon the half-opened lips of the penitant, and vanished'"] (*Avatar* 59/63). The priest then confides his secret to Cherbonneau, passing on the ability to detach the soul from one body and direct it wherever one wishes.

While this explanation leaves the mechanism of transfer mysterious and even magical, Gautier connects it to a scientific process and an austere practice that one can see as a parallel to the figure of the scientist as it was being formulated in the nineteenth century. While Enlightenment *philosophes* were imagined as motivated by passion for truth, the nineteenth century saw the scientific self as motivated by a central, dominating will: "It was the will that steeled the man of science to face the drudgery of hard intellectual labor, and it was the will that enforced the self-discipline [that was] so necessary […]" (Daston and Galison 229). Particularly in the work of Immanuel Kant and Victor Cousin, "the mastery of scientific practices is inevitably linked to self-mastery, the assiduous cultivation of a certain kind of self" (Daston and Galison 40); in the later half of the century, this self-mastery combined with a powerful imperative for self-abnegation, as science came more and more to rely on objective data rather than

subjective theorization. As time passed, the scientist emerged as an ascetic figure, withdrawn from everyday life and dedicated to passionate, focused practice (Daston and Galison 230), not unlike the rather stereotypical image of the Hindu brahmin that Gautier reproduces here.

Further, as the sciences increasingly became disciplines housed in universities and other institutions, scientific knowledge became more and more specialized (Cahan 4). Whereas scientific research had once been performed largely by non-specialists—primarily upper-class men with the time and inclination for such study—now it became the purview of those with long years of training in a discipline, inaccessible to laymen. Experimental results, conclusions, and inventions could be understood only by those with the necessary background, so that those without had to take their scientific basis partly on faith. The distinction between magic and technology, from the standpoint of a lay observer, may be more aesthetic than reasoned—particularly in a time like the mid-nineteenth century, with Mesmerism and animal magnetism leading into Braidism and hypnosis, all of them presented in their turn as science. In the 1840s and 50s James Braid, in particular, sought medical explanations for Mesmer's successful treatments, and connected hypnosis with yogic meditation practices. While "science" today tends to call to mind the performance of controlled experiments in a laboratory environment, in the mid-nineteenth-century, this was not yet the case, and in Cherbonneau, Gautier plays on this permeability between the categories of science and the occult where Braid and his colleagues tended to work.

As it turns out, it is precisely Cherbonneau's unorthodox mix of European medicine and that Octave's illness demands, for it is not a physical illness but a spiritual

one: as a result of his unrequited love for the Countess Prascovie Labinska, "'l'esprit ne tient plus à la chair que par un fil,'" ["'your spirit clings to your body by a mere thread'"] as Cherbonneau says (*Avatar* 15/25). Octave recounts how his precarious situation began when he first saw the Countess in Florence. Hidden at first by the white silk of her parasol, the image of Prascovie appears suddenly: "'L'ombrelle se referma et l'on vit resplendir une femme d'une beauté incomparable'" ["'The sunshade was closed, and there burst upon our sight a woman of incomparable beauty'"] whose "'visage avait pour auréole un chapeau de la plus fine paille'" ["'Her face was [encircled] in a bonnet of the finest Florentine straw'"] (*Avatar* 23/31-32). That is, she is revealed by a flash of brilliance, and appears haloed as if in a portrait; her hair is described as "'comme des vagues de lumière'" ["'like waves of light'"], her skin "'plus blanc et plus pur que le neige vierge,'" ["'whiter and purer than the virgin snow'"] and so fine that "'aucun pinceau humain ne saurait rendre ce teint'" ["'no human brush could reproduce that complexion'"] (*Avatar* 24/33-34). Prascovie's image, like a photograph, is produced by light—beyond the capabilities of painting—and characterized by its brilliant pallor, with only a few light touches of color mentioned on her eyes and lips. That first, powerful impression only grows stronger as he listens to her speak and "'l'âme lui venait à la peau, pour ainsi dire, et se faisait visible. Sa blancheur s'illuminait comme l'albâtre d'une lampe d'un rayon intérieur: il y avait dans son teint de ces scintillations phosphorescentes, de ces tremblements lumineux […]'" ["'her soul emerged, so to speak, and became visible. Her fairness was illuminated, like alabaster, by an internal light; her complexion glowed with the phosphorescent scintillations, the luminous quiverings'"] (*Avatar* 28/36). As pages of Gautier's detailed descriptions attest, for Octave, Prascovie

is first and foremost a vision made of light—so much so that even her soul is visible—and one whose contemplation leaves him "'ébloui, extatique, et stupide'" ["'dazzled, plunged in ecstasy, speechless'"] (*Avatar* 28/37).

However, Prascovie is also in love with her husband; she prevents Octave from declaring himself and tells him to forget her. But he is unable to do so, and even two years later, Octave feels himself fading away: "'Il me semble que mon corps est devenu perméable, et laisse échapper mon moi comme un crible l'eau par ses trous […] je vais et je viens par les motifs qui me déterminaient autrefois, et dont l'impulsion mécanique dure encore, mais sans participer à ce que je fais'" ["'It seems to me as though my body had become permeable, so that my being escapes from it as water from a sieve. […] I come and go from the same motives that formerly acted upon me and the mechanical impulse of which still subsists, but without entering into what I do'"] (*Avatar* 15-16/25-26). While Prascovie's soul is so integrated with her body that it can reveal itself on her face, as if lighting her from within, unhappiness has decoupled Octave's soul from his body, revealing that body as a weak, mechanical object that can barely retain him.

Cherbonneau, convinced equally of the authenticity of Octave's love and its impossibility, offers his remedy. He will lure the count Olaf Labinski to his study, mesmerize both men, and then effect the transfer of their souls between their bodies so that Octave may experience Prascovie's love. During the actual exchange, we can again see Gautier's mix of Eastern and Western methods when, in order to vanquish a last thought of resistance, "le docteur réchargea plus puissament encore la batterie magnétique de son regard, et atteignit la pensée en révolte entre la base du cervelet et l'insertion de la moëlle épinière" ["the physician recharged even more powerfully than

before the magnetic battery of his glance, and reached the rebellious thought between the base of the cerebellum and the insertion of the spinal marrow"] which is "le tabernacle le plus mystérieux de l'âme" ["the most mysterious tabernacle of the soul"] (*Avatar* 80/83-84). The men's bodies briefly die when the connection between body and soul is severed. Detached from their shells, the two souls are visible as "deux petites lueurs bleuâtres et tremblotantes [qui] scintillaient incertaines au-dessus de leur têtes" ["two little bluish, trembling points of light [that] sparkled uncertainly above their heads"] (*Avatar* 82/85); after Cherbonneau directs these two lights into their new bodies, the bodies come alive again, with the exchange accomplished. Cherbonneau exults that with this accomplishment, he has surpassed all previous doctors—he has gained access to the soul where they could touch only the body.

But the difficulty this transfer causes for the self quickly becomes apparent. When Octave awakes in Olaf's body:

> [il] passa ses mains sur ses yeux et promena autour de lui un regard étonné que la conscience du moi n'illuminait pas encore. Quand la perception nette des objets lui fit revenue, la première chose qu'il aperçut, ce fut sa forme placée en dehors de lui sur un divan. Il se voyait ! non pas réfléchi par un miroir, mais en réalité. Il poussa un cri, —ce cri ne résonna pas avec le timbre de sa voix et lui causa une sorte d'épouvante.
>
> [he] passed his hands over his eyes, and cast around him a look of amazement which was as yet unillumined by the consciousness of his new being. When he at last managed to perceive things clearly, the first thing he saw was his own body lying on a divan beyond him. He beheld himself,

> not merely reflected as in a mirror, but actually. He uttered a cry, which did not sound like his own voice and startled him. (*Avatar* 84-85/87)

The fear and confusion that Octave feels while seeing his own body give way to "une malaise singulière" ["strange discomfort"] (*Avatar* 85/87) as his mind attempts to settle into its new housing. He experiences Olaf's body as an inert object, or an unfamiliar set of tools: "Sa pensée, servie par de nouveaux organes, était comme un ouvrier à qui l'on a retiré ses outils habituels" ["His thought, served by different organs, was like a workman who has been given new tools"] (*Avatar* 85/88). The transition from one body to another is not a smooth one. Olaf's body, including the brain, retains Olaf's learned knowledge and habits, as Octave-Labinski (as Gautier terms this composite person) learns when he tests its movements: "quoique habité par un autre âme, le corps du comte conservait l'impulsion de ses anciennes habitudes [...] car il lui importait de prendre la démarche, l'allure, le geste du propriétaire expulsé" ["though inhabited by another soul, the Count's body still felt the impulse of its former habits […] for it was needful that [Octave] should assume the gait, the ways, and the gesture of the body's former owner"] [(*Avatar* 87/89-90). The body carries on in its usual way, even though a new and unskilled ghost may now be attempting to operate this particular machine.

The brain is included as part of the machine, and abilities like learned languages or fencing, in which Olaf's body is trained, do not transfer to the new operator. For example, when Prascovie speaks Polish to the man she believes to be her husband, Olaf's brain still makes the correct associations with her words, so that Octave-Labinski experiences "une sorte de mémoire physique" ["a sort of physical memory"] in which "des mots enfouis dans les circonvolutions cérébrales, au fond des tiroirs secrets du

souvenir, se présentèrent en bourdonnant" ["words hidden away in the convolutions of the brain, at the bottom of the secret drawers of memory, came buzzing out"] (*Avatar* 147/141). But Octave himself does not speak Polish and cannot translate these cerebral memories into his soul's awareness; those tools belong to the body he inhabits, not to him. He is unable to respond, raising Prascovie's suspicions that something is very wrong.

The distinction between body and soul also betrays itself through the eyes, which function here as the proverbial window on the soul and renders Octave's subterfuge visible. As he watches his beloved victim with Octave's "passion terrestre" ["earthly passion"] rather than Olaf's "amour pur" [pure love] (*Avatar* 137/132-33), Prascovie cannot guess the reason for the difference, but she nevertheless recognizes Octave's gaze and feels deeply alarmed. Without Olaf's memories and ideas, without "les milles détails intimes qui composent le moi d'un homme" ["the innumerable secret matters that go to the making of a man's *ego*"] (*Avatar* 151/144), Octave is unable to impersonate Olaf successfully. His soul can operate the Labinski body, but he is nonetheless a foreign occupant that Prascovie knows is not her husband; consequently, she refuses his caress and locks him out of her bedroom.

Since Octave-Labinski has already made off with his body by the time Olaf-de Saville wakes, Olaf is at first unaware of what has happened. He experiences "un vertige mal dissipé" ["the last effects of vertigo"] and hallucinations in which "les incarnations de Wishnou dansaient la sarabande le long des murailles" ["the incarnations of Vishnu were dancing a saraband upon the walls"] (*Avatar* 93/94). He gets in Octave's carriage, and there, he becomes gradually aware first that the décor has changed, and then that *he*

feels changed: “il se sentait aussi plus petit que de coutûme [...] son esprit éprouvait une gêne inconnue, et ses pensées [...] se débrouillaient péniblement” [“He also felt himself shorter than usual; […] his mind suffered from strange discomfort, and his thoughts […] were difficult to clear up”] (*Avatar* 94/96). Although Olaf cannot immediately recognize what has happened, the effects of the transfer are nonetheless present and troublesome: unintegrated with the body, his mind struggles to function.

He realizes the truth only when he arrives at home and finds himself denied entry. As he struggles with his own guards, suddenly Olaf-de Saville is confronted with the exact image of himself: “un jeune homme de taille élégante et svelte, à figure ovale, aux yeux noirs, au nez aquilin, à la moustache fine, qui n’était autre que lui-même, ou son spectre modelé par le diable” [“a young man of slender and elegant stature, with an oval face, black eyes, aquiline nose, and slight mustache, who was no other than himself or his double, modeled by the devil”] (*Avatar* 101/101). Watching his own body approach, Olaf feels “un effroi indicible” [“indescribable terror”] and remembers a common belief in Poland and the surrounding region (at least, according to Gautier here): “voir son double, même en rêve, a toujours passé pour un présage fatal” [It has always been held that for a man to see his double, even in a dream, is an omen of death”] (Avatar 102/101). Evidently this goes double for the Labinski family, in which “Chaque fois qu’un Labinski devait mourir, il en était averti par l’apparition d’un fantôme absolument pareil à lui” [“Every time a Labinski was about to die, he was warned of the fact by the apparition of a phantom identically like unto him”] (*Avatar* 101/101). Unsurprisingly, then, Olaf reacts with horror, fainting at “l’aspect de cette vision extérieure de son moi” [“at the sight of this external vision of himself”] (*Avatar* 101/101). Like the photographic portrait, here

the vision of the self from outside the self is a *memento mori,* a ghostly apparition as well as an uncanny double, and as for Nerval, a pre-vision of his own death.

After some exploration of Octave's apartment, Olaf learns of Octave's love for Prascovie, and uses a previous invitation from her as an opportunity to confront his rival to a duel. In this climactic scene, the two men are again confronted with the strange sight of their own bodies standing before them, and now literally threatening them with death. Like most duels, this one begins with both fencers standing still *en garde,* but Gautier extends and emphasizes that stillness as Octave-Labinski and Olaf-de Saville contemplate their own erstwhile bodies as opponents:

> Dans tout duel [...] il y a un moment d'immobilité solennelle [...] Ici, [...] ils restèrent ainsi en garde plus longtemps que de coutume. En effet, chacun avait devant soi son propre corps et devait enfoncer l'acier dans une chair qui lui appartenait encore la veille. —Le combat se compliquait d'une sorte de suicide non-prévue, et, quoique braves tous les deux, Octave et le comte éprouvaient une instinctive horreur à se trouver l'épée à la main en face de leurs fantômes et prêts à fondre sur eux-mêmes.
>
> In every duel, […] there is first a moment of impressive immobility. In this case, […] they remained on guard much longer than is customary. In point of fact, each man had his own body before him and had to drive his weapon into a frame that but a day or two ago had been his own. The duel was therefore complicated by a sort of unforeseen suicide, and brave though they both were, Octavius and the Count experienced an instinctive

> feeling of horror at finding themselves sword in hand opposite their own doubles and ready to rush murderously upon themselves. (*Avatar* 168/160)

Although living, these bodies are seen as *fantômes*, dead and ghostly versions of themselves, and for the moment as motionless as a daguerreotype; the confrontation with one's own image is once again portrayed as not only a reminder of death but an actual threat.

Octave and Olaf finally spring into action, and in this case the body's memory defeats the soul's knowledge, since training is something learned with the body, rather than an attribute of the mind. Olaf-de Saville has a military background and should be an able fencer, but "c'était le faible poignet d'Octave qui tenait son épée" ["it was the weak wrist of Octavius that [held his sword]"] (*Avatar* 169/161). Octave-Labinski, on the other hand, has "une vigueur inconnue" [an unaccustomed vigor] (*Avatar* 169) from Labinski's greater health and size, as well as the skills from his military background, and swiftly disarms his rival. However, Octave decides that if he cannot experience Prascovie's love even in Labinski's body, he might as well give up and return what he has stolen. The two agree to settle their differences and end the duel, then return to Dr. Cherbonneau's lab to have their souls reinstalled in the original housings.

The operation is easier this time, says Cherbonneau, because "'les imperceptibles filaments qui retiennent l'âme au corps ont été brisées récemment chez vous et n'ont pas eu le temps de se renouer'" ["'The imperceptible filaments that bind the soul to the body have been so recently broken in each of you that they have not had time to grow together again'"] (*Avatar* 176/167). Again the two small lights float above the bodies, and again Cherbonneau attempts to guide them into place. Olaf's soul rejoins his body with ease,

and he departs, relieved to return to his beloved Prascovie as himself. Octave's soul is not so willing:

> l'âme d'Octave […] s'élevait comme toute joyeuse d'être libre, et ne paraissait pas se soucier de rentrer dans sa prison [...] la petite lueur tremblotante était déjà hors du cercle d'attraction, et, traversant la vitre supérieure de la croisée, elle disparut.
>
> Octavius's soul […] rose and rose higher and higher, as if joying in its freedom, and did not appear anxious to re-enter its prison. […] the little trembling spark had already passed outside the range of attraction, and flashing through the uppermost pane of the window, it vanished. (*Avatar* 182/173)

With the body again conceived as a housing—and in this case a prison—for the soul, rather than an integral part of the self, Octave chooses to make their separation complete and irrevocable.

Now faced with the young man's fresh corpse, Cherbonneau sees his chance: he scribbles out a will leaving all his possessions to Octave de Saville and transfers his own soul into the youthful body. But before leaving to start his new life, he takes a moment to stare at his own image lying dead on the floor: "cette dépouille maigre, osseuse et livide qui, n'étant plus soutenue par l'âme puissante qui la vivifiait tout à l'heure, […] prit rapidement une apparence cadavereuse" ["the lean, bony, livid form that, no longer sustained by the powerful soul which had vivified it a second before, […] rapidly assumed a cadavrous appearance"] (*Avatar* 185/175-176). Looking at one's own body

from outside of it, again, turns that body into a dead object; later, Cherbonneau will stand in Octave's body at his own funeral.

Throughout *Avatar,* Gautier presents the body as a vehicle inhabited by its soul, a machine which may reflect the person's life and training, but remains entirely separate from the soul, as becomes clear when the exchange of souls occurs. When the machine of the body is changed, the soul operates it with difficulty, and remains unaltered by the body that it occupies. This distinction between the body-as-object and the mind-as-subject becomes explicit whenever the characters in this novel look at their own image, which always conveys the presentiment, the menace, or the actual presence of death. In *Avatar*, the body as viewed from outside is ghostly and unnerving, as uncanny and as deathly still as a photographic portrait.

Whereas *Avatar* demonstrates a relationship between the photographic portrait and the objectification of the self, Villiers de l'Isle-Adam's *L'Ève future* reflects an even more powerful kind of depersonalization. The way Villiers present his characters evokes not the portrait—which holds the individual person as its central object—but rather the composite photography of Francis Galton, whose method involved merging multiple images into one in order to produce a single image of a "type concept," an exemplary image that, like Mallarmé's flower in "Crise de vers," has only a virtual existence. With one important exception, the characters in this novel can be understood as such types: virtual ideas of people that readers recognize and invest with meaning—as the fictional version of Thomas Edison proposes explicitly when he offers to build a mechanical ideal woman for his friend. In short, Villiers's characters are reproductions, images whose

significance exists primarily in the eye of the beholder, but which are bereft of their own depth and individuality.

To summarize the plot: Thomas Edison receives an old friend, Lord Ewald, who relates that he is suffering terribly, and even considering suicide, as a result of his intractable love for a beautiful but obnoxiously stupid actress, Alicia Clary. Edison offers a solution: he has been building an *Andréide,* a mechanical woman that he believes can fulfill the idealistic man's need for a beautiful companion while alleviating vulnerability to predatory women. Edison proposes molding this mechanical woman to reproduce Alicia's appearance, without her mental deficiencies. Lord Ewald objects to the idea that he could ever love a soulless machine in place of a living human woman, but Edison argues that there is little difference: since ideals are predetermined, the *Andréide* can be built to behave as an ideal woman would. And in any case:

> "Puisque nos dieux et nos espoirs ne sont plus que *scientifiques*, pourquoi nos amours ne le deviendraient-ils pas également ? À la place de l'Ève de la légende oubliée, de la légende méprisée par la Science, je vous offre une Ève scientifique,—seule digne, ce semble, de ces viscères flétris que—par un reste de sentimentalisme dont vous êtes les premiers à sourire,—vous appelez encore 'vos coeurs.'"
>
> "Since our gods and our aspirations are no longer anything but *scientific,* why shouldn't our loves be so, too? In place of that Eve of forgotten legend, the legend despised and discredited by Science, I offer you a scientific Eve—the only one, I think, now worthy of those blighted

> visceral organs which you still—by a kind of sentimentality that you're the first to mock—still call 'your hearts.'" (Villiers 267/164)

If science reduces the individual human to a representation of a type and the body to a machine, it seems, there should be no logical problem with loving a body that is literally a machine, or a person who is literally a representation.

Edison describes the mechanical construction of his *Ève scientifique* in great detail, describing her as an ensemble of purely physical components: "le Médiateur-plastique, c'est-à-dire l'enveloppe métallique" ["the plastic mediator, that is to day the metallic envelope"], "la Carnation [...] pénétrante et pénétrée par le fluide animant" ["the flesh […] penetrated by the animating fluid"], and "L'Épiderme" ["the epidermis"] (Villiers 213/129). These combine with what Edison calls "L'Âme," [the Soul] which is not the spiritual being this word would denote for someone like Allan Kardec, but rather "le Système vivant, intérieur, qui comprend l'Équilibre, la Démarche, la Voix, le Geste, les Sens, les Expressions-futures du visage, le Mouvement-régulateur intime" ["the living system of the interior, consisting of equilibrium, walking, talking, gestures, senses, the expressions of the face which is still to come, and the inward regulator of movements"] (Villiers 213/129). Due to this complex animating system, the *Andréide* may speak, move, and act like a living woman, although in fact her performance is prerecorded, with "deux phonographes d'or" ["two golden phonographs"] containing "sept heures de ses paroles" ["seven hours of language"] and a cylinder with "environ soixante-dix mouvements généraux" ["some seventy different movements"] (Villiers 216-217/131). While Lord Ewald will need to choose his words so as to provoke the appropriate responses from the *Andréide,* Edison argues, this is not so different from ordinary

conversation. So long as Lord Ewald accepts the illusion that the *Andréide* is equivalent to an ideal woman, Edison claims, Hadaly will not disappoint him.

In his near-suicidal state of despair, Lord Ewald accepts Edison's wager that Hadaly can make him happier than Alicia does. In order to accomplish the photo-sculptural process that will recreate Alicia's form on a mechanical frame, Edison and Ewald lure her to Menlo Park with the promise of a theater role, where she is recorded and measured in detail with the help of Edison's mysterious assistant, Sowana. This assistant is in fact the spirit of a cataleptic widow named Anny Anderson, whose body remains living but inert. Sowana is able to communicate with and manifest to Edison when both wear steel rings that collect and condense her electrical "fluide vivante" [living fluid] (Villiers 47), and is later revealed as central to Edison's plans.

A few weeks later, Lord Ewald meets Alicia in Menlo Park and discovers a softer, deeper side of her personality than he has ever witnessed before, one that he believes worthy of love. Of course, this new Alicia turns out to be the *Andréide* Hadaly in disguise. Ewald still hesitates, and Hadaly's ensuing discussion of her origins and history shows that in fact, she is not merely an automaton playing the appropriate recordings, but rather the spirit called Sowana (Villiers 334). The mechanical body has been endowed with a soul, and can therefore give and receive love. Ewald accepts the *Andréide* as his new mistress and tries to take her home with him to England; unfortunately for him, she is lost in a shipwreck on the way.

In addition to its photographic influence, *L'Ève future* draws on recent and projected technology in its extended description of the *Andréide*'s workings, such as the phonographic cylinders that hold all the world's great texts and speeches, or the photo-

sculpture technology that permits the copying of Alicia's form. While the physical form of the *Andréide* and the scientific production of the ideal woman is given a far greater amount of space in *L'Ève future,* it turns out that the soul—that which Edison cannot reproduce and claims his creation can do without—is also, ironically, what turns out to be crucial to the success of his experiment. Love and happiness can be achieved only through the mysterious capabilities of the spirit, as imagined through the contemporary discourses of spiritism and somnabulism, rather than the much vaunted powers of science.

In his essay on sound recording in *L'Ève future,* Stirling Haig rightly points out the importance of the *cliché* in the novel*:* the verb *clicher* and its other forms (*cliché, clichage*) recur in the first half of the book (Haig 113). "Clicher" originally referred to the making of an imprint in sculpture, such as a relief printed on metal, and also in sound recording. The term *cliché* also came to be used in photography, referring to the negative film image from which prints are made. In all these cases, a cliché is a form from which many copies may be reproduced; this gives rise to the common, figurative meaning of *cliché* in both English and French, referring to something—a commonplace expression or action, particularly in artistic contexts—that has been repeated so many times that it has lost its originality and significance.

This idea of the cliché as a frequently reproduced, imprinted image occurs in the work of English scientist Francis Galton, as well. Among Galton's many avenues of scientific research, which included statistics, eugenics, and fingerprint identification, the most relevant here is his work in creating composite photographs that were meant to represent "type concepts," mostly of different kinds of people—for example, criminals or

Jews, reflecting a contemporary understanding of heredity that one may recognize in works like Émile Zola's Rougon-Macquart series, or in the physiological criminology of Alexandre Lacassagne or Cesare Lombroso a few years later. Galton's idea was both based on a photographic metaphor and demonstrated through photography; as Josh Ellenbogen explains, "Galton imagined the human sensory system's functioning on the model of a photographic plate. […] just as images impress themselves on the registration surface of a photographic plate, the same process transpires in the mind during sensation" (Ellenbogen 79). As people go through the world, Galton believed, the images that they see are imprinted and categorized in the mind, combining to create generalized concept-images representing the relevant category.

Galton tried to replicate this hypothetical process in the images he created: photographs in which were combined many images of people who fit a "type." The resulting image tended to obscure individual features and emphasize instead those features that his subjects had in common; Galton believed that the composite photograph showing these common features could therefore represent their "type". This concept-type image created a visual representation of a virtual "truth" that arguably bore more resemblance to the photographer's preconceived idea than to the individuals that it was supposed to categorize. As Ellenbogen writes, Galton was among a group of scientists in the later nineteenth century, like Alphonse Bertillon and Marey, who began using photography to produce data about the world, rather than simply to reflect what was visible, and thereby changed the status of photography in terms of its relation to truth (Ellenbogen 2-3).

Most of the characters in *L'Ève future* can be seen as type concepts or clichés, figures that recur in literature and culture so often as to be rendered banal. They are copies of copies, and intentionally so. This is obvious from the very premise of the book: a conscious derivation of E. T. A. Hoffmann's famous story "Der Sandmann," in which the main character unknowingly falls in love with the automaton Olimpia, whom he believes to be a real and beautiful woman, despite her jerky gait and minimal speech. Villiers cites this story as the epigraph to the second chapter (Villiers 41/8), and also references the character Antonia, from Hoffmann's "Rath Krespel" story, in one of Edison's speeches (125/64). Both stories are featured in the *Contes d'Hoffmann* play written by Jules Barbier and Michel Carré (first produced in Paris in 1851) and Jacques Offenbach's opera adaptation of that play, which made its début at the Opéra Comique in 1881. Villiers's repeated references to Hoffmann, as well as to Edgar Allen Poe, to Wagner, and to real scientists and inventors (including, for example, Albert le Grand, Jacques de Vaucanson, and Leonard Maelzel, all of whom constructed automata) encourage the reader to see *L'Ève future* as a story that builds on these precedents, not as a wholly original and independent work.

In Villiers's characters, we can see the continuation of this technique of borrowing or building on existing texts and references, beginning with Edison who is, of course, based on the famous American inventor. He is reimagined here as the common figure of the eccentric scientist, a fictional character we have already seen in *Avatar*'s Dr. Cherbonneau; by 1886 this category already included Mary Shelley's Victor Frankenstein, Hoffmann's Professor X or Spalanzani (in "Die Automate," and "Der Sandmann" respectively), or Jules Verne's Phineas Fogg or Captain Nemo. These

characters also demonstrate the new status of the scientist as possessor of arcane and mysterious knowledge, capable of miracles incomprehensible to the uninitiated. Even in Verne's novels with their lengthy incorporation of didactic explanations, scientists remain strange, obsessive individuals, outside of mainstream society and with knowledge that surpasses common understanding.

In addition to these real and fictional scientists, Edison is initially described as resembling "d'une manière frappante" ["in a striking manner"] the famed printmaker and illustrator Gustave Doré, so much so that "Leurs deux photographies d'alors, fondues au stéréoscope, éveillent cette impression intellectuelle que certaines effigies de races supérieures ne se réalisent pleinement que sous une monnaie de figures" ["Their two photographs of that earlier time, blended together in the stereoscope, would evoke an intellectual impression such as only certain figures of the superior races ever fully realize, and then only in a few occasional images, stamped on coins and scattered through Humanity"] (Villiers 39-40/7). Here, at the opening of his novel, Villiers calls to mind the pseudoscience of the photographic type-concept, as practiced by Galton at the same period, by verbally combining the photographic imprints of Edison and Doré as well as the imprinted images of faces on coins—literally clichés—and groups them all together as one "impression intellectuelle." Villiers's Edison is clearly the product of a whole series of associations, both a visual type and a character type, and best understood as representative of a category rather than an individual.

The other characters are also best understood as clichés or types. Lord Ewald represents the dandy, the romantic and sensitive aristocrat; as Haig writes, he "already fits a mold cast long before, that of the stereotype of the aristocratic Englishman in

nineteenth century French literature" (118). It is difficult to make judgments about the characters that Edison only describes (Edward and Anny Anderson), but they, too, are treated as stereotypes and representatives of their group: Edward is taken as an example of the overly idealistic man prone to seductive illusion, and Anny as his quietly suffering wife. In short, the characters in *l'Ève future* are not presented as individuals with any depth or agency of their own, but rather as reproduced images of people — as clichés, in a sense, or as photographs. Like Walter Benjamin's reproduced work of art that lacks the aura of the original, and like the photographic portrait that renders up a still, dead version of a living being, these reproductions of people contain no particular spirit or meaning other than that which the reader expects, based on a pre-determined stereotype.

Alicia Clary is perhaps the most prominent example of a character presented as a type, both as a composite image and as a representative of her category, a homogenized and idealized figure of woman. As Marie Lathers writes, Alicia's image arrives in the novel long before she herself does, in Book 6 of the novel (Lathers 86-89). Previous to her actual appearance, however, her image is much discussed: Ewald describes her beauty as "la splendeur de la *Vénus victrix* humanisée" ["the splendor of a *Venus Victorious*, but humanized" (Villiers 75/29), expounding on this visual similarity while decrying the mediocrity of the soul that sullies such a perfect form. When Ewald shows Edison the photograph from Alicia's *carte de visite*, Edison projects and enlarges the image for their contemplation, and immediately recognizes the image of Venus to which Ewald has referred. The first indications of Alicia's appearance that Villiers gives the readers are thus not actually descriptions of her as an individual, but of the statue that she is said to resemble.

That resemblance is shown to be striking—"si frappante, si incontestable" ["so striking, so incontestable"] (Villiers 271/169)—and is remarked upon repeatedly by both characters and narrator. Even Alicia herself recognizes it, when Ewald brings her to the Louvre to see this statue with the hope that the sight will awaken her identification with its timeless beauty. After the initial shock of recognition—"'Tiens, MOI!'" ["'Look, it's *me!'*"]—Alicia reassures herself that she looks more "'distinguée'" ["'distinguished-looking'"] than the armless sculpture, and wonders if the statue's high cost means people will pay to see *her*, too—and, "*alors—j'aurai du SUCCÈS?*" [" '*Then—I may do well too!'*"] (100-101/46). This narrow-minded and egotistical response to the ideal image of woman crushes Ewald's last hope of reforming her; that is, of investing her with the kind of spirit that he imagines her outer beauty ought to indicate. Alicia is an exact replica of the Venus statue, but without refinement or artistic spirit, a beautiful visual image deprived of the significance that Ewald thinks she should have.

However, while Villiers makes it clear that Alicia looks exactly like this specific statue, he creates a good deal of confusion about what that statue looks like, exactly. Lord Ewald and Edison make numerous references to the *Vénus victrix*, but critics argue that, since the sculpture in question has no arms and is at the Louvre, "il est donc certain qu'en réalité Villiers pense à la Vénus de Milo" [it is therefore certain that in reality Villiers is thinking of the Venus de Milo] (404, Raitt's note to page 75). Certainly Villiers is not describing the statue generally known as the *Vénus victrix,* which is a portrait of Pauline Bonaparte by Antonio Canova; that statue is of a reclining woman, complete with arms, and has been housed at the Galleria Borghese in Rome since 1838. The true *Vénus victrix* and its location even arises in Edison's conversation with Alicia: he asks if she knows the

statue of "la princesse Borghèse," [the Borghese princess] and she responds that she has seen it, "'*en Espagne*—oui, à Florence!'" ["'in Spain, I think, yes, it was in Florence!'"] (280). While this brief exchange has the surface function of showing Alicia's poor grasp of geography, it also emphasizes the confusion that Villiers has produced around the statue she supposedly resembles and its location. Clearly Villiers is familiar with both the Venus de Milo in the Louvre and the *Vénus victrix* in Rome and knows which is which; their conflation in his novel must therefore be deliberate.

Edison also mentions another Venus image, the "Venus Anadyomene" (86/36), further complicating the question of what Alicia actually looks like. This term refers not to a specific image but to a general category: the depiction of Venus being born from the sea, usually naked and carried in a scallop shell, which has been a subject for many painters, including Botticelli, Titian, and Ingres, among others. The later description of Alicia that includes her skin and hair color would, in fact, seem to evoke a painting rather than a statue. Villiers's descriptions of Alicia thus force the reader to rely not on a clear reference to the Venus de Milo, as Raitt's note implies, but on multiple images of the goddess. In a sense, the image of Alicia can be seen as a composite that the reader must draw from their own mental catalog, creating an imaginary ideal love object without any clear identity of her own. Hadaly, in her turn, will be a copy of a copy, but one with no true original other than the observer's preconceived ideal.

Nor can Alicia be seen as individual on the level of personality; she is, after all, an actress, and her conversation is marked by falsehood and pretension. She is also repeatedly equated with other women, portrayed as a representative rather than as a person. First, there is an extradiegetic comparison: Alicia Clary is reportedly inspired by

a woman in Villiers's own life, an English heiress named Anna Eyre Powell, who rejected Villiers and his floridly poetic declarations of love. After that crushing romantic defeat, Powell remained imprinted on the author's memory as "the spiritless, blockish female who had been utterly incapable of responding to his romantic declarations, had not even glimpsed the world of his ideal values" (Adams xii). In a sense, Alicia's poor character and inability to live up to Ewald's noble ideals are a recasting of Powell as a beautiful woman unworthy of the man who had the misfortune to love her.

Within the novel, Alicia is compared to the seductress Evelyn Habal, whom Edison first describes as "'une adolescente rousse comme l'or et fort jolie'" ["'a very pretty little blonde'"] (Villiers 178/104) when she encounters the hitherto honorable Mr. Edward Anderson. Despite an initial feeling of repulsion, Anderson is soon caught in Evelyn's clutches, or in what Edison characterizes as a "'contagion passionnelle'" ["'contagion called passion'"] (Villiers 185/108); over the next three years, he ruins himself and finally commits suicide, leaving behind his virtuous wife Anny. Curious about Evelyn's power over men, Edison decides to investigate "'CE QU'ELLE ÉTAIT AU PHYSIQUE'" and "'CE QU'ELLE DEVAIT ÊTRE EN RÉALITÉ'" ["what she must have been, physically speaking […] WHAT SHE MUST HAVE BEEN IN REALITY"] (Villiers 186, 187/109). What he discovers is that Evelyn Habal's charms are completely illusory; in fact, she is neither young nor pretty, possessing only "'une très perverse *banalité* d'ensemble mentale et physique'" ["'both physically and morally, of a particularly perverse *banality'"*] (Villiers 187/109) that allows her to hide an aging and flawed face behind wig and makeup. That artifice is revealed in a scene in which Edison shows Ewald what is essentially a film *avant la lettre,* which depicts Evelyn Habal

singing and dancing. Although *L'Ève future* was published seven years before the Lumière brothers presented the cinematograph in 1895, Villiers here describes a moving image comprising successive photographs and projected onto a white screen. Lord Ewald is at first entranced by what he thinks is Evelyn Habal's attractive appearance; Edison then follows the first film with a second in which all artifice is removed, and her age and ugliness are revealed.

Women like Evelyn Habal, Edison says, are able to bewitch only those honorable men whose very goodness and belief in ideal beauty renders them vulnerable to illusion. Such women are never truly beautiful—since "'la BEAUTÉ, cela regarde l'art et l'âme humaine'" ["'Beauty is a matter that concerns art and the human soul'"] (Villiers 194/114)—but only *seem* beautiful; in fact, says Edison, they are so artificial that:

> "il est inexact d'avancer de ces femmes qu'elles sont belles, ou laides, ou jolies, ou jeunes, ou blondes, […] attendu qu'en supposant, même, qu'il soit possible de le savoir, et de l'affirmer avant que telle modification nouvelle ne s'accuse en leurs corporéités, — *le secret de leur malfaisant charme n'est pas là :* — bien au contraire ! […] *c'est que leur action fatale et morbide sur LEUR victime est en raison directe de la quantité d'artificiel, au moral et au physique, dont elles font valoir—dont elles repoussent, plutôt—le peu de séductions naturelles qu'elles paraissent posséder."*
>
> "So it's not right to say of these women that they're pretty or ugly, beautiful or young or old or brunette or fat or thin—since even if it was possible to know it, and affirm it before they had suddenly changed to

> some other appearance, even so, *the secret of their malignant charm is not there.* Quite the contrary! […] *their morbid and fatal influence on their victim is in direct ratio to the quantity of moral and physical artifice with which they reinforce—or rather, overwhelm—the very few natural seductive powers that they seem to possess."* (Villiers 194/115)

These women, then, have no intrinsic image at all; instead, they are artificial, able to approximate beauty well enough to dupe those sensitive and honorable men whose powerful love of an ideal prevents their illusion from falling apart. Their appearance bears no relationship to their true nature, which Edison describes as animalistic and instinctively predatory, and their power derives entirely from the vulnerability of their victims. Like Edward Anderson—whose ruinous relationship with Evelyn Habal degraded him and drove him to suicide—Ewald's idealistic nature is what makes him unable to simply give up Alicia Clary. This is why Edison believes that an *Andréide* could be the answer: if a man like Lord Ewald can satisfy his love for the ideal image of woman with Hadaly, rather than the debased Alicia, he will not become debased himself.

This stark difference between the idealized visual image of the body and the hidden spirit within is marked here very clearly, and can be understood in terms of the difference between a mechanical reproduction—in terms of mechanically produced images, a photograph—and an original. The mechanical reproduction's very banality, its nature as "cliché," makes it a receptacle for the observer's projected ideas; a woman like Alicia Clary or Evelyn Habal can seem like an ideal woman precisely because she is insipid, blank, and without real character. In a sense, like the *Andréide,* she is only an image, a body like other bodies, and (as Edison points out) anything that is individual or

original about her only serves to distinguish her further from the ideal, that blurry Venus image. The fact that Hadaly is an artificial being without originality is an advantage, because she will not diverge from the ideal. However, Ewald objects, Hadaly will have no soul.

The solution comes in the form of Sowana, Edison's spirit assistant. Sowana was originally the soul of Anny Anderson, the widow of Edward Anderson, whose life was ruined along with her husband's. Edison explains to Ewald that Sowana is like many somnambulists or "'grandes magnétisées'" ["'great hypnotic patients'"] who see themselves as "'distantes de leur organisme'" ["'outside their own organisms'"] (333/210); that is, when she is incarnated as Anny Anderson she lives the single existence of that body, but when she is able to detach herself from the physical realm, she attains a higher existence that entails vast wisdom and powers of clairvoyance. Sowana and Anny Anderson are no more identical in their personality than they are in their substance: Edison describes Anny as "'une femme très simple, si digne, si intelligente, même, — mais, de vues, après tout, fort limitées'" ["'a simple woman, perfectly honorable, even intelligent, but, after all, of very limited views'"] (334/210). Sowana, on the other hand, is "'tout autre, multiple et inconnue,'" ["'completely different, many-sided and mysterious'"] possessed of "le vaste savoir, l'éloquence étrange, l'idéalité pénétrante" ["the enormous intelligence, the strange eloquence, and the penetrating insight"] (334/210) that she displays in a long speech, telling Ewald about the surrounding yet inaccessible realm of spirit beings and exhorting him to cast aside Reason and accept her as his love.

By the end of *L'Ève future,* the soul-endowed Hadaly has come to incarnate "l'Humanité idéale" ["Humanity at its best"] (Villiers 342/215), "'un être d'outre-Humanité [qui] s'est suggéré en cette nouvelle œuvre d'art où se centralise, irrévocable, un mystère inimaginé jusqu'à nous'" ["'Within this new work of art, a creature from beyond [who] has insinuated herself and now lurks there at the heart of the mystery, a power unimagined before our time'"] (Villiers 343/216). One might say that individuality has returned to the disappointing body, which after all is only another copy of a copy—or that a spirit has been restored to the insipid and unsatisfying cliché-image. This calls to mind another kind of composite photography: the spirit photograph, made by exposing the film first to the grieving survivor, and second (clandestinely) to an image that approximated the appearance of a lost loved one. However fraudulent,[5] such images also represent a very literal desire to see the return of a soul to the flat and still photographic

[5] Spirit photography emerged first in Britain and the United States, and reached French spiritist communities in the early 1870s; images were published in the *Revue de psychologie expérimentale* and elsewhere. The foremost French spirit photographer was Édouard Buguet, whose studio and practice were examined and approved by prominent spiritists like Pierre-Gäetan Leymarie. However, police investigators were not convinced, and Buguet was brought to trial and convicted in 1875, in a very public proceeding that increased skepticism towards spiritism in general. See John Warne Monroe, *Laboratories of Faith: Mesmerism, spiritism, and occultism in modern France* (Ithaca: Cornell University Press, 2008).

object; to believe that what is dear and departed may in fact be eternally present, just beyond what the eye can see.

As Barthes's and Bazin's writings on photography demonstrate, there is a persistent desire to find the beloved person, the spirit, in the photograph. But the photograph can never really show us anything but a body, and only an image of the body at that: flat, still, perhaps colorless—dead, in short. By dramatically separating body from soul, Gautier and Villiers show how the nineteenth-century self was also separated, split into the self who looks and animates the object through desire, and the object that must be loved or left behind. They demonstrate, as well, the sense of disindividuation and loss of self that the photographic portrait may provoke, and the reminder of mortality that it poses. In joining an eternal and boundless spirit to the machine, however, Villiers's novel seems to briefly repair the rupture between self and self that the photograph incites.

Chapter 2:

BEING THE BODY

Jean Epstein's *Cœur fidèle* [Faithful heart] (1923)[6] opens with an unidentified pair of hands cleaning a table, then pouring wine; these are intercut with the face of a young woman who will soon be identified as Marie, apparently a server in a café. After a brief conversation with her unpleasant adoptive parents, Marie moves to a window and looks out. Seen through the dirty glass, her melancholy face fills the screen, her eyes drawn by some object. This turns out to be the port of Marseille: we see the ships, a pile of rocks being bulldozed and trucked away, flotsam in the water. When we return to Marie's face at 3:44, suddenly she startles. A man is approaching.

Here and in the following moments, Epstein shows both the man as he approaches—seemingly he is approaching Marie, visible to him through the window, though really, of course, he is approaching the camera—and Marie's reaction, the fixed, defensive expression on her face as she shrinks backward. Entering the café, Petit Paul (his name will soon be revealed in an intertitle) stares straight into the camera, a direct gaze emphasized by his brief wink to one side. Briefly we see both actors from the side,

---

[6] Jean Epstein, *Cœur fidèle* (Pathé, 1923), 1:00-5:33. https://youtu.be/g6rFE6_M5qU?t=59s

so we know that Petit Paul's gaze is ostensibly focused on Marie, and when he looks into the camera (seemingly into the audience), the camera is positioned where she would be. As he continues to approach, he comes so close that the image of his face blurs and fills the screen (4:40), communicating her view of his uncomfortable proximity. The image of Petit Paul's sinister leer alternates with Marie's retreat. Her gaze, too, is directed straight into the camera now angled down at her; this places the camera, and the audience's viewpoint, in the position of Petit Paul.

Intertitles identify Petit Paul as a man of dubious reputation that the whole neighborhood fears; nevertheless, Marie's parents push her towards him, and look on approvingly as he wraps an arm around her while conversing with them. Marie's hunched posture and averted face communicate her intense discomfort, while the camera selects the objects of her fear: Paul's arm and hand grasping her waist, and his other hand, fisted and pounding against the bar. Once again, the camera imitates Marie's attention, showing the things that she sees and feels, as well as what she fears—his anger, and the unwelcome intimacy of his touch.

In this opening sequence, we can see how Jean Epstein attempts to produce an intense identification and sympathy with Marie: through close attention to her body language and facial expressions, and by showing her perspective on the world as she reacts to it. In effect, he places the camera's view in the position of Marie. Unlike in a book, where we may be privy to a character's thoughts and emotions without literally sharing their sensory experience, this sort of first-person filmic narrative allows the spectator's view to coincide with the character's view, as if the film carries us within a subjective perspective, through the cinematic space that the film creates. This

identification may be not only mental but physical, as the discomfort so evident in Marie's body creates suspense, a tension that may find echoes in the viewer's own body. Imaginatively, vicariously, as spectators we look through a character's eyes, as if we could place our minds in that character's body in order to experience their world.

As film spectators, we can only partially succeed—we do not *literally* believe that we are in a character's body; nor, often, would we wish to experience in reality the physical and emotional trials that film characters are shown to undergo. Yet, immanent in this kind of cinematic experience, as the character enacts a rhetoric of bodily movement that is communicated to and echoed within the spectator's body, is the idea of transposing the self into another body, and imagining how, as a result, one might see and feel the world differently, and how the self thus transposed might be different. The works I analyze in this chapter—Maurice Renard's *Le docteur Lerne, sous-dieu* [Doctor Lerne, sub-god] and Camille Marbo's *Le Survivant* [The Survivor]—both involve a very literal imagining of such a transposition: they are stories in which sensory experience and, concomitantly, the self are fundamentally altered when, due to a full or partial brain transplant, the self is embedded into a different body. Relying on cinematic stylistic devices including automorphic imagery, color, perspective, attention, the transposition of the self and the new experience of the body in these novels is imagined and represented cinematically.

How does such a character-centered cinema or a film represent the body and how may it affect the body of the viewer? As Vivian Sobchack writes, the cinema is not only an image that we look at, as we look at a painting; rather,

> the cinematic brings the *existential activity* of vision into visibility in what is phenomenologically experienced as an *intentional stream* of moving images—its continuous and autonomous visual production and meaningful organization of these images testifying […[to an anonymous, mobile, embodied, and ethically invested *subject* of worldly space. (*Carnal Thoughts* 147; italics in original)

That is, as the viewer looks through the screen at "the very structure and process of subjective, embodied vision" (*Carnal Thoughts* 147), it is not only that they see another space and time, or see the representation of an event; the cinematic spectator sees a subjective vision that is not their own, but which instead comes from and constitutes what Sobchack calls a cinematic subject.

At the same time, what we see on the screen is very often centered on a human body (or bodies); from the earliest examples, films featured and emphasized the human form and the way its visible, physical expressions reflect its internal states. As the viewer engages mentally with a cinematic space in which they are not physically present, then, they are also engaging with a body in motion that they interpret visually as acting and feeling, an interpretation based both on life experience and past film viewing experience. Jonathan Auerbach points out that "early filmmaking makes manifest a rhetoric of the human form, turning the body itself into an expressive medium" (Auerbach 2). Films that showed human bodies acting, posing, and expressing emotions physically (through gesture as well as facial expression) functioned as "a distinct apparatus of self-objectification" which "documented the corporeal signs by which persons became acutely aware of themselves in relation to others" (Auerbach 43).

So, whether presenting an *actualité* that purported to reproduce the world as it appeared[7] or an obvious fantasy or fiction, early filmmakers created moving images of vision that presented expressive bodies, in which the postures and gestures of human bodies were shown as symbols or symptoms of their internal emotional states. In "Baignade en mer," for example, we can recognize the boys' enthusiasm and boisterous energy as they run and leap; evident, too, is the relative hesitation of the adult woman, in her small steps and relatively timid gait. Likewise, the hunched shoulders and fixed gaze of the boy as he approaches the unsuspecting gardener in "L'Arroseur arrosé" [The sprinkler sprinkled] are clues to the spectator of his mischievous intent, even before he steps on the hose; in Alice Guy-Blaché's 1907 slapstick comedy, *La Course à la saucisse* [Race for the sausage],[8] the townspeople communicate their panic with wide-open mouths and vigorously waving arms as they chase after the charming poodle protagonist.

---

[7] Lumière *actualités* were often staged, as is evident from the multiple versions of the *Sortie d'usine*; Martin Loiperdinger argues convincingly that the best-known version of *Arrivée à la Gare du Ciotàt* is certainly staged, as evidenced by the participation of several Lumière family members, as well as the fact that the people on the platform all avoid showing what would have been a very natural reaction for onlookers who were not expecting to be recorded—none of them look at the camera (Loiperdinger, 105). So even such attempts at realism or reproducing reality generally must involve a healthy dose of the artificial.

[8] *La Course à la saucisse,* dir. Alice Guy (Gaumont, 1907): https://www.youtube.com/watch?v=JinkCjSb6zc

Such expression through gesture could sometimes be pushed to comedic or melodramatic extremes, as in *La Course à la saucisse*; while older theatrical conventions favored larger and more emphatic gestures that were visible at a distance, filmmakers came to pursue relatively subtle and "natural" movements. In his 1921 writings on "Le Grossissement," [Magnification] for example, Jean Epstein describes the aesthetic emphasis on facial and bodily expressions that he pursued later in his filmmaking career, in *Cœur fidèle*, *La Chute de la Maison Usher* [Fall of the House of Usher], and many of his films. Through magnification, he writes, the camera shows how emotion manifests in an actor's face, emphasizing minute details that can only be seen in close-up: "L'amour, je le vois. Il baisse à demi les paupières, élève latéralement l'arc des sourcils, s'inscrit sur le front tendu, gonfle les masséters, durcit la houppe du menton, scintille sur la bouche et au bord des narines"; by contrast, he writes, "Un effort truqué est ridicule" ["I can see love. It half-lowers its eyelids, raises the arc of the eyebrows laterally, inscribes itself on the taut forehead, swells the massiters, hardens the tuft of the chin, flickers on the mouth and at the edge of the nostrils… A faked effort is absurd"] (Epstein, "Le Grossissement," 113/"Magnification" 13). This demand that an actor's emotion appear to be natural—despite its basic status as a simulation, regardless of whether that simulation is exaggerated or subtle—reflects a growing aesthetic consensus about what a "natural" emotional expression looks like and how emotion manifests physically in the face and body, a consensus that previous filmmakers had not reached and did not follow. Despite the signs that Guy-Blaché hung around her New Jersey studio exhorting that her actors "Be natural," for example, films like her 1912 tearjerker *Falling Leaves* nonetheless demonstrate what is sometimes referred to as the "histrionic code" of acting more than

the "verisimilar" one that Epstein seems to favor (McMahon 63). In these among many other ways, films that center on the human form—perhaps especially pre-sound films, in which the body was the primary means to communicate character, with only minor or indirect verbal supplements in the form of intertitles or a lecturer—employ a visual rhetoric of motion and expression in which the body becomes the medium of the mind.

The image of a face or a body on screen is not only a sign that the viewer reads visually; rather, at least in many cases of narrative film, the viewer responds to that image affectively, that is, both emotionally and physically. As Carl Plantinga writes, this is part of the pleasure of seeing a film: spectators "expect to be fascinated, shocked, titillated, made suspenseful and curious, invited to laugh and cry, and in the end, given pleasure" (2). This affective experience may also manifest in bodily responses: as increased or decreased heart rate, goosebumps, sweat, tensed muscles, flinching, startling, nausea, dizziness, and so on. In this way, films do more than show how affect or emotion manifests in a body; "They also *elicit* responses in the viewer, often in direct or automatic fashion" (Plantinga 123).

We might think here of stories of early film spectators panicking and leaping "out of the way" when confronted with films of an oncoming train, as if quite suddenly they were overcome by the image, and despite what they knew to be the case (that they were safe, watching an animated image that could not harm them), they believed that the train was about to plow into them. These stories are largely considered apocryphal now, as exaggerated or wholly invented accounts to mock uninitiated viewers as unsophisticated, or to sell the excitement and realism of the cinematic experience. Martin Loiperdinger, for one, convincingly refutes the idea that audiences truly panicked or attempted to flee

from showings at the Grand Salon as a convenient myth expounded for promotional purposes. He argues that such an extreme reaction would certainly have caused injuries (there were stairs and large crowds to contend with), and no contemporary descriptions, press reports, or police reports exist to substantiate the tale.

But Stephen Bottomore argues, based on written accounts of the time, that spectators probably did often flinch, recoil, or otherwise show some physical evidence of surprise or fear (Bottomore 187-188), just as many spectators do when screen images startle or provoke other such responses in us today. Horror films especially make a conscious attempt to inspire these kinds of physical reactions in viewers: "jump-scares" or startle effects and "gross-out" scenes are staples of the genre designed to provoke automatic visceral responses, but even horror films that forgo any real gore are calculated to create a sense of tension and, eventually, the release of that tension (Aldana Reyes 88, 151). "Looming" images that grow in size can also trigger an physical response, one which will often assert itself in a situation of perceptual confusion—a description that certainly applies to early cinematograph shows (Bottomore 189-190)—although people can quickly become habituated to this sort of sensory input and ignore or suppress their reflex. Loiperdinger raises the question of this less dramatic physical reaction to the Lumières' *Arrival of a Train* films (97) without finding a definitive answer to it in contemporary accounts. However, as Bottomore argues, it is not implausible that even if spectators were well aware that they were watching a film that could not hurt them, the simulation could trick the brain and body into a physical response to the visual image of a suddenly onrushing train.

One of the ways that filmmakers elicit a response in the spectator is through the physical expressions and gestures of the actors. In part, Plantinga argues, bodily reactions to film are a result of motor and affective mimicry, the tendency that humans have to imitate the face and gestures of others around them, which Sergei Eisenstein, for one, cited as the foundation of cinema's affective power (Bordwell 115-120). Studies of mirror neurons suggest that watching another person perform an action may activate the same areas of the brain as performing an action ourselves (Elsaesser 78-79), creating a real and physical connection between the spectator's body and the body on the screen.

Close-ups, in particular, allow the spectator to observe and identify physical expressions of emotion, but they also create an imperative to pay attention, to understand, and to identify with the face depicted: "Le gros plan limite et dirige l'attention. Il me force, indicateur d'émotion. Je n'ai ni le droit, ni les moyens d'être distrait. Impératif présent du verbe comprendre" [The close-up limits and directs the attention. As an emotional indicator, it overwhelms me. I have neither the right nor the ability to be distracted. It speaks the present imperative of the verb to understand" (Epstein, "Le Grossissement" 104-105/"Magnification" 13-15). Identification with the character on screen or, to return to Sobchack, with the cinematic subject and the visual experience that constitutes it, creates a connection that is both mental and physical, between the enlarged face and its emotive expression and the spectator's emotions, as well as between the luminous body on the screen and the physical body of the spectator. As we watch the character move through cinematic space, we can inhabit that space mentally through the character's experience, see the fictional world as it appears to the character's eyes, and even feel our faces and bodies move in imitation or reaction to that character's emotion.

This, at least, was part of Epstein's aesthetic program, which he would later put into practice in the opening scene of *Cœur fidèle*:

> Je désire qu'un personnage allant à la rencontre d'un autre, j'y aille avec lui non pas derrière, ni devant, ni à côté de lui, mais en lui, et que je regarde par ses yeux et que je voie sa main se tendre de dessous moi comme si c'était la mienne propre, et que des interruptions de film opaque imitent jusqu'à nos clignements de paupières.
>
> When a character is going to meet another, I want to go along with him not behind or in front of him or by his side, but in him. I would like to look through his eyes and see his hand reach out from under me as if it were my own; interruptions of opaque film would imitate the blinking of our eyelids. (Epstein, "Le Grossissement," 98/"Magnification" 10-11)

According to Epstein, then, the vision on the screen should, at least to some extent, reproduce the subjective gaze of a character, by zooming in on details interesting to that character: "Je regarde, je flaire, je palpe. Gros plan, gros plan, gros plan. Non pas les points de vue recommandés, […] mais des détails naturels, indigènes et photogéniques" [I look, I sniff at things, I touch. Close-up, close-up, close-up. Not the recommended points of view […] but natural, indigenous, and photogenic details" ("Le Grossissement" 100/"Magnification" 11). Here Epstein conflates the subjective gaze not only with the camera's view, but with the finished, edited film (those *gros plans* one after another

could only be the product of editing) even before he had any significant experience in film himself.[9]

Epstein's prescriptions for film bear some similarity to Hugo Münsterberg's discussion of film as a reflection of mental processes in *The Photoplay: A Psychological Study*, written a few years earlier in 1916. Münsterberg argues that films are compelling in their ability to retain viewers' attention and provoke emotion because they imitate processes of the mind, and like Epstein, he views editing as a way to direct the spectator's gaze to the most salient details of a scene. In a scene depicting the assassination of Abraham Lincoln, for example: "Suddenly we see not Booth himself as he seeks to assassinate the president, but only his hand holding the revolver and the play of his excited fingers filling the whole field of vision" (Münsterberg 37). The cut to Booth's hand is important because it shows the audience both the threatening gun and the tension evident in the character's grip, but also because the sudden cut refocuses the viewer's attention on this new object, to coincide with the character's attention and intention. By imitating the mental function of attention, such editing tactics secure the viewer's involuntary attention and maintain the fascination of the screen (Münsterberg 77-87).

When they imitate a character's mental functioning, Münsterberg's descriptions show, these tactics work to create an identification between the spectator and the characters on screen, in both their emotional and subjective states and in the actions they

---

[9] Although he did some work with Abel Gance on *La Roue,* Epstein did not direct his first film until 1922, a year after he wrote his poetic treatise *Bonjour cinéma* (Wall-Romana, *Jean Epstein* 16-17).

perform, much in the way that Epstein discusses in "Le Grossissement". For example, Münsterberg describes a film in which a boy imagines traveling around the world, with scenes of his imaginary adventures inserted into footage of the boy in reality. The spectator is imagined as experiencing the boy's emotions: "We lived through all the boy's hopes and ecstasies with him […] through the eyes of his soul and with the glow of his hope" (101). Such strong identification and mental displacement into the filmic scene is also evident when Münsterberg discusses watching travelogue films himself:

> We suddenly looked into the most intimate life of the African wilderness. There the elephants and giraffes and monkeys passed to the waterhole, not knowing that the moving picture man was turning his crank in the top of a tree. We followed Scott and Shackleton into the regions of eternal ice, we climbed the Himalayas, we saw the world from the height of the aëroplane, and every child in Europe knows now the wonders of Niagara. (Münsterberg 24-25)

That is, "we," the film viewers, see all this as if we were in fact *there,* visually and mentally transported to wherever the camera has ventured in the world, acting and reacting along with the people portrayed.

Despite this intense identification, Münsterberg writes that this doesn't mean that film viewers are necessarily fooled into losing awareness of their physical reality; the impression of presence in the scene is a purely mental one that arises from film's ability to imitate thinking (54-56). Sobchack, as well, writes that, "No matter how I give myself up to the play of images I see and sounds I hear […] I am never so vacuous as to be completely 'in-formed' by even the most insinuating or overwhelming film" (Sobchack

Address, 24). As Plantinga points out, spectators do not generally react to a moving image of a snake as they would to a real snake, and bodily responses to stimuli on screen tend to be muted—we might hear gasps, laughter, or a few tearful sniffles in a movie theater, but it would be highly unusual to hear a real scream (Plantinga 118). Watching Marie shrink away from Petit Paul in *Cœur fidèle,* for example, we might experience tension or even feel our shoulders hunch forward in imitation of Marie's defensive posture, but probably we would not jump back or run away.

This raises a different question (or caveat) about the spectator and the audience: can we really talk about the reactions of a generic spectator, when it is certainly impossible to make a true statement about the cinematic experience of every individual spectator ever? The audience—both in particular and in general—is heterogenous, and the responses of individuals within the audience are hetereogeneous, too. They vary widely in terms of taste, past experience, present mood, and a whole host of factors. Surely we can only speak with any real accuracy about what appears on the screen; filmmakers' techniques for encouraging identification with a character are more available to analysis than whether spectators actually identified with the character. That said, Plantinga is nonetheless persuasive when he argues that, if we can identify an oppositional or negotiated response to a film, that means we are contrasting it to some normal or "congruent" response which can be identified as well. Actors' bodies and facial expressions provide cues as to what response a filmmaker might hope to provoke.

It is also important to recognize that the viewing experiences and habits of audiences changed substantially during the first decades of the cinema (and they continue to change now, as home-viewing becomes more common than theater-going). The

identification between viewer and film becomes stronger after film spectatorship gradually became a more silent and passive experience, in which the space is calculated to encourage forgetfulness of one's surroundings and attention to what happens on screen. In the early cinema—that is, in exhibition halls where viewers came to socialize, to get out of weather and cramped living spaces, to spend time with a loved one in the dark, or even just to rest (Hiley 32), films were made to grab the viewer's attention and hold it. Further, such films were shown not alone as a single unit, but rather were grouped with others in longer programs. This is part of the reason that, in what Tom Gunning and André Gaudreault call the "cinema of attractions," the excitement of a visual spectacle was the paramount value of the film experience. Narrative cohesion or justification for that spectacle was of secondary importance (if present at all), and in a distracting setting, audiences often found that longer films with more complicated plots were difficult to follow.

In addition, the cinematic experience was not presented as a passive one in which an audience sat and received the film in silence. Rather, films were interactive, often presented by a live lecturer or narrator in addition to being accompanied by musicians. Some early films, like Georges Méliès's magic show films or, a few years later, Winsor McCay's "Gertie the Dinosaur" series, were structured so that the filmed speaker or actor seemed to address the audience through the screen. Méliès's *Les Cartes vivantes* [The Living cards] is a good example of this, as the magician solicits the attention of the audience through the lens. Drawing on the work of Étienne Souriau, Frank Kessler writes:

> the actor's gaze, which as a profilmic one was oriented towards the lens, seems to meet the spectator's gaze that is directed at the screen. This, in turn, is supposed to produce a spectatorial effect, that is to say one that subjectively occurs in the spectator's mind […] of these gestures being addressed to me as a member of the film's audience. (Kessler 43)

These films assumed a more interactive relationship with the audience than narrative feature films normally do today, when such an act of "breaking the fourth wall" is considered a somewhat unusual narratorial device.[10] But as Epstein's work shows, the gaze into the camera remained an effective way to to engage the spectator mentally, concentrating their attention on the screen and away from the real world that surrounds them, and offering insight into a character's mind.

---

[10] The convention of a quiet audience in a darkened room became established in the early years of the new century, as narrative films came to dominate the industry. Partly because exhibitors wished to attract a calmer and more moneyed audience, they began "building larger cinemas, booking longer features, and sponsoring a style of filmmaking which absorbed the spectator into the illusion" (Hiley 34). Movie houses (as opposed to cabarets and vaudevilles) became the usual setting for watching a film, and films grew to several reels in length (Bordwell 45). This increased the ticket prices, but also fed into the trend for narrative films that would hold the audience's interest for longer periods of time. In what is sometimes called the "classical" cinema, the film world is imagined as utterly separate from that of the audience, a closure that permits no interactivity (Elsaesser and Hagener 17-19).

The theater and the film itself work to create a transition from the real world of the audience into the world of the film, so that the on-screen image supercedes the spectator's real environment, replacing the spectator's view with the character's view. An example of this occurs early in Louis Feuillade's film *Les yeux qui fascinent* [Hypnotic eyes],[11] investigator Philippe Guérande and his sidekick Mazamette arrive in a cinema hall. From the back of the room, we see the closed curtain, the musicians below the stage, and the audience members (including our heroes) as they take their seats, chatting and greeting each other until the curtains open to reveal the screen. At 4:10, Feuillade cuts to show Guérande and Mazamette in the audience, their faces standing out in the dark, as if seen from the position of the screen; then again we cut to the perspective from behind the audience, showing the screen with its headline about "L'Assassinat du notaire" [Murder of a Notary], apparently a newsreel. While some head movements indicate quiet conversations among the spectators, all appear to be calm and attentive as they watch.

At 4:35, the scene that they are watching becomes the scene that we are watching: first a small crowd of people, apparently onlookers to a crime scene, framed within the screen and its curtains with the cinema audience visible below. Our view then cuts to a closer view of one side of the screen. Although there is no shot-reverse-shot to make it obvious, this zoom is a subjective one; the edge of the screen, along with a large plant overlapping it, demonstrate that our camera-view is selecting one side of the in-film screen, and this is not a close-up in the film-within-the-film. Next we cut even closer, to a

[11] Louis Feuillade, *Les Vampires* episode 6: *Les yeux qui fascinent* (Gaumont, 1915), 3:33-5:03: https://archive.org/details/lesVampires1915Episode6-hypnoticEyes

tighter shot of only three people that fills our entire screen, with no plant or in-film screen-edge, showing that these three are of particular interest for the cinematic subject and for the spectator as well. The on-screen world has overwhelmed and replaced the "real" world of the audience where Guérande and Mazamette sit.

Feuillade then cuts back to the view from behind the entire audience, in which there is apparently some disturbance, and the whole screen is visible again—it contains the entire group of people, as presumably it has all along. After an intertitle, we see that Mazamette has leapt to his feet—we can guess that the intertitle, identifying the Grand Vampire and Irma Vep as two of the people on screen, is his exclamation—angering nearby audience members. In the shot after the intertitle, Mazamette is still reacting to the sight of their foes (one man is tugging on his sleeve to tell him to sit, while others gesture furiously and try to look around him), but Guérande remains largely absorbed by the image on the screen. Finally Mazamette gets Guérande's attention, and the two depart as the rest of the audience members settle back into their seats (5:03).

In combination with the sequence of *Cœur fidèle* that opened this chapter, Feuillade's cinema hall scene demonstrates the kind of spectatorial experience I'm thinking about here: in *Les yeux qui fascinent,* first we see that the audience is watching a film; then we see what a character (most likely Guérande) is seeing; then what he sees becomes what we see. In Feuillade's story, it's Moréno who has fascinating eyes and the power to hynotize, but in this scene, it's the screen that fascinates Guérande, leaving him passive and immobile as he watches his nemeses. And in *Cœur fidèle,* Marie, too, fascinates with her eyes: large and striking in her pale face, they communicate her

hopelessness and her fear, before suddenly and uncomfortably, as spectators, we look through them.

Both written early in the twentieth century around or not long after the time when narrative cinema gained popularity, Maurice Renard's *Le docteur Lerne, sous-dieu* and Camille Marbo's *Le Survivant* reflect this new experience of a narrative, character-centered cinema, in which the viewer's reality, their vision of the world, is exchanged for a different one, belonging to someone else. But before addressing those novels in depth, I want to think more about how a written text—which is, after all, made of words rather than images—can be cinematic, or perhaps more precisely, how words might evoke or reflect a cinematic experience. In order to do so, I'll start with a writer whose early work engages explicitly with the cinema: Blaise Cendrars.

An early, fragmentary text titled "New York in Flashlight," is the first of Blaise Cendrars's several texts that unite the cinematic experience with the movement of trains. This short piece is characterized by a jolting, uneven poetic rhythm created by short phrases and sentence fragments. It opens by informing us: "J'ai été en traitement chez un Cinématographe. Depuis lors je me suis procuré un appareil" [I was in treatment with a Cinematograph. Since then I've gotten myself a machine] (239). As he watches films, he writes:

> L'appareil crépite. Le film ronronne. Les images pleuvent. Le cerveau se gonfle à la pluie. Les nerfs se détendent. Le coeur s'apaise. Les scènes défilent, me cinglent, comme les flagelles glacés des douches. La vulgarité de la vie quotidienne me régénère. Je ne poursuis plus de chimères. Je ne

> rêve pas. Pas de métaphysique. Pas d'abstraction. Les mâchoires se décrochent. Je ris, en équilibre dans un fauteuil.
>
> [The machine crackles. The film hums. Images rain down. The brain swells with rain. The nerves relax. The heart calms. Scenes flow by, whipping me like the icy lashes of a shower. The vulgarity of everyday life re-energizes me. I don't chase anymore chimeras. I don't dream. No metaphysics. No abstraction. The jaws unclench. I laugh, balanced in my armchair. (Cendrars, "New York in Flashlight," 239)

What Cendrars describes here is not simply a visual experience—indeed, he barely mentions what he sees on the screen, offering only the summary statement about "la vulgarité de la vie quotidienne" [the vulgarity of everyday life]. Instead, he shares a synesthetic experience of crackling and purring sounds, the rain of images as scenes whip by one after another. The response he describes is both physical and mental, one that abstracts the poet from his individual identity as a body as he refers not necessarily to *my* brain or *my* nerves, but to *the* brain as it swells, and *the* body, *the* nerves, as they relax; the heart slows, the jaws unclench. Summarizing his film-watching as a salutary and immersive physical experience, he writes, "Le Cinématographe est mon hydrothérapie" [The Cinematograph is my hydrotherapy] (239).

Cendrars then jumps to the subject of subways and elevated trains in the city, spaces of transport where he finds the same choppy rhythm that he mentions here explicitly:

> Les express fusent. Les roues tournent. Les ressorts grincent. Un rythme aheurté, impair, m'emporte. Je bois de la vitesse, cette absinthe de tout le corps. Quand je suis ivre, le train s'arrête. (239).
>
> [The express trains launch. The wheels turn. The springs squeal. A broken, mismatched rhythm carries me. I drink in speed, that absinthe of the whole body. Once I'm drunk the train stops.]

Again, the feeling that he describes is at once rhythmic, hallucinatory and intoxicating, that affects both the mind and "tout le corps". In the train as at the cinema, he is carried and inebriated by a rush of technologically generated sensory stimuli.

This brief text from Cendrars helps us by showing how the cinema immediately lends itself to two metaphors, comparisons which will arise again and again in discourses about cinema, and in films, as well. One of these metaphors is hypnosis, trance, dream, and other altered mental states, a topic I plan to address elsewhere. In this section, I want to focus primarily on that second metaphor, the experience of transport—the jerky motion of the train that carries the passenger along, the hallucinatory intoxication of speed, the whirling confusion of wheels—that infuses Cendrars's writings on cinema, including "New York in Flashlight" as well as "L'ABC du Cinéma" and *La Fin du monde filmée par l'ange N-D* [The end of the world as film by the Angel N-D], two texts that I will discuss elsewhere. This cinematic transport experience is characterized by a disparate series of images, swiftly rendered in a rushing, breaking rhythm, almost entirely in present tense, often combined with the motif of rotation that references a train's

spinning wheels, the circular film reel, the more grandiose circles of sun, earth, and cosmic orbits, and the infinite cycles of life.[12]

Both cinema and transport are at once visual and physical experiences in which the visual takes precedence over the physical, as the immobilized body of the seeing subject attends primarily to the mobile vision that is seen. This is what Paul Virilio discusses as the experience of speed, made possible in the nineteenth century by train travel, and later by automobile, motorcycle, and airplane. When fast motion is divested from physical exertion, the subject becomes a passenger carried forward by the machine, rather than moving forward by their own power. At the same time, although the body may be immobile, this does not mean it is entirely annihilated or that transport has no effect on it beyond moving it. Wind, weather, gravity, and altitude all act upon the body differently when in motion than at rest. In many cases, the body must also be enclosed to avoid the physical consequences of its motion; either to be protected from wind and weather (as in trains or automobiles) or from the effects of high altitude and low oxygen (in flight). The faster (or higher) the machine moves, the more the passenger must remain immobilized for their own safety and closed off from a dangerous external environment. The body of the passenger is thus held motionless and passive, partially or entirely enclosed within the machine.

As a result, the subjective experience of motion is a primarily a visual one, in which the world seems to move past and around the viewer. As Virilio describes:

---

[12] One might note that rotating circles are also heavily featured later in Abel Gance's 1919 film *La Roue,* on which Cendrars worked as an assistant.

> la perspective s'anime, le point de fuite devient un point d'assaut projetant ses traits, ses lignes sur le voyeur-voyageur, l'objectif de la poursuite devient un foyer qui darde ses rayons sur l'observateur ébloui, fasciné par l'avancée des paysages. […] Dans cette fascination de la direction un double jeu sur le dedans et le devant s'instaure, avec l'aide du volant et du levier de vitesses, l'auteur-compositeur du voyage composera effectivement des séries de *scènes de vitesses* qui se joueront subrepticement dans l'écran transparent du pare-brise. (*L'horizon négatif* 143-144)
>
> perspective becomes animated, the vanishing point becomes a point of attack sending forth its lines of projection onto the voyeur-voyageur, the objective of the continuum becomes a focal point that casts its rays on the dazzled observer, fascinated by the progression of landscapes. […] With this fascination of directing, a double game of sighting both within and in front unfolds, with the assistance of the steering wheel and gearstick, the director-composer of the trip will in effect compose a series of scenes of *speeds* that play surreptitiously through the transparent screen of the windshield. (*Negative Horizon* 105-106)

The spectatorial experience produced by an apparatus of speed, or what Virilio calls a dromoscope, is not exactly the same as that of the cinematic apparatus, or the stroboscope; rather one is the inverse of the other. In the stroboscope animated images made by light are projected and in motion in front of the spectator; in the dromoscope inanimate objects remain in place while the spectator is projected into motion through or

past them. The experiences of dromoscope and stroboscope are nonetheless similar: what these apparatuses create is a sense of being transported by technological means, without the physical effort of one's own body, confronted with a screen on which objects appear, moving and looming before the viewer before they disappear, as if animated. The result, in both cases, is an immobile, transported viewer: "ébloui, fasciné," as Virilio describes the dromoscope's passenger in the citation above, transfixed by what they see on the screen.

Connections between the cinematic experience and physical transport existed almost as soon at the cinematograph did, and as Lynne Kirby argues, perhaps even beforehand. Trains in motion were also frequently featured in early film: the Lumière brothers made at least three, with *L'Arrivée d'un Train en gare de la Ciotàt* being the best known example, and Abel Gance's *La Roue* [The Wheel] offers many spectacular views of trains as well as from the top of moving trains. The interest of the train film, in its early days, derived in large part from its presentation simply as a visual spectacle: train films showcased the medium's new ability to present movement and realistic detail, much like films of waves crashing on a beach or the rushing waters of Niagara Falls. Loiperdinger argues that "*The Arrival of the Train* leaves contemporary commentators with an impression of *hyperrealism* […] The curiosity of seeing familiar and well-known scenes through a new technological invention in an unfamiliar way" (Loiperdinger 101). Tom Gunning also places the cinema in a context of hyperrealistic entertainments like the panorama, diorama, wax museums, etc., writing that "Cinema was devised as the medium that could not only deliver the most intense impression of animated pictures but also

serve as a record of the most aleatory and instantaneous events" (Gunning 109) and speaks of the train film's ability to provide a thrill similar to that of riding a roller coaster.

Kirby, however, argues that the popularity of the train film specifically arose also because the experience of the rail journey was "an important *protocinematic* phenomenon," "a social, perceptual, and ideological paradigm providing early film spectators with a familiar experience and familiar stories, with an established mode of perception that assisted in instituting the new medium and in constituting it public and its subjects" (Kirby 2-3). That is, the experience of a passenger riding on a train prefigured the cinema spectator's experience and had much in common with it: the speed of the train seemed to abolish long distances, joining together disconnected spaces and creating "a changed temporal consciousness" of simultaneity (Kirby 7), offering a panoramic, immersive viewing experience as entertainment, and always leaving the viewer vulnerable to shock (Kirby 7-8). That Benjaminian shock effect was also the experience of the modern city dweller, manifested in the cinema through the use of perceptual disorientation and edits that abruptly change the scene, breaking the comfortable continuity of real time and space.

Both the cinematic and the railroad experience, according to Kirby, can be seen as giving rise to the modern Western subject, a "spectator passenger" constantly anticipating yet sheltered from shock: "jostled by forces that destabilized and unnerved the individual, creating a hysterical or […] 'neurasthenic' subject. The obverse of the hysterical, neurasthenic individual was the hypnotized, or hypnotizable subject […] one in whom the vulnerability to a dream-like, fantasy state relaxed inhibitions and allowed for the

possibility of suggestion" (Kirby 7-8). In Kirby's work, then, both the train and the film carry a passive and suggestible viewer along for a ride.

As we delve into these novels, then, it's this cinematic spectator-passenger experience of the self, as both carried along within an unfamiliar body and affected, altered, and interpreted by that body, that I'm seeking to describe. As a form of transport, the brain transplant narrative is marked, like Cendrars's "New York in Flashlight," by suites of images, rhythmic language, and descriptions not only of people and spaces but also of a character's movement through and past them. These descriptions demonstrate how the narrators of these two novels experience their worlds and themselves, and how this changes along with the physical bodies that they inhabit. In the course of my reading, I will also look at other ways I see these texts as drawing on cinematic modes of perception and presence.

Maurice Renard's 1908 novel, *Le docteur Lerne, sous-dieu*, begins with an audience. In a scene that introduces the main text, a group of young men decide to perform a good old-fashioned table turning session. The spirit that they contact identifies itself as a certain Nicolas Vermont, who says he will inhabit the apartment where they currently sit two years in the future. After some questioning, the spirit demands through a series of "craquements secs" [dry cracks] (67) that they bring a Durand typewriter (the spirit asks for this brand specifically, because it is French), and then takes control of "le typewriter-medium" Cardaillac's hands for an extended automatic writing session. The others wait, listening, at "le bruit de télégraphe" [the telegraph noise] emitted by the typewriter, "coupé à tout instant par la sonnerie des fins de lignes et le raclement du traîneau" [constantly cut off by the ringing at the ends of lines and the rattle of the

carriage return] (69). While Renard himself compares the sound to a telegraph—like spirit communication, another kind of writing from a distance—the semi-rhythmic clacking of typewriter keys may also recall the rhythmic motion of a train, or the loud staccato clatter of a film reel in rotation.

Swiftly the story emerges via this sound: "De cinq minutes en cinq minutes, un feuillet nous était livré. Nous prîmes la décision de nous retirer au salon et de les lire tout, à mesure que Gilbert, les ayant reçus de Cardaillac, me les remettait" [Every five minutes, another page was delivered to us. We made the decision to retire into the salon and read them all, as soon as Gilbert, having received them from Cardaillac, gave them to me] (69). The group sits together and listens to the story through the night. Like a cinema audience—as opposed to a book's usual audience, a disparate group of individual readers receiving the work separately—they receive the story all together as it streams out of the machine. When the automatic typing session ends with daybreak, the group returns for "maintes nuits" [many nights] in order to continue the now serial story of Nicolas Vermont, which constitutes the main narrative of the book.

That story begins with a scene of hypnotic motion, a passage I want to examine closely, in which we find Nicolas driving towards Fonval, the château belonging to his uncle, Dr. Lerne, where he spent many summers during his childhood but has not visited in fifteen years. "Ce premier dimanche de juin finissait. L'ombre de l'automobile courait devant moi, plus longue à chaque moment" [That first Sunday of June was ending. The shadow of the automobile was running before me, longer with every moment] (70). While the choice of a precise date may seem concrete, Renard emphasizes that this time is in fact passing, the day in the process of ending. The image of the car's lengthening

shadow emphasizes the sunset hour. More importantly, though, it calls to mind the fundamental characteristic of the cinematic image that Christophe Wall-Romana refers to as automorphosis, or "the miracle of filmic images, plastically self-mutating," that began "informing the very process of our visual imaginings" especially between 1907 and 1911, as the cinema became an inescapable part of modern life (*Cinepoetry* 16 and 24). Here, the shadow—itself an image that, like the filmic image, is created through the effect of light—is described as *running*, as if powered by its own physical motivation, and lengthening, also as an effect of light in motion as the sun lowers and its angle changes. Further, as the shadow becomes "plus longue à chaque moment," [longer with every moment] the change in its form is explicitly linked to an incremental understanding of the passage of time, from moment to moment, that recalls the filmic image seeming to change as one film frame succeeds the next.

Nicolas himself describes his voyage as a cinematic vision, in which he cuts a strange and dramatic figure: "les gens, faces anxieuses, me regardaient en passant comme on regarde une scène de mélodrame" [with anxious faces, people watched me pass by, as one watches a scene in a melodrama]; because of his driving helmet and goggles, he says, "je devais leur sembler quelque phoque infernal et macabre, quelque démon de Saint-Antoine, fuyant le soleil et volant à la rencontre de la nuit" [I must have looked to them like some kind of infernal and macabre seal, some demon of Saint Antoine, fleeing the sun and flying to meet the night] (70). Notably, he not only describes the people he passes as they appear to him, but also himself as he imagines he must appear to them, as if they were an audience and he were a strangely costumed body on the screen, perhaps

recalling the many supernatural demon- or devil-themed films of Méliès, Segundo de Chomón or Ferdinand Zecca.

Into this scene, Nicolas also inscribes a strange phrase that ended a letter from his uncle: *Viens seul et préviens* [Come alone and warn]. This "injonction bizarre" repeats not only in Nicolas's mind, but also spreads into the audio and visual scene through which he passes:

> l'ordre inexplicable s'acharnait [… à] mes yeux d'en poser partout les termes fatidiques, et mes oreilles de les faire sonner dans tous les bruits […] Voulais-je savoir le nom d'un village? La plaque indicatrice m'annonçait: *Viens seul. Préviens,* traçait le vol des oiseaux. Et le moteur, infatigable, exaspérant, répétait mille et mille fois: *Viens seul, viens seul, viens seul, préviens, préviens, préviens…* (70-71)
>
> The inexplicable order persisted […] in placing the fatal phrase everywhere before my eyes, and to echo them to my ears in every sound […] Did I want to know the name of a village? The sign posted told me: *Come alone. Warn,* traced the birds in their flight. And the motor, tireless and exasperating, repeated a thousand and more times: *Come alone, come alone, come alone, warn, warn, warn…*

As in cinepoetic works that, as Wall-Romana writes, call up the posters and advertisements that inserted written words into street scenes and films of cities, or the intertitles that improved narrative continuity in pre-sound film (*Cinepoetry* 33-35), here the words, *Viens seul, préviens* [Come alone, beware], appear as a visual sign that reflects Nicolas's obsessive curiosity about them. These words repeat on the page as well,

effectively allowing the reader to share in this *idée fixe* and follow its compulsion to drive, or to read, onward.

As Nicolas drives closer to Fonval, Renard's prose style shifts from past to present tense, to a poetic and synesthetic scene which he introduces with what could easily seem like an analogy to the cinematograph itself, in which the road seems to unroll and wind through the car like a film strip through a projector: "L'automobile ronfle, et sous elle la route s'engouffre vertigineusement ; elle semble entrer dans la voiture pour s'y enrouler, comme les mètres de ruban souple se bobinant dans leur barillet" [The automobile snores, and below it the road rushes by vertiginously; it seems to enter the automobile in order to unroll there, like meters of supple ribbon spooling on a cylinder] (71). Just as Cendrars linked the disjointed rhythms of subway trains to the clatter of the cinematograph or a film projector, Renard emphasizes the sounds of the car's engine. While sound film as such did not exist and some early *actualités* seem to have been shown in silence,[13] musical accompaniment and sound effects came to be featured as part of the cinema spectacle soon after its emergence (Altman 87-89); from its beginning, the cinema was a synesthetic experience, rather than a purely visual one.

The paragraphs that follow are a mixture of sensations and visual impressions, full of the car's rumbling and the landscape streaming by, with an emphasis on the visual phenomenon of speed and its effects:

---

[13] Altman bases this conjecture on Maxim Gorky's description of the silent "Kingdom of Shadows."

> J'ai maintenant le soleil à droite. Il est sur l'horizon; les côtes de la route, m'abimant puis me rehaussant très vite, l'obligent plusieurs fois de suite à se coucher puis à se relever pour moi. Il disparaît. Je file sous la brune tant que ma brave machine peut tourner—et je ne crois pas que la 234-XY ait jamais été dépassée. (71)
>
> Now the sun is on my right. It is on the horizon; the roadsides, sinking and rising swiftly around me, force it to set and rise again several more times before me. It disappears. I race below the brown as fast as my proud machine can roll—and I don't believe the 234-XY has ever been surpassed.

Rather than describing the mountains of the Ardennes as hiding the sun or his own relative motion as he drives, Renard imagines the sun moving in relation to a still point of view and with a speed and repetition that offers another point of comparison to the cinema—for only in the cinema, where a film can run forward and backward, could one literally watch the sun rise and set repeatedly in quick succession. Nicolas sees this scene from the rapidly moving yet immobilized position of Virilio's *voyeur-voyageur* or Kirby's "spectator passenger," as if he imagines that the sun and mountains were moving around him, rather than him moving through them:

> Patience. La masse des Ardennes se découpe en massifs. Au train dont je fuis, chacun paraît en mouvement : rapides, en glissant, les croupes passent les unes derrière les autres, s'éloignent ou se rapprochent, s'abaissent pour monter ensuite avec une majesté de vagues, et le spectacle en varie incessamment comme une mer titanique. (72)

> Patience. The mass of the Ardennes cuts the sky in peaks. Along the route where I fly, each appears in motion: rapids, sliding, crests passing one behind the others, far aways and then near again, lowering in order to climb again with the majesty of waves, and the spectacle changing incessantly like a titanic sea.

These descriptive passages mingle with a stream-of-consciousness style rendering of Nicolas's thoughts, marked by short and fragmentary sentences that somewhat recall Cendrars's style in "New York in Flashlight":

> Salut, salut, Grey-l'Abbaye! Fonval n'est plus qu'à trois kilomètres. J'irais sans yeux! En voici le chemin direct […]
>
> Il fait presque nuit. Un paysan me vocifère… des insultes probablement. J'ai l'habitude. Ma sirène lui répond de son cri menaçant et douloureux.
>
> La forêt! Ah! son arôme puissant! le parfum des congés d'antan! Leur souvenance peut-elle sentir autre chose que la forêt?... C'est exquis… Je voudrais prolonger cette fête de mes narines… (72)
>
> Hello, hello, Grey-l'Abbaye! Fonval is only three more kilometers. I could get there with my eyes closed! Here is the direct route […]
>
> It's almost dark. Some yokel yells at me… insults, probably. I'm used to it. My siren answers him with its harsh and menacing cry.
>
> The forest! Ah! That powerful smell! The perfume of summers from long ago! Could that memory smell of anything else but the forest?... It's exquisite… I'd love to prolong this feast for my nose…

As readers, we are thus presented not only with Nicolas's visual impression of the world, offered as if he were a spectator, but we are reading his thoughts, as if, situated within his mind, we can see the landscape through his eyes, as through a camera lens.

This immersive and synesthetic narration style continues until an unexpected curve in the road startles Nicolas out of his reverie:

> […] Holà! Qu'est-ce à dire?
>
> J'avais failli culbuter; contre mon attente, le chemin tournait.
>
> Je ralentis encore.
>
> Un peu plus loin, nouveau coude, puis un autre…
>
> J'arretai…
>
> Les étoiles perlaient une à une, goutte à goutte, une rosée lumineuse. […]
>
> (72)
>
> […] Hola! What's this?
>
> I had almost fallen off; against my expectation, the road turned.
>
> I slowed again.
>
> A little farther, another curve, then another…
>
> I stopped…
>
> The stars, like beads, sparkled one by one, drop by drop, a luminous dew.

The interruption causes the narrative, too, to stumble: several short lines convey Nicolas's surprise and hesitation as he discovers that the road to Fonval is not as he remembers. The narration is shocked back into a more conventional, past-tense voice as Nicolas stops his car and takes in the now immobile and unhomely scene.

We can see, then, that Renard's presentation of Nicolas is immediately a self-consciously cinematic one: Nicolas is a spectator-passenger who sits at the center of a moving background, full of images that seem to shift and change shape on their own, and haunted by words that repeat not only in his mind but also appear in his visual perception of the world. While there is a great deal of suggestive material in this novel, we will skip ahead to the moment when Nicolas wakes up from an involuntary operation to find that his brain has been transplanted into the body of a bull (and the bull's brain into his own human body). Dr. Lerne, who has changed drastically from the kindly old scientist of Nicolas's childhood, has performed the operation as punishment for his curiosity about Lerne's strange grafting experiments, as well as for his sexual relationship with Emma Bourdichet, the protégée that Lerne also desires.

Upon waking from what Renard labels "l'opération circéenne," Nicolas's first impression is a lack of sensory input: "Je rouvris les yeux sur les ténèbres hermétiques où régnait aussi, dans le désert de bruits, le silence des odeurs" [I re-opened my eyes on hermetic shadows where there reigned a silence of odors, as well as a desert of sounds] (156). He is still emerging from anesthesia and has no impression of his own body, as his senses are still gradually awakening to the world around him. In the absence of of smells and sounds, the first focus in this passage is on visual impressions. They are immediately perceived as altered, both in scope and in color:

> les objets, distincts à présent, demeuraient difformes, sans relief, et bizarrement colorés. Ma vision embrassait un large espace, un champ plus vaste qu'auparavant […] en dépit de mon œil, qui fonctionnait à la

> manière d'une lentille déformante, je parvins à reconnaître la situation. […]
>
> *Seulement,* j'aurais pu me croire transporté dans le tableau le plus révolutionnaire de l'école impressionniste. L'azur du ciel, sans perdre sa profondeur, s'était mué en une belle teinte orangée; la pâture, les arbres, au lieu de verts, me semblaient rouges […] Tout avait changé de couleur, —sauf pourtant les choses noires et blanches. (156-157).
>
> objects, now distinct, remained deformed, without depth, and strangely colored. My vision held a large space, a wider field than before […] Despite my eye, which functioned in the manner of a distorting lens, I began to recognize the situation.
>
> *Only,* I could have believed myself transported into the most revolutionary of impressionist paintings. The blue of the sky, without losing any intensity, had mutated into a lovely orangish tint; the pasture, the trees, instead of green, seemed red to me […] Everything had changed color, —excepting however black and white things.

Lerne himself soon comments on Nicolas's changed capabilities, as (in classic villain style) he explains the history of his research and the effects of his surgical intervention:

> ne t'émeus pas de percevoir le monde extérieur autrement que naguère. Entre mille nouveautés, les choses doivent te sembler aussi plates que sur une photographie. C'est que, la plupart des objets, tu les regardes seulement d'un œil à la fois. […] beaucoup d'animaux ne sont que des doubles borgnes. Leur vue n'est pas stéréoscopique. Autres yeux, autres

> visions; à nouveau tympan, nouveaux sons; ainsi de suite. Ce n'est rien. Chez les hommes eux-mêmes, chacun a sa façon d'apprécier les choses. (166)
>
> don't get upset about perceiving the outside world differently than before. Among a thousand novelties, things must seem to you flat as a photograph. This is because, for the most part, you're seeing objects with only one eye at a time. […] many animals are doubly one-eyed. Their vision isn't stereoscopic. Other eyes, other visions: to a new eardrum, new sounds; and so on. It's nothing. Even among humans, each has his own way of enjoying things.

Just as the perspective of the camera lens differs from the human eye and the aspect ratio of the film frame differs from that of human vision, Nicolas sees differently through the bull's eyes, which are set wider apart and on the sides of the skull, rather than forward-facing to create a stereoscopic vision, as Lerne remarks. His vision suddenly lacks depth perception, as if he were looking at a photograph or at a film (which may give an impression of depth, but are nonetheless flat images). Further, objects appear deformed—the bovine iris is oval, rather than round, and the concentration of vision cells on a bovine retina runs across in a streak, rather than a circle, as on a human retina (Montgomery 246-247). Although Nicolas is first startled by the change in how he sees, he will soon be startled in what he sees: "il n'y avait rien au-dessous de ma tête. Et comme je courbais davantage avec beaucoup de peine, je vis, à la place de mes pieds, des sabots fourchus terminant des jambes noires et cagneuses, courvertes d'un poil serré" [there was nothing below my head. And when, with a great deal of trouble, I bent farther,

I saw, in the place of my feet, forked hooves at the end of black and knobby legs, covered in a tight fur] (158).

In addition to these changes in perspective, Nicolas sees the world in a dramatically different color scheme, and here we can find another parallel with the early cinema and the new ways of seeing that it made available. While the majority of early films that remain available today may be black and white, according to Joshua Yumibe, filmmakers began using color at least as early as 1896, when Edison presented hand-painted films at his first public screening. Perhaps as much as eighty percent of films made between 1908 and 1925 received some kind of applied color treatment, in the form of tinting, toning, hand-painting, stencilwork, or some combination of these methods (Yumibe 4-6). However, color versions of early films are often unavailable now because of preservation issues; even among early films that have been preserved (which are not the majority) applied colors tend to fade or change due to wear and exposure to projection light. Further, because the same film might exist in differently colored versions and there is often no way to declare one version definitive, archivists have tended to preserve or duplicate films in black and white, considering these to be "original" versions, although this practice is changing as digital methods of duplication, storage, and restoration become available (Yumibe 11-15).

Some of the effects of color were to create a more realistic image, with colors being used in ways that were consistent with the narrative scene (for example, using blue tint for scenes occuring at night (Yumibe, 5). However, realism and narrative were not the only, or even the primary reasons that early filmmakers used color: "Applied coloring is most often used to create spectacular, eye-catching images […] as a dazzling form of

attraction" (7). The works of Segundo de Chomón, in particular, seem like a useful example here: as non-narrative films featuring dancers in fantastical costumes and settings, color enhanced their visual appeal and other-worldly scenery, but realism was clearly not a goal.[14] Further, when using tinting or toning methods, filmmakers often chose colors for their "connotative" and "sensual meanings" as well as diegetic ones; to give Yumibe's example: "a blue tone might provide both a sense of darkness and the chilly sensation of a wintry night" (5) in addition to simply conveying the setting for narrative purposes. Alternately, color could be used to enhance the illusion of depth in the film image, seeming to "bring the surface toward the viewer in bas- or even high-relief" through contrast and brightness (Yumibe 10). In these ways, color "inundates the senses" and can "invoke not just vision, but also sound, smell, taste, and especially touch. […] color can exceed optical vision to make an image tactile and haptical" (Yumibe 9). Color film thus showed the world in an altered color scheme whose effects could extend to or call upon all the senses, to create a new kind of synaesthetic experience.

As the ether wears off and Nicolas's senses gradually return to him, he finds that not only has his perception of colors changed, but the power of his other senses (especially smell) has intensified. As Nicolas looks around through his new bovine eyes, he finds Dr. Lerne and the three German assistants wearing black pants and white shirts that are covered in green stains, which Nicolas deduces must be blood (since the trees,

---

[14] Examples include *La Grenouille, Le scarabée d'or, La Poule aux oeufs d'or, Les Papillons japonais,* etc.

normally green, now appear red to him, it follows that normally red blood would be green). Smelling that blood, he narrates:

> Il exhalait, ce liquide, un arôme violent qui m'aurait chassé bien loin si j'eusse été capable de bouger. […] je ne l'avais *jamais* respiré… non plus tous ces autres parfums… non plus que mes oreilles se souvenaient d'avoir accueilli des sonorités pareilles à celles-ci…
>
> Et la fantasmagorie de persister, et l'abberation de mes sens de ne point se dissiper avec les vapeurs éthérées! (157)
>
> This liquid emitted a violent aroma that would have chased me far away if I had been capable of moving […] I had *never* breathed it… nor any of those other scents… nor could my ears remember ever having received sounds like those ones…
>
> And the phantasmagoria persisting, and the abberation of my sense not dissipating at all along with the fog of ether!

As Yumibe describes, Nicolas as a bull perceives colors not only visually but also sensually and interpretively, as new sounds and smells with connotations beyond their mere presence. Being a bull is not simply existing in a different kind of vehicle, as moving into a new body was for Gautier's characters in *Avatar;* rather, it is an overwhelming synesthetic experience reminiscent of the phantasmagoria or magic lantern show, an immersive visual spectacle that prefigured the cinema in the nineteenth century.

At first Nicolas is understandably confused about the exact nature of his predicament, but the situation becomes clearer when he sees his human body lying on an operating table. Unlike Gautier's *Avatar,* in which the characters' confrontations with

their erstwhile bodies are marked by impressions of ghostliness and premonitions of death, Renard's description of "le Minotaure," (that is, Nicolas's human body carrying the brain of Jupiter the bull) emphasizes the constant movement of breath despite its deathly state: "un homme tout nu lié à la table, les mains sous la claie, immobile et blanc, cireux, cadavérique […] Sa poitrine se soulevait en mesure; il aspirait l'air à pleins poumons, les ailes du nez battant à chaque inhalation" [an entirely naked man tied to the table, his hands under the railing, immobile and white, waxy, cadaverous […] Gradually his chest lifted; he breathed in full lungfuls of air, the wings of his nostrils throbbing with each inhalation] (Renard 157).

As he watches, recognizing himself in this body but understandably confused as to the exact nature of this predicament, Nicolas watches his "sosie" awaken: "L'opéré venait de hocher la tête. […] Ayant ouvert des yeux d'aveugle, il dodelina la tête d'un air idiot, caressa les bords de la table, et s'assit" [The patient had just nodded his head. […] His blind eyes now open, his head wobbled idiotically, and he felt the edges of the table and sat] (Renard 157-158). This passage from a body first described as dead, still, and white, to one that is perceived as breathing and moving, recalls the Lumière brothers' first film presentations, beginning with the projection of a still photographic image which then—stunningly, for first audiences—began to move; as Gorky described it, that moment when "suddenly a flicker passes across the screen and the picture comes to life" (Gorky 25). Looking at his human body from the outside, Nicolas must reassure himself that "j'avais donc un chair, veule et gourde, mais une chair… Mon corps était ici et non là-bas!" [I had flesh, then, weak and stupid, but flesh… My body was here and not over

there!] (158). But when the assistants untie him and he arises, the change in that body becomes apparent: "Dieu! que j'étais lourd et petit!" [God! How heavy and short I was!]

After the initial shock and pain of having his brain "amputé de tout le corps" [amputated from his whole body] (167), Nicolas begins exploring his new bovine existence and the world that he now perceives through altered senses. Seeing the three cows that share his pasture, the bull's body influences Nicolas's perception in ways he finds difficult to describe; he finds the cows possess "une grâce imprévue" [an unexpected grace] and that his instincts drive him to join them. However, his attempts to communicate fail, and they remain inaccessible until he brings them in line with "une bonne ruade" [a good bucking] (167). It is the physical body that determines his perception of what is desirable and graceful, rather than some inherent trait of the cows themselves.

Emotional reactions, as well, prove different according to the body that experiences them, as Nicolas discovers when he sees "le Minotaure" about to have sex with Emma, the rather promiscuous young woman whom Nicolas and Lerne both desire. It is the bull's rage that flows through him and directs his actions: "D'un tour de sang, j'étais ivre. La colère indomptable me jeta dans cet éblouissant rideau, les cornes en arrêt. Je frappai quelque chose qui tomba, je le refoulai de mes quatre sabots, et, retourné sur ma victime, je la piétinai, piétinai, piétinai…" [With a rush of blood, I went mad. Untameable anger lauched me against that glowing curtain, horns at the ready. I struck something that fell, I pushed it down beneath my four hooves, and, returning to my victim, I stamped, stamped, stamped…] (173). Only Dr. Lerne's reminder that Nicolas is trampling his own human body ends the violence. While the personality is not lost when

the brain moves into a new body, the body alters how that personality perceives and reacts.

In addition to these instinctive changes, the bull's body offers other avenues of sensory exploration: "De même que mes yeux et mes oreilles et mon museau envoyaient à ma cervelle des visions, des auditions et des olfactions inédites, ma langue aux papilles étrangères devait me fournir des sensations gustatives fort originales" Just as my eyes and ears and muzzle sent my brain unknown visions, sounds and smells, my tongue with its foreign tastebuds would furnish me with new gustative sensations] (168). As a human, and even when he first awoke after the operation, vision was the dominant sense through which Nicolas understood the world. Now it is the senses of taste and smell that become paramount in Nicolas's life as a bull, and he enjoys the many varieties of grass and different nuances of water that he can now detect.

These pleasures can only distract him from his situation for a time, however. Gradually his health begins to deteriorate, a consequence (Lerne says) of the mismatch between a human brain and a bovine body. Further, Emma's flirtations with "le Minotaure" upset Nicolas greatly, leading to the violent reaction mentioned above. In that attack, he manages to damage the bull's brain badly enough that the only way Lerne can salvage the human body and his own experiment is to replace Nicolas's brain in its original casing. Unfortunately for Nicolas, however, this will not be his last experience with one of Lerne's "Expériences de Transmission" [Transmission Experiments] (179).

After a period of healing, Nicolas remains unable to convince Emma to leave and refuses to go without her, for despite her flaws, "je ne pouvais pas plus me priver d'Emma que le fumeur d'opium ou le morphinomane de sa pipe ou de sa seringue" [I

could no more deprive myself of Emma than an opium smoker could his pipe, or a morphine addict his syringe] (185). Stuck at Fonval, he explores and happens upon Lerne's journal, which details the new experiments with non-surgical transmission of the soul—that is, Lerne has devised a method to mentally invade others' bodies, and has succeeded in possessing one of his assistants, a cat, and an ash tree. However, his soul remains connected to his own body, and he can only suppress the other for so long before he must return. Soon after, Nicolas begins to notice strange mental absences and signs of poor health in his uncle.

One night with Emma he describes as an explicitly theatrical scene, first setting up the lights, "Deux fortes lampes brûlaient sur la cheminée, ça c'est un beau spectacle" [Two bright lamps burned on the mantle, now that's a lovely spectacle]; next crediting the actress and the story: "Avec elle, la divine comédie formait une intrigue complète. Rien n'y manquait: prologue, péripéties, coups de théâtre, dénouement. Et c'était comme en les pièces excellentes, où les événements qu'on souhaite doivent toujours se produire, mais de façon inopinée" [With her, the divine comedy had a complete plot. Nothing was missing: prologue, plot twists, dramatic events, dénouement. And it was like in an excellent play, where the events one hopes for must always occur, but in an unexpected manner] (187). However, in this instance, something less desirable occurs: "Au lieu de monter la pente voluptueuse vers le paroxysme imploré, il me sembla au contraire que je la descendais […] glissant peu à peu à l'indifférence" [Rather than climbing the voluptuous slope towards the desired paroxysm, I felt like instead I was descending […] sliding bit by bit into indifference]. Though his body moves with even greater vigor, Nicolas finds himself discontent and tries to stop, only to discover that he cannot.

> Ma volonté dominuait, au point d'être sans force. Je sentais mes facultés se réduire constamment, se tasser; et mon âme, devenue liliputienne, était impuissante à gouverner mes muscles comme à recevoir l'impression de leurs manœuvres. À peine pouvais-je me rendre compte des actions de mon corps […] On aurait dit qu'une autre âme avait envahi la place de la mienne, dirigeant à sa guise ma conduite […] Cette personnalité avait refoulé mon propre "moi" dans un coin de mon cerveau […] (187-188)
>
> My will diminished, to the point of being without strength. I felt my faculties constantly reducing, shrinking down; and my soul, become liliputian, was powerless to govern my muscles as well as to receive the impression of their motions. I was only barely aware of the actions of my body […] One might say that another soul had invaded the place of my own, directing my activity at will […] That personality had suppressed my own "me" into a corner of my brain […]

As we can guess from Lerne's journal, and as the narrator soon explains, Lerne has used Nicolas's body in order to enjoy sex with Emma. While Renard's terms here are theatrical, we can also see the situation as a cinematic one, in which the "show" takes over the body. Just as a film spectator may experience an automatic physical reaction to an action on screen yet does not have an intense tactile experience, Nicolas's sensory perception of the action occurring is reduced, while he moves and acts without any conscious decision on his part.

After this invasion of his body, Nicolas is even more determined to leave Fonval; however, Lerne's apparent death comes first. Of course, like all good villains, Lerne isn't

truly dead, but has actually transferred his soul into Nicolas's automobile. The characters' fate at the end is left somewhat open. Renard does not explicitly return to the opening scene with the audience of table-turners; however, one can read the end of the novel as an odd narratorial move that closes both the frame narrative and the main narrative at one stroke: "Et toi, manuscrit félon! toi qui perpétuerais des êtres et des faits quand désormais je leur refuse d'avoir existé, au feu, le *Docteur Lerne*! Au feu! Au feu! au feu! au feu!..." [And you, criminal manuscript! you who perpetuates beings and facts when from now on I refuse to allow them to have existed, into the fire, *Doctor Lerne!* Burn! burn! burn! burn!...] This final tirade conflates the character Dr. Lerne—or the spirit of Otto Klotz, whom Nicolas has been trying in vain to kill—with the manuscript *Docteur Lerne,* bringing the invading soul into the reader's mind as well, even as it conflates the real readers of the novel with the fictional readers of the manuscript. As in *Les yeux qui fascinent,* what that fictional group is reading becomes what we are reading, and the fictional audience and real audience seem to become one.

Throughout *Le docteur Lerne, sous-dieu,* Renard's descriptions of altered states of sensory perception tend to reflect a cinematic sensibility and the difference between the direct visual experience of the body and the mediated visual experience of film viewing. For Nicolas, in the body of the bull, these changes include not only color and perspective but also emotional and aesthetic responses to his world. Later, when Lerne takes over Nicolas's body, he experiences the inertia or neurasthenia of the spectator-passenger, moving by no will of his own. In both instances, as in the opening scene when he drives through the hills to Fonval, Nicolas is carried along, insulated and isolated from the world around him that he observes from within. In Camille Marbo's 1918 novel *Le Survivant*, I

want to examine a different aspect of the film aesthetic that became prevalent as narrative cinema dominated theaters: the legible code of face and body that Auerbach discusses, and the close, attentive aesthetic of the close-up and the face, as Jean Epstein describes in "Le Grossissement".

The opening of this novel, however, recalls some of the same cinematic visual imagery that Renard used. In the first paragraph, the not-yet-named narrator is carried along by no volition of his own, through a strange and blurry world, making no effort or motion to control his own movement:

> Je flotte… Posé sur une sorte de brouillard épais, je sens que je puis me laisser aller, que je ne tomberai pas, et je dors. Exprès, je ne commande ni à mes bras, ni à mes jambes; je m'abandonne, j'enfonce dans la brume molle. Autour de moi, dans cette atmosphère sans couleur et sans forme, des lambeaux d'ombre remuent… (9)
>
> I float… carried on a sort of thick fog, I feel that I can let myself go, that I will not fall, and I sleep. On purpose, I command neither my arms, nor my legs; I give myself up, I sink into the soft mist. Around me, in this atmosphere without color and without form, flickers of shadow move…

As the narrator entrusts his body to this "brume molle" [soft mist] with its "lambeaux d'ombre," [flickers of shadow] we may think of the cinema spectator, still in his seat, giving up self-awareness in favor of the lights and shadows playing out on the screen. But soon the narrator wakes, and struggles to understand what has happened and where he is. Eventually we learn that he is Lieutenant Jacques Breton, lying in a hospital bed after receiving a head injury in World War I.

Like Nicolas, one of the first things that Jacques notices is that his vision has changed: there is a "clarté bizarre," [strange brilliance] and he finds that "c'est désagréable de voir les contours comme à travers le gros bout d'une jumelle" [it's unpleasant to see shapes as if through the wrond end of binoculars] (11). His depth perception, too, is altered: "J'ai la vue malade, je vois trop près. Et ce n'est pas tout encore, il y a quelque chose qui manque. J'y suis: ce que je vois ressemble à une épreuve photographique, tous les objets semblent collés ensemble et paraissent à la même distance de mon œil. J'ai perdu le sens de relief" [My vision is ill, I see too close. And that isn't all, there is something missing. I follow it: what I see looks like a photographic print, all the objects seem stuck together and appear at the same distance from my eye. I've lost my depth perception] (12). At first he attributes these changes to his head injury, as well as the way that "mes muscles ne m'obéissent pas tout de suite" [my muscles don't obey me right away] and some changes in his hearing: first "les moindres vibrations sonores m'ébranlent ainsi qu'un tonnerre," [the slightest sound vibrations shake me like thunder] then he realizes that his voice sounds strange to him: "faible, hésitante, bizarre, avec un timbre qui m'effraie" [weak, hesitant, strange, with a timber that frightens me] (12, 13).

When Jacques recovers enough to ask for a mirror, he receives a shock: "*je ne me suis pas vu*: une étrange hallucination m'a fait apparaître le visage de Marcel… un pâle visage de fantôme aux yeux hagards […] Il a le front bandé comme moi et me considère avec une sorte d'épouvante" [*I did not see myself:* a strange hallucination made Marcel's face appear to me… a pale ghost's face with hagard eyes […] His forehead is bandaged

like mine and he considers me with a sort of fear] (22). With some investigation, Jacques learns that

> Dans la nuit du 22 au 23 novembre 1914, le sous-lieutenant Marcel Lauret […] a pris part à une patrouille, avec son lieutenant [Jacques] qu'il aimait comme un frère… Le lieutenant a été grièvement blessé à la tête… le sous-lieutenant Lauret est tombé avec lui, et, d'après la position des deux corps, il est probable que la même balle qui avait traversé le cerveau de l'un est allée se loger dans le crâne de l'autre […] Le lieutenant est mort dans la nuit. (29)
>
> In the night of the 22nd to the 23rd of November 1914, sub-lieutenant Marcel Lauret […] took part in a patrol, with his lieutenant [Jacques] whom he loved like a brother… The lieutenant took a serious head wound… sub-lieutenant Lauret fell with him, and, from the position of their two bodies, it is probable that the same bullet that went through the brain of one came to be lodged in the skull of the other […] The lieutenant died in the night.

The strange result of these events is, Jacques concludes, that his spirit now exists in the body of his friend and fellow soldier, Marcel Lauret, and this is the reason that his sensory perceptions have changed. Although Marbo does not explore those changes with the depth that Renard did, Jacques does note that "toutes les couleurs me paraissent singulières maintenant" [all colors appeared different to me now] (14), and the effects of Marcel's body on Jacques's mental being will later become apparent.

In the hospital, however, confronted with his strange predicament, Jacques decides to keep his true identity secret, on the assumption that nobody will believe him. However, he reconnects with his (Jacques's) grieving wife, Lucette, as well as the former employer he refers to as *le Maître,* in hopes that they will see past Marcel's face to Jacques's soul. Unfortunately, neither of them are capable of doing more than occasionally noting a similarity between Jacques's ideas and Marcel's new ones. Jacques decides to win Lucette's heart back and marry her again as Marcel, without revealing himself until later; however, her experience of grief and independence has changed her from the sweet, docile young woman he remembers.

Jacques's encounters with Lucette are marked by his constant assessments and readings of her face and body: during her first visit to the hospital, "Droite dans ses voiles de crêpe, elle s'appuie au mur et sanglote […] Elle assuie ses yeux, elle respire, elle me regarde sans me voir et toute mon âme s'élance vers elle […] Je vois sur son visage resplendir la passion qu'elle avait pour moi et sa douleur infinie" [Straight under her crepe veils, she leans against a wall and sobs […] She wipes her eyes, she breathes, she looks at me without seeing me and all my soul rushes towards her […] On her face I see the radiant passion that she had for me and her infinite sadness] (44). Later, when Jacques has undertaken a new seduction of Lucette: "[Lucette] me jette un regard qui semblait demander si je prenais garde à elle. […] j'ai cru sentir une sorte d'appel immatériel, aigu, qui a jailli de ses paupières soudain levées" [Lucette] throws me a glance that seems to ask that I beware of her. […] I thought I felt a sort of sharp immaterial call, that burst from her suddenly lifted eyelids] (90). A few pages later, "Elle est blanche et rose, fine ainsi qu'une cire, avec deux grands yeux délicats comme des fleurs et un cou fragile"

[She is white and pink, fine as wax, with two big eyes delicate as flowers and a fragile throat] (97); then "Elle rougit de plaisir, c'est comme si une petite flamme s'allumait sous sa peau" [She flushed with pleasure, as if a small flame lit beneath her skin] (100). While by themselves these descriptive phrases might seem unremarkable, their frequent repetition renders them a dominant aspect of the novel. In the very next scene, Jacques's narration once again emphasizes Lucette's eyes: "Elle s'est tournée vers moi, lentement, et, dans ses yeux aggrandis, nimbés d'ombre, j'ai vu passer son regard d'autrefois" [She turned towards me, slowly, and, in her widened eyes circled in shadow, I saw pass through her look from before] (102); and again, after some older women intervene to chastise her for her familiarity with Marcel, her gestures and skin:

> Quand elle est revenue, elle s'est rassise. Ses mains tremblaient. Son regard avait changé; il m'a fait l'effet d'être masqué par une expression de colère. Je la reconnaissais mal: derrière la pulpe fine de son visage, je voyais dessiner les linéaments du même visage, vieilli, épaissi, ayant perdu son charme enfantin […] Ses doigts fourrageaient parmi le feuillage sombre des roses. Une petite branche détacha, lui coula sur le poignet, elle la rejeta vivement. Une certain satisfaction de m'avoir "remis à ma place" affleurait sur ses traits. (103-104).
>
> When she came back, she sat down again. Her hands trembled. Her gaze had changed; it seemed to me to be masked under an expression of anger. I barely recognized her: behind the fine flesh of her face, I could see the drawn lineaments of the same face, aged, thickened, having lost its childlike charm […] Her fingers dug among the roses' dark foliage. A

> small branch came off, brushed against her wrist, and she threw it off irritably. A certain satisfaction at having "put me in my place" showed in her features.

Lucette's eyes, hand activity, and the blood or lack thereof under her skin are a code that Jacques tries to read throughout the novel, so often that it would be impossible to list all the examples. Notably, these descriptions often feature some subtle, unconscious movement: Lucette blushes or pales, trembles, blinks or otherwise moves her eyes, or some expression passes over her face. Marbo's close-up shots of Lucette are thus cinematic portraits rather than photographic ones, featuring her face in motion and transformation, rather than in stasis.

Often it seems as though the spoken content of Jacques's conversations with Lucette is far less important to him than the messages that he seeks in her face and body. Lucette's words are often banal or unimportant, and Jacques does not report or even seem to listen to them. In that first meeting at the hospital, again, "Elle me dit de pauvres petites phrases hachées, qui seraient bien ternes s'il n'y avait pas ce rayonnement magnifique de ses yeux mouillés… Je ne sais même plus ce qu'elle m'a dit […] Je dévorais son visage, et l'expression qui faisait passer sur ses traits un masque de désolation" [She told me poor, choppy little phrases, which would have been dull if not for that magnificent radiance in her damp eyes… I don't even know what she said to me […] I devoured her face, and the expression that made her features into a mask of desolation] (45), and sometimes he is even "désespéré de la puérilité de ce qu'elle a dit" [in despair over the puerility of what she's said] (58). At other times silence is even preferable, since words only conceal what the face reveals: "il me semblait que je l'aurais

tuée pour la faire taire" [I felt like I could kill her to make her keep quiet] (154), Jacques says of Lucette shortly after their marriage, with their relationship already swiftly deteriorating. And Jacques himself comes to see his words as an inconsequential accompaniment to the significant language of the face and body: "Je parlais sans me préoccuper des mots que je disais et je crois qu'elle ne les écoutait guère […] Pour moi, j'étais uniquement préoccupé de l'expression que je lui voyais" [I spoke without worrying about the words I was saying and I believe she did not listen to them at all […] As for me, I was only concerned with the expression that I saw in her] (150).

Lucette, too, demonstrates the same preference for the visible signs of the face and body rather than spoken words. When the man she believes is Marcel calls up a memory of her first honeymoon with Jacques in Italy, "Ses lèvres tremblaient, comme si elle eût voulu parler et se fût trouvée trop submergée par l'émotion pour le faire […] — Tais-toi, oh, tais toi…" [Her lips trembled, as if she would have liked to speak but found herself too submerged in emotion to do so […] — Be quiet, oh, be quiet… [she said]] (167). Early in the novel, as she grieves the husband who has supposedly been killed in the war, she says she misses not their life together or their shared values, nor does she mention his voice or his touch—but rather "'ce qui m'obsède, c'est la certitude que je ne verrai plus jamais son sourire, la façon dont il allumait sa cigarette'" [what obsesses me, is the certainty that I will never again see his smile, the way he would light his cigarette] (64). Throughout this novel, for both of the main characters, the face and body furnish the primary mode of communication, far above spoken language in its significance and effectiveness. Marbo's preference for bodily, rather than verbal, expression and communication can be seen as reflecting the way that pre-sound film necessarily pared

back characters' dialogue, leaving the audience to infer all but the most essential phrases, and relying on actors' emphatic, legible facial expressions and gestures to communicate their characters' desires.

However, in *Le Survivant,* the body or face is not only a surface on which internal emotions become manifest; it also frames and determines what those emotions are. Although Jacques is determined to win Lucette back, his pursuit of her is cold and manipulative, and his interest in her response to him concerns the success of his efforts rather than true love for her. He seduces Lucette as Marcel would have, experiencing Marcel's muted emotional responses. While at first it seems that this is because Lucette has changed, gradually it becomes clear that Jacques, ensconced in Marcel's body, is becoming more and more amalgamated with Marcel. When he converses with Marthe Leclerc, a former lover of Marcel whom Jacques does not especially like, he finds himself compelled toward her despite himself: "Ce qu'elle dit m'est odieux. Néanmoins je l'écoute, à cause de cette voix qu'elle a, de cette voix qui m'engourdit sous un charme physique" [What she says is odious to me. I listen anyway, because of that voice she has, that voice that dulls me under a physical charm] (187). As a result of this physical compulsion towards Marthe, Jacques feels "démêler en moi quelque chose comme la sérénade de don Juan; il y a discordance entre mes pensées et une sorte d'accompagnement sensuel qui frémit sous la mélodie que je veux noble et nette" [coming out within me something like the serenade of Don Juan; there is a discord between my thoughts and a sort of sensual accompaniement that trembles under the melody that I want to make noble and clean] (189). That is, the mind of Jacques is still in

conflict with the body of Marcel, fighting Marcel's modes of sensory perception, hereditary and ingrained inclinations, and physical desires.

As Jacques learns in conversation with the *Maître,* his efforts to maintain separation between himself and Marcel are doomed to fail. In a discussion about the nature of the personality, the *Maître* informs Jacques and another assistant that:

> Notre constitution physique régit nos actes; ceux-ci s'enchaînent de par la nature des molécules qui nous composent et du rapport de celles-ci avec le monde extérieur. Ce que Marcel appelle "personnalité," ce que les philosophes appellent "conscience," c'est une perception surajoutée qui prend connaissance des événements, qui les enregistre mais ne les commande jamais…
>
> Notre "conscience," c'est un spectateur que nous portons en nous-mêmes, et qui n'intervient pas dans notre existence… C'est un passager, ce n'est pas un pilote, —mais ce passager a l'illusion qu'il commande la manœuvre alors qu'il la subit… (200)
>
> Our physical constitution controls our acts; these acts occur according to the nature of the molecules that compose us and the relationship of those molecules to the exterior world. What Marcel calls "personality," what the philosophers call "conscience," is an additional perception that becomes aware of events, which records them but never commands them…
>
> Our "conscience" is a spectator that we carry within ourselves, and which does not intervene in our existence… It's a passenger, not a pilot,

> —but this passenger has the illusion that he commands actions, when he submits to them…

Though the assistant attempts to argue for a higher form of reason or thought, claiming that personality is real, and that, "Nous sommes des pilotes, nous menons la machine qui nous est confiée" [We are the pilots, we direct the machine given to us] (202)—recalling the Cartesian image of the soul directing the body—the *Maître* dismisses this. He argues that personality is "une propriété du cerveau humain" [a property of the human brain] (202) and a "Phénomène physico-chimique," [Physico-chemical phenomenon] and says further, "Modifiez quelques cases du cerveau, vous modifiez la conscience et la mémoire d'un individu" [Modify a few brain cases, you modify the conscience and the memory of the individual] (203), offering examples of split personalities as evidence. Jacques, whose "case du cerveau" [brain case] has evidently been switched, finds himself questioning whether he may simply be Marcel Lauret gone mad, although he has several times confirmed that he possesses memories belonging to Jacques that Marcel would not have known.

Later, when the assistant protests that science cannot explain everything and certainly not the soul, the *Maître* maintains that the soul is part of the brain, possibly only "'une très petite partie de votre cerveau,'" [a very small part of your brain] which, placed in another person, would reproduce in them "'votre intelligence, les souvenirs que vous avez en cette minute, et vos opinions et croyances'" [your intelligence, the memories you have right this minute, and your opinions and beliefs] (204). Unknowingly, the *Maître* offers a possible explanation for Jacques's predicament here, going on to hypothesize: "J'admets un instant votre âme immortelle. Il faut la supposer portée par une

indestructible parcelle de substance, un 'atome' psychique que rien ne pourra anéantir" [I'll admit for an instant your immortal soul. One would have to suppose it is carried by an indestructible particle of substance, a psychic 'atom' that nothing could destroy] (205). Jacques is left to hypothesize that the tiny part of his brain that houses his soul has been transplanted into Marcel's body when they were both wounded, and to wonder whether: "l'on puisse transformer un homme en un autre homme en lui infusant un peu de cerveau de cet autre homme" [one can transform a man into another man by infusing into him a bit of brain from that other man] (207).

Jacques cannot bring himself to pose this question to the *Maître*, but the rest of the novel seems to bear out the *Maître*'s hypothesis that the body influences the mind as much as the mind influences the body. Despite his mental aversion to Marthe, Jacques finds himself giving in to his physical attraction to her and asking himself afterward: "C'est moi? Est-ce bien *moi,* c'est-à-dire qui fait l'essence consciente et raisonnable de mon être? N'est-ce pas plutôt cette misérable carcasse héritée de Marcel […] qui m'impose ses impulsions et ses désirs?" [Is it me? Is it really *me,* who constitutes the conscience and reasoning essence of my being? Isn't it instead this miserable carcass inherited from Marcel […] that imposes his impulses and desires on me?] (213). This question arises again as another of Marcel's pre-war vices also emerges: without any forethought or acknowledged desire, Jacques purchases some black-market absinthe and, although in his previous life he drank little alcohol, "je débouchai la bouteille et je préparai un verre sous le robinet, avec des gestes précis et minutieux" [I uncorked the bottle and made myself a glass under the faucet, with precise and careful gestures] (217).

Gradually he comes to understand that Marcel's emotional reactions and sensory perception are stronger and more sensitive than his own: "Le système ancien de mes nerfs n'a jamais enchaîné en moi la violence d'émotion que je connais maintenant… Les parfums étaient loin d'être ce qu'ils sont; les sons ne me bouleversaient pas comme ils le font depuis que j'ai changé d'habitacle; je n'ai jamais eu soif comme hier" [The former system of my nerves never unleashed in me the violent emotions that I have now… Scents were far different from what they are; sounds did not overwhelm me as they do since I changed my habitat; I have never had a thirst like I did yesterday] (221-222). As a result, he needs a stronger will in order to resist devolving into an adulterous drunk. In an unusual moment of addressing himself in the second person—almost as if some remnant of Marcel's personality were instructing him—Jacques recalls that "C'est bien toi qui es au volant quand tu veux. L'appareil t'obéira si tu as la volonté de le conduire" [It is you who has the steering wheel when you want to. The machine will obey you if you have the will to drive it] (226). He manages to get control of his drinking habit and begins treating Marthe with contempt, although he fails to leave her alone entirely.

Despite this reassertion of his will, Jacques's certainty in his own identity, so firm at the beginning of the novel when he speaks of "moi, Jacques Breton" (15), is now clearly shaken. His bond with Lucette, too, is irreparably damaged. He sees her now as "l'âme qui se trouve enfermée dans le joli corps de cette femme… […] l'être pensant qui est prisonnier, comme le mien, qui est lié, comme le mien, à un système de nerfs, de muscles, d'organes qui le tyrannisent" [the soul that finds itself enclosed in the lovely body of that woman… […] the thinking being who is a prisoner, like mine, who is tied, like mine, to a system of nerves, of muscles, of organs that tyrannize it] (233). His

solution is to return to war along with weapons that he has helped the *Maître* to develop, at the likely cost of the life and identity that he no longer values above all else. “Il m’apparaît tout d’un coup qu’il n’est pas si important de savoir *qui* je suis. […] J’ai un corps d’homme bien portant à mettre à la disposition de la France […] Que je sois Jacques ou Marcel, comment pourrais-je faire autrement?” [Suddenly it became clear to me that it wasn’t so important to know *who* I am. […] I have a healthy man’s body to place at the disposition of France […] Whether I am Jacques or Marcel, how could I do otherwise?] (239-240). The novel ends with what is presumably a patriotic suicide, as the role of heroic soldier supercedes whatever individual identity may occupy it.

The question of the individual soul, the body, and the ways that each controls and influences the other, remains constantly present. Perceptions and emotions are not neutral, reasoned interactions with reality but framed, interpretive experiences that may be altered by the subjective systems involved. Through Jacques’s struggles with Marcel’s corporeal perceptions and desires, *Le Survivant* also shows the difficulty of separating what is perceived from the mode of perception, or what is communicated from the mode of communication; in short, how the body as medium determines what message the mind sends and receives. Only because Jacques has experienced life in a different body is he able to distinguish between his spiritual and his physical self.

While both *Le docteur Lerne, sous-dieu* and *Le Survivant* end up retaining a dualist understanding of mind and body, they also both consider the effects of the body on the mind in a deeper and more fundamental way than, for example, Gautier’s *Avatar*. Feelings of love, the appreciation of beauty, the intensity of anger or desire, the way the world looks and feels, all change, and seemingly the personality within the body must

fight not to be changed by it. The cinematic visual devices that Renard and Marbo both employ convey this changed world and self, creating a reading experience and narrative voice that recalls the new visual experience of the spectator-passenger, carried by the filmmaker's vision into the strange world of someone else's brain.

Chapter 3:

OUT OF BODY

In a famous sequence in Georges Méliès's *Le Voyage dans la lune,*[15] a team of astronomers travel via rocket from Earth to the Moon. First the astronomers assemble before the rocket and perform exaggerated bows, as if on stage, towards the camera and through it, virtually, to the cinema audience. They then climb into the rocket with the help of a scantily clad assistant, as in a magic show. The rocket launches from a giant canon towards the Moon, visible as a small circular target in the night sky above. But then the perspective changes: only the Moon is visible within a murky circle of clouds. Gradually the lunar disk appears to grow larger, as if the perspective were coming closer, and the indistinct shadows of its surface resolve into a human face. Suddenly the rocket appears in the Moon's eye, a crater that drips a dark, blood-like liquid, as the Moon reacts by wincing and sticking out its tongue.

---

[15] A restored, colorized version was released by Lobster Films in 2011, with soundtrack by Air; about 5:30 to 7:43: https://youtu.be/sh05WiO8cqg?t=5m21s

During this simulated approach to the Moon, a question may arise: who is looking? And how? That is, what perspective is represented here? In many of Méliès's films, the screen approximates a vaudeville stage, as it does in the beginning of this sequence, with the cinema audience virtually positioned as a stage audience. However, in this case the camera's perspective seems to move through space towards the Moon. We might think of the passengers in the rocket, but the rocket as shown is windowless. If someone were watching through a telescope on Earth, they would not see the Moon grow closer. Tom Gunning describes this perspective as "a non-human point of view, the view precisely of the projectile as it arcs towards the moon […] In effect, this is a peculiarly technological and modern viewpoint, the viewpoint of a speeding rocket" (107). Yet Gunning cannot be quite correct about this, since we see the rocket from outside when it lands in the moon's eye. In fact, the camera's perspective is not attached to any identifiable character (or even a fixed, identifiable space from which some hypothetical person might look) and it obeys none of the physical limits that constrain human perception. Rather, its vision represents an inhuman and unlocated gaze unattached to any human body or physical location, produced through technology.

If the human subject's sensory experiences are formed and constrained by the body, even as the body is formed and constrained by the discourses that surround it, then it follows that a gaze freed from the body constitutes a subjectivity that can burst forth from those constraints, both physical and political. "More perfect than the human eye" (Vertov 15), the cinema offers the possibility of this newly liberated gaze. Trick shots, editing, and other techniques can elide the laws of time and space to create a vision

"transcending ordinary human boundaries" (Gunning 107), a visual experience of disembodiment.

At the same time, visual techniques that emerged around the end of the nineteenth century made it possible to see the body itself in new and estranged ways. New techniques in microscopy and radiography in particular represented new ways of seeing and understanding the human body by rendering its interior available to vision; their combination with cinematography soon set that anatomical vision in motion. Soon after the cinematograph's début, popular science films capitalized on the popularity of written vulgarization (Béguet 14) to reveal the wonders of science and technology to a broad audience, in the form of spectacular moving images. The popular-science film has its antecedents not only in vulgarization in print, but also in other non-written forms of public presentation (Gaycken 24), such as public lectures, experiments, demonstrations, and exhibitions, which sometimes employed magic lanterns and other visual displays (Kember et al. 2-3, 11). Visual technologies thus extended and amplified the range of the analytical and disciplinary gaze at the same time that the cinema offered its liberatory visions. Bodiless visions offer both the exhilaration of discovery and a challenge to accepted knowledge and power, giving those who pretend to possess them—scientists, doctors, police, even the placid, eternal condescension of the Man in the Moon—a vigorous poke in the eye.

The novels I examine in this chapter emphasize that liberation from bodily limits may not be merely physical, but also social and political. As novelists explore beyond the limitations of the body and its sensory apparatus, they demonstrate how that freedom undermines the structures and avatars of power that could otherwise seem so permanent.

First in Marguerite Berthet's *L'Ascète du Mont Mérou* (1914), and then very differently in Blaise Cendrars's *Moravagine* (1926), characters use their minds to travel, experiencing new worlds and dimensions. Through trances and dreams, they escape not only their bodies and physical limitations, but also the scientific, institutionalized settings in which they are confined. Dream states are followed by copious, compulsive writing in which the character relates his experience.

Microscopy, radiography, telescopy, dramatic changes of scale, montage, flight, and improbable perspectives are among the effects these works present as out-of-body visions, all of which were visual experiences made possible by technological innovations that emerged in the decades before Berthet wrote her novel. The images these technologies produced were soon available to the general public through films, especially (but not only) popular science films and science fiction films. The cinema that emerges from those new techniques gives rise to a gaze that is at once analytical and spectacular—scientific and regulatory, but also fantasmatic and sensorial (Leroy 157, 161). Evoking the kinds of bodiless technological and scientific visions experienced in the cinema, these novels explore the boundaries of the body and the senses as a cinematic visual experience, presenting the experience of bodilessness as a transgressive, liberatory vision without limits.

Why should writers just after the beginning of the twentieth century demonstrate such a connection between liberation and disembodiment? Perhaps because, over the nineteenth century, the body was increasingly the object of disciplinary discourses that promoted its regulation in service of social cohesion. In *L'histoire de la sexualité 1: La volonté de savoir,* Michel Foucault describes the transformation of sovereignty from the

pre-Enlightenment power to put to death or to let live, into "un pouvoir qui s'exerce positivement sur la vie, qui entreprend de la gérer, de la majorer, de la multiplier, d'exercer sur elle des contrôles précis et des régulations d'ensemble" ["a power that exerts a positive influence on life, that endeavors to administer, optimize, and multiply it, subjecting it to precise controls and comprehensive regulations"] (*Volonté* 180/137). This power to regulate life, "de *faire* vivre ou de *rejeter* dans la mort" ["to *take* life or *let* live"] (*Volonté* 181/136), manifests on the level of the individual as discipline and training of the human body: an "anatomo-politique" "centré sur le corps comme machine: son dressage, la majoration de ses aptitudes, l'extorsion de ses forces, la croissance parallèle de son utilité et de sa docilité, son intégration à des systèmes de contrôle efficaces et économiques" ["centered on the body as a machine: its disciplining, the optimization of its capabilities, the extortion of its forces, the parallel increase of its usefulness and its docility, its integration into systems of efficient and economic controls"] (*Volonté* 183/139). State power no longer manifests in external controls in the form of public punishment applied by the sovereign, but rather as an internalized regime of discipline, articulated through cultural discourses and applied by the self, in an effort to transform the unruly individual body into a productive social entity. Exploring the disciplinary functions of medical moving images, Lisa Cartwright argues that the cinematograph contributed to the "emergence of a distinctly modernist mode of representation in Western scientific and popular culture" that was "geared to the temporal and spatial decomposition and reconfiguration of bodies as dynamic fields of action in need of regulation and control" (xi). These were tied, she writes, to the disciplinary

discourse that Foucault describes in *Surveiller et punir* [Discipline and Punish] as surrounding and regulating the human body.

The attempt to subjugate the body also involves demonstrating and mitigating the ways in which it may function as an obstacle to knowledge, through the careful management of the self. Whereas the Enlightenment understood the way to truth as a subjective process of observation and reasoning which occurs within the self, Seth Whidden describes how that conception of authority was in flux throughout the nineteenth century, changing and challenging ideas about who has the right to transmit their voice or vision and on what basis, as well as who has the right to challenge or interrogate that voice. During the Renaissance, a text or artwork was seen as the product of the author's skill and knowledge, and thus the author's name could be seen as the guarantor of the work's truth and importance. But as scientific methods changed in the Enlightenment, truth came to be based in the repeatability of experiments and the production of evidence (Whidden 2). The organizing, analyzing gaze of the scientific apparatus that reveals hidden systems and truths below subjective awareness offers an example of what Whidden calls a crisis of authority, "one of the defining characteristics of the modern era" (Whidden 1). At the same time, the nineteenth century also saw an interrogation and even rejection of authority that presaged Roland Barthes's declaration of the death of the author, particularly after the explosion in printing and publishing and the intense censorship of the Second Empire (Whidden 3, 13). Through parody, collaboration, rejection of previously accepted forms, multiplication, and other means, writers sought ways to demonstrate the vulnerability of authority that rests on the consent and acceptance of others, rather than objective truth (Whidden 143).

In terms of the authority of visual evidence to provide access to objective truth, the nineteenth century saw mechanical objectivity supersede human subjective vision as an ideal for image production. Lorraine Daston and Peter Galison define mechanical objectivity as "the insistent drive to repress the willful intervention of the artist-author, and to put in its stead a set of procedures that would […] move nature to the page through a strict protocol, if not automatically" (121). This distrust of human perception and interpretation of evidence stands in contrast to the Enlightenment, when the ideal of "truth to nature" held the thinking subject up as the ultimate creator of knowledge—while individual specimens might be flawed, the thinker could examine and interpret them to find the ideal form that underlay reality. Such interpretation became anathema when photography, microscopy, and other forms of mechanical image-making showed that those ideal forms could reflect imagination more than they did reality. Imagination therefore had to be cast aside; the scientist had to constrain their subjective preferences or beliefs that could lead to flawed conclusions, leaving the mechanical apparatus or procedure to the role of producing truth (Daston and Galison 160, 185). The new goal was the cultivation of a "scientific self," obedient to rigorous training in routine observation and documentation, and even more constrained than before—a subjectivity that incorporates objectivity within its very being (Daston and Galison 198-199).

But even as the body becomes a locus of discipline, a "pitiless place" […] "without recourse to which I am condemned," it also gives rise to the imagination of a utopian body: "a body without a body […] beautiful, limpid, transparent, luminous, speedy, colossal in its power, infinite in its duration. Untethered, invisible, protected—always transfigured," as Foucault says in a 1966 radio lecture on "Le corps utopique"

("Utopian Body" 229). Immediate experience shows the body as "the zero point of the world," from which "all possible places, real or utopian, emerge and radiate;" as such, it is also a space of closure, as is shown in the mirror image that organizes perception of the body as a physical organism (as in the Lacanian mirror stage) and in the corpse, which demonstrates its finitude ("Utopian Body" 233). Evident both in Cartesian dualism and the religious "myth of the soul" ("Utopian Body" 230), the utopian body is a fantasy of escape into eternal life as well as a projection of the self into that fantasy.

In his lecture on the utopian body, Foucault speaks only of the individual experience of the body, with little reference to the sociopolitical world in which that individual dwells. In his later works *La volonté de savoir* and *Surveiller et punir,* however, it becomes clear that bodily experience is not only individual and sensory but also political, an experience of power that exerts itself upon and through every fiber. The utopian body—beautiful, eternal, and omnipotent—can thus be understood as an escape from the disciplinary society as well. This is evident in the novels I read here, in which characters experience new powers and perceptions when no longer limited by their real, institutionalized bodies.

Alice Leroy argues that the film body also "fundamentally belongs to a utopian order" (Leroy 153): a utopia of transparency, temporal reversibility, and hybridity. It may or may not have any referent in reality, yet exists as "recorded absence and projected presence," "fragmented and hallucinated, half real and half fantasized" (Leroy 160). Further, the experience of the film's body also affects the spectator's body, Leroy writes, citing Raymond Bellour: "Both of them go through a remarkable process […] they no longer exist in an unambiguous mode of incarnation. One might even say that they

somehow leave their own bodies" (161). Thus the film body resembles the utopian body in its exemption from human temporality, in its escape from human limits, and often in its fantastical beauty and strength. As the spectator watches the film body, she projects a utopian fantasy of her own body onto the screen as well.

As Leroy shows, the film body offers the visual image and the spectatorial experience of an escape from the limited and aging individual body. Films that demonstrate bodiless visions, like Méliès's *Le Voyage dans la Lune,* and the novels that draw upon those visions, offer an experience of knowledge and power that the real body forecloses, and create a utopian fantasy of an all-seeing, unlimited self. If the body is a limited space, a distortion of knowledge, and an object of anatomo-political control, it is no wonder that an escape from the body entails an exertion of power and a denial of that control, a repudiation of social institutions that regulate experience and behavior. New visual experiences offer the possibility of freedom from the powers that discipline and punish.

L'Ascète du Mont-Mérou [The Ascetic of Mount Meru] (1914) reflects the new visual experiences that the cinema often presented, and especially those in popular science films. As Berthet's narrator sees in ways that the human senses cannot, his visions resemble the productions of inhuman, technological lenses such as the microscope or the fluoroscope. The narrator meets and converses with a group of microbes; on Mars, where the inhabitants possess a far greater range of vision than humans, he is fitted with lenses that permit him to see as they do; he sees a cabbage from an ant's perspective and listens to a debate among snails on the nature of humans based

on the snails' understanding of anatomy. His sensory adventures are not limited to the visual: with a hearing aid, he listens to an insect symphony and the music of the spheres; he travels on interplanetary currents to learn about the universe, electricity, and alien societies. All this occurs, it seems, in dreams that soon supersede and even invade his waking life, such that in the end, as framing letters between two "aliénistes" suggest, the narrator appears (at least from an outside perspective) to have gone mad. However, incidents suggest that he has in fact attained new sensory abilities and wisdom far beyond the ordinary.

Marguerite Berthet (1865-1937) studied pedagogy and eastern languages (including Sanskrit) at the Sorbonne and later became a teacher of mathematics and natural sciences. She taught first in Alençon and then at the École Normale de Jeunes Filles in Nevers from 1904 to 1921, a time during which she no doubt worked on *L'Ascète du Mont-Mérou* (Thuillier 27-28). The novel often draws upon materials that Berthet would have taught and could thus be seen in the context of the popular science or *vulgarisation* movement. In this tradition, as well as the tradition of Jules Verne and Camille Flammarion, Berthet's novel demonstrates scientific concepts and innovations by giving them a fictional framework and "first-person" narrative that emphasizes their wonder and novelty.

As an episodic series of dreams, *L'Ascète du Mont-Mérou* more closely resembles a cinematic experience than it does the Vernian *roman scientifique* [scientific novel]. Like popular-science films (and other films that imitated or parodied popular science imagery), Berthet's book places an educational thought experiment in the context of mysterious visual experiences that often blend with philosophy, fantasy, and humor.

Much like her contemporary Maurice Renard when he writes that "L'humanité, ne possédant sur l'univers qu'un petit nombre de lucarnes qui sont nos sens, n'aperçoit de lui qu'un recoin dérisoire" [Humanity, possessing only the few windows of our senses out to the universe, perceive of it only a pathetic little corner] (*Péril bleu* 450), Berthet is less interested here in transmitting information so much as in showing how our knowledge is limited by our modes of perception and the preconceptions that arise from them. Like the popular science films that were becoming common around this time, Berthet's work makes scientific knowledge into an experience of wonder and curiosity, asking and evoking many more questions than it answers.

Cendrars's *Moravagine*, on the other hand, centers on a character who has recently escaped from a lifetime in confinement. While the novel mostly relates his physical travels after his escape, I am interested here in the moments towards the beginning and end of his life, when he is physically confined and finds freedom through trance states. Cendrars's imagery in these instances, like Berthet's imagery, draws upon cinematic representations of the microscopic and the cosmic, even as his language recalls the poetic style of his explicitly cinematic writings. In phrases that fragment and collide, the imprisoned Moravagine floats free of his body, rising ecstatically in flight.

While some of these images are included in the final version of the novel, some appear in texts originally written as part of another work from which *Moravagine* would derive. In 1917, when Cendrars began work on a novel, he initially planned something quite different: *La Fin du monde,* an apocalyptic tale of two friends (Blaise Cendrars and Moravagine) who travel to Mars following a World War on Earth. The novel began with a "prologue lyrique" that was later published individually as the prose poem *Profond*

Aujourd'hui; a portion of that piece was also modified and repurposed as part of the chapter titled, "Nos randonnées en Amérique," ["Our Rambles in America"] a contemplation of the modern industrial world (144). On September 1st of the same year, however, Cendrars wrote *La Fin du monde filmée par l'Ange N-D* [The End of the world filmed by the Angel ND], ceasing work on the longer version, and went on to complete *Moravagine* instead (Flückiger xvii-xviii). Of the final chapters of *Moravagine,* which are called "Les Manuscrits de Moravagine," ["Moravagine's Manuscripts"] one is "L'An 2013" ["The Year 2013"] and summarizes this section of Cendrars's own planned novel (*Moravagine* 215-216); another is "La Fin du Monde" ["The End of the World"] described as a "scénario," which may be an "œuvre d'imagination" ["a work of the imagination"] or a text resulting from Moravagine's "mystérieux séjour sur la planète Mars" ["mysterious stay on the Planet Mars"] which the narrator claims he has translated from Martian and entrusted to Blaise Cendrars for publication (217/187). *La Fin du monde filmée par l'Ange N-D* is, in a sense, Moravagine's "scénario martien," a filmic text relating a character's interplanetary travel that has been accomplished in a trance state.

Cendrars's inscription of the cinematic reflects not only his viewing experience, but also his professional experience as assistant to filmmaker Abel Gance during the production of the films *J'Accuse* (1919) and *La Roue* (1923). Stylistically Gance's work is notable in part for his use of symbolic, non-realistic images (such as the dancing skeletons in *J'Accuse*) and rapid montage (deployed particularly in images of dangerously speeding trains in *La Roue*). As we will see, these filmic techniques find their place in Cendrars's cinematic writings, as well, to convey trance, flight, and a

disembodied narratorial gaze that collapses time and space through the power of modern technology.

Both Cendrars's and Berthet's novels undermine figures of scientific authority from the very beginning, as they introduce their major characters as confined in mental institutions where doctors underestimate and misunderstand them. The main target is psychiatry, a field that had emerged relatively recently from the often controversial work of hypnosis, magnetism and mesmerism. In *L'Ascète du Mont-Mérou,* this contempt for psychiatrists is evident in the opening letter from "Le docteur Alcobrifas, médecin-aliéniste à l'hospice de Luna-Halte, Au docteur Fricobasal, de l'Institut psychochimique, près l'Université de Leerengehirneborg" [Dr. Alcobrifas, physician-alienist at the Luna Halte hospice, to Dr. Fricobasal, Psychochemistry Institute, near the University of Leeerengehirneborg] (Berthet 7). The first obvious mockery lies in the doctors' comically similar names, which both recall Alcofrisbas, a pseudonym that François Rabelais used when publishing *Pantagruel,* and which Georges Méliès also gave to one of the astronomers in *Le Voyage dans la Lune.* The institutions' names also suggest humorous intent and possible references to Méliès, as Luna-Halte suggests a stop on the moon, and Leerengehirneborg, translated literally from German, means Empty-Brain-Castle. Clearly, these scientists cannot be relied on for a clear explanation of what follows.

As he forwards his patient's journal to his "confrère illustre" [illustrious colleague] Fricobasal in the hopes they will be useful in the latter's "belles études sur l'extériorisation des sentiments inconscients" [excellent studies on the exteriorization of unconscious emotions] (Berthet 7), Alcobrifas also provides his own description of how the patient in question went from a docile citizen, "bon employé, tranquille, ponctuel," [a

good employee, quiet and punctual] to a dangerous character showing signs of "dérangement cérébral," [cerebral derangement] who must now be confined and subdued:

> Dans les derniers temps, il lui arriva de manquer à son bureau; il montait dans un véhicule quelconque, et il n'en descendait qu'au point terminus. Enfin, un jour, il fît arrêter un individu qu'il accusait d'avoir volé la réticule d'une dame; il avait lu les pensées de cet homme, prétendait-il, dans son cerveau. Le vol ayant été reconnu exact, notre sujet devenait dangereux: voyez à quelles complications diplomatiques conduirait une telle faculté ! (Berthet 8)
>
> [In the final days, he happened to go missing from his office; he would get in a bus at tandom, and he would get off only at the terminus. Finally, one day, he had an individual arrested, whom he accused of having stolen a woman's purse; he had read this man's thoughts, he claimed, in his brain. The theft having been admitted exactly as described, our subject was becoming dangerous: you can see to what diplomatic complications such a faculty might lead!]

Now institutionalized, the patient has proven calm and tractable; he spends his time reading ancient texts, meditating, and writing prolifically. "Bref," Alcobrifas writes, "n'eût été sa folie avérée, il avait toutes les allures d'un sage" [In short, if it were not for his admitted insanity, he had all the appearance of a sage] (Berthet 9). This patient's manuscript, his own description of his transformation, constitutes the main body of the novel.

That manuscript begins as the narrator, contemplating the relationship between the soul and the body, believes that he is "sur la voie d'une grande découverte" [on the path to a great discovery] (12)—yet this path is one he does not know how to navigate. He asks, out loud, "Mais qui me guidera dans cette route perilleuse où le Rêve et la Réalité se côtoient, et qui frôle les rochers des Illogismes, comme les abîmes sans fond de la Folie?" [But who will guide me along this dangerous path where Dream and Reality collide, which verges on the rocks of Incoherence, like the bottomless abysses of Madness?] (12). The wished-for guide then appears: a strange old man with "un sourire à la fois sarcastique et bienveillant, et ses yeux, grands et beaux, semblaient regarder au loin quelque soleil mystérieux" [a smile at once sarcastic and benevolent, and his large, beautiful eyes seemed to look into the distance at some mysterious sun] (13). The narrator immediately recognizes this figure as the Ascetic of Mount Meru, "celui dont l'œil est ouvert sur toutes choses, celui qui ne peut vieillir" [he whose eye opens on all things, he who cannot grow old] (13).[16]

---

[16] In Hindu mythology, Mount Meru is a sacred mountain at the central axis of the earth, source of the Ganges river, whose upper regions are home to the gods (George Williams 18, 40). Berthet's Ascetic is unnamed but may recall the sage Vyasa, supposedly the original composer of the *Mahabharata,* who wrote: "This work opens the eyes of the world blinded by ignorance. As the sun dispels darkness, so does Bharata […] As the full moon by shedding soft light helps the buds of the lotus to open, so this Purana by its exposition expands the human intellect. The lamp of history illumines the 'whole mansion of the womb of Nature'" (Narayan xxvii).

While one might view the Ascetic as an alternative authority, his function in the text is less to dispense wisdom than to open up new avenues for gaining wisdom through different kinds of experience. His few words—spoken in a voice that is repeatedly likened to "le grincement d'une porte" [the creaking of a door] (12, 16, 44) and "une porte qui s'ouvre" [a door opening] (23, 36)—serve to question the narrator's assumptions about the world, as the Ascetic interrupts scenes of daily life to ask, "'Qu'appelles-tu *voir clair*?'" (23), "'Qu'appelles-tu *loin*?'" (36) and "'Qu'appelles-tu son? Qu'appelles-tu lumière?" (58) [What do you call *seeing clearly*? What do call *far*? What do you call sound? What do you call light?], and similar questions. These questions always precede a sudden shift in location, the transportation of the narrator into a new scene where his previous understanding of sight, distance, sound, light, etc., will be revealed as partial and limited. In short, the Ascetic does not dictate answers or impose truth. Instead, his questions open doors by challenging the narrator's pre-conceived ideas, many of which are the consequence of the human body's limited senses.

Cendrars, as well, begins his novel with a rejection of medical science and its practitioners in a prologue that establishes his narrator's contempt for the profession of which he is a part. Raymond La Science[17] is a doctor specializing in neurological conditions, who argues in his prologue that illness is not an aberration but a natural variation in the human state, which medical science attempts to suppress in favor of an

[17] This "pseudonym" identifies the doctor with criminality and anarchy, as Cendrars has borrowed it from Raymond Callemin, a leading member of the criminal anarchist Bonnot gang who was convicted of murder and executed by guillotine in 1913.

artificial conception of health that ultimately weakens the entire human race. He condemns doctors in general as "séniles, impuissants, eugéniques" ["senile, impotent eugenists"] and *aliénistes* as "les serviteurs du crime des riches," ["lackeys of the rich man's crime"] (14/18) offering up the example of his employer at the Waldensee sanitarium, a celebrity doctor "Stein" who uses his position of trust to gain power and money. As a consequence of his philosophy, La Science plans to "dresser un réquisitoire terrible contre les psychiatres, […] détruire leur pouvoir, les livrer à la vindicte publique" ["to draw up a terrible accusation against these psychiatrists […] destroy their power and deliver them to public obloquy"] (15/19). His means of revenge will be the release of serial murderer Moravagine, a patient whom he identifies as an "individu superbe," [superb individual] one of the "grands fauves" [great beasts] he wishes to see free (20).

La Science observes that Moravagine has been isolated or imprisoned his entire life: "seul, entre quatre murs, derrière des grilles et des barreaux" ["alone, within four walls, behind grilles and bars"] (*Moravagine* 24/14). For this "seul descendant authentique du dernier roi de Hongrie," ["sole authentic descendant of the last King of Hungary"] solitude begins at birth, when the premature orphan, "le dernier rejeton de la puissante famille des G…y," ["last scion of the powerful house of G…y"] is placed in a "couveuse surchauffée" ["overheated incubator"] (*Moravagine* 27/31). With no immediate family, the child is surrounded only by the domestics and soldiers who attend, but do not befriend him. The sole human connection he makes is to Princess Rita, to whom he is married at age six. From an early age he is given to acts of rage and mutilation, as well as suicidal and homicidal ideation (*Moravagine* 32, 35). When he attempts to escape the palace where he lives, he is crushed beneath his horse, sustaining

injuries that his caretaker leaves untreated as punishment. This caretaker, a distant relation referred to as "le sinistre vieillard de Vienne" ["the sinister old man in Vienna"] (*Moravagine* 32, 33/36), is the only authority figure that the child Moravagine mentions; he is mostly absent, and mostly malicious. As a result of the old man's intentional neglect, Moravagine's broken bones turn into permanent impediments and deformities, leaving him trapped not only by his situation but also by his crippled body.

Later, when imprisoned for murdering Princess Rita, he is untroubled by his small cell, since he is already "habitué […] à mener une vie close, sédentaire et quasi de complète immobilité" [used to living a sheltered, sedentary life of almost total immobility] (*Moravagine* 46). His state of enclosure within his own body, however, now intensifies: "Je passais mes journées sur mon grabat, […] les yeux clos, les oreilles pleines de cire, recroquevillé sur tout mon être, petit, petit, immobile comme dans la ventre de ma mère" [I spent my days on my cot […] eyes closed, ears full of wax, shrivelled through all my being, small, small, still like in my mother's belly] (*Moravagine* 47-48). Prior to La Science's intervention, then, Moravagine has lived a life of physical confinement in high contrast to the rage and violence contained within his weakened form, and, deriving from them, a power that he will begin to grasp through the visions he experiences as a rebirth in this imprisoned and catatonic state.

Before and after his pre-fugitive life, Moravagine's visions are associated with flight, particularly images of the sky and sensations of rising upward. As an isolated child, Moravagine seeks respite from the halls of the Fejervar palace through such an imaginary ascent:

> je m'étais sauvé dans la prairie […] une prairie immense, toujours pleine de soleil et de cricris lumineux, où le ciel était plus grand, plus bleu qu'ailleurs, où j'avais toujours rêvé de vivre, de m'évanouir dans la liberté, de disparaître à jamais […]
>
> One day I had run away to the meadow which lay at the end of the park—an immense meadow always filled with sunlight and shining crickets, where the sky was greater and more blue than elsewhere, where I always dreamed of living, of going mad from sheer freedom, of disappearing forever […] (*Moravagine* 29/32-33)

A soldier retrieves the boy at dusk. With "leur uniformité, de la régularité de leurs mouvements saccadés" ["their uniformity, by the regularity of their jerky movements"] and "le bruit argentin des éperons et le cliquetis de la chaînette du sabre" ["silver sound of the spurs and the rattling of the sabre-chain"] each time they salute, the soldiers have previously appear to the young Moravagine "comme de brillantes machines" ["like heavy, highly intelligent machines"] (28-29/32). After this particular soldier carries him inside, he finds that "tout bruit mécanique de moteur, d'activité de machine se lie depuis lors à des images d'étendue, de lumière, de ciel, d'espace, de grandeur, de liberté, et m'élève et me balance avec une force prodigieuse" ["the mechanical sound of any motor or moving machinery has been connected ever since in my mind with images of distance, of light, of sky, of space, of immensity, of freedom, and moves me still with prodigious violence"] (29/33). Later, in his adolescence, Moravagine spends hours staring towards the west, the direction of Princess Rita, but also the direction of the prairie. As he stares, again his attention is drawn to the sky: "Tout devenait voix, articulation, incantation,

tumescence. Je remarquais le va-et-vient de la cime des arbres ; les frondaisons du parc s'ouvraient, se fermaient, s'agitaient comme des formes voluptueuses; le ciel était tendu, cambré comme une croupe" ["Everything around me became a voice, an articulation, an incantation, a tumescence. I could see the swaying of the tree-tops: the foliage of the park opened and closed, borrowing the gestures of voluptuous forms; the sky was tense and arched like a rump"] (*Moravagine* 35/38). This vision gives him a sense of erotic satisfaction and omnipotence which will return years later, even more powerfully.

In long-term solitary confinement after the murder of Princess Rita, Moravagine sinks into a state of immobility and dispair, perhaps even catatonia. As he watches the walls in terror, seeing hideous insect-covered faces there, the childhood fantasy recurs: "j'entendais un bruit d'éperons. Un cuirassier blanc entre dans ma cellule. Il me projette dans l'air comme un ballon, me rattrape, me balance, jongle avec moi" ["I heard the sound of spurs. A white cuirassier enters my cell. He throws me in the air like a ball, catches me, swings me to and fro, juggles with me"] (49/52). From this remembered experience of elevation comes freedom into a cosmic space: the ceiling disappears, the cell expands, the prison walls dissipate, until all that holds Moravagine is the weak container of his body: "Il n'y a plus qu'un peu de chair humaine, dérisoire, qui respire doucement. Je suis comme dans une tête où tout parle silencieusement" ["Nothing is left but a derisory bit of human flesh, gently breathing. It is as if I were inside a head where everything is a kind of silent speech"] (50/52). As his awareness expands, even this falls away:

Systole, diastole.

Tout palpite. Ma prison s'évanouit. Les murs s'abattent, battent des ailes. La vie m'enlève dans les airs comme un gigantesque vautour. À cette hauteur, la terre s'arrondit comme une poitrine. On voit à travers son écorce transparentes les veines du sous-sol charrier des pulsations rouges […] Par au-dessus, comme des poumons noirâtres, les mers se gonflent et se dégonflent alternativement. Les deux yeux des glaciers sont tout proches et roulent lentement leur prunelle. Voici la double sphère d'un front, l'arête brusque d'un nez, de méplats rocailleux, des parois perpendiculaires. Je survole le Mont-Dore plus chenu que la tête de Charlemagne et j'atterris sur le bord de l'oreille qui s'ouvre comme un cratère lunaire.

Systole, diastole.

All is palpitating. My prison disappears. The walls are struck down, there is a beating of wings. Life lifts me into the air like a gigantic vulture. At this height the earth is rounded like a breast. One can see through its transparent crust the veins of the core with their scudding, red pulsations. […] Above, like dusky lungs, the oceans swell and fall in turn. The two glacier eyes are close together and roll slowly in their sockets. Now see the double sphere of a forehead, the sudden crest of a nose, its flinty ledges, its steep walls. I fly across Mont Dore, hoarier than the head of Charlemagne, and land on the rim of the ear which yawns like a lunar crater. (*Moravagine* 50/52-53)

Here Moravagine detaches from his own body and experiences a new perspective from a distance, one that sees the Earth itself as a human-like body that is fragmented and transparent, its organs visible as if seen through a fluoroscope or with X-rays. When he enters that body and sees it from within, the view changes from a perspective in flight over the Earth to that of a microscope, seeing the body and its workings at a dramatically different scale.

In confinement, however, such travels can be accomplished only by mentally disengaging from the body itself, and the facsimile of a medical report that describes Moravagine's death shows that once airplane flight became impossible, he once again returned to mental flight. After a separation, La Science finds his friend in a hospice for veterans, "dans un état inimaginable d'exaltation," ["in an unimaginable state of exaltation"] writing twenty-three hours a day with only morphine to sustain him (*Moravagine* 205/192). "Il n'appartenait plus à ce monde," ["He was no longer of this world,"] La Science writes:

> Il se croyait sur la planète Mars. Et quand je venais le voir, […] il se cramponnait à mon bras, réclamait la terre à grands cris, cherchait le sol, les arbres, […] des deux mains, bien au dessus de sa tête.
>
> He thought he was on the planet Mars. And when I came to see him […] he would clutch my arm, demanding loudly to go back to earth, groping high above his head with both hands for soil and trees […] (*Moravagine* 205/192)

The post-mortem medical report that La Science includes in his narration describes how Moravagine's physical state has deteriorated, remarking in particular on his diminished

vision and the strange behavior of his pupils, which dilate and contract seemingly regardless of his surroundings (209). When "le malade accuse une amaurose complète," [the patient claims complete amaurosis] saying that he is "dans une nuit profonde," [in a dark night] this instability of the iris is noted again, suggesting to the reader that Moravagine is in fact seeing something that is not physically present (210-211). Despite all his physical ailments and periods of narcoleptic sleep, Moravagine is euphoric: "le malade garde ce sentiment d'euphorie qui lui fait dire chaque jour qu'il est dans un monde supérieur, ailleurs, qu'il va mieux, que bientôt il se lèvera pour aller en convalescence, etc." ["the patient maintains this feeling of euphoria which impels him to say each day that he is in a superior world, in another place, that he feels better, that he will soon be getting up and leaving to convalesce, etc."] (211). After Moravagine's death an autopsy reveals a brain tumor, to which his doctor attributes his supposed hallucinations. La Science, however, receives the manuscripts resulting from Moravagine's manic, morphine-fueled writing sessions (which he summarizes in the final chapters of the novel) and believes them to represent an actual interplanetary voyage. The mental flights at the end of Moravagine's life parallel those of his early years: again he is confined physically, both by walls and by the infirmities of his own body; and again, he floats free into another world, without the limitations that body imposes.

This combination of expansive sky images with the mechanical sounds of motors produces an impression of airplane flight, an experience that the adult Moravagine will seek out by becoming a pilot in World War I. Paul Virilio terms the visual experience of a passenger or driver of a fast-moving vehicle as "dromoscopie," the kind of vision common to the cinema and various forms of rapid mechanical transportation, including

trains, planes, motorcycles, and automobiles, which became accessible in the nineteenth and early twentieth century. Although Virilio opposes dromoscopy (the vision produced by speed) to stroboscopy (the vision produced by light) in terms of the passenger who is projected through a landscape of images versus the spectator who sits still while the images are projected before him, he shows that nonetheless they are similar visual experiences. In addition, the dromoscope enforces a linear experience of time and space, as a driver must move through a landscape in a specific order, whereas the cinema can cut and rearrange images and events such that time and space themselves are aesthetically rearranged (*Negative Horizon* 108). Yet in each apparatus, the viewer sits in place and observes motion through a screen, whether a movie screen or a windshield, such that "*vision replaces life*" and the viewer "is now content to remain waiting in front of the audiovisual device, hoping that the dromovisual device will attain in its turn the instantaneity of ubiquity" (*Negative Horizon* 116, italics in original). Thus Virilio concludes that "between the audiovisual media and the automobile (that is, the dromovisual), there is no difference; *speed machines*, they both give rise to mediation through the production of speed" (*Negative Horizon* 116). The vision made possible by the "transportation revolution" is "*a cinematic projection of reality,* the fabrication of a world, of a world of artificial images, *a montage of dromoscopic sequences*" (*Negative Horizon* 118, italics in original).

Moravagine's visions of flight, then, are also cinematic visions, views from the apparatus that abstract the self from its bodily experience. The prose in these passages frequently emphasizes the same poetic devices in *New York in Flashlight* and *L'ABC du cinéma*: a staccato cadence and a rapidly shifting series of images that creates a

kaleidoscopic montage effect. Cendrars's work as assistant to Abel Gance on *La Roue* (as well as the earlier *J'Accuse*) would have provided him with a powerful example of the relationship between rapid travel and cinematic vision, as the film includes several instances in which the onrush of a speeding train is represented through Gance's signature rapid montage. In such sequences, the camera may combine or contrast the perspectives of several different characters as well as occupying, like Méliès's view of the rocket in *Un Voyage dans la Lune,* spaces which no human could. As Cendrars writes in *L'ABC du cinéma*, the cinema is a "Tourbillon de mouvements dans l'espace" ["Whirlwind of movements in space"] in which "Tout tombe. Le soleil tombe. Nous tombons à sa suite […] Tout s'ouvre, s'écroule, se fonde aujourd'hui, se creuse, se dresse, s'épanouit" ["Everything falls. The sun falls. We fall in its wake […] Everything opens up, tubles down, blends in today, caves in, rises up, blossoms"] (29/25). In this whirl of images, the spectator "n'est plus immobile dans son fauteuil, [il] est arraché, violenté, [il] participe à l'action, [il] se reconnaît sur l'écran parmi les convulsions de la foule" ["is no longer immobile in his chair, [he] is wrenched out, assaulted, [he] participates in the action, [he] recognizes himself on the screen in the convulsions of the crowd"] (*L'ABC* 33/29); as for Moravagine during his visions, the immobility of the physical body is forgotten in the trance of imagination.

The disconnection between the still body and the active soul is also evident in Berthet's novel, beginning with the narrator's meditation on the state of the soul while sleeping. In the meditation that leads to his first encounter with the Ascetic, he wonders:

> Quand je dors, je suis là, et je ne suis pas là; je voyage. […] Je suis moi, et je ne suis pas moi […] Est-ce donc vrai ce que nous contait jadis l'ami

> Selsam[18]: que nous avions une seule âme pour deux corps, lesquels sont situés aux antipodes, se reposent et veillent alternativement, de telle sorte que l'âme, voyageuse infatigable, les anime tour à tour? (Berthet 12)
>
> [When I sleep, I am there, and I am not there; I travel. […] I am myself, and I am not myself […] Is it true, then, what our friend Selsam once told us: that we had a single soul for two bodies, those being located on opposite sides of the world, resting and waking in alternation, such that the soul, that tireless traveler, animates each one in turn?]

The soul is understood here as not only distinct but actually detachable from the body, which remains alive but asleep or inert without it. Soon the narrator's dream travel will take him very far from his body indeed: to Mars, and Mercury, and other planets and dimensions.

Later, as the narrator learns about ranges of experience outside human sensory capacities, the narrator reflects upon the isolation of each individual soul from other souls, since human physical capabilities do not include telepathy:

> Nous sommes chacun comme une planète pour une autre planète, liées indissolublement et si lointaines qu'elles ne peuvent communiquer entre elles. Ainsi, chacun de nous suit sa route, et les hommes que nous

[18] Most likely a reference to the Erckmann-Chatrian story, "Mon illustre ami Selsam," in which doctor Adrien Selsam declares himself (as the narrator will) "'sur la voie d'une grande, d'une sublime découverte!'" (25). He does not, however, espouse the theory of a soul inhabiting two bodies that Berthet summarizes here.

> rencontrons vont et viennent, et nous ne savons rien d'eux. En chacun pourtant, il y a […] tout un monde qui s'agite, tourbillonne comme les sphères dans le verre du grand Nécroman ; mais nous l'ignorons : ce sont autant d'univers dont la loi de vie nous est inconnu. (Berthet 35-36)
>
> [Each of us is like a planet to another planet, indissolubly linked and so far away that they cannot communicate between them. So each of us follows his path, and the people that we meet come and go, and we know nothing about them. In each one, however, there is […] an entire world that moves, swirls like the spheres in the great Necromancer's glass; but we are unaware: these are so many universes whose law of life is unknown to us.]

His awareness of isolation within himself comes after a confrontation with Martian society (to which I will return later), where physical capabilities allow full mental contact, including seeing into others' minds.

The solitary confinement of the self within the limited body is a state that Berthet's narrator, like Moravagine, overcomes through psychic transport, in scenes that are marked by cinematic influences in terms of their content or stylistic presentation. Popular science films furnish a trope common in both works: "a device—a story, a microscope, a film—reveals teeming life within some small thing, thus transforming a drop of pond water or a piece of cheese into a vibrant world" (Gaycken 5). While Berthet's narrator contemplates the universe and wonders about the soul, the Ascetic interrupts with the question, "'Qu'appelles-tu grand?'" [What do you call large?] Instantly the narrator finds himself transported into a laboratory, where he sees "un

homme habillé comme les anciens nécromans" [a man dressed like the ancient necromancers] (16)—a description that, although not detailed, might recall Méliès's astronomers with their moon-and-star-covered robes; assuredly, neither they nor Berthet's Necromancer are wearing standard laboratory garb. As the narrator watches, the Necromancer "remuait, à l'aide d'un agitateur, le contenu d'un verre. […] Je vis bientôt les gouttelettes claires se détacher, s'agglomer, se disjoindre, décrivant des courbes variées. […] "Eh quoi, me dit-il, tu ne reconnais pas ce que vous autres appelez Grande Ourse, Cassiopée, Voie lactée? C'est qu'en effet ton point de vue est autre" [stirred, with the aid of an agitator, the contents of a glass. … Soon I saw the bright droplets detach, agglomerate, come apart, describe various arcs. … "What now," he said to me, "you don't recognize what you people call the Great Bear, Cassiopeia, the Milky Way? In fact, it's your point of view that's changed] (16). The Necromancer then explains that this glass contains the universe, and that the other jars present contain other universes. A shift in perspective is what allows the narrator to perceive his entire world differently.

The narrator dismisses this as a dream, but it is soon followed by a new vision in which the dream seems to overtake reality. As he watches a conference speaker stir sugar into a glass of water, the narrator remembers his vision of the Necromancer's glass and is able once again to change his perspective: "Chose étrange, je voyais s'agiter les mondes. L'un d'entre eux me sembla comme notre monde solaire; je m'étais fait à sa taille. Je pénetrai sur l'un de ces globes; là, se tenait une assemblée d'êtres bizarres" [A strange thing, I saw worlds stirring. One of them looked to me like our solar world; I made myself the right size. I entered into one of those globes; there stood a gathering of strange beings] (18). Just as the narrator had been, these strange beings—who turn out to be

microbes—are watching a speaker, in this case a giant Colpoda. In conversation with a friendly comma-shaped bacterium (*Vibrio cholerae,* which causes cholera), he learns that he is at a meeting of the PPP, "ceux qui passent par les petites portes" [those who pass through petite portals] (20). This society includes Madame, a rustic nitrifying bacteria, and "ces Messieurs, Bacilles, Spirilles, et Microcoques" [these gentlemen, Bacilli, Spirilla, and Cocci] (18-19).

The microscopic world had long been a topic of magic lantern lectures, revealing "bizarre, wriggling inhabitants" of water and other common media and often comparing them to "beings from another galaxy" (Godbey 279). Microcinematography soon continued and embellished these pre-existing tropes in popular science films such as Charles Urban's *Cheese Mites,* in which a microscopic view of a piece of cheese reveals the titular beasts, or Pathé's *La cinématographie des microbes*, which featured Jean Comandon's examination of blood from a healthy and an infected rat (Gaycken 99). Microscope technology had improved greatly in the latter half of the nineteenth century, with increases in magnification as well as the accuracy of the image produced. Along with these new capabilities, Louis Pasteur's experiments supporting the germ theory of disease demonstrated the microscope's value for scientific and medical research. Popular science presentations of all kinds demonstrated the spectacular value of microscopic images.

The first major producer of popular-science films was the English producer Charles Urban, who collaborated with scientist and photographer F. Martin Duncan beginning in 1903, and later with Percy Smith on such films as *The Acrobatic Fly* and *The Birth of a Flower* (Gaycken 19-20). In France, Jean Comandon began working with

the Pathé company in 1909, first producing films as part of his scientific research to visualize the movements of the syphilis spirochete through the ultramicroscope in order to aid in diagnosis. However, because of his collaboration with Pathé, Comandon's work soon received attention beyond the academy. When Comandon exhibited the spirochetes images and a number of other films at the Académie des sciences, the popular press made his work into a sensation, with reporters describing how Comandon was "making the invisible visible" (Gaycken 94). Comandon's films were then re-edited and given narrative context to make them more appealing in wide release. In *Le Microbe de la fièvre récurrente* [The Microbe of recurrent fever] (1910), for example, Comandon's footage of the microbe in question is embedded in a frame story about a sick monkey in a laboratory (Gaycken 99-100). From the first, the analytical scientific gaze was transformed into a spectacle.

As Comandon's films demonstrate, the microbes and insects shown large on the screen, looming over the audience, were bizarre and unfamiliar, and also often markers of dangerous diseases (Godbey 289). Because of their strangeness, these technologically produced images and the entities they showed were often forced into a human framework. Emily Godbey writes that both magic lantern lectures and later popular science films attempted to anthropomorphize the microscopic creatures on display: "Tiny creatures were transformed into a civilization of beings who, like urban, industrialized man, were educated, industrious and needed entertainment" (Godbey 284). Alternately, lecturers might offer parallels to the equally popular genre of the travelogue, treating their presentation of the microscopic world like a story of travel to another planet or another

galaxy. As Berthet does, they created a kind of "interplanetary travel" experience even as they took up the trope popularized in magic-lantern lectures (Godbey 280).

These narrative frameworks modify and soften the reception of images that were, by themselves, potentially horrific. In some cases, however, popular science films emphasize the horror that enlarged images of microbes and insects could inspire in order to transmit public health messages. Comandon's *Le Plus dangereux des insectes, la mouche* [The fly, the most dangerous of insects] (1913) magnifies the fly's face in a very tight closeup (likely a disturbing sight), then shows the fly feeding on a dead rat just before landing on a baby's bottle, presumably spreading bacteria as it goes (Pastre 156). Comandon also collaborated with animators Marius O'Galop and Robert Lortac to make films on the dangers of disease, including one in which O'Galop creates a frame story of a sailor consulting a doctor for Comandon's film of syphilis spirochetes. Émile Cohl's *Les Joyeux microbes* [The happy microbes] (1909) offers a parody of the same situation, while extending the anthropomorphization of microbes to a ridiculous degree.[19] As a doctor examines a tissue sample from a seemingly healthy man, the audience sees the bright circle of the microscope's view, framed in black. The small dots, dashes, and squiggles of microbes dance around to form various unpleasant people, as the subject is shown to harbor the microbes "de la peste, ou du politique," "de la flème, ou du fonctionnaire," "de la rage, ou de la belle-mère" [of the plague, or the politician; of lazynesss, or the government worker; of rabies, or the mother-in-law] and others. These

[19] https://www.youtube.com/watch?v=fK4YHM7gZlY

personages then undergo some strange mutations themselves before breaking apart once again into the microbes that first constituted them.

These films tell a story about microbes and bodies, but they also implicate the viewer's own body, demonstrating invisible dangers and the necessity of better hygiene, a better discipline of the self. Yet the body depicted in these microscopic images of blood, nerves, or other sample specimens,

> is segmented, drained, sliced, and otherwise fragmented, […] the microscopist sees the body in a manner that effectively distances the observer from the subjective experience of the body imaged. Excised from the body, stained, blown up, resolved, pierced by a penetrating light, and perceived by a single squinting eye, the microscopic specimen is apparently stripped of its corporeality, its function, and its history. (Cartwright 83)

Cartwright compares that squinting eye to what Foucault described as the panoptical observer of the disciplinary society, gazing from a distance in order to analyze and categorize the messy world of things. Sight and perception are no longer subjective bodily experiences, but rather "fluid, pervasive, and unfixed from a locale […] unhinged from the sensory body and […] enacted across an increasingly complex battery of institutional techniques and instruments" (Cartwright 82). Seen through the microscope, the human body is not a whole, integral subject with agency or experience, nor can the subject claim accurate perception or control of their own body. Rather, the body is an assemblage of interacting systems that can be perceived only by a scientific apparatus offering an "objective" truth. Watching that fragmented view of the human body, the

spectator may experience their own body as fragmented and unfamiliar, an unfamiliar and even alien place viewed by a distant eye.

Much like Cohl's images swirl into being and then apart again, at the end of Berthet's microbial scene "un effroyable tourbillon" [a frightful whirlpool] suddenly swirls the PPP meeting away, and the narrator finds himself back in a lecture hall, watching as "Le Conferencier venait d'avaler son verre d'eau sucrée" [The Speaker had just swallowed his glass of sugar water] (20). The extraordinary vision has vanished, and normalcy has returned, at least externally. Internally, however, the narrator has learned that an understanding of scale based entirely in relation to his own human body is fundamentally flawed; in addition, he has seen the similarity between the infinitely large and the infinitely small, leading to a collapse of those seemingly fixed categories.

Cendrars evokes the same comparison between the microscopic and the cosmic in *Profond Aujourd'hui,* the erstwhile lyrical prologue to *Moravagine,* in the very first line: "Je ne sais plus si je regarde un ciel étoilé à l'œil nu ou une goutte d'eau au microscope" ["I no longer know if I'm looking with my naked eye at a starry sky or at a drop of water through a microscope"] (*Aujourd'hui* 6/1). Moravagine, too, experiences the horrors of magnification when, after the murder of Princess Rita, he fixes his attention on the walls of his prison cell. As he examines the stones, touching and tasting them as well as watching them, "petit à petit mon acuité se précisa" ["as time went on my perception grew sharper"] (*Moravagine* 49/51). As the stones come into focus, terrifying faces emerge: "des fronts bombés, des joues creuses, des crânes sinistres, des mâchoires menaçantes" ["bulging foreheads, hollow cheeks, sinister skulls and menacing jaws"] (49/51). These are next revealed to be covered with insects: "Des coulées de larves

jaillissaient de chaque fente, de chaque trou, des insectes monstrueux, armés de scies, de mandibules, de pinces géantes" ["Streams of larvae trickled out from every crack, from every hole came monstrous insects armed with saws, with mandibles, with giant pincers"] (49/52). As in the trick films of Méliès and Chomón, inanimate objects come alive with threatening motion; as in the popular science films from the Charles Urban Co. and Jean Comandon, a closer look reveals hitherto unperceived insects and creatures now appearing at a monstrous size.[20]

Like Moravagine, Berthet's narrator travels to the planet Mars, a popular destination for fictional characters even after Percival Lowell's theories of canals had been debunked. After contemplating the situation of a blind beggar he has passed in the street, he returns home to his dark apartment and fumbles for a box of matches, which his cat bats across the floor. When he exclaims, "'Voir clair! Enfin!'" [Seeing clearly! Finally!] he hears the Ascetic's voice ask, "Qu'appelles-tu *voir clair*?" [What do you call *seeing clearly?*] (23). The scene then shifts to "les ténèbres les plus profondes" [the deepest shadows], a darkness through which a woman's voice, interrogating the narrator, declares, "'Aveugle! […] Viens, je te conduirai chez l'oculiste-opticien'" [Blind! … Come, I'll guide you to the oculist-optician] (23-24), where he can be fitted with glasses. As she guides him along, conversation reveals that they are on Mars, and that the narrator

---

[20] Cendrars's own ambitions as a filmmaker included a plan for "Les Atlantes," a drama based on the communal lives of ants (*Inédits secrets,* 411-412). Although Cendrars researched the topic of insect life (with notes on Peter Kropotkin's *Mutual Aid*) and wrote a general outline, the film was not made.

is not the first visitor she has received from "la Terre verte" [the green Earth]—Camille Flammarion has made the trip as well, she says, in a reference to his extensive discussion of Mars in *La Pluralité des mondes habités*. As they talk, the policewoman notices and exclaims over the differences in their visual capacities. She is stunned that her visitor cannot see in the dark, that he fails to notice and take precautions against a cloud of microbes, and that he cannot see her thoughts, "'comme je voyais les vôtres. […] est-ce que les habitants de la Terre verte ne voient pas cela? Oh, c'est affreux, affreux! Alors, comment faites-vous pour vous guider dans la Société?'" [as I saw yours. … The inhabitants of the Green Earth do not see this? Oh, it's terrible, terrible! Then, how do you manage to make your way in Society?] (27). At the same time, she considers direct sunlight highly dangerous, whereas the narrator welcomes the illumination.

Upon their arrival, the optician tries several different lenses in an effort to correct the narrator's Earthling vision to match that of a Martian. The narrator is "ébloui et anéanti" [stunned and blown away] (29) to discover a spectrum of colors far larger and more varied than he has previously known: "il m'en remit un [lorgnon] qui me fit voir le spectre dans une étendue environ sept fois plus grande que la première, et une soixantaine de couleurs" [he handed me a lens that made me see the spectrum that extended around seven times larger than the first, and sixty-some colors] (29). To this enlarged spectrum is added another pair of glasses that offer X-ray vision: "Je voyais nettement, à travers son corps, son cœur battre, son squelette s'agiter" [I saw clearly, through his body, his heart beating, his skeleton moving] (30). Here Berthet describes the strange and relatively new visual experience of the X-ray, and another kind of "abstraction and fragmentation" of the body.

Wilhelm Röntgen's 1895 discovery caused a sensation in the press, and X-ray images were swiftly disseminated in popular culture. The Lumière brothers, Thomas Edison, and others experimented with X-ray cinematography, with the first success being John Macintyre's 1897 film, which showed a frog's knee joint, a beating human heart, and a human stomach in digestive action. Edison's portable fluoroscope was first presented to a large audience in a New York exposition hall, as entertainment. Each spectator was given the opportunity to see their own body as "a sharp real-time moving X-ray image on a screen" (Berman, 119). In 1911, Jean Comandon and André Lomon devised a method for recording an X-ray image of the human body, in which "articulations, cœur, estomac sont enfin vus en plein fonctionnement" (Mannoni 56).

Real X-ray images were difficult to integrate into the popular cinema for technical reasons, but also because exposure to radiation was dangerous for both subjects and technicians in X-ray imaging, as soon became evident. However, films like George Albert Smith's *The X-Ray Fiend* (1897) or Méliès's *Les Rayons Röntgen* (1898) used costumes, stop action, and other tricks to simulate X-ray effects. These films show characters in their usual flesh and clothing, then applies an "X-ray" apparatus to show them as skeletons, after which they revert to whole human beings. Other films, like Méliès's *Escamotage d'une dame au théâtre Robert-Houdin* (1896) or *Le Monstre* (1906), show transformations between skeleton and living women that evoke X-ray technology more implicitly. Such films brought the experience of the moving X-ray image into the public imagination.

That subtraction of skin and flesh also has the effect of reducing the human individual, with all the culturally inscribed aspects of its surface, into the skeleton: the

body's hidden machine, an assemblage of joints and structures. Without clothing or flesh, a character has no obvious cultural identifiers; without facial features, human individuality and emotion are limited to broad gestures, without the many nuances of expression that Jean Epstein describes in his discussions of close-ups. In *The X-Ray Fiend*, Smith superimposes his skeletons on the image of the fully-fleshed characters such that their clothing remains visible, which allows the viewer to continue viewing the skeletons as a man and a woman (perhaps to maintain the plot, in which the man flirts with the woman, whose body is exposed by the X-ray). The doubled image also recalls the shadowy outlines of soft tissue that X-ray images often show around the brighter shapes of bones. To see a person as a skeleton is to see them disindividuated, reduced to a biological structure with few identifying characteristics; to imagine oneself as a skeleton is to imagine the absence of self, just as Röntgen's wife saw the X-ray image of her hand and recognized in it the image of her death.

Although obvious gender was rare in the skeletons of the medieval *danse macabre* and their descendents in magic lantern shows (or in Abel Gance's *J'Accuse*), as well as those in medical imagery and on display in ossuaries, this changed in the nineteenth century. Skeleton images became ghostly, linked to spiritism and mediums, as well as what Murray Leeder calls "the death-obsessed character of Victorian pornography and erotica" (153). Consequently, "associations of the X-ray with furtive voyeurism and eroticism emerged almost immediately" (Leeder 153), both in films and in popular culture, with the voyeur cast as masculine and his skeleton object cast, and often eroticized, as feminine. Such a comparison tends to position the masculine as a powerful subject and the feminine object as powerless, much as in magic shows (Leeder writes) the

magician appears authoritative and knowledgeable, while his (generally) female assistant feigns innocence and surprise, hiding her own knowledge and participation in the trick.

Yet when skeletons appear on film, they tend to overthrow authority rather than reinforce it, whether they are marked as male or female. In *l'Escamotage,* the skeleton is an unexpected apparition, a departure from the well-worn "Vanishing Woman" trick, and the magician's double-take demonstrates his alarm. Similarly, in *Les Rayons Röntgen,* the doctor loses control of his patient's skeleton and must subdue it violently, and in *Le Monstre,* the reanimated skeleton dances wildly and contorts its shape; the magician's attempt to revive a dead princess is successful only for a moment. In *The X-Ray Fiend,* the woman is not a passive victim of the voyeur, either; rather, she slaps him and storms off. On film, skeletons give the lie to the magician's or doctor's authority, demonstrating their fallibility to comic effect, just as the *danse macabre* demonstrates that nobody, no matter how powerful in life, can escape death.

Berthet's description goes farther than simply seeing bones and organs; as the narrator sees the optician's brain—a vision that Thomas Edison predicted he would be able to produce, only to give up the effort after seeing radiation's destructive effects on his assistant Clarence Dally—he is able to see, as well: "des milliers d'images s'y succédaient, se déroulant avec rapidité comme un film sans fin de quelque cinématographe" [thousands of images followed, rolling out with the speed of an endless film in some cinematograph] (30). Seeing into the body also means seeing into the mind, viewing the optician's thoughts and ideas. Consequently, we learn, Martians have no secrets from each other and socialize with those whose ideas they find compatible with their own. A similar marvel appears in Émile Cohl's *Les Lunettes féeriques* [The magic

glasses] (1909), in which a pair of magic glasses reveals "le caractère et le goût de ceux qui les portent" [The character and taste of those who wear them] (according to an intertitle). As the characters try the glasses on, they become the only object on screen, with their lenses showing first spinning kaleidoscopic patterns, then animated images that reveal the wearer's vices and desires: one man is shown to be a glutton, another a gambler, and still another an artist; a little girl dreams of various toys.

The Martian optician also offers lenses to provide microscopic and telescopic vision, and says that he is in the process of developing lenses to see into the past and future. But before the narrator can test these, or see a Martian art exhibit, he wakes up back on Earth. While he notes that he missed his chance to see "la lunette à voir les pensées des hommes" [the lens to see people's thoughts] (33), we know from the opening letter that he has attained that ability regardless, and consequently is considered a dangerous person who could threaten diplomatic relations. Precisely why telepathy would represent a threat is left unexplained, but the implication is that diplomacy functions on a basis of illusion or falsehood. Just as the skeleton reveals a truth hidden beneath the surface that gives the lie to the social distinctions of living humans, the mindreader can reveal the truth beneath diplomatic illusions, giving the lie to the functions of government power.

Scientific authority becomes Berthet's target again in a later chapter, when her narrator experiences another dramatic change of scale, recalling once again popular science films, which often magnified insects and other small creatures onscreen. As he reads a scientific treatise on snail anatomy, the narrator hears the warning sound of the Ascetic's creaky laugh, and suddenly finds himself in an unfamiliar, green-vaulted

landscape: “sur une falaise immense. Devant moi, l’abîme. Et un énorme rocher se dressait au milieu de l’abîme. Sur le rocher une sorte de téléscope mobile, qui se tourna lentement, et darda sur moi son œil éblouissant” [on an immense cliff. Before me, the abyss. And an enormous rock stood in the middle of the abyss. On the rock a sort of mobile telescope, which turned slowly, and shone its dazzling eye at me] (37-38). Soon the rock opens to emit “une source […] qui se transforma en un magnifique tapis de soie aux couleurs changeantes” [a spring… which transformed into a magnificent silken carpet of changing colors] (38), and then, the rock begins to move and speak. When the narrator attempts to flee, he finds himself returned to his previous state, but faced with that same rock in its normal scale: on a lettuce leaf, he sees “un joli colimaçon gris” [a pretty little gray snail] (39).

Such alterations of scale, an essential feature of popular science films like *The Acrobatic Fly* and many others, produce another kind of uncanny experience of the embodied self. Emily Godbey writes:

> Due to the reversal of normal size relationships, the spectator could be acutely aware of his own body, literally ‘embodied’—placed within a new awareness of corporeal size and physical vulnerability […] If Epstein felt that a close-up of a face was particularly intense, imagine what spectators might have felt when confronted with a huge, hairy, six-legged monstrosity of a flea. (Godbey 292)

Looking at the fly’s face, magnified and projected large on the screen, spectators could feel that they “were dwarfed by the tiny-turned-gigantic”—or, becoming aware of the true size of the creature on screen, “audiences became giants towering over a microscopic

universe" (Godbey 292). Such an experience alters how the viewer understands her body's relationship to the world and the things within it, as well as raising consciousness of the presence of tiny things that may nevertheless be dangerous.

In this case, the change in scale allows an intellectual blind spot to become evident. When Berthet's narrator attempts to return to his reading on snails, he finds something unexpected: now it is snails who are studying humans, rather than vice versa. "Docteur Helix Esculens" theorizes that humans each possess ten tentacles tipped with hard eyes (as he describes our fingers), and that they appear to be blind, since they retreat into their shells at times when the light is tolerable for snails. Further, because the tentacles open and close, Dr. Esculens believes they may actually serve as olfactory organs. The passage echoes the description of snails that the narrator had been reading, thus implying that a human's interpretation of snail anatomy may also involve flagrantly erroneous assumptions. Our view of the world is not only incomplete and limited, as already shown, but even the observations that we are able to make may be interpreted using our own ill-fitting framework. As a result, scientific evidence, analysis, and conclusions are all thrown into question. Without experiencing the world through a different frame of reference—on a different scale, in a different body—it seems impossible to know what one does not know, and consequently, to truly know anything at all.

A change in scale also has a profound impact on Moravagine in one of his prison visions, allowing him to view himself for the first time as a powerful being. After his flight over Mont-Dore and view of the Earth as a body, he enters into the Earth's ear, which Cendrars compares to a lunar crater. Like Méliès's astronomers, who explore a

lunar crater and find strange beings there, Moravagine then makes his way into "l'obscurité complète de la caverne" ["the utter darkness of the cavern"] where he encounters and touches, first, "les plus belles formes du silence" ["the loveliest forms of silence"] and then the sounds of human speech: "les cinq voyelles, farouches, peureuses, délurées comme des vigognes" ["the five vowels, wild, apprehensive, watchful as vicugna"] and the different kinds of consonants, compared to insects, eels, and worms (50-52). As he digs among them, "je ne sais quel air empoisonnée venait me fouetter, me picoter la face, des petits animalcules me couraient sur la peau" ["I felt God knows what poisoned air come whipping at me, stinging my face, while tiny animalcules skittered over my skin"] (52/53). After flying free of his own body, Moravagine, like a microscope, is able to explore inside a human body that he experiences as enormous, even planet-sized, and feel the tiny "animalcules" within.

From the fetal state described at the beginning of his prison stay, this experience allows Moravagine to develop into the powerful, atavistic human beast that Raymond La Science perceives. Instead of a sick, broken, and powerless boy, he now sees himself as:

> du clan Mongol qui apporta une vérité monstrueuse: l'authenticité de la vie, la connaissance du rhythme, et qui ravagera toujours vos maisons statiques du temps et de l'espace, localisées en une série de petites cases. […] Tremblez si je sors de vos murs comme de la tente d'Attila, masqué, effroyablement agrandi, […] et si avec mes mains d'étrangleur, mes mains rougies par le froid, je force le ventre aigrelet de votre civilisation !
> I belong to the Mongol clan which brought to earth a monstrous truth: the authenticity of life and the knowledge of rhythm, which will always lay

> waste to your houses, static as they are in time and space, localized in their pigeon-hole rows […] Tremble if I leave your walls as Attila left his tent, masked, swollen to giant size […] lest with my stranglers' hands, my hands reddened with the cold, I force open the bile-filled belly of your civilization! (*Moravagine* 52-53/53-54)

Although he remains confined in prison and then in the sanitarium Waldensee, where he meets Raymond La Science, this new power remains latent within Moravagine, an ancient threat of violence that may destroy civilization itself. In this novel as well as Berthet's, altered vision allows the character to gain a new and dangerous perspective on the power and knowledge that undergird the systems of civilization, and a better understanding of his own place within it.

Berthet's narrator, however, does not seem to gain power from his experiences as Moravagine does; rather, he becomes unmoored from the waking world, leading to his eventual incarceration. Towards the end of Berthet's novel, the narrator realizes how much his perception has been changed in waking life as well as in dreams. He considers the possibility that he may be going mad (since "rien n'est plus fou que de faire des rêves sensés" [nothing is more insande than having reasonable dreams] (112)), as the routines of his everyday life come to resemble "gestes de marionnettes et rêves incohérents" [puppetlike movements and incoherent dreams] while his dream voyages become "la seule chose réelle et nécessaire" [the sole real and necessary thing] (157). Absorbed in long reflections on his dreams and the ideas they explore, he loses track of time on the boat to work and ends up riding from one terminus to the other, missing work and drawing the attention of his employers.

Finally, one day the narrator looks in the mirror to find, instead of his reflection, a combination of X-ray imagery with a vision of the solar system. Looking at his own head, "peu à peu une autre se dégagea" [bit by bit another drew itself out]:

> Ce furent d'abord les organes intérieurs comme dans un appareil radioscopique. A travers les os du crâne, le cerveau brillait d'un éclat phosphorescent; des radiations diversement colorées en partaient de tous côtés […] Puis, grandissant toujours, le soleil cerveau se déagrégea en un monde, ayant ses nébuleuses et ses systèmes stellaires, dont chacun avait ses lois mécaniques, son rythme propre, réglé par un soleil central […] Alors je compris que je n'avais voyagé que dans mon propre cerveau. J'avais cru connaître la loi du monde extérieur, et celle du monde intérieur, seule, m'était révélée. (Berthet 161-162)
>
> [At first it was the internal organs like in a radioscopic device. Through the skull bones, the brain shone with a phosphorescent brilliance; rays of all colors went out in all directions … Then, still growing, the brain-sun broke down into a world, with its nebulas and stellar systems, of which each had its mechanical laws, its own rhythm, regulated by a central sun … I understood then that I had only traveled within my own brain. I had believed I knew the law of the outside world, and the internal world, alone, had been revealed to me.]

Here the Ascetic intervenes to affirm what the narrator has previously seen in the Necromancer's test tube: that the internal world constitutes a microcosm of the external, just as the microbial world reflects the cosmos, such that everyday distinctions—between

external and internal, between small and vast, between the self and the world—are false, dependent on a limited perspective. The strange visions he has experienced are in fact visions of his own body. Yet they are universal visions, as well: "'*Étudie l'histoire d'une goutte de ton sang,'"* the Ascetic says, "'*et tu connaîtras l'histoire du monde.*'" [Study the history of a drop of your blood … and you will know the history of the world.]

After this revelation, the narrator's story ends, stopped short by the doctor Fricobazal's letter returning the manuscript to Dr. Alcobrifas. Fricobazal declares the case "d'une banalité extrême," [extremely banal] and notes that "névropsychoscriptomanie" [neuropsychoscriptomania] is a common affliction of *fonctionnaires* (Berthet 164). The doctor of Leerengehirneborg surmises that "Les fous de cette espèce ne sont généralement pas dangereux, sauf lorsque leur scriptose dégénère en lalose, parce que leur discours peuvent entraîner la foule ignorante" [Madmen of this type are generally not dangerous, except when their scriptomania degenerates into logorrhea, because their speeches may influence the ignorant masses] (Berthet 165). Pascal, Leibniz, Socrates, and Buddha are offered as examples of such dangerous madmen, in an ironic comparison that poses the narrator's experiences and reflections as a possible source of intellectual revolution. In his dismissal of the narrator's writings, Fricobazal shows himself as short-sighted and narrow-minded, a hollow authority incapable of appreciating true wisdom. Inadvertantly, he affirms the Ascetic's lesson: that the way to truth lies beyond the pre-conceived ideas and limits of the self.

Like Marey's motion studies, popular science films represent the human body not only in ways that abstract, decompose, and reconfigure the body, but also in ways that render the body and its movements mechanical and predictable. Such images offer a

dramatically altered vision of the body, analyzed and reconfigured as a dynamic system of abstract fragments, and subject to disciplinary regulation and control (Cartwright xiii, 83, 108). What looks on the surface like a single unified person turns out to host vast populations of microbes and cells; what looks like an individual with culturally significant traits on its surface (marks of race, class, and gender, for example) turns into a skeleton, denuded of particularity along with flesh. At the same time, these films elide the body of the human viewer, leaving aside the question of who is looking.

As this inhuman vision presents a defamiliarized human body, it often reveals the unseen as a threat to be nullified through cleanliness or care—in a word, discipline. The body becomes an object of science to be studied, known, and controlled; the consequences of its actions and interactions are knowable and preventable, so that films promoting hygiene, for example, can offer examples and counterexamples for the spectator to follow. As Cartwright argues, "the cinematic apparatus can be considered as a cultural technology for the discipline and management of the human body" (3), and the spectator—confronted with a body like their own as a potentially faulty machine, or confronted with other, radically different kinds of bodies whose existence belies the evidence of the naked eye—can be seen as disciplined and managed as well. Cinema's new rhetoric of the human face and body, described by Cartwright as well as by Jonathan Auerbach in *Body Shots*, thus extends below its visible surface, so that moving images of the body constitute a reconfiguration of the self, subject to discipline even at the cellular level. The body becomes a text to be written as well as to be read, down to the most minute and hidden details of blood and bone, for the keys to understanding and organizing life itself (Cartwright xiii).

Berthet's and Cendrars's novels both acknowledge this disciplinary discourse and subvert it, exploring within the body on the microscopic level while understanding it as an analogy for the cosmos. Confronted with strange visions that recall scenes offered by the cinema, Moravagine and Berthet's narrator see the limitations of their normal, bodily vision, and as a result they reach a revelation of self-awareness and a kind of mental liberation. The time that both characters spend in institutions is spent in visions and in writing, in a mental freedom that belies their physical circumstances. The authorities that hold them physically are incapable of limiting them mentally.

Oliver Gaycken offers a different way of understanding the popular science film's combination of spectacle and science, as creating what he terms an "aesthetic of curiosity." This implies a new kind of gaze, one that does not submit to objective or scientific discipline but instead involves display, novelty, and revelation to engage the mind and senses. Gaycken draws upon Foucault's discussion of curiosity in "The Masked Philosopher," in which Foucault says:

> [Curiosity] evokes "care"; it evokes the care one takes of what exists and of what might exist; a sharpened sense of reality […], a readiness to find what surrounds us strange and odd; a certain determination to throw off familiar ways of thought and to look at the same things in a different way; a passion for seizing what is happening now and what is disappearing; a lack of respect for the traditional hierarchies of what is important and fundamental. ("Masked Philosopher," 325)

Early popular-science films, Gaycken argues, similarly "exhibit a concern for what exists and what could exist, rendering the familiar strange and singular, often by virtue of

cinematic mediation" (Gaycken 5). Curiosity is both the popular science film's selling point and its reason for being.

Elsewhere, Foucault discusses curiosity as "that which enables one to get free of oneself. After all, what would be the value of the passion for knowledge if it resulted only in a certain amount of knowledgeableness and not […] in the knower's straying afield of himself?" ("Use of Pleasure" 8). Similarly, Berthet's book contrasts the familiar world of its docile narrator with the dreams that allow him to get free of himself, with a wondrous gaze that finds strange entities and objects outside the range of human vision and the organization of visual disciplinary regimes. The narrator's adventures reveal the fallibility of human perception and the conclusions that we draw from our limited experience, challenging the authority of scientific knowledge as situational and subjective. But it is the narrator's curiosity, the questions he asks and the reflections he makes, that lead to the vision of his own "soleil cerveau"—beautiful, colossal, and eternal; a utopian body if there ever was one.

Conclusion

Changes in visual media and technologies around the fin-de-siècle spurred speculation about what innovations would follow—some of which have now appeared. In his humorous speculative novel *Le XXième siècle: La Vie électrique,* for example, Albert Robida imagines a "téléphonoscope" that allows viewers in their homes to watch and interact with theatrical productions all over the world, as well as providing news reports and permitting global communications. "Cette invention permet non seulement de converser à longues distances, avec toute personne reliée électriquement au réseau de fils courant le monde, mais encore de voir cet interlocuteur dans son cadre particulier" [This invention allows one not only to converse over long distances, with any person electrically connected to the network of wires covering the world, but also to see that interlocutor in their individual space] (Robida 8). Although the device Robida describes is not exactly like the telephones and computers that are so ubiquitous today, we can recognize that his vision has in many ways been realized in the digital age. And we are in the process of discovering the implications of these technologies for visual culture and subjective sensory experience.

In the decades around 1900, as I have described throughout this project, the emergence of photography and cinema were part of a sea change in visual culture and

practices in the West, one that transformed the visual imagination of the human body as a subjective experence. During the decades around 2000, as well, most of the world has been undergoing a profound shift in visual culture—along with the wider social and political culture—as a result of digital media, digital image production, and the dissemination of images via social networks and other means of communication. Although Kodak's Brownie camera made photography widely accessible starting in 1900, digital technology has now integrated photography into everyday life in a more constant and omnipresent way, whether we speak of so-called "selfie culture" or simply keeping up with friends and family on Instagram. Digital images are not only transmitted to the viewer from outside; rather, every individual user has an unprecedented ability to create and transmit images of themself and their life, to retransmit the images produced by others, and in this way to communicate their own image and their perspective to the rest of the connected world.[21]

---

[21] There are many recent works on the expression of the self via digital photography, including *Exploring the Selfie: Historical, Theoretical, and Analystical Approaches to Digital Self-Photography,* eds. Julia Eckel, Jens Ruchatz, and Sabine Wirth (New York: Palgrave MacMillan, 2018); Ana Peraica's *Culture of the Selfie: Self-Representation in Contemporary Visual Culture* (Amsterdam: Institute of Network Cultures, 2017); in French, Bertrand Naivin's *Selfie: Un nouveau regard photographique* (Paris: harmattan, 2016); or, for a more alarmist perspective, Will Stor's *Selfie: How We Became So Self-Obsessed and What It's Doing to Us* (London: Picador, 2017).

Robida's speculation about the social effects of the téléphonoscope imagined them as largely positive: this technology would reunite far-flung families, allowing them to converse around a virtual dinner table (Robida 8). Regarding the broader implications of the device, we have speculation from one of Robida's characters, Sulfatin, who (having been overwhelmed by an actress's performance on screen) imagines that all the great minds of the past can be resurrected, their intelligence and creativity put to use:

> Que ne pourrait-il, s'il pouvait tourner au profit de la science l'étonnante puissance de l'actrice-médium, s'il pouvait, grâce à elle, évoquer les génies des siècles lointaines, les puissants cerveaux endormis dans la tombe, les faire parler, retrouver les secrets perdus […] ces génies réveillés, mis au courant des progrès modernes, ne trouveraient-ils pas tout à coup des merveilles auxquelles nos cerveaux, accoutumés à certaines idées, entraînés par d'autres courants, ne pouvaient penser ? (Robida 92)
>
> What could he not do, if he could use to the advantage of knowledge the stunning power of the actress-medium, if he could, through her, evoke the geniuses of centuries gone, the powerful brains asleep in the tomb, if he could make them speak, find again their lost secrets […] these awakened geniuses, brought up to speed on modern progress, would they not suddenly find marvels that our brains, accustomed to certain ideas, carried along by other currents, could not imagine?

This reflects, in many ways, the most optimistic or even utopian visions of the internet: the accumulated knowledge of the world, all the great minds of the past and all their discoveries, made available to each and every individual. To this wisdom, add an

unprecedented interconnectedness and communicative freedom that allows a viewer (like Sulfatin) to propose marriage to the actress who so inspires him.

Robida apparently did not consider the possible downside to that particular situation: the actress accepts Sulfatin's offer (though she later proves unreliable), unlike the many women who find themselves receiving less honorable propositions via internet today. Nor did Robida predict the various ways that telecommunications, like any other tool, can be used for ill as well as good: for harassment and anonymous abuse, for spreading propaganda, for amplifying some voices or silencing others, and so on. Further, while digital communications may indeed permit connections between distant family members just as the téléphonoscope is supposed to do, they may impede more immediate connections in face-to-face encounters, degrading the quality of social life in real time.[22] And for all that the internet offers all the information and wisdom that Robida imagined—alongside a vast sea of advertisements, false information, propaganda,

---

[22] One prominent example of the many discussions of this topic is Sherry Turkle's *Alone Together: Why We Expect More From Technology and Less From Each Other* (New York: Basic Books, 2012). Meditating on authenticity and social connection in our time of text messages, social media, and companion robots, Turkle notes that "we are changed as technology offers us substitutes for connecting with each other face-to-face. We are offered robots and a whole world of machine-mediated relationships on networked devices […] We recreate ourselves as online personae and give ourselves new bodies, homes, jobs, and romances. Yet, suddenly, in the half-light of virtual community, we may feel utterly alone" (Turkle 11-12).

banality, and outright manipulation, malicious and otherwise—our ability to understand and make use of the riches available may be decreasing, along with our attention spans.[23]

From Paul Virilio's generally pessimistic perspective, the information bomb has exploded: time and space have utterly collapsed, and we are left mired in misinformation along with information, spectacle along with reality, at the mercy of "globalitarian" forces (*Information Bomb* 15). While he discusses this problem over many of his works, one of its formulations appears in a rather prescient 1999 conversation with Friedrich Kittler:

> The new technologies make space disappear into a void, in its extent and in its time. This is a profound loss […] There is also a pollution of the distances and time stretches that hitherto allowed one to live in one place and to have relationships with other people via face-to-face contact […] Are we not calling an end to ourselves and to the spatial and temporal dimensions of the world this way? ("The Information Bomb," 85).

---

[23] Again this is a much discussed topic; one major work is Nick Carr's *The Shallows: What the Internet is Doing to Our Brains* (New York: W. W. Norton, 2011), in which Carr writes: "Calm, focused, undistracted, the linear mind is being pushed aside by a new kind of mind that wants and needs to take in and dole out information in short, disjointed, often overlapping bursts […] the linear, literary mind has been at the center of art, science, and society […]. It may soon be yesterday's mind" (Carr 10). The French translation of this book has a simpler, more direct title: *L'Internet rend-il bête ?* (Paris: Robert Laffont, 2011).

Linked to the loss of time and space, for Virilio, is the "demise of the proximate human being. That is, someone who has a material existence, someone who might even smell bad, who might even be a boring nuisance. Now, though, one can simply zap such people away" (86).[24] In either case, here Virilio is concerned with the non-presence of *other* human beings—existing as sensible, physical bodies, as his aside on their hypothetical odor indicates—and he does not address (in this text, at least) the situation of one's own body.

Does this absence of time and space also apply to the self, as a single embodied subject—that is, as a user of digital technologies, is my own body in danger of being zapped away? Recent movements that encourage attention to the body—"mindfulness," for example, involves "body scanning" and breath work, among other things[25]—may react to this very diminuition of the body's importance, eclipsed as it is by on-screen interactions. On the other hand, people now have an unprecedented ability to represent and misrepresent themselves, both in images and, if they prefer, without—effectively communicating without locating their speech within a particular body. In an introduction to a collection titled *Digital Bodies,* Jessie Daniels writes of bodiless speech as a sort of

---

[24] Considering that in French "le zapping" refers to what is often called "flipping channels," what Virilio means is probably closer to the elision of unpleasant others, the ability to look at something else rather than to eradicate the other entirely.

[25] For evidence of the rise of a "mindfulness movement," I offer *Mindful* magazine's 2018 list of the ten best mindfulness books of the year: https://www.mindful.org/the-best-books-in-mindfulness-this-year/

lost hope: in the early days of the internet, she says, "many people […] speculated that digital technologies would allow us to escape embodiment and its encompanying entanglements. Few of us believe that now. Indeed, our embodied selves are often the reason we are targeted for abuse and harassment online" (10-11). Somewhat paradoxically, being marked as a certain kind of body by physical attributes (i.e. race, gender, body size, and so on) becomes the reason for that body's elision and silencing within the digital sphere.

While Virilio takes a dystopian view of digital media and Daniels sees the collapse of a utopian one, other scholars observe that artists not only respond to and reflect their technological environments, but also find ways to examine and explore them. Raphaël Cuir takes up this question on a more general scale, asking: "Que faisons-nous de nos corps dans ce contexte ? Que fait-on de nos corps la culture informatique ?" [What do we do with our bodies in this context? What is digital culture doing with our bodies?] (166). He and others have attempted to answer this question by looking at the different ways that artists consider the effects of digital culture on the body, as well as the possibilities that new technologies open up. "La peau n'est plus la limite opaque de corps rendus transparents par ces nouvelles technologies de l'image qui reculent les limites du visible comme autrefois la lunette de Galilée. […] De nouveaux territoires jadis voués à l'obscurité de notre vivant s'ouvre à l'exploration" [Skin is not the opaque limit of bodies rendered transparent by these new technologies of the image, which push back the limits of the visible as Galileo's lens once did] (166).

Susan Broadhurst also looks specifically at how "the body adapts and extends itself through external instruments," arguing that "The experience of the corporal schema

is not fixed or delimited but extendable […] Instruments appropriated by embodied experience become part of that altered body experience in the world" (9). Looking at a variety of ways that visual and performance artists in particular have deployed such adaptations, Broadhurst writes that their works explore the tensions that exist in the interface between body and technology, in liminal spaces between virtual and physical. "The embodied self," she writes, "as any other aspect of the conscious self, is transitory, indeterminate, and hybridized," in digital spaces marked by "heterogeneity, indeterminacy, fragmentation, hybridization, and repetition" (17).

While Cuir and Broadhurst write mainly about the visual arts, the works of speculative fiction writers can also be seen as representing a shifting and changing understanding of embodiment, the body, and the self. Looking at several recent works in American science fiction, it is not difficult to find those same characteristics that Broadhurst of "heterogeneity, indeterminacy, fragmentation, hybridization, and repetition." Ann Leckie's novel *Ancillary Justice* (and its sequels), for example, tell the story of an artificially intelligent starship that controls a host of "ancillary" bodies, that is, the robotized bodies of enslaved humans, who function as servants and soldiers. The book thus represents a consciousness that is inherently a hybrid of human and machine, existing in multiple locations and carrying out multiple activities, constantly coordinating information and tasks in response to changing events and situations. Alternating with the narrator's existence as a starship is her story years later, when the destruction of the ship has reduced that same consciousness to a single ancillary body. In this way, Leckie juxtaposes a multiple, hybridized digital perspective with the limited, but more human view through a single pair of eyes.

Another kind of indeterminate hybrid self appears in Jeff VanderMeer's *Southern Reach* trilogy, as an unnamed biologist in a small group expedition explores a mysterious, anomalous region known as Area X. Passing through a barely visible boundary in a trance state, she soon finds that the environment surrounding her is an active organism, one that consumes, absorbs, and reproduces everything that enters it. In a confrontation with "the Crawler," a mesmerizing, shapeshifting entity, she moves through another sort of screen: "not a wall of light […] but a wall of flesh that *resembled* light" (183) and experiences the horrific drowning sensation of her own doubling, the creation of her uncanny doppelgänger, called Ghost Bird. In what could stand as a metaphor for many fears about the individual in the digital world, embodiment in Area X is revealed as a terrifying interconnectedness with a wildly diverse environment, an entanglement that implies loss of individuality, identity, and control.

A short story by Sarah Pinsker, "A Stretch of Highway Two Lanes Wide," offers a stark example of bodily fragmentation and a concomitant collapse of time and space. After a mutilating accident, a farmer named Andy receives a robotic arm, which he learns to control via a microchip implanted in his brain. This prosthetic, however, has a very specific yearning of its own: to be a 97-kilometer stretch of highway in Colorado, a place where Andy has never been. His consciousness becomes painfully fragmented between his present existence and the distant road: "In the mirror, he saw his gaunt face, his narrowed shoulder, the sleeve. His left arm, with its jagged love letter. On the right side, he saw road. A trick of the mind. A glitch in the software" (Pinsker 120). Technology gives Andy new abilities, but in this scene that recalls screen images connecting us with

distant and unfamiliar places, it also splits him between the environment that surrounds him, and an elsewhere of unfulfillable desire.

The cinema, as well, reflects upon the new modes of self-representation, replication and transformation, as well as the interreferentiality that twentieth- and now twenty-first-century technologies make possible. In both Georges Franju's 1960 film *Les yeux sans visage* [Eyes without a face] and Leos Carax's 2012 film, *Holy Motors,* characters use masks, subterfuge, and even violent or surgical means to take on new faces. In the first, a father attempts to rebuild the face of his daughter Christiane, who has been injured in a car accident, by killing similar girls in order to use their faces as grafts. This murderous mission presumes that the multiple faces (unsuccessfully) grafted onto Christiane's will serve to maintain her singular identity; instead, she turns against her father and flees, committing to the mask that hides her disfigurement.

In *Holy Motors*, on the other hand, an actor plays a wide variety of roles at nine "appointments," his face and body changing drastically according to the roles' demands. He performs not on sound stages with microphones or other markers of the cinematic trade, but in what appear to be "real" environments, with other people whose identities as other actors are not immediately clear. Reflecting a visual culture in which anyone can produce and present themselves as images for others' consumption, in *Holy Motors* Shakespeare's metaphor is rendered quite literal: the whole world has truly become a stage, and everyone in it merely players, in roles that shift and change much more rapidly than a sixteenth-century playwright could have imagined.

In such a world, the distinction between the real and the virtual is no longer tenable, and consequently, as Stéphane Vial argues, media transforms the human into a

new kind of being—in the case of *Holy Motors,* multiple, mutable, and exhausted. The digital revolution, Vial writes, is also a digital revelation, showing that "la question de l'être et celle de la technologie sont une seule et même question" [the question of being and that of technology are one and the same question] (*L'Être et l'écran,* 27). Technics are not merely tools, but new structures of perception that allow us to see new things, and thereby to become something new, in a process he calls "ontophanie": "Percevoir à l'ère numérique […] c'est être contraint de renégocier l'acte de perception lui-même […] Cette renégotiation perceptive n'a rien de naturel. Elle exige du sujet humain un véritable travail phénoménologique sur lui-même" [To perceive in the digital era […] is to be forced to renegotiate the act of perception itself […] This perceptive renegotiation is in no way natural. It demands from the human subject a veritable phenomenological work on himself] ("Voir et percevoir" 3).

The changed experience of the body—through body swaps, possession of a new body, or the escape from one's own body—remains a common theme in fiction and film. Villiers's *L'Ève future* has been reimagined in Alex Garland's film *Ex Machina* (2015), though artificial intelligence now supplants a soul as the android's source of agency. The plot of Vincent Perez's film *The Secret* (2007) closely mirrors that of Camille Marbo's *Le Survivant,* though novel's two soldiers injured at war are replaced by a mother and daughter in a car accident; another mother-daughter swap, *Freaky Friday,* has been remade several times over the past few decades. In the humorous 2015 film *Les Dissociés,* a young couple have their bodies stolen and must fight to get them back. The adoption of virtual bodies with utopian powers furnishes the premise of films like *The Matrix* or *Avatar*; similarly, in novels moreso than in films, the trope of the uploaded

mind has allowed writers (including William Gibson, Gene Wolfe, and Michel Houellebecq, among many others) to consider the advantages and the dangers of disembodiment and re-embodiment.

On the screen of the téléphonoscope, Robida imagined, "comme sur tous les Télés de la région, passèrent avec une fabuleuses vitesse des milliers d'images confuses et des sons apportés de partout remplirent les maisons de rumeurs semblables au rugissement d'une nouvelle et plus farouche tempête" [as on all the Tellies of the region, with fabulous speed, passed thousands of blurred images and sounds from everywhere filled the houses with noises like the roaring of a new and more ferocious tempest] (16-17). In the twenty-first century, that wild new tempest roars from screens everywhere, all the time. The study I am concluding examines how earlier visual technologies framed perceptions and descriptions of the body as an experience and an expression, or as a limiting condition for both, in ways that corresponded to the images whose production they facilitated. How digital visual technologies and the seemingly infinite number of images now being produced will frame our perception and our experiences, as real bodies in an increasingly virtual world, remains to be seen.

BIBLIOGRAPHY

Adams, Robert Martin. Introduction to *Tomorrow's Eve* by Auguste Villiers de l'Isle-Adam, Champaign, IL: University of Illinois, 2001.

Aldana Reyes, Xavier. *Horror Film and Affect: Towards a Corporeal Model of Viewership.* New York: Routledge, 2016.

Altman, Rick. *Silent Film Sound.* New York: Columbia University Press, 2007.

Andriopoulos, Stefan. *Possessed: Hypnotic crimes, corporate fiction, and the invention of cinema.* 2000. Trans. Peter Jansen and Stefan Andriopoulos. Chicago: U of Chicago Press, 2008.

Anstey, F. (Thomas Anston Guthrie). *Vice Versâ: A Lesson for Fathers.* London: Smith, Elder & Co., 1882.

Armstrong, Tim. *Modernism, Technology, and the Body.* Cambridge, UK: Cambridge University Press, 1998.

Auerbach, Jonathan. *Body Shots: Early Cinema's Incarnations.* Berkeley: University of California Press, 2007.

Baguley, David. *Napoleon III and His Regime: An extravaganza.* Baton Rouge: LSU Press, 2000.

Barthes, Roland. *La Chambre claire: Note sur la photographie.* Paris: Editions de l'Etoile, 1980. Translated by Richard Howard as *Camera Lucida: Reflections on Photography* (New York: Hill and Wang, 1981).

Baudelaire, Charles. "Le Public moderne et la photographie." *Études photographiques* 6 (May 1999). Online: http://journals.openedition.org/etudesphotographiques/185

———. "Rêve d'un curieux." In *Fleurs du mal/Flowers of Evil* (bilingual edition). Translated by James McGowan as "Dream of a Curious Man." New York: Oxford University Press, 1993.

Bazin, André. "Ontologie de l'image photographique." In *Qu'est-ce que le cinéma?* Paris: Éditions du Cerf, 1990. Translated by Hugh Gray as "Ontology of the Photographic Image" (*Film Quarterly,* 13.4 (Summer 1960), 4-9).

Béguet, Bruno, ed. *La Science pour tous: Sur la vulgarisation scientifique en France de 1850 à 1914.* Paris: Bibliothèque du Conservatoire National des Arts et Métiers, 1990.

Bellour, Raymond. "The Cinema Spectator: A Special Memory." In *Audiences: Defining and Researching Screen Entertainment Reception,* by Ian Christie (editor). Amsterdam: Amsterdam University Press, 2012.

Benjamin, Walter. "The Work of Art in the Age of its Technological Reproducibility: Second Version." Translated by Edmund Jephcott and Harry Zohn. In *The Work*

of Art in the Age of its Technological Reproducibility, and Other Writings on Media. Cambridge, MA: The Belknap Press of Harvard University Press, 2008.

Bergerat, Émile. *Théophile Gautier: Entretiens, souvenirs, et correspondance.* Paris: Charpentier, 1879.

Berman, Bob. *Zapped: From Infrared to X-rays, the Curious History of Invisible Light.* New York: Little, Brown and Co., 2017.

Berthet, Marguerite. *L'Ascète du Mont-Mérou.* Paris: Gastein-Serge, 1914.

Blood, Susan. "The Sonnet as Snapshot: Seizing the Instant in Baudelaire's 'À une passante.'" *Nineteenth Century French Studies* vol. 36 no. 3/4 (Spring/Summer 2008), 255-269.

Bordwell, David. *Figures Traced in Light: On Cinematic Staging.* Berkeley: University of California Press, 2005.

Bottomore, Stephen. "The Panicking Audience? Early Cinema and the 'Train Effect.'" *Historical Journal of Film, Radio and Television* 19 no. 2 (1999): 177-216.

Broadhurst, Susan, and Sara Price. *Digital Bodies: Creativity and Technology in the Arts and Humanities.* London: Palgrave Macmillan, 2017.

Cahan, David, ed. *From Natural Philosophy to the Sciences: Writing the History of Nineteenth Century Science.* Chicago: University of Chicago Press, 2003.

Carman, Taylor. *Merleau-Ponty.* New York: Routledge, 2008.

Cartwright, Lisa. *Screening the Body: Tracing Medicine's Visual Culture.* Minneapolis: University of Minnesota Press, 1995.

Cendrars, Blaise. "L'ABC du Cinéma." In *Tout autour d'aujourd'hui,* vol. 11: *Aujourd'hui.* Ed. Claude Leroy. Paris: Denoël, 2005.

———. "L'Eubage." In *Tout autour d'aujourd'hui* 7. Paris: DeNoël, 2003.

———. *La Fin du monde filmée par l'Ange N-D.* In *Tout autour d'aujourd'hui,* vol. 7. Paris: Denoël, 2003.

———. *Inédits secrets.* Ed. Miriam Cendrars. Paris: Éditions Denoël, 1980.

———. *Moravagine.* In *Tout autour d'aujourd'hui,* vol. 7: *Moravagine; La Fin du monde filmée par l'Ange N-D; L'Eubage.* Ed. Jean-Carlo Flückiger. Paris: Denoël, 2003. Translated by Alan Brown as *Moravagine* (New York: New York Review of Books, 2004).

———. "New York in Flashlight." In *Inédits secrets.* Paris: DeNoël, 1969.

———. *Profond Aujourd'hui.* In *Tout autour d'aujourd'hui,* vol. 11. Paris: Denoël, 2005.

Cendrars, Miriam. *Blaise Cendrars.* Paris: Balland, 1984.

Chapuis, Bérengère. "La boîte-noire de Daguerre : un nouvel espace-temps." *Image & Narrative* 23 (November 2008).

Chéroux, Clément, and Andreas Fischer. *Le Troisième œil: la photographie et l'occulte.* Paris: Gallimard, 2004.

Christin, Anne-Marie. *L'Image écrite, ou la déraison graphique.* Paris: Flammarion, 1995.

Crafton, Donald. *Before Mickey: The Animated Film, 1898-1928.* Chicago: University of Chicago Press, 1993.

Crary, Jonathan. *Suspensions of Perception: Attention, Spectacle, and Modern Culture.* Cambridge, MA: MIT Press, 2001.

———. *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century.* Cambridge, MA: MIT Press, 1992.

Cuir, Raphaël. "Peaux virtuelles, chairs hybrides : *imaginer* nos corps à l'âge digital." In *Numérique et transesthétique.* Eds. Gérard Leblanc and Sylvie Thouard. Lille: Presses universitaires de Septentrion, 2012.

Curtis, Scott. *The Shape of Spectatorship: Art, Science, and Early Cinema in Germany.* New York: Columbia University Press, 2015.

Daniels, Jessie. "Bodies in Code." In *Digital Bodies.* Eds. Jessie Daniels, Karen Gregory, and Tressie McMillan Cottom. Bristol, UK: Policy Press, 2017.

Danius, Sara. *The Senses of Modernism: Technology, Perception, and Aesthetics.* Ithaca: Cornell University Press, 2002.

Darragon, Éric. “Nadar en double.” *Critique* 459-460 (August 1985), 860-877.

Daston, Lorraine and Peter Galison. *Objectivity.* Brooklyn, NY: Zone Books, 2007.

Deleuze, Gilles. *Foucault.* Paris: Minuit, 1986.

Derville, Nicolas. “Honoré de Balzac: Une autre image.” *Études photographiques* 6 (May 1999), 2; online: http://journals.openedition.org/etudesphotographiques/193

Descartes, René. *Discours de la méthode.* 1672. Notre Dame, IN: University of Notre Dame Press, 1994.

Didi-Huberman, Georges. *L’invention de l’hystérie: Charcot et l’iconographie de la Salpêtrière.* Paris: Macula, 1982.

Doane, Mary Ann. *The Emergence of Cinematic Time: Modernity, Contingency, the Archive.* Cambridge, MA: Harvard University Press, 2002.

Edelman, Nicole. *Voyantes, guérisseuses, et visionnaires en France.* Paris: Albin Michel, 2014.

Ellenbogen, Josh. *Reasoned and Unreasoned images: The Photography of Bertillon, Galton, and Marey.* University Park, PA: University of Pennsylvania Press, 2012.

Elsaesser, Thomas and Malte Hagener. *Film Theory: An Introduction through the Senses.* London: Routledge, 2015.

Epstein, Jean. “Ciné Mystique.” In *Bonjour Cinéma.* Paris: La Sirène, 1921.

———. *Cœur fidèle.* Pathé, 1923.

———. "Le Grossissement." In *Bonjour Cinéma.* Paris: La Sirène, 1921. Translated by Stuart Liebman as "Magnification," *October* 3 (Spring 1977), 13.

———. *The Intelligence of a Machine.* Translated by Christophe Wall-Romana. Minneapolis: Univocal, 2016.

Erckmann-Chatrian. "Mon illustre ami Selsam." *Contes des bords du Rhin.* Paris: Hetzel & Lacroix, 1862.

Evans, Arthur. "Gustave Le Rouge, Pioneer of Early French Science Fiction." *Science Fiction Studies* 29.1 (2002), 1-14.

Feuillade, Louis, dir. *Les Vampires.* Episode 6: "Les yeux qui fascinent." France: L. Gaumont, 1916.

Finn, Michael. *Hysteria, hypnotism, the spirits, and pornography: Fin de siècle cultural discourses in the decadent Rachilde.* Newark: University of Delaware Press, 2009.

Fischer, Lucy. "*La Roue*: Movies, Modernity, Machine, Mind." *Modernism/Modernity* 20:2 (2013); 189-211.

Flückiger, Jean-Carlo. Preface to *Tout autour d'aujourd'hui* by Blaise Cendrars, vol. 7. Paris: Denoël, 2003.

Foucault, Michel. *L'Histoire de la sexualité 1: La volonté de savoir.* Paris: Gallimard, 1976. Translated by Robert Hurley as *The History of Sexuality 1: An Introduction* (New York: Random House, 1978).

———. *History of Sexuality 2: The Use of Pleasure.* Translated by Robert Hurley. New York: Random House, 1985.

———. "The Masked Philosopher." Translated by Alan Sheridan. In *Ethics: Subjectivity and Truth.* Ed. Paul Rabinow. New York: The New Press, 1997.

———. *Surveiller et punir: Naissance de la prison.* Paris: Gallimard, 1975. Translated by Alan Sheridan as *Discipline and Punish: The Birth of the Prison* (New York: Random House, 1995).

———. "The Utopian Body." Translated by Lucia Allais. In *Sensorium: Embodied Experience, Technology, and Contemporary Art.* Ed. Caroline A. Jones. Cambridge, MA: MIT Press, 2006.

Freidberg, Anne. *Window Shopping: Cinema and the Postmodern.* Los Angeles: University of California Press, 1993.

Freud, Sigmund. "A Note Upon the 'Mystic Writing Pad.'" In *General Psychological Theory.* New York: Simon and Schuster, 2008.

———. "The 'Uncanny.'" In *The Standard Edition of the Complete Psychological Works of Sigmund Freud* XVII, 221-252. Translated by James Strachey. London: Hogarth Press, 1955.

Gautier, Théophile. *Avatar.* Paris: Michel Lévy Frères (Collection Hetzel), 1857. Translated by F. C. de Sumichrast in *The Works of Théophile Gautier* vol. 15: *Avatar, Jettatura, The Water Pavilion* (Cambridge, MA: Sproul, 1902).

———. "Exposition photographique." *L'Artiste* 27.3 (décembre 1856-mars 1857), 193-195.

———. *Voyage en Espagne.* Paris: Charpentier, 1845.

Gaycken, Oliver. *Devices of Curiosity: Early Cinema and Popular Science.* Oxford, UK: Oxford University Press, 2015.

Godbey, Emily. "The Cinema of (Un)Attractions: Microscopic Objects on Screen." In *Allegories of Communication: Intermedial Concerns from Cinema to the Digital,* eds. John Fullerton and Jan Olsson. Rome: John Libbey, 2004.

Gorky, Maxim. "The Lumière Cinematograph." In *The Film Factory: Russian and Societ Cinema in Documents, 1896-1939.* Eds. Ian Christie and Richard Taylor. London: Routledge, 1988.

Goulet, Andrea. *Optiques: The Science of the Eye and the Birth of Modern French Fiction.* Philadelphia: University of Pennsylvania, 2006.

Grojnowski, Daniel. *Photographie et langage: fictions, illustrations, informations, visions, théories.* Paris: José Corti, 2002.

Gunning, Tom. "Shooting into Outer Space: Reframing Modern Vision." In *Fantastic Voyages of the Cinematic Imagination: Georges Méliès' Trip to the Moon*. Ed. Matthew Solomon. Albany: SUNY Press, 2011.

Guy, Alice. *La Course à la saucisse.* Gaumont, 1907.

Haig, Stirling. "From *clicher* to *cliché*: The Reproduction and Design of Speech in Villiers de l'Isle-Adam's *L'Ève future.*" In *Resonant Themes: Literature, History, and the Arts in Nineteenth- and Twentieth-Century Europe.* Ed. Stirling Haig. Chapel Hill: University of North Carolina Press, 1999.

Hallion, Richard. *Taking Flight: Inventing the Aerial Age from Antiquity through the First World War.* Oxford University Press, 2003.

Headrick, Daniel. *Technology: A World History.* Oxford UK: Oxford University Press, 2009.

Héran, Emmanuelle, ed. *Le Dernier portrait.* Paris: Musée d'Orsay, 2002.

Hiley, Nicholas. "'At the Picture Palace': The British Cinema Audience, 1895-1920." In *Audiences: Defining and Researching Screen Entertainment Reception,* by Ian Christie (editor). Amsterdam: Amsterdam University Press, 2012.

Hockley, Luke. *Somatic Cinema: The Relationship Between Body and Screen — a Jungian perspective.* London/New York: Routledge, 2014.

Illouz, Jean-Nicolas. "Nerval et Baudelaire devant Nadar." In *Baudelaire et Nerval: poétiques comparées,* ed. Patrick Labarthe and Dagmar Wieser. Paris: Honoré-Champion, 2012. Reprinted at http://phlit.org/press/?p=622, 31 January 2012.

Iskin, Ruth. "In the Light of Images and the Shadow of Technology: Lacan, Photography and Subjectivity." *Discourse* 19:3 (Spring 1997), 43-66.

Kardec, Allan. *Le Livre des esprits: Contenant les principes de la doctrine spirite*. Paris: Dentu, 1857.

Kember, Joe, John Plunkett and Jill A. Sullivan, eds. *Popular Exhibitions, Science, and Showmanship, 1840-1910.* New York: Routledge, 2016.

Kessler, Frank. "The Gentleman in the Stalls: Georges Méliès and Spectatorship in Early Cinema." In *Audiences: Defining and Researching Screen Entertainment Reception,* by Ian Christie (editor). Amsterdam: Amsterdam University Press, 2012.

Kirby, Lynne. *Parallel Tracks: The Railroad and Silent Cinema.* Durham, NC: Duke University Press, 1997.

Kittler, Friedrich. *Discourse Networks 1800/1900.* Translated by Michael Metteer and Chris Cullens. Stanford: Stanford University Press, 1990.

———. *Gramophone, Film, Typewriter.* Translated by Geoffrey Winthrop-Young and Michael Wutz. Stanford: Stanford University Press, 1999.

———. *Optical Media.* Translated by Anthony Enns. London: Polity Press, 2009.

Lacan, Jacques. "Le Stade du miroir." In *Écrits.* Paris: Seuil, 1966. Translated by Alan Sheridan as "The Mirror Stage," in *Écrits* (New York: Norton, 1977).

———. "Qu'est-ce qu'un tableau ?" In *Le Séminaire de Jacques Lacan XI: Les quatres concepts fondamentaux de la psychanalyse.* Paris: Seuil, 1964.

Lathers, Marie. *The Aesthetics of Artifice: Villiers's* L'Ève future. Chapel Hill, NC: North Carolina Studies in the Romance Languages and Literatures, University of North Carolina Press, 1996.

Leckie, Ann. *Ancillary Justice.* New York: Little, Brown, 2013.

Leeder, Murray. *The Modern Supernatural and the Beginnings of Cinema.* New York: Palgrave MacMillan, 2017.

Leroy, Alice. "Foucault, Film and the Utopian Body." In *The Individual and Utopia,* ed. Clint Jones and Cameron Ellis.

Loiperdinger, Martin. "Lumière's *Arrival of the Train*, Cinema's Founding Myth." *The Moving Image* 4:1 (Spring 2004); 89-118.

Macé, Gérard. *Je suis l'autre.* Paris: Gallimard, 2007.

MacFarlane, Dana. "'Waiting Still': Baudelaire and the Temporality of the Photographic Portrait." *History of Photography,* 36:1, 3-14.

Mannoni, Laurent. "Jean Comandon technicien." In *Filmer la science, comprendre la vie: Le cinéma de Jean Comandon.* Ed. Béatrice de Pastre. Paris: Archives françaises du film, 2012.

Marbo, Camille. *Le Survivant.* Paris: Arthème Fayard & cie., 1918.

McMahon, Allison. *Alice Guy Blaché: Lost Visionary of the Cinema.* London: A & C Black, 2002.

Méliès, Georges. *Le Voyage dans la Lune.* 1902. Lobster Films, 2011.

Merleau-Ponty, Maurice. *La Phénoménologie de la perception.* Paris: Gallimard, 1945.

Monroe, John Warne. *Laboratories of Faith: Mesmerism, spiritism, and occultism in modern France.* Ithaca: Cornell UP, 2008.

Montgomery, Monte. *A Cow's Life: The Surprising History of Cattle, and How the Black Angus Came to be Home on the Range.* New York: Bloomsbury, 2009.

Münsterberg, Hugo. *The Photoplay: A Psychological Study.* New York: Appleton, 1916.

Nadar, Félix. *Quand j'étais photographe.* Paris: E. Flammarion, 1895-1905. Translated by Eduardo Cadava and Liana Theodoratou as *When I was a Photographer* (Boston: MIT Press, 2015).

Narayan, R. K., translator and editor. *The Mahabharata.* Chicago: University of Chicago Press, 2016.

Ortel, Philippe. *La littérature à l'ère de la photographie.* Nîmes: Éditions Jacqueline Chambon, 2002.

Peterson, Jennifer Lynn. *Education in the School of Dreams: Travelogues and Early Nonfiction Film.* Durham & London: Duke UP, 2013.

Pinsker, Sarah. "A Stretch of Highway Two Lanes Wide." *Fantasy and Science Fiction* 126 (March/April 2014), 110-122.

Plantinga, Carl. *Moving Viewers: American Film and the Spectator's Experience.* Berkeley: University of California Press, 2009.

Pulz, John. *Photography and the Body.* London: Calman and King, 1995.

Rancière, Jacques. *Le Partage du sensible: Esthétique et politique.* Paris: Lafabrique, 2000.

———. *Politics of Aesthetics: The Distribution of the Sensible.* Trans. Gabriel Rockhill. New York: Continuum, 2004.

Renard, Maurice. *Le Docteur Lerne, sous-dieu.* In *Romans et contes fantastiques.* Paris: Laffont, 1990.

———. *Le Péril bleu.* In *Romans et contes fantastiques.* Paris: Laffont, 1990.

Robida, Albert. *Le Vingtième siècle: La vie électrique.* Paris: Librairie illustrée, 1893.

Roubert, Paul-Louis. “Nerval et l’expérience du daguerréotype,” in *Études photographiques* 4 (May 1998).

Ryle, Gilbert. *The Concept of Mind.* Chicago: University of Chicago Press, 1984.

Schwartz, Vanessa R. *Spectacular Realities: Early Mass Culture in Fin de Siècle Paris.* Los Angeles: U of Californa P, 1997.

Sharp, Lynn. *Secular spirituality: Reincarnation and spiritism in Nineteenth Century France.* Plymouth, UK: Lexington, 2006.

Skal, David. *Screams of Reason: Mad Science and Modern Culture* (New York: W. W. Norton, 1998).

Sobchack, Vivian. *The Address of the Eye.* Princeton, NJ: Princeton University Press, 1992.

———. *Carnal Thoughts: Embodiment and Moving Image Culture.* Berkeley: University of California Press, 2004.

Stiegler, Bernard. *Technics and Time 1: The Fault of Epimetheus.* Trans. Richard Beardsworth and George Collins. Stanford: Stanford University Press, 1998.

Stiegler, Bernd. “La Surface du monde: Note sur Théophile Gautier.” *Romantisme* no. 105 (1999): 91-95.

Thélot, Jérome. "'Le Rêve d'un curieux,' ou la photographie comme Fleur du Mal." *Études photographiques* 6 (May, 1999). http://etudesphotographiques.revues.org/186

Thuillier, Guy. *Les Auteurs nivernais de 1915-2005.* Exhibit catalog. Nevers: Bibliothèque Municipale, 2006. Online: http://en.calameo.com/books/0005573282a2353685035

VanderMeer, Jeff. *Annihilation.* New York: Macmillan, 2014.

Vanoyé, Francis. Preface to *Tout autour d'aujourd'hui,* vol. 3: *Hollywood, la Mecque du Cinéma; l'A B C du Cinéma; Une nuit dans la forêt*, by Blaise Cendrars. Ed. Francis Vanoyé. Paris: Denoël, 2001.

Vertov, Dziga. *Kino-Eye: The Writings of Dziga Vertov.* Translated by Kevin O'Brien. Berkeley: University of California Press, 1984.

Vial, Stéphane. *L'Être et l'écran: Comment le numérique change la perception.* Paris: Presses universitaires de France, 2013.

———. "Voir et percevoir à l'ère numérique: théorie de l'ontophanie." In *Vivre par(mi) les écrans,* edited by Mauro Carbone, Anna Caterina Dalmasso, and Jacopo Bodini. Paris: Presses du réel, 2016.

Villiers de l'Isle-Adam. *L'Ève future.* Paris: Gallimard, 1993. Translated by Robert Martin Adams as *Tomorrow's Eve* (Urbana: University of Illinois Press, 1982).

Virilio, Paul. *L'horizon négatif.* Paris: Galilée, 1984.

———. *The Information Bomb.* Trans. Chris Turner. London/New York: Verso, 2005.

———. *La machine de vision.* Paris: Galilée, 1988.

Virilio, Paul, Friedrich Kittler and John Armitage. "The Information Bomb: A Conversation." *Angelaki* 4:2 (1999), 81-90.

Wall-Romana, Christophe. *Cinepoetry: Imaginary Cinemas in French Poetry.* Oxford University Press, 2015.

———. *Jean Epstein: Corporeal Cinema and Film Philosophy.* Manchester: Manchester University Press, 2013.

Whidden, Seth. *Authority in Crisis in French Literature: 1850-1880.* New York: Routledge, 2016.

Williams, George Mason. *Handbook of Hindu Mythology.* Santa Barbara, CA: ABC-CLIO, 2003.

Williams, James S. *Jean Cocteau.* Manchester: Manchester University Press, 2006.

Willis, Martin. *Mesmerists, monsters and machines: Science fiction and the cultures of science in the nineteenth century.* Kent, OH: Kent State UP, 2006.

Yumibe, Joshua. *Moving Color: Early Film, Mass Culture, Modernism.* New Brunswick, NJ: Rutgers University Press, 2012.