In some sense all cinema is a special effect.
—Christian Metz

I want to know what cinema does. If it causes no effect, however ornery or belated, cinema doesn’t do anything, and there is left only the question of what it is or, more exactly, what it fails to be. Cinema does something, and what it does matters. Cinema’s first effect is to exist. Yet like everything else it has trouble existing, and the effects it produces—images and sounds, dimensions, durations, sensations, understandings, and thoughts—all share a quizzical and oblique relation to reality. Certainly you could measure physiological dilations and palpitations to ascertain the reality of a film’s emotional clout. But there is something fictive, something uncanny, or something that, however marginally, fails the reality test in even the most engrossing films, and perhaps in them most of all. Studying special effects has led me to an odd little problem that has turned out, over the years we have spent together, to be fascinating and revealing companion: the problem of the object of cinema.

Like most of my generation I went to school with Western Marxism and psychoanalytic semiotics, and their overriding concern with subjectivity. The greatest film analysts outside that tradition have grappled with the phenomenology of cinema. Bazin (1967, 1971) and Deleuze (1986, 1989), revisited in recent years by Sobchack (1992), Bukatman (1994, 1998, 2000), and Marks (2000), address sensation and what we do with it. Between subject and sensation lies the puzzling and enticing question of the object. Somewhere in the action of perceiving, the endlessness of sensation is ordered into a unity that can be recognized as an object, and in that same act,
the subject comes to be as the perceiver of the object. Simple, if mysterious, this process, which lies among other things at the heart of the sociocultural process of “othering,” has become utterly central to the mediated world we live in.

I take it as a premise that communication is the fundamental activity of human beings, that socialization, sexuality, trade, labor, power, and status are all modes of communication, and that in our period the dominant medium of communication is no longer face-to-face interaction but the commodity. To ask the question about the object in our day is to ask about the mysterious entity it has become, and to inquire into the changing nature of the commodity form that came into being with capitalism and whose permutations in and of the communicative herald, I believe, its eventual collapse. The historical study of the object of film is then also a study of the evolution of the commodity form. Drawing inspiration from Marx’s founding insight into commodity fetishism, this book speaks to the materiality of mediation, the object status of the media through which, so often, we engage with our objects, as cinematographers, critics, and audiences.

Between sensuous inhabiting of the world and the elaborations of meaning, there is the necessary stage in which the world is “othered,” “objected,” its flux categorized into identifiable objects thrown apart from any consciousness of them. Marx adds the vital thought that this process has a history. People have not always and everywhere made or exchanged objects in the same way. In the hundred years or so since the invention of moving pictures, that exchange has occurred more and more in the form of media whose microhistory is also a microhistory of the commodity, from industrial use value through the society of the spectacle (Debord 1977), to the virtual objects of data exchange. Of all media, the popular cinema can claim to reflect “the social characteristics of [people]’s own labour as objective characteristics of labour themselves” (Marx 1976: 164–165). Labor is a commodity, a thing that can be exchanged. It is a mediation, a material form in which communication goes on between people. Labor, cinema, and commodities are media, each of them proper to a particular epoch of history. Communication is fundamentally human, but therefore also fundamentally historical. To investigate a medium is to analyze and synthesize the historical nature of the material mediations that characterize a period in time. Film is uniquely situated to reveal the inner workings of the commodity,
since it was for most of the last century the most popular, as it is now still the
most strategic medium. Cinema has art’s capability for analyzing its own be-
ing without, among the films addressed here, the embarrassment of having
undermined it.

Guiding the inquiry into the cinematic object has been the cryptic but
inspiring conception of firstness, secondness and thirdness developed by
C. S. Peirce. Peirce himself noted the symmetry of his triad with Hegel’s
being, essence, and notion (Hegel 1975: 5–6), and with Kant’s categories.
These concepts are especially fascinating because they are relational (Peirce
1958: 383): they concern, for the purposes of this writing, the relations be-
tween sensation, cognition, and comprehension. Think, for example, of a
football game. In the first instance there is only grass, air, milling figures. In
the second there are the structures defining the action: the goals, the bleach-
ers, and the touchline—and the apperception that identifies all this as “the
game.” Third is appreciating the significance of the running—the strategic
pass, the lightning dart, the feint, the skill and grace of a game well played.
I use the terms pixel, cut, and vector here, both to anchor the discussion in the
material of film, and to shape the whole as a retrospective historiography of
images in motion from the standpoint of the digital era, written for a digi-
tal audience.

Karl Brown gives a sense of the Wordsworthian delirium of the early
period. Griffith explains what he wants for a shot in Broken Blossoms:

“I want a river . . . a misty . . . misty river . . .” His long, sensitive hands were
molding the picture that he was seeing with his inner eye. “A river of dreams . . .
the Thames as Whistler or perhaps Turner might have painted it, only it must
be a real river, do you understand? A real river, flowing, endlessly flowing, car-
rlying destiny, the never-ending destiny of life on its tide. I must see that flow,
that silent flow of time and fortune, with all the mystery of unknowable future
there to be seen and yet not to be seen . . .” The vision vanished, and with it the
poetic spell. He asked, in his sharp, penetrating, directorial voice, “Do you
know what I mean?” (Brown 1973: 216–217)

Brown describes the trough used for the river, the flash powder dropped
in to give it sheen, the electric fan, the lead weights wired to the flat cut-
out luggers to keep them upright in the breeze. He adds artisanal pride
in inventing the techniques of miniature set photography to the already
doubled demands the director makes of him, to be at once realistic and mes-
merizing. Such triple consciousness informs the digital viewer, alert to the
mechanisms of illusion, delighted by their effectivity, and entranced by their
developments. This book contends that the same triangulation shapes the
 cinematic object.

States of schizophrenia are native to film’s present-absence, its not-
quite-existence, its fictionalization of truth and its verification of illusion.
For Kant, “This fundamental principle of the necessary unity of appercep-
tion is indeed an identical, and therefore analytical proposition; but it never-
theless explains the necessity for a synthesis of the manifold given in an
intuition, without which the identity of self-consciousness would be incog-
itable” (Kant 1890: 83). Now, self-consciousness is indeed “cogitable,” but
is it necessary? The axiom that communication is human may lead to indi-
vidual human communicators, but it need not, since selfhood is a derivative
of communication, a special effect of a particular historical mode of com-
munication. Since self-consciousness is no longer a given but an effect, syn-
thesizing the myriad sensations that crowd upon us into recognizable
identities is also in question. I am thus never sure whether what I perceive is
raw phenomenality, abstract identity, or synthetic truth. To that extent this
work deals also with the sense of self as that arises in the division of object
from subject in the relationships with light particles in time, the horizon of
the screen, or cinema’s represented worlds. These relationships are un-
stable, I argue. For this reason, it is important to distrust the normative
thrust of statements like this:

This . . . compromise between deep space and selective focus typifies main-
stream style today. The eclecticism introduced at the end of the 1960s and
canonised in such films as Jaws and The Godfather seems to have become the
dominant tendency of popular filmmaking around the world. Long lenses for
picturesque landscapes, for traffic and urban crowds, for stunts, for chases, for
point-of-view shots of distant events, for inserted close-ups of hands and other
details; wide-angle lenses for interior dialogue scenes, staged in moderate depth
and often with racking focus; camera movements that plunge into crowds and
arc around central elements to establish depth; everything held together by
rapid cutting—if there is a current professional norm of 35mm commercial film
style around the world, this synthesis is probably it. (Bordwell 1997: 259–260)
Bordwell’s strategy here is to establish as normative the practices of the North American film industry, and to derive all other filmic styles from that norm (in the pages that follow, for example, he describes the film style of Angelopoulos as “dedramatizing,” as if the dramatic were the norm from which Angelopoulos’ films are an aberration), thus leaving space neither for film styles independent of the North American industry nor for dialectical currents within the normative style itself. The historian must be alert to difference as much as to similarity, and the materialist historian has also the ethical duty to watch out for contradiction and alternatives. Aumont and his colleagues note that “film analysis must be very detailed in order to be fruitful or even accurate” (Aumont et al. 1992: 77). Normative criticism may be a necessary phase in the establishment of film studies as a university discipline, but its priority of the model over the actual is only an example of how to construct a filmic object. Our task here is to take Aumont’s suggestion, and to work at a moment prior to the constitution of either the model or the represented as a given. We have to start, then, not with things but with relationships and especially with change.

The moving image moves. But where does that movement come from? For a certain approach in art history, an image is a discrete, whole entity. To move from one image to another is already an immense wrench: even the analysis of a diptych is wildly complex. What then is it to speak of “a” moving image, constructed from thousands of constituent images? In what sense is it an image? Cinematic movement is a fundamental challenge to the concept of wholeness and integrity, its becoming a test of the primacy of existence. In particular, it raises the question of temporality: when is the object of cinema? When, indeed, is the moving image?

For although it is the most ancient of all the arts, the moving image is also the most modern. Its relation to the commodity fetish becomes only more apparent in the mysteries of its origins. Before it was technological, before history began, there were firelight and shadows, gestures of the shaman, strides of the dancer, puppetry of hand-shadows cast on the walls at the rough dawn of consciousness. In these oldest arts, the immediate world became image, an altar, for a god or a throng of gods to inhabit. Of those millennia of tragedy, sacrifice, and dream, not a shred remains. History begins with recording, the records that start with the preparation of spaces for bodies and light. Pigment stains adapting the accidents of geology, carved modification of rockfaces, the petroglyphs of the Cave of the
Bison inscribe before the event what would remain long after it. More fragile and corruptible than even rock paintings, we no longer or scarcely possess wooden artifacts of the Stone Age, but looking at the stone figurines of the Cyclades, we can catch hints of a coeval culture of carved dolls passed hand-to-hand among the tribe, a precursor of the more intimate and sedentary arts of television. Film, however, begins in the public scale of torchlight processions through Altamira, the play of sunlight, moonlight, and dappling cloud on the stained glass windows of medieval Europe, the fireworks and waterworks of the Baroque (rendered cinematic in Anger’s *Eaux d’artifice*)—one more reason to be delighted that the Lumière brothers should be named for light.

In the painted caves of Lascaux, the temporary community of ritual attains continuity through repeated returns to the same marked space. Their time is no longer only the experience of the moment but an ordering of action. This ancient ordering is the founding principle of all those arts that devolve on the movement of bodies through illustrated space. Disney World mimics the passage through the sculpted cave in times set aside from the ordinary. In a more banal vein, the same itinerary through illuminated places marks the traverse of airports, the guided meander through supermarket aisles. From monumental statuary and triumphal arches (Warner 1985) to Benjamin’s arcades (Buck-Morss 1989) and the protocinema of railway travel (Schivelbusch 1980), the stillness of the image and the motion of the body become characteristic forms of modernity. The complementary form, movement of the image and stillness of the body, begins, if we are to believe Boal (1974), in the Greek drama with the distinction between performer and spectator. The protocinemas of the masque, the melodrama, and the magic lantern add the spectacle of technique. Cinema and its associated media merely industrialize the stasis of the audience in the movement of the image. Perhaps one day, perhaps soon, there will be an art of moving bodies and moving images. Perhaps, as Virilio (1994) argues, we are moving instead toward a world of static bodies and stationary images. The magic of cinema, cinema as special effect, arises from this intertwining of relations of movement, scale, distance, and repetition, from this ancient history of time. But there is also the modernity of cinema to consider, the specificities of time in the age of capital and of globalization.

Image and transport technologies, revolutionized in the nineteenth century, instigated new relationships with time as fundamental as those be-
gun in the transition from prehistory to recorded time (Kern 1983). Both Paul Virilio (1989) and Friedrich Kittler (1999) suggest that cinema must be located in the twinning of media and military technologies. As Siegfried Zielinski argues, however, reiterating the assertion made earlier by Lewis Mumford (1934: 12–18), nineteenth-century military and media technologies both depended for their mechanization and automation on the logically and chronologically prior development of the clock (Zielinski 1999: 72–74). The new armaments and logistics of the Maxim gun and the tank, like the new network of rail and telegraph, like the structured time of the shutter, derive both technologically and conceptually from the mechanized measurement of time. Without the mass-scale precision engineering required by the popularization of watches and clocks in the 1870s, the machine gun, the railway schedule, the production line, the cash register, and the cinematograph are not thinkable. The splitting of human action into mechanically discrete movements, the atomization of economic and bureaucratic flows into distinct and quasi-autonomous, even meaningless keystrokes on the adding machine and typewriter, the Taylorization of work at Ford’s River Rouge plant all spring from the same imagining of time as a discrete series of steps. And yet, although the cinema has the discretion of a chronometer, it also struggles with other temporalities, some coming into being, some fading from their old hegemony. However important the addition of the second hand to mass-produced watches, it alone cannot account for the opening up of microscopic, infinitesimal times, or the *mise-en-abyme* of the commodity fetish as it spiraled into spectacle. The proletarianization of chronometric time and its extension from the workplace to the world of pleasures and reproduction brings it into a dialectical realm of contradictions and disputations. Reform movements in the last decades of the nineteenth century shortened the working week across Europe and North America, producing the new phenomenon of surplus time, a time that now fell to the emergent entertainment industries to commodify. Indeed, by the late 1920s it would become apparent that the time of consumption was as vital to economic growth as the time of production.

The first part of the book looks at this first period, focusing on France in the decade after 1895. I propose here three elementary aspects of the moving image corresponding to Peirce’s categories and derived from the mathematical foundations of digital media. I want to supplant the metaphors of film as language pursued by Metz (especially 1974a, b) and film as
psychology pursued by Bordwell (1985, 1989), with a more digital analysis of the mathematical bases of motion. This choice of terminology comes with an admission that like all histories this is a retrospective. Because cinema so clearly traces a history from mechanical to digital time, I have tried to indicate that the shifting temporalities of the commodity film have neither ceased to change nor mutated into something utterly different in the digital era. In the work of the Lumières, Méliès, and Cohl, it is possible to descry the distinctive qualities of cinema as an autonomous medium. That autonomy would survive scarcely a handful of years, perhaps even less. Within months of its invention, film had become a commodity, and its unique ontology embarked on its long dialectical relation with the larger world.

The second part leaps over the rich innovations of the first thirty years of the twentieth century to engage with the sound cinemas of the 1930s. Once the technical difficulties associated with the innovation of synchronized sound were resolved around 1929 (Crafton 1997; Gomery 1980), the cinemas of the 1930s began to move swiftly through experiments to secure stable modes of operation. As Terry Smith puts it, “The urges to disorder and totality of the competing modernities of the 1920s, dreams/projections then, seek generalization, institutionalization in the mid-1930s. They seek to control the social gaze—in short, to govern” (Smith 1993: 161). Mack Sennett’s life at Keystone (Sennett 1967) and Griffith’s actresses’ at Biograph (Gish 1969; Griffith 1969; Pickford 1955) seem full of joyful inventiveness. In Ben Hecht’s sour account of the classical studio era (Hecht 1954), governance has triumphed in the stabilization of new cinematic norms. Control over patents, cartelization of research and development, market domination of supplies to the film industry (e.g., in film stock and lights; Winston 1996: 39–57; Bordwell 1985: 294–297), and the increasing role of the banks in film financing (Wasko 1986) all supported a growing monopolization of the photomechanical and nascent electronic media (Mitchell 1979a, b). A parallel monopolization occurred in 1934 in the tyranny of social realism, when both Hitler and Stalin embraced it as the art of the state (Hitler 1968; Zhdanov 1992).

The third part moves to the postwar period. Slow motion, freeze-frame, steadicam, bullet-time: across three decades, cinema moves toward a spatialization of time. This process is refracted through other dialectics as well: order and entropy, local and global, analog and digital. Dadoun’s de-
cription of Hollywood in the 1930s is premature: it was in the postwar period that “While being subjected more completely than anything else to the constraints, the rules and ideas of the economic system, the cinema projects the delusion of being an autonomous world, above reality, concerned only with the higher pursuit of image-making” (Dadoun 1989: 46). The 1940s are the hinge on which all arguments concerning the power to depict must pause. The Holocaust was not the largest genocide undertaken by the European empires, nor the most complete. It names more than the deaths of the Poles, Romanies, homosexuals, Communists, and Jews: it names also, in ways we are still learning to articulate, the massacres of slavery, the ethnocide in Tierra del Fuego, Tasmania, and Newfoundland, the slaughter of the Aborigines, the destruction of the First Americans and on and on and on. No attempt to write historically, not one written by a European, can be taken seriously unless it confronts this vacuum into which the dream of rational Enlightenment descended.

Far from making reference impossible, the camps made it essential, the metaphysical task of cinema, for a period that is only now coming to an end. This is one reason the realist and total cinemas sometimes appear confused in works like *Imitation of Life*. The demand that we weep is not negotiable, when Mahalia Jackson sings. To some extent we are impelled to empathize with a world that only ever knows too late how great we were (Neale 1986), so that the film invites us to live a posthumous fantasy. *Imitation* is not itself a fascist film, but it is a film that reveals fascism through fascism’s aestheticization of politics. The totalitarianism of Eisenhower-era North America is not just depicted in the enclosed deep-staging; it is voiced as loss in the language of Riefenstahl, applied now to living rooms and kitchens that look like the direct heirs of Albert Speer’s architecture of light. The cinema itself became more than an alibi: it was the allegorical building where dreams and aspirations went to die.

The postwar world began to pose in new ways another Kantian aesthetic, the division of the beautiful from the sublime. Beauty is, in *The Critique of Judgment*, a common thing, shared and social. Beauty is ephemeral, a property of things that change, mature, are lost: a lover, a landscape, a work of art. Beauty is our highest expression of what it is to be mortal. It speaks of history, it speaks of the future, and therefore it speaks ethically. The sublime, at the opposite pole, speaks of a life unbounded by the horizon of
death, perhaps without the stain of birth: the timeless time of the universal. The sublime endures outside history, and its permanence is a presence that overwhelms the everyday contingencies of history. As absolute and unquestionable presence, the sublime exceeds and stands aside from the world. The opposite of beauty, which, in its becoming, perpetually confronts the world with its ephemerality, sublimity antedates sociality. Sublimity hails us as unique: it is an elitism. Beauty hails us as common: its roots are democratic. The confrontation of beauty and sublimity is an ethical issue: media democracy or media elitism. Beauty confronts ugliness: sickness, squalor, brutality, things that can be changed. The sublime stares into the unchanging maw of evil. The sublime addresses us phatically: like a demanding child, it posits the interlocutor, the individual in the audience, as its other. The individual it hails is intensely personalized and thus abstracted from the social world, but also lifted out of language and thus without a name. Beauty calls to us across what is shared; to empathy, to sympathy, to common taste, common sense, and common knowledge. Its ephemerality addresses itself to the common fate, embracing forgetting as the necessary partner of becoming. Beauty is communicative, then, while the sublime is the voice of the incommunicable, the supernatural, the secret knowledge of the anonymous elect, even though that elect is made up of every audience member who has ever succumbed to the lure of totality in the late Eisenstein or his heirs.

At issue here is the status of the audience and of “media effects.” The common editorial and legal line that blames the media is based on the premise that there is an individual prior to mediation on which the media operate. Yet neither societies nor individuals are conceivable without language, that is, without mediation. The opposite case, now general in cultural studies, privileges the subject over the object, presuming that there is a fully formed personality on whom the latest media message impinges only tangentially and late. But the problematic of the cinematic object demands that we countenance the mutuality of their construction: that audiences constitute the media that constitute them in a dialectical antagonism of mutual creation, mutual annihilation, and that this is entirely true to the shifting nature of the commodity relation in which it is no longer producers’ labor but consumers’ attention that is bought and sold.

The sublime in this perspective is entirely comprehensible as a function of the commodity form as it strives to colonize what little is left of the world
to commodify. The sublime and innocent effect, incongruously and unconsciously evoked in Lyotard’s (1978) essay “Acinema” in the figure of the child playing with matches, belongs to an order of time from which narration, dependent on time’s passing and its loss, is debarred. It is the time of the fetish. The cinematic sublime constructs an apparatus for the imitation of death, that zero degree of speech, and so becomes an object of awe, an event that contradicts its own existence. That is the source of the sacramental innocence of cinema: the pretence of a timeless and universal order of communication bordering our own structures as supernatural and universal, the commodity form of communication in our time.

The spectacle was only ever one of the possible worlds that might have emerged from the investigation of time in film. From the earliest films,

The illusion of motion, with its consequent sensations of temporal flow and spatial volume, provided enough innovation for spectators already familiar with a range of spectacular visual novelties. If cinema’s blend of spatiotemporal solidity and metamorphic fluidity was largely assigned to the representation of narrative, these effect[s] of the medium nevertheless remained central to the experience. Special effects redirect the spectator to the visual (and auditory and even kinaesthetic) conditions of the cinema, and thus bring the principles of perception to the foreground of consciousness. (Bukatman 1998: 79)

Distinctions between realism and illusion make no sense in an epoch when it was neither the illusion of life nor the illusion of illusion that fascinated but rather the spectacle of their making. The fascination of these experiments on the raw material of time is not the collusion of cinema in the hegemony of commodity capitalism and emergent consumerism, but the fact that the new device took on at once an anima of its own, aspiring to “more and better freedom” (Bauman 1999: 1) than the freedom of free trade.

The evolving combinatorics of cinematic time’s elementary dimensions begin to alter the dimensions themselves, providing insight not only into how the cinema has been, but into what it may become. The task of theory today is no longer negative. The job of media theory is to enable: to extract from what is and how things are done ideas concerning what remains undone and new ways of doing it. As the poet Hopkins put it in a letter to Robert Bridges, “The effect of studying masterpieces is to make me admire
and do otherwise” (Hopkins 1953: 210). Discovering the temporalities of film is as close as we get to understanding the why and wherefore of commodity fetishism as it has developed over the last hundred years. It is the argument of this book that we must look into this secret and bizarre space of the commodity to understand the terms under which mediation functions in our epoch, and therefore to understand the conditions under which we can make the future otherwise than the past or the present.