Here are three tableaux of people and machines. 1868. A man is lying unconscious on the tracks of the London underground; an express train is hurtling towards him, its lights cutting through the gloom; a second man makes a heroic dash, seizes the prostrate figure and rolls with him to safety as the train rushes past. 1904. A group of men are sitting in a railway car in Glengariff, near Cape Town, South Africa, telling stories. One of them, a petty officer in the British navy, tells the story of a warrant officer who goes to see an early moving picture show. In one actualité he sees a woman he knows disembark from a train at Paddington station in London. Mesmerized by her projected image, he goes to see the show every night. He becomes increasingly distraught and eventually deserts and disappears into the South African interior. 1973. Two men are driving in a Lincoln Continental. One reveals his ultimate car fantasy, which is to die in a crash with film star Elizabeth Taylor. He believes that this deadly collision will release some powerful libidinal energy bound up with the body of the star, and that whoever dies with her will achieve a kind of immortality.

The first of these scenes is from Dion Boucicault's *After Dark* (1868), but similar situations provided the climactic 'sensation' scenes to numerous plays in the 1860s, including Augustin Daly's *Under the Gaslight* (1867). The second episode is from Rudyard Kipling's enigmatic short story, 'Mrs Bathurst' (1904), though it also recalls accounts of the way early audiences reacted to the cinematograph, including such self-reflexive films as Robert Paul's *The Countryman's First Sight of the Animated Pictures* (1901). The last scene is from J. G. Ballard's 1973 *succès de scandale, Crash.*

Literature, Technology, and Modernity is an attempt to link these three images of people and machines by considering the relation between modernization and culture from the 1860s to the later twentieth century. The earliest scene relies on a cultural imaginary in which the impact of the machine, or industrial modernity more generally, on the human is a source of trepidation, or even terror, though also of fascination. With modernity

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represented synecdochically by the train, the hero (or heroine in some versions) is one who can beat the machine on its own turf. The scene offers a pleasurable fantasy of escape from industrial time, while paradoxically also drawing the protagonist, and indeed the audience, further into that temporality. The second episode places the narrator within one machine, the train, and frames another, the Biograph, or cinematograph, as itself a marvellous but maleficent technology, one that has the bewitching power to make copies so powerful that they rival and even outdo the originals. Those who are represented, and in some cases those who simply see the representations, are altered by the new machine. The last and most recent episode again places the speakers within the machine, but it also appears to deliberately evoke the first tableau, albeit with variations. Apart from its substitution of the automobile for the train it also suggests other departures from the nineteenth-century railway scene. Bodies and machines are more intimately linked, and the body of the star is no longer simply that of the woman, Elizabeth Taylor, but also the mythic superbody that has been generated by the film industry. The most obvious change is that the collision with the machine that was to be avoided at all costs in 1868 now seems to be sought out.

It has been argued from various perspectives that modernity relies on the intellectual separation of people and things.¹ In this light we might suppose that industrial modernity, beginning in the second half of the eighteenth century, is predicated on the intellectual separation of people and machines. This book suggests that the corollary of this is a modernity that obsessively replays the meeting of the two. The most extreme image of this meeting is the collision of flesh and steel in the crash, but other and less fatal encounters are also imagined. Cutting across some of the familiar divisions of literary and cultural history - between British and North American material, and between Victorian and Modern, and Modern and Postmodern this book joins literary history and film history to argue that particular ways of imagining machine-transformed subjects are carried over from the mid-nineteenth century and linger, albeit with variations, well into the second half of the twentieth century. People were coming to terms with industrial modernity for a very long time, if they are not doing so still. One might even posit the existence of a long nineteenth century, if there were not already so many other extended centuries for the cultural historian to contemplate.

In following the adventures of a certain trope, though, I also want to suggest that literature and film are actively involved in modernization, rather than simply mirroring it. My earlier book, *Modernism, Romance, and the Fin*

de Siècle (1999), took its impetus from that part of Fredric Jameson's account of modernism in which he argues that aesthetic pleasures have played their part in 'making us increasingly at home in what would otherwise . . . be a distressingly alien reality. Viewed in this way . . . modernism can be seen as a final and extremely specialized phase of that immense process . . . whereby the inhabitants of older social formations are culturally and psychologically retrained for life in the market system."² Then I was arguing for a species of 'popular modernism' in the adventure fiction of late nineteenth and early twentieth-century Britain, claiming that the novels of that period assisted their readers to acclimatize to certain historical shifts in social organization, imperial power, and commodity culture. While I retain the idea of a 'popular modernism,' here the focus is on a different aspect of modernization, what might be termed the mechanization of everyday life. (This study is less directly concerned with literary periodization, but it is worth noting that the appearance of a species of machinic 'popular modernism' from the 1860s on might suggest one reason why later international high modernism did not entirely 'take' in Britain, having to some extent been pre-empted.³) Again, though, I am suggesting that literature, and later film, play a part in facilitating that modernizing process. Speed, suspense, and mystery are the first hallmarks of this early literature of modernization - the more general set into which I would place what we usually call modernism. Thus form, whether that of the sensation novel or of the sensation drama, is itself brought up to speed, which in turn means that the reading or viewing process comes to make some of the same demands as the industrial task. This is easy enough to see in the case of an industrial entertainment of the kind that film becomes, where technology is central to the medium (as Walter Benjamin argued many years ago), but it can also be true of literature and drama.

I am not proposing a single 'functionalist' role for cultural texts – their role at different times may be to narrate change, supply popular theories of it, purvey compensatory fantasies, enable some sort of cathexis, or indeed to provide critique. To argue that literature and film take part in modernization is to take a more general position on the politics of culture and what Mark Seltzer has succinctly called 'melodramas of uncertain agency': are texts, or films, *about* their culture, or simply a mirror of it?⁴ The first position holds out possibilities of resistance and agency, if not transcendence; the latter, deriving at least proximally from New Historicism, seems to confine the text to a sort of prison-house of culture. Apart from the implications for our understanding of the past, the debate obviously has implications for the critical work of the present: if the texts of the past were totally

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part of, or totally conditioned by their culture, what is the position of the critic in the present? I hope it will be clear which position I lean towards, though it is also worth noting, as Seltzer does, that the aporias of agency of cultural criticism are already present in, even constitutive of, the texts of nineteenth-century machine culture with which I begin.⁵ What, after all, is the fantastic image of a human being racing against a train to save someone, if not an image of human agency in the face of an increasingly mechanized (for which we might also read bureaucratized, rationalized, administered, commodified) world? If we find ourselves still interested in, if not altogether spellbound by, such melodramas of agency, it suggests that we still like to revisit the theatre of nineteenth-century machine culture.

As any study of the interplay of culture and modernization must be, this book owes a good deal to the foundational work of Georg Simmel, Walter Benjamin, Norbert Elias, Siegfried Giedion, Dolf Sternberger, Michel Foucault, and others, as well as to more recent work on technology and modernity, including that of Tim Armstrong, Christoph Asendorf, Tom Gunning, Lynne Kirby, and Mark Seltzer.⁶ A more immediate influence was Wolfgang Schivelbusch's The Railway Journey (1977), and a little later, Alain Corbin's Time, Desire and Horror: Towards a History of the Senses. Schivelbusch's work convinced me that the way in which the middle class as much as the working class went through a species of 'retraining' in order to survive in an industrialized society was a fruitful field of enquiry. My choice of the 1860s as a starting point owes much to Corbin's claim that that decade represents a watershed in European history insofar as it saw the modification of the habitus to fit the contours of modernity, including the creation of 'new thresholds of the tolerable' and new corporeal regimes.⁷ (At one level this might be taken to include, say, the end of public executions in Britain, but in a less Foucauldian vein one might point to such diverse phenomena of the 1860s as the building of the London underground; the huge increase in the numbers of patents sought for new inventions; the use of aniline dyes to produce such 'new' colours as mauve; and, the example I use here, the vogue of sensation literature.) My aim has been to trace some of the ways in which literature, and later film, played some part in this modification of the habitus, or what Jonathan Crary has termed the 'modernization of subjectivity'.8

I am assuming a certain transparency to the terms literature and technology, but modernity is a term that needs some glossing. By modernity here I mean in fact industrial modernity, the period ushered in by industrialization in the second half of the eighteenth century, though obviously this

break is underpinned by earlier developments, such as the appearance of Enlightenment thought, the work of the Royal Society and the growth of scientific method, and the rise of capitalism itself. I have concentrated on one aspect of industrial modernity, the response to new technology, but that response cannot be understood without some sense of the other aspects: commodification; the break with traditional ways of life; urbanization and the concomitant sense of rootlessness; individualism; the expansion of democracy; the growth of commercialized leisure; the separation of work and home and the ideal of domesticity; new ideologies of gender; the growth of bureaucracy; the integration of more and more territory into the capitalist world system – the myriad ways in which all that is solid melts into air.9 As will become clear, the response to new technologies often condenses fears, anxieties, and longings in the face of these other changes. In using the term industrial modernity I am, of course, also downplaying the divisions among Victorian, Modern, and Postmodern, and assuming that there is not so much a radical break between nineteenth-century and late twentieth-century modernity as a shift of intensity.¹⁰

I begin not with the industrial revolution itself, and with the Romantic response to it, but with the mid-Victorian period, by which time industrial technology was becoming part of the fabric of everyday life. Accordingly, I deal primarily not with responses to the industrialization of production per se, but with the industrialization of transport, communications, and entertainment – what one might also regard as the industrialization of consumption and leisure. Leisure was transformed by industrial technology in obvious ways, such as the availability of cheap railway excursions, but reading and viewing patterns were also retooled. The ways in which narrative pleasures, inter alia, altered might be seen to be part of the long shadow cast by the more general retraining of subjects for productive roles within industrial modernity, though one should not forget that such new pleasures may also have contained utopian moments.

Beginning with the response to the railway in the 'sensation drama' and 'sensation novels' of the 1860s, this study moves to consider the way in which the cinema – the last machine, as it has been called – was assimilated in Britain at the turn of the century. To move from the railway to the cinema as agent and icon of modernity is to move from the body nervous to two different kinds of body: the body of the spectator that in some ways recalls the nervous railway body, and the body that is filmed, at once de-realized and made eerily present. Chapter 4 pursues the role of the cinema in twentieth-century culture by following the late Victorian novelist, Elinor Glyn, to the Hollywood of the 1920s, exploring her part, together with actress

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Clara Bow, in the invention of a film-mediated concept of sexuality – 'It'. The final chapter deals with J. G. Ballard's 1973 shock-novel, *Crash*, and David Cronenberg's film version of it, which reinvent nineteenth-century fantasies of people and machines, but also dwell on the darker side of film-produced charisma and sexuality. There is a rough division, then, between the first two chapters, which focus on the subject accelerated, and where time, speed, suspense, nervousness, and escape are central motifs, and chapters 3 and 4, which deal with what we might term the subject derealized, where fantasy, reverie, uncanniness, desire, and the erotic are central, and where the image is primary. The last chapter attempts to reunite these two sides of the culture of modernization.

The opening two chapters on the 'sensation' plays and novels of the 1860s deal with the work of Dion Boucicault, Augustin Daly, Wilkie Collins, and M. E. Braddon in relation to mid-nineteenth-century machine culture. While accounts of the Victorian period often assume that industrialization disappears into the background after the industrial novels of the 1840s and 1850s, I hope to show that literature and drama continue to be preoccupied with Victorian machine culture, and in fact that they play an important part in the accommodation of new technologies. Chapter 1 looks at the popularity of elaborately staged 'railway rescue' scenes in the drama of the 1860s (more familiar to us now from the silent film era), arguing that the historical roots of these scenes, and indeed of spectacular melodrama in general, are in the experience of industrial modernity, including the industrial accident. I first discuss melodrama itself as a form aligned with modernity, before putting the spotlight on one particular treatment of the railway rescue, that in Boucicault's After Dark (1868), which kept London audiences on the edges of their seats from August 1868 to the following May. As Jonathan Crary has shown, attention becomes a keyword of modernity only in the second half of the nineteenth century, as modernization came up against the limits of subjective human perception, and the possibilities of distraction and fatigue. In this light we can see that theatre audiences in search of an escape from their cares were being brought to new levels of attentiveness by on-stage industrial spectacle.¹¹ And yet Boucicault's play deploys a fantasy of *escape* from Victorian modernity: what holds people's attention is a scene in which people triumph over industrial time – the hero always gets there on time to avert the industrial accident. Moreover, as we shall see, *After Dark* uses this fantasy to perform quite distinct cultural work: to escape the train will also be to evade an alien and menacing modernity associated with London's underworld as well as its underground.

If one popular form of the 1860s was providing compensatory fantasies of managing, or even evading, machine culture by beating it on its own ground, another form seemed to be more concerned with the creation of mechanic readers. In the sensation novel as in sensation drama, we also see an attempt to represent the accelerated railway age. But the sensation novel, I suggest, does not represent individuals escaping from a hostile machine culture. Even more than the sensation drama, it works to acclimatize its readers to railway time and space, and it is through its deployment of nervousness – shown in its characters, elicited in its readers – that it seeks to perform this acclimatization. If industrialized time and space threatened to overwhelm the human sensorium, then, they also came to offer new aesthetic pleasures in the form of suspense, even if these new pleasures in turn helped to synchronize the reader to industrial time.

Chapter 3 moves from machine time to mechanical images and from industrial transport to industrial entertainment, that is, from the railway to the cinematograph as itself a late Victorian machine. This is not quite the jump-cut it may at first seem: as Kirby, Friedberg, and others have shown, the initial response to the cinema is continuous in many respects with the response to the railway, not least because the latter offered an experiential paradigm that helped the first spectators to accommodate the cinematograph.¹² At a more literal level, the commodity experience of the railway excursion yielded to the 'phantom rides' of Hale's Tours and similar attractions, in which long tracking shots were used to give the viewer an experience of virtual mobility.¹³ The railway was assumed to have the capacity to produce modern, nervous, and accelerated bodies, but the cinema apparatus was also perceived as transforming the human frame. Indeed, more than in the case of the railway, the cinema has been presented as a magical technology, even an uncanny one. What we see in the photographic image is not simply a copy of its referent but an emanation of the past that pursues its own career independently of its original, making of the photographic or filmic image something uncanny. The capacity of the camera/projector/screen to spellbind its audience by conjuring up a world of phantasmatic doubles took on a special resonance in a Britain that had to simultaneously assimilate the new medium of moving pictures and the military catastrophes of the distant Boer War (the early cinematograph was even called the 'Boerograph'). Here I explore this phase of early British cinema and responses to it, including a contemporary short story, Rudyard Kipling's 'Mrs Bathurst' (1904). Kipling's story explores the magical power

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of the new image technology, which transmits the unique force of personality – Mrs Bathurst's 'It' – across thousands of miles, causing one character to lose his wits at the sight of his old flame. I want to argue, though, that Kipling's cinema story is also a war story, and that it complexly links the new technology to the trauma of the Boer War, Britain's first experience of industrialized warfare.

Kipling anticipates two overlapping aspects of twentieth-century modernity: the development of a vocabulary of sexual attractiveness independent of beauty per se - 'It,' or 'sex appeal' - and the seeming capacity of the cinema to turn mere mortals, even very flawed ones, into powerful screen icons. By the 1920s Hollywood had already secured its dominance of international cinema, and was producing its own brand of popular modernist material, which, no less than the texts of high modernism, worked to train subjects for modernity. In the United States, and to a lesser extent in Europe, the cinema colonized the sphere of intimacy: it is scarcely an exaggeration, indeed, to say that twentieth-century sexuality was routed through the cinema apparatus. In Chapter 4 I look at a particular stage in this technological reshaping of sexuality, during which Kipling's 'It' is modified and united with the iconogenic power of the cinema and modern publicity. In 1926 two very different women meet and play their part in this project, the popular novelist and self-styled expert in psychology, Elinor Glyn, and the Brooklyn-born actress and star-in-waiting, Clara Bow. A key figure of modern sexuality, the "It" Girl', is the result. By this time the nervous kineticism of the sensation-novel body has been replaced by something quite different as a figure of the modern – the 'fast' flapper. Like the flapper, the "It" Girl' is dynamic, but she also possesses a sexuality that is at once earthy and light. Here I look at the connections among modernity, mobility, and sexuality as they appear in the 1927 film, It, in which Bow plays the lingerie sales-girl who translates 'It' into love and marriage to the boss.

In the final chapter I turn to a late twentieth-century narrative that meditates one last time, as it were, on pre-microchip machine culture: J. G. Ballard's car-culture fantasy, *Crash*, which revisits and puts in play the themes that I have explored. Since I begin this study with a set of texts that staged the avoidance of human/machine collision, I end with one in which the collision is finally allowed to happen – in which, in fact, such industrial accidents are longed for. The collisions imagined are not just those between bodies and machines, but between bodies and cinema stars, those who have been given a second body, a body filmic, as it were, through the industrial magic of the cinema. Rather than imagining the complete

mechanization of society, and the colonization of the unconscious through industrial entertainment, *Crash* envisages a newly ritualized world of crash fans and dead but immortal stars. I finish by considering Cronenberg's film version of *Crash*, which highlights the mythic significance of the film star's super-body, as well as self-reflexively considering its own nature as industrial entertainment.

CHAPTER I

Sensation drama, the railway, and modernity

The nineteenth century, when it takes its place with the other centuries in the chronological charts of the future, will, if it needs a symbol, almost inevitably have as that symbol a steam-engine running upon a railway.

(H. G. Wells, 'Locomotion in the Twentieth Century')¹

3 October 1868. The Era in its regular column, 'The London Theatres', reports that the Victoria Theatre is staging a 'locomotive engine and railway terror. The late Mr T. Moncrieff's drama of The Scamps of London has been put under contribution for the purpose, and with a little alteration, and some efficient scenery, is found to answer to the purpose precisely... [T] here are now 5 theatres in which the same incident is nightly exhibited." That 'same incident', the 'terror' itself, was a spectacle more familiar to us now as a stock situation in early cinema: someone is tied to, or lies unconscious on, the railway tracks while a train approaches at full speed; at the very last minute the hero or heroine snatches the intended victim away to safety, and the train rushes past, leaving us to shudder at what that narrowly averted collision of metal and flesh would have been like. In the autumn of 1868, London theatre audiences flocked eagerly to see variations on that basic scene presented at, among other venues, the Victoria, the Surrey, the East London, the New Standard, and, for the more upmarket, the Princess's on Oxford Street.3 The 'terror' drew crowds to Moncrieff's The Scamps of London (an older play updated to include a railway rescue), Watts Phillips's Land Rats and Water Rats, George Spencer's Rail, River and Road, Alfred Rayner's Danger, and, the most successful of all, Dion Boucicault's After Dark; A Tale of London Life. The Era's description of the railway scene from Land Rats and Water Rats gives some idea of how this situation was staged for maximum effect:

The desperate ruffians...seize Hetty [sc. the heroine], and place her insensible across the railway line as the whistle and faint puffing of the express is heard, and