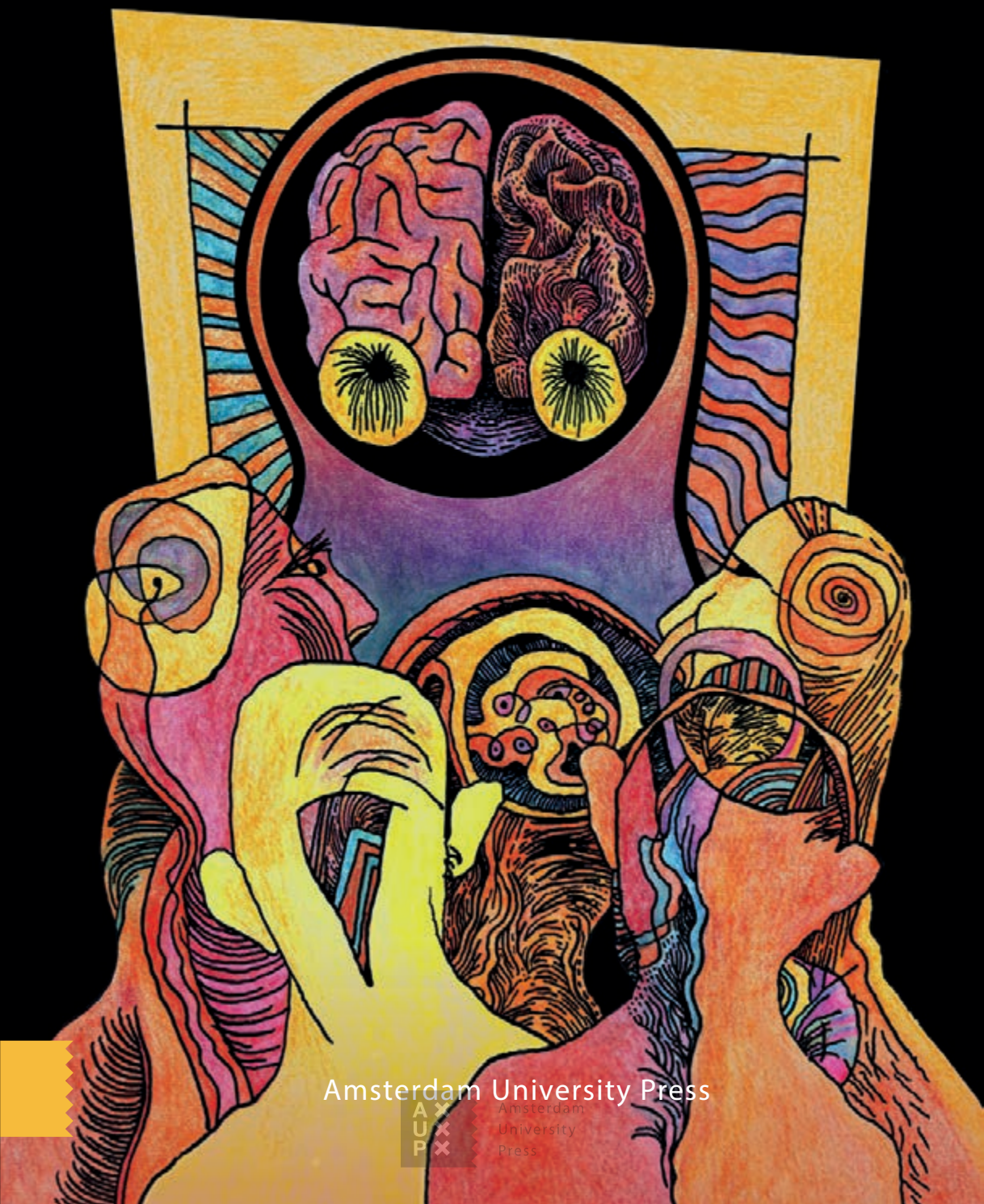
FERNANDO VIDAL

Performing Brains on Screen



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For Cayetana, my filmmaker sister,
this souvenir of our time with Hieronymus Bosch

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Acknowledgments

Numerous film specialists seem to have chosen their field of studies out of their love for the cinema, as a spontaneous way to turn recreational fun into scholarly endeavor. This strikes me as being especially the case of those who write about the categories to which many of the movies discussed here belong: low-budget B-to-Z productions, many critically demolished at the time of their first screening, but later attaining "cult" status (the same applies to the pulp magazines we also discuss). The pleasure in which their vocation originates often manifests in their texts; their enjoyment shines through in their sense of humor and their frequently immense erudition, and in the best instances, they lead their readers to partake in their fun and to open up, both critically and aesthetically, to worlds they (the readers) had perhaps snubbed or simply ignored. I arrived at these movies in a different way, starting from a thoroughly filmless intellectual history of the human viewed as a "cerebral subject." The remarks on film in an article by the medievalist Caroline Bynum (1995), a mentor and friend, helped me realize the potential of cinema for this topic. As I studied the history of modern subjectivities and the contemporary "neuroscientific turn," my attention was directed to performances of the brain on screen, and to the large-scale exploration whose results are offered here. With time, I've come to feel like a member of the community of academics whose interest in "bad movies" began as a pleasant pastime; and if I learned to enjoy them (and, frankly, to prefer them over most multimillion-dollar productions), it is in no small measure thanks to their insights and their enthusiastic and expert scholarship.

Over the years, too, a number of cinephiles, hardly any of them film or media studies professionals, provided me with information, titles, suggestions, commentaries, and even copies of pictures that were desperately unavailable (unfortunately, a few remained unobtainable, and the same must be said of some books, mainly in languages other than English). To all of them, as well as to the two demanding reviewers of this book's manuscript, I give my heartfelt thanks. Mention should be also made of the pseudonymous persons who share rare pearls on YouTube and other platforms. Although many more of the films I discuss are found there now than at the beginning of my inquiry, it is always gratifying to see friends and colleagues puzzle or grin over the bizarre DVDs, and even VHS cassettes, that sit on my shelves.

I owe a special debt to Hansun Hsiung and Martín Malamud.

Typescripts of the plays by Peggy Webling and John Balderston on which James Whale's 1931 *Frankenstein* is based were deposited in the Library of

Congress, Washington, DC, in 1928 and 1931. The Library, however, is not allowed to deliver copies. The quotations that appear in Chapter 5 come from the extensive notes Dr. Hsiung took down for me during a visit to Washington while he was a postdoctoral fellow at the Max Planck Institute for the History of Science, Berlin. It is a pleasure to acknowledge his extremely generous help. (It turned out that Balderston's play had been published in 2010; the volume, however, provides no sources and misleadingly suggests that the text is that of the film script.)

Martín Malamud – a draftsman of fantastic skill and brilliant imagination, and a dear friend from the years at the Colegio Nacional de Buenos Aires – graciously agreed to do the cover of this book. We hope readers will like it as much as we enjoyed our collaboration. ¡Gracias, Martín!

Finally, thanks are due to institutions that variously provided support, collegiality, and scholarly context, in particular: the Max Planck Institute for the History of Science (Berlin), the Pontifical Catholic University of Rio de Janeiro, the Centre Alexandre Koyré and the École des Hautes Études en Sciences Sociales (Paris), ICREA (Catalan Institution for Research and Advanced Studies), the Center (now Institute) for the History of Science at the Autonomous University of Barcelona, and the Medical Anthropology Research Center at the Department of Anthropology, Philosophy and Social Work (Rovira i Virgili University, Tarragona).

Note on References and Images

No page numbers are provided for quotations from e-books or online articles.

For technical reasons, this book does not include the images referred to in the text. They are referenced in the text as "Brainfilms," followed by the illustration number, and can be downloaded here: https://www.academia.edu/49648716/Brainfilms.

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1. Brainhood and the Cinema

Abstract
This chapter outlines the main themes of *Performing Brains on Screen*. It explains the emphasis on *performance* (rather than mere representation), and critically examines the "deficit model" in the public understanding of science, the relevance of filmic genres, the interpretive strategy of "symptomatic reading," and ways of approaching philosophy in film or film as philosophy. It discusses varieties of "brainfilms" and the universe of B movies, which form an important part of the filmic material examined in the rest of the book. It also sketches the history of the emergence of the view of the human as "cerebral subject," as well as the "neuroscientific turn" in contemporary culture, both of which are central frameworks for the filmic performance of brains.

Keywords: brainfilm, cerebral subject, deficit model, neuroscientific turn, symptomatic reading, performance

Performing Brains on Screen explores how fiction film has enacted the belief that human beings are essentially their brains. It is a chapter in the history of two interrelated phenomena: on the one hand, a medium, the cinema; and on the other, the making of subjectivities as sustained by the view that humans are basically "cerebral subjects." The statement *You are your brain* embodies one of the most widespread and influential ways of understanding the human in contemporary culture. The ideology of the "neuro" it encapsulates began to acquire prominence in the nineteenth century. However, it has become truly global only since the "Decade of the Brain" in the 1990s, largely thanks to the increase in the range of application of brain-imaging technologies, which in turn gave impulse to a protean "neuroscientific turn" across many disciplines and social and intellectual spaces (Littlefield and Johnson 2012; Vidal and Ortega 2017). The cinema, though, has been using brains as a MacGuffin, as well as more substantially rehearsing avatars of the cerebral subject, before the rise of the "neuro" as a major global creed. It has done so by turning physical brains into the

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protagonists of filmic action (as in the 1950s movies that show terrestrial or extraterrestrial "disembodied brains" pursuing generally evil intentions), or by giving brains (gruesomely displayed or invisible inside someone's head) an explicitly major role, as in brain transplantation films or their less carnal successors since the 1980s, in which brainmind contents are transferred and manipulated by means of information technologies.

Brains function in those movies as "characters," as fictional beings to which we ascribe the ability to think and act, and whose motivation is largely responsible for setting the action in motion (Eder 2010; Eder, Jannidis, and Schneider 2010). Their quality of character is nevertheless synecdochic: the isolated organ can play its role because it contains the mind and the personal identity of the individual to which it belonged. Thus, a significant number of the movies considered here enact personality or identity transfers, a popular theme since the earliest days of science fiction. On screen as on paper, brain transplantations and brains detached from bodies (with or without heads) have had the most "melodramatic potential" (Stableford 2006, 329). Nevertheless, as we shall see, all the existing ways of representing the brain and its activity, from the phrenological chart to contemporary neuroimaging, as well as developments ranging from the cerebral localization of sensory functions to the modern cognitive neurosciences, have made it into both film and literature. The result across media, genres, and styles has always been an aestheticizing and fetishizing of the brain, and alongside this, a reinforcement of its position as a modern cultural icon.

The most relevant filmic productions for a history of how brains have been performed can be characterized as *brain movies* or *brain-and-memory movies*. The former category has been defined so as to include productions involving wicked brains or malevolent brain-like entities (Senn and Johnson 1992, 99–109). It can nevertheless be enlarged to encompass all pictures, mostly from the 1940s to 1970s, where the brain visually appears as a main character. I will sometimes call them *brainfilms*, using Jeffrey Sconce's term for designating cinematic "narratives organized around the icon of the human brain" (Sconce 1995a, 281). Surgery, usually brain transplantation, is in these pictures a key visual and narrative ingredient, and functions as a primary device for unfolding main or secondary plots centered on what happens when an individual's brain (and therefore, so go the stories, the person) ends up located in someone else's body.

As for *brain-and-memory movies*, countless pictures assume that one's personal identity is defined fundamentally by one's memories. That assumption has long been a prime filmic resource, and the corpus of films where it

is enacted as a basis for narrative and visual development is extremely large. Here I shall consider only the intersection between brain and memory – in other words, pictures that, while not always turning the brain itself into a protagonist, explicitly locate memories in the cerebral substance, and have plots and visuals that involve handling the brain as physical organ. In these productions, which date mostly from the 1980s onward, the computational approach tends to supersede the surgical, which prevailed in earlier films. Their manipulation of brain matter and contents usually entails micro-electronic procedures or computer-like operations for inserting, copying, transferring, selling, buying, controlling, grafting, deleting, downloading, or uploading "embrained" information. These procedures often require implanting microchips, and are conveyed through visuals reminiscent of neuroimagery. In this way, brainmind contents, consisting primarily of memories, can be engineered so that experiences, beliefs, information, and eventually an individual's entire identity are recorded and visualized, modified and programmed.

In spite of considerable differences – in their scripts, plots, visuals and special effects, in their representations of science and technology, in their characters and narrative types, in their styles and ambitions – both brain and brain-and-memory movies explore the relationships between having a body and being a brain, and assume that personhood and personal identity consist primarily of cerebral contents. Memory transfers turn out to be functional equivalents of brain transplantations: if A has B's brain, then A must have B's memories; and giving A's memories to B generally implies grafting or otherwise removing, altering, or displacing brain substance. Films that perform brains assume that the cerebral self is basically memorial, and that the memorial self is naturally cerebral. That is their intellectual core.

These features can be examined for their ideological and potentially philosophical meanings and related to long-standing debates about definitions of personhood and criteria of personal identity (Korfmacher 2006; Olson 2008. On brain identity as criterion, see Northoff and Wagner 2017). We should, however, keep in mind that motion pictures seek above all to make money and to entertain. Some elements or contents to which we could be tempted to attribute profound or revealing meanings respond to more mundane needs, as well as to goals and constraints internal to the cinema and its production. At the same time, most movies make things clear and (even if superficially) evoke deeper messages. They do so by means of didactic moments that provide scientific-sounding explanations, or cogitate on the ethical, philosophical, or societal implications of the action. These conspicuous, often clichéd and frustratingly distracting sequences (known

in science-fiction narrative as "expository lumps") are heavy on dialogue, and often provide the "information" by means of voice-over.

Performing Brains on Screen documents this little-charted territory, describing how the cinema has functioned as a space where a core notion of the contemporary world has been assumed and conveyed, and at the very same time problematized and challenged. Indeed, while the motion pictures examined here invariably start out by asserting that we are our brains, most question their own initial claim or undermine its most reductionistic implications. The "neuronovels" that appeared in the early and mid-2000s share this strategy of ambivalence: they give the impression of adhering to the ideology of the cerebral subject, but tend to use *neuro* idioms and materials less as ideological assertions than as figurative possibilities with the potential to frame narratives about individual and social experience.

As a result of such strategies, the ways brains are performed on screen suggest that definitive solutions to the challenges they raise are unlikely to be forthcoming. Murray Smith notes that Carl Reiner's *All of Me* (1984) – a comedy in which a rich woman's soul is accidentally transferred to her lawyer's body, where it must coexist with the lawyer's own soul – seems simultaneously committed to dualism and monistic physicalism. Rather than interpreting the film's handling of identity as a symptom of philosophical inconsistency, he proposes seeing such paradoxical treatment "as a compact dramatization of our conflicting intuitions about the place of body in personal identity" (Smith 2006, 40). Undeniably, movies enact in numerous ways issues and questions that, whether individual, relational, collective, or global, are independent of them. In addition, however, *Performing Brains on Screen* assumes that motion pictures do not merely dramatize the offscreen world. Rather, it posits that, to the extent that movies are embedded in culture and are themselves part of the contexts where those issues and questions take root and are mobilized, they contribute to producing them, shaping them and transforming them.

The "Deficit Model" and the Agency of Film

This may seem obvious, but it is common to approach motion pictures as if they were factually truthful reflections of the world. Such a tendency, apparently spontaneous and in any case widespread, is particularly clear in commentary about movies that are perceived as conveying verifiable information, such as biopics, and pictures that involve historical actors and events, or science and scientists. The inclination to judge fiction films

with regard to informative accuracy neglects the fact that, in most cases, their main goal is not to inform, but to entertain and make money, and that, by their very nature, they are obliged neither to instruct nor to follow what some experts and audiences regard as established fact. Even scientists who understand the constraints of the movie industry, the limits of what film can achieve when it comes to communicating "real science," and the "active feedback between real science and Hollywood science" insist that "society and the movie industry could benefit by better presentations of science on screen" (Perkowitz 2007, 215, 227). In contrast to such a turn of mind, I shall seldom discuss scientific information. It is clear that "science drives fiction and fiction drives sciences" in ways that have historically engaged both fantasies and research about the brain (Brake and Hook 2008). Nevertheless, even when a movie conveys science-inspired visuals and scientific-sounding idioms, I will not try to assess the extent to which it respects, reflects, represents, or distorts established hypotheses, ongoing investigations, or accepted knowledge. The trap I thereby wish to avoid goes by the name of the "deficit model."

The "deficit model" designates a way of approaching the public understanding of science and science communication that emphasizes scientific illiteracy and the need to educate the public. The label emerged in the 1990s to describe an established mode of analysis and practice characterized by the assumption "that *public understanding of science* coincides with *scientific literacy*," the belief that the ability to understand science as divulged by experts "guarantees favorable attitudes toward science and technological innovation," and the tendency to make the public answerable for the shortcomings of its relationship to science (Bucchi and Neresini 2007, 450). Since then, the deficit model has been the object of much empirical research and critical analysis in media studies, education, science studies, and the sociology of science and technology. Scholars and institutions engaged in science communication policy have developed alternative approaches aimed at taking account of contexts, giving room to lay expertise, or furthering public engagement (Brossard and Lewenstein 2010). In 2002, British scientists proposed replacing the label "Public Understanding of Science" with "Public Engagement in Science and Technology" (Holden 2002). This shift "from PUS to PEST" then became the narrative officially adopted "across continents and by governments, scientific societies, intergovernmental bodies, civil society organizations and many more interests" (Trench 2008, 120). By 2007, the journal *Public Understanding of Science* could proclaim, "We have clearly moved from the old days of the deficit frame" (Einsiedel 2007, 5). Yet less than a decade later,

it launched an essay competition on the question, "Why does the 'deficit model' not go away?" (Bauer 2016, 398).

Scientists, too, have nervously asked the same question. Noting that the deficit model is "wrong" and nonetheless endures, a 2017 report of the US National Academies of Sciences, Engineering, and Medicine called for the use of systemic and contextual approaches to achieve more effective communication, which it considered especially necessary "when science related to contentious issues is involved in public controversy" (NAS 2017). Motion pictures are seen as a major means of attaining that goal. Public and private initiatives worldwide encourage filmmakers to tackle science and technology topics with the goal of informing audiences adequately about them and encouraging an appreciation for science. In spite of putatively democratizing aims, these initiatives uphold scientists' claims to absolute epistemic authority. Their outlook was captured in a 2009 *Nature Physics* editorial celebrating the globalization of science film festivals, which characterized "a good science film" as "a good film in which good (correct) science is central to the plot, or at least has a strong supporting part" (Anon. 2009).

Beyond science communication, the endurance of the deficit model is part of a broader and longer-lasting phenomenon: the persistence of realism as a criterion for judging figurative artworks. Resemblance and representation can be assessed according to a variety of criteria; the terms associated with the realist outlook, such as *accuracy*, *authenticity*, *fidelity*, *truthfulness*, or *verisimilitude*, are neither univocal nor self-contained (Vidal 2018). As linguist Roman Jakobson (1921) remarked a century ago, the concept and phenomenon of realism are extremely elastic. A range of artistic movements have adopted faithfulness to reality as their guiding maxim, and realism can be brought about in many different, even incompatible ways, from following accepted representational norms to violating them systematically in order to make viewers confront "the real" that lies beyond representation. More than a "period style," therefore, realism is a "recurrent effect" (McHale 2008, 7) – and one that has been prominent in the history of film aesthetics.

Insofar as the cinema is able to use all modes of representation and narration, and thus to "engender a unique event of sight and sound that *need* be perceived neither as a real event nor as an illusion of such an event" (Seel 2008, 166), it is as indifferent to realism as it is to anti-realism. Film, however, has long been understood as entertaining an ontological or indexical relation with reality. The "evidential force" Roland Barthes (1980, 89) found in photography seems potentiated by movies' capacity to combine time and movement, as well as by the resulting reality effects and their physical, emotional, and intellectual impact. This realist stance prevailed until the 1960s (Aitken 2001,

Chaps. 7–8; Aitken 2006, 2016; Thomson-Jones 2008, Chap. 2). The analytic focus later shifted from an interest in the phenomenal depiction of reality to the analysis of semiological means and conventions (Stam, Burgoyne and Flitterman-Lewis 1992, Part V). Since the mid-1990s, however, realist perspectives have re-emerged in world cinema and television, supported by a "cognitivist" perspective (Nagib and Mello 2009) according to which "perceptual recognition of something in the [filmic] image is on the whole neither arbitrary nor culturally variable" (Bordwell 2015).

Without going further into the problem of realism or the conditions of perceptual recognition, let us repeat the obvious: motion pictures are always documents bearing traces of contents, structures, and events that exist before, beneath, above, and beyond the screen. One way or another, they articulate values, beliefs, and concerns that subsist without them. They can therefore be approached as the expression and elaboration of issues that circulate in the "outside world." Nevertheless, since the cinema belongs in that world and movies are integral to the contexts they supposedly reflect, they must be considered as active agents in structuring them. That is why not every film is best analyzed by the methodical application of the interpretive strategy known as "symptomatic reading," which sees each and every feature as an expression of latent or concealed meanings (Best and Marcus 2009). This is another form of realism, one focused not on the most manifest appearance, but on unconscious, hidden signification. Distancing oneself from realist modes implies a caveat about film and philosophy: exploring philosophical issues through film and discussing movies as if they were philosophical thought experiments can be fun and illuminating; they should not, however, abolish film as film, nor neglect the contextual conditions, from the technical and the commercial to the aesthetic and the political, in which pictures are produced. Furthermore, dealing with "film as film" means paying attention not only to the textual and narrative dimensions of plots and dialogues, which are the focus of most philosophical commentary, but also to specifically cinematographic features, techniques and operations.

As explained above, *Performing Brains on Screen* considers movies as important pieces in the history of the cerebral subject. This view of what humans are belongs in the history of debates about personhood and personal identity. These are venerable and interrelated philosophical problems. It is therefore by no means surprising that the cinema has dealt with them and that it has in turn attracted philosophical attention. Yet, in spite of the popularity and variety of the film-as-philosophy outlook and of the conviction that the cinema can "do philosophy" (including ethics), there is no

universal consensus concerning the viability of motion pictures as a medium for philosophical ideas. The matter of principle is complicated by the existence of competing currents – from the now less-favored psychoanalytic and semiotic to the trendier outlooks of post-colonialism, gender studies or queer theory, and especially "film-philosophy" as "an aesthetic, self-reflective, interpretative approach that puts philosophy in dialogue with film as an alternative way of thinking" (Sinnerbrink 2011, 7). These currents blend with a range of modes claimed for the philosophical relevance of moving pictures: they can illustrate theories; they can offer counterexamples to philosophical claims; they can themselves make such claims; sometimes their very form conveys philosophical content (for example, about time); or they can participate in philosophically-informed social criticism (Wartenberg 2009; see also Herzogenrath 2017; and Carroll, Di Summa and Loht 2019, Part IV).

In much larger numbers and in more languages than are referenced here, the spectrum of analytic styles is also huge, from Julio Cabrera's (1999) unpretentious introduction to philosophy through film to Slavoj Žižek's idiosyncratic and characteristically histrionic performance in *The Pervert's Guide to Cinema* (itself a motion picture) or, with regard to the less-trodden field of ethics, from those resolutely anchored in theory to others who wish to address ordinary spectators' experience (examples include, respectively, Sinnerbrink 2016 and Clémot 2018; see the overview by Sinnerbrink and Trahair 2016, and Choi and Frey 2016 for the broader range of "cine-ethics"). Finally, objections to film-as-philosophy include the charge that movies are incapable of pursuing general truths, which is the goal of most academic philosophy; that they rarely make their philosophically relevant claims explicit; that philosophically-inclined scholars read into movies their interests and preferences, and therefore overinterpret the film they examine; or that movies' philosophical content is for the most part banal or trivial (Wartenberg 2009, 2016).

With regard to these discussions, *Performing Brains on Screen* recognizes that filmmakers can assert a position, or formulate and explore philosophical issues. Yet it does not expect them to provide systematic arguments, defend a cause, or even overtly pose and answer questions – only (as Beatriz Sarlo [1993] said of Borges's stories) to generate them by way of the mise-en-scène. This book also distances itself from a certain kind of focus on the *image*. As Gilles Deleuze postulated, filmmakers (in their movies) think not so much in concepts as in *images-mouvement* and *images-temps*. Numerous film-philosophers before and after Deleuze have made related claims or assumed a similar standpoint, or extended the Deleuzian outlook in complex neuro-cognitive directions (Pisters 2012). Through its many incarnations, the

basic idea is that, in contrast to discourse, which analyzes and rationalizes, the filmic image denotes and shows without naming or explaining; it is autonomous from language; it conveys presence. In short, while the cinema renounces "abstract thinking," it is, as Jean-Luc Godard put it, *une forme qui pense* (Cerf 2009, 20; Morgan 2013, Chap. 4).

Such a position, however, emphasizes the image at the expense of the fact that, in the vast majority of cases, what we see on screen is not just an image, albeit moving, but a performance, albeit in images. It may well be that film does not enable access to characters' subjective states and restricts spectators to a third-person viewpoint (Knight 2009, 619). Yet, while it surely cannot solve the "problem of other minds" (Avramides 2019), it can exhibit circumstances and conditions of possibility of subjective and intersubjective experience. More generally, motion pictures can set up philosophically significant thought experiments, but instead of "arguing" their premises, empirical consequences and logical corollaries, they *perform* them (on whether and how films can function as thought experiments, see Dadlez 2019). This has a distinct advantage over argumentation. While it is in the nature of thought experiments to be simplified models (and that is why they can be criticized as implausible, vague, or blind to real-world alternatives), cinematic performances tend to redirect thinking toward "real life." This often happens in absurd ways and in the absence of any profound intention. Pictures can *enact* thought experiments even when, in doing so, they typify filmic clichés. In those cases, their hackneyed character does not diminish their interest, since the fact that they recur and become commonplace is in itself telling.

Bs to Zs

> *Sa place, nulle dans l'histoire de l'Art, est immense dans l'histoire sentimentale des sociétés*.
> Marcel Proust, "Éloge de la mauvaise musique," *Les Plaisirs et les Jours* (1896)

Marcel Proust observed that it is "bad music," far more than the good, which has gradually "been filled with the dreams and the tears of mankind." Even if we do not enjoy it (and he did), we should respect it, he said, not out of "the charity of good taste" but because we understand its social role. For the place of bad music, "insignificant in the history of art, is huge in the

sentimental history of societies" (Proust 1896, 149). Crucial to that effect, as Proust noted, is the repetition of themes and melodies that, though "worthless in the eyes of an artist," cut across social classes and touch the hearts of multitudes. Something similar must be recognized of "bad movies."

As the indologist Wendy Doniger (2005, 5–6) noted, "What we call mythemes when they occur in myths, we call clichés when they occur in B movies." Claude Lévi-Strauss (1963, 211) coined *mythème* to name the "gross constituent units" of myth; he defined them as "bundles" of relations that "can be put to use and combined so as to produce a meaning." It follows that a myth consists of the totality of its variants, that its analysis should consider all of them, and that there is no such a thing as the "true" or "authentic" version of a myth. Thus, for example, in interpreting the Oedipus myth, one should include Sigmund Freud's use of it, which adds to the myth itself (ib., 216–217). With less structuralist rigor, these observations apply to our movies: they offer significant differences, while sharing a constituent unit made up of a character (the protagonist whose brain is somehow disturbed by an external force), an event (the alteration of the brain), and a theme (living with a transformed brain or as a brain that has been placed in particular circumstances). That unit recurs across media, genres, and styles. Its clichéd nature, however, is especially apparent in B movies (on them in general, see Memba 2006; Mérigeau and Bourgoin 1983; and Davis 2012 for the period most relevant for our discussion; and Cross 1982 and Tesson 1997 for richly illustrated books).

Indeed, B movies thrive on cliché, whose success largely depends on being formulaic and combining commonplaces. As Umberto Eco (2019, 21) noted, "Two clichés are laughable. A hundred clichés are affecting." Writing about the pictures he called "schlock/kitsch/hack movies" (s/k/h), some of which are technically Bs, Charles Flynn (1975, 8) remarked that audiences like them because they see in them "the myth in its purest form." Many of the films to be discussed here belong in that simultaneously clichéd and mythic universe, whose main features are largely determined by the circumstances of their production. B movies originated in the United States in the 1930s. Their main motivation was economic: depression-era exhibitors hoped to attract audiences by featuring two films; cheap and quickly made, the lower-quality B was the second feature in those double bills (Flynn and McCarthy 1975). Production took place in Hollywood's "Poverty Road," as small B movie studios came to be known from the late 1920s to the mid-1950s. The category overlaps with genres: Westerns were common in early Bs, while a combination of horror and science fiction became popular in the 1950s.

From the point of view of style, B movies shared several features (not all present at the same time, and none by itself enough to define them), such as illogical, inconsistent, or outlandish plots, outrageous imagery, careless production (continuity flaws are legion), simplistic action, or stereotypical characters. As time went by, they featured increasingly repellent freaks and allowed ever greater and more explicit levels of (often combined) violence, nudity, and gruesomeness. B, and the even "lower" C and Z movies, as well as "exploitation" film, which since the 1960s has flourished thanks to gore, splatter, and the sensationalistic treatment of lurid and prurient themes, have in the meantime gained academic respectability (Perkins and Verevis 2014 includes discussions on this point).

The "negative" vocabulary just employed is actually meant to be descriptive, and highlights the very traits that have turned a good number of B or s/k/h into "cult" (on the notion, see Mathijs and Mendik 2008, Introduction, and Mathijs and Sexton 2011). "Imperfection," as Eco perceptively explained, is indeed intrinsic to such pictures:

> To give rise to a cult, a film must already be inherently ramshackle, shaky and disconnected in itself. A perfect film … remains imprinted in our memory as a whole, in the form of an idea or a principal emotion; but only a ramshackle film survives in a disjointed series of images and visual high points. It should show not one central idea, but many. It should not reveal a coherent "philosophy of composition," but it should live on, and by virtue of, its magnificent instability. (Eco 2019, 215)

The cult status that movies in these categories have achieved often partakes in the aesthetic of camp, and implies parodic or ironic pleasures: fans routinely proclaim they relish them precisely because they find them so awful. Placing a production in the *so bad it's good* category is not easy, beginning with the fact that "badness" itself has become canonical and is not always as transgressive as it may seem (MacDowell and McCulloch, 2019; Sconce, 2019). Be that as it may, most brainfilms possess features and an enjoyable bizarreness that situate them among the disparate subgenres that constitute the universe of "paracinema." As Jeffrey Sconce (1995b, 372) insightfully noted, paracinema is

> less a distinct group of films than a particular reading protocol, a counter-aesthetic turned subcultural sensibility devoted to all manner of cultural detritus. In short, the explicit manifesto of paracinematic culture is to

> valorize all forms of cinematic "trash," whether such films have been either explicitly rejected or simply ignored by legitimate film culture.

Sconce's characterization of paracinema applies to many of the earlier movies discussed here, and sheds light on the filmic background of later performances of brains on screen.

Although sometimes obsessively labeled, paracinematic productions tend to highlight the capacity that genres have to combine and recombine, the fluidity of their boundaries, the relative nature and impurity of judgments of taste, and the interpenetration of filmic sources, references, and traditions. That is why I shall refrain from giving weight to classifications, which, though sometimes helpful, may also slant analysis and interpretation. An instance of this phenomenon can be found in science fiction. Many productions to which the sci-fi label has been attached can be considered "a species of horror, substituting futuristic technologies for supernatural forces" (Carroll 1990, 13–14). Transplantation pictures, discussed here in Chapter 3, illustrate this well. They fictionalize a future where the potentialities of science are actualized, but they tend to do so in a horror mode. The connection has something intrinsic to it. As Emily Russell (2019, 195–196, and more generally Chap. 6) points out in her history of organ exchange, the genre of horror "is appropriate to the expression of lingering fears about organ transplant not simply because it is the genre of fear, but because so many shared foundational concerns underpin both horror and transplantation," including the transgression of boundaries and an emphasis on physicality.

The most basic use of generic concepts consists of establishing taxonomies. Genre, however, also exists as a process in which concepts are created, redefined, subdivided, combined, and used for different purposes (Altman 2000). Moreover, a central theme or premise, such as the claim that "we are cerebral subjects," does not play the same narrative or conceptual role in philosophical, political or science fiction movies, and these may in turn differ from comedy, romance, or satire in several respects, including the degree of "seriousness" with which they take that theme or premise. From the viewpoint of reception, clues to a film's genre influence viewers' expectations, attitudes toward verisimilitude, and emotional and intellectual responses. As for internal film analysis, understanding single productions as a whole, even auteur movies, requires placing them within larger patterns that include genre. In short, since genres transcend individual motion pictures, they facilitate navigating large masses of material, tracking relations, and identifying intertextual figures. Moreover, insofar as genre choices participate in the construction of a picture as much as in its reception,

identifying genre dynamics helps connect the various dimensions of a film's existence, from the commercial to the critical. Nevertheless, because (as illustrated above with science fiction and horror), genres interpenetrate and cross over, and because I here study a theme that has been enacted in virtually all narrative and stylistic modes, I shall not usually go beyond mentioning a movie's genre as a practical way of situating one of its aspects, rather than using *genre* as an analytic category.

The brain motif not only cuts across genres but also, as mentioned, across media. Variations in the plots, characters, and settings we see on screen can be encountered in literature of diverse kinds, long and short, high and low – from novels and short stories to comics, manga, the pulps, and at least one bubblegum trading card series of 1962, *Mars Attacks!* Especially important in connection with the filmic universe of the Bs to the Zs is the science fiction published, mainly in the United States between the late nineteenth and the mid-twentieth century, in the cheap magazines known as "pulp" because of the kind of paper on which they were printed. Chapter 2 is devoted to that context.

Filmic Brains in the Neurobiological Age

Brain movies act out the brain as the somatic limit of the self. The replacement of other inner organs, such as lung, heart or kidney, may affect our sense of self, but not radically alter our personal identity. Replace the brain, however, and you replace the person; as philosopher Roland Puccetti (1969, 70) put it, "Where goes a brain, there goes a person." Brain movies perform such an assertion, which can even take the form of a logical biconditional: "Person P is identical with person P' if and only if P and P' have one and the same functional brain" (Ferret 1993, 79). The formula encapsulates not only an opinion that was popular in the Anglo-American philosophy of personal identity, but also the apparently commonsense intuition that to have the same brain is to be the same person. It seems our own brain is the only part of the body we need in order to be ourselves. In principle, if my brain is substituted, the *person* I am disappears. That is why, in the usual commentary of the brain transplantation thought experiment, there is no such a thing as a brain donor. If my brain is removed and yours transplanted into my empty skull, then I no longer exist, and you undergo a whole-body transplant. In *Re-Animated*, a TV film of 2006, twelve-year-old Jimmy is given the brain of a middle-aged man, but remains himself because doctors manage to preserve his "personality gland." His case, however, is exceptional. Klaus Heissler,

the goldfish of the animated series *American Dad!*, does not cease to be the East German sky jumper whose brain was transferred to the fish's body to prevent him from winning a gold medal in the 1986 Winter Olympics. That ontological predicament applies, with varying degrees of complexity and ambiguity, to all filmic characters who find themselves in a similar situation.

A prominent neuroscientist considered the usual understanding of the brain transplantation fiction as the expression of a "simple fact" and claimed that it "makes it clear that you are your brain" (Gazzaniga 2005, 31). Although his claim is neither a fact nor simple, he is not alone in believing that it is, and one could quote myriad versions of it. Indeed, it is the core of the "neurobiological age" that started emerging in the 1960s and had become global by the late twentieth century (Rose and Abi-Rached 2013). Encouraged by an epistemic and methodological turn toward a reductionist and biochemical approach to the brain and the nervous system, such development "was accompanied by a shift in the mode of governance; with the state, the industry and the scientific community gathering around the same object of interest ('the brain') albeit with different aims, drives, expectations, and motivations" (Abi-Rached and Rose 2010, 26). The neurocentric drive, with the belief that sustains it in Puccetti's dictum, has been consolidated in scientific projects, social movements, and commercial enterprises. From neuroanthropology to neurotheology, from cerebral self-help to the neurodiversity movement, it has become integral to diverse forms of individual and collective subjectivity (Vidal and Ortega 2017).

Though reinforced by modern neuroscientific findings and discourses, the conviction that "you are your brain" does not originate in empirical research. Historically, it derives from a philosophical understanding about *I*, from definitions of personhood and personal identity. Logically, it requires one such definition. Thus, what it expresses in the guise of a natural matter of fact is the metaphysical view according to which humans are specified by the property of "brainhood," that is, the property or quality of *being*, rather than simply *having*, a brain (Vidal 2009). Historicizing such view, of course, does not imply negating the crucial role of the brain and the nervous system for everything we are and do. History nevertheless shows that brainhood is not the necessary corollary of modern neuroscientific advances, but a consequence of early modern developments in science and philosophy.

In the seventeenth century, as the body came to be understood in purely mechanical terms, the soul ceased to be what it had been in the long-standing Aristotelian frameworks – namely, that which animates potentially live matter and accounts for the vegetative, sensitive, and rational faculties of living beings – and was reconceptualized as mind (Vidal 2011). This did not

reduce it to pure intellect: as Descartes put it in the second of his *Meditations on First Philosophy* (1641), "a thing that thinks" is a thing "that doubts, understands, affirms, denies, wills, refuses, and that also imagines and senses." Insofar as a long tradition connected those functions to the brain, this organ gained importance as the exclusive seat of the soul, and the nerves came to be considered as the vehicles of the interaction between soul and body. Although such developments certainly stimulated brain research, the first clearly identifiable expression of the brainhood creed did not derive from it, but from a combination of theories about matter and personal identity.

On the one hand, the seventeenth-century "mechanical philosophy," in particular the doctrine of "corpuscularianism," explained the specific features of different bodies by the size, shape, and local motion of the particles that composed them, rather than by properties inherent in each body's substance. In the corpuscularian perspective, stone S at time T1 does not have to be made of exactly the same matter as S at T2 in order to be considered the same. Material continuity thus lost its significance as a constitutive element of the identity and sameness of material bodies. On the other hand, in the second edition of his *Essay Concerning Human Understanding*, John Locke (1988 [1694], Book II, Chap. 27) extended that philosophy of matter to the theory of personal identity. He separated physical substance (the "man," by which he meant the individual as organic being) and personal identity, that is, each of us as the individual being who "can consider itself as itself, the same thinking thing, in different times and places" (§ 9). Locke speculated that if my consciousness is located in my little finger, and this finger cut of my hand, then "the little finger would be the person, the same person; and self then would have nothing to do with the rest of the body" (§ 17). Arguably, Locke's theory of personal identity was his most innovative philosophical contribution, and one of the most revolutionary. It constituted a momentous and contested inflection of the Christian tradition. For whereas Christianity is based on the doctrine of the Incarnation and postulates that persons are intrinsically corporeal, Locke construed personhood and personal identity on the exclusive basis of psychological functions. Brainhood emerged in the wake of Locke, together with the reflexivity, inwardness, and self-ownership that are considered central features of the "modern self" (Taylor 1989; Thiel 2011).

Insofar as personhood and personal identity were redefined as exclusively based on psychological functions, and insofar as these functions were somehow connected to the brain, the brain became the only organ we need in order to be persons in general, as well as the individuals we actually are. Versions of this conviction would be soon espoused as empirical truth. In his *Analytical Essay on the Faculties of the Soul* (1760), the Genevan naturalist and

philosopher Charles Bonnet wrote, "If a Huron's soul could have inherited Montesquieu's brain, Montesquieu would still create" (§ 771). The native North American was an Enlightenment paradigm of the savage; yet if his soul were joined to Montesquieu's brain, then one of the era's greatest thinkers would, for intellectual purposes at least, be still alive. It did not matter that the soul and body were those of a "primitive man," provided the brain was the philosopher's own. Psychologization and cerebralization thus went hand in hand, and when the sciences of mind and body abandoned the notion of soul, the brain took its place and began to act in its stead.

In the nineteenth century, increasingly refined anatomical descriptions, and experimental and anatomo-pathological inquiries into the cerebral localization of motor, sensory, and cognitive functions reinforced the brain-hood ideology. Cerebral localization, functional differentiation, and the correlation of site and effect or structure and function became investigative principles, and it was commonplace to believe (as Dr. Waldman will do in James Whale's 1931 *Frankenstein*), that brain morphology reveals genius, criminality, or mental illness. Electroencephalography, which developed in the early 1930s, raised the hope that the recorded waves would offer direct insights into mental life (Borck 2018). Since the late twentieth century, the promises of neuroimaging to illuminate the most complex processes of the human mind have made a renewed form of such hope appear feasible and self-evident. However, in spite of enormous advances in knowledge about brain structure and function, Puccetti's aphorism and its subsequent, less epigrammatic versions up to the present have the same epistemic status and validity as Bonnet's speculation of over two and a half centuries ago.

How do cinematic brains fit in this story? At the most general level, their role has hardly evolved since the early days of cinema, before the onset of the "neurobiological age." Brain transplantation was first used as a film plot in George Monca's 1909 eleven-minute comic short *L'Homme-singe*, where a man behaves like a monkey after receiving a monkey brain. (The film is sometimes dated 1908. To my knowledge, it has not been reported lost, but I have not been able to locate it, and it is the only movie mentioned in this book that I was unable to watch.) Like Alice Guy's 1906 *La Vérité sur l'homme-singe*, about a man who drinks a capillary lotion that turns him into an ape-like man, *L'Homme-singe* capitalized on the contemporary popularity of performing animals. Audiences recognized and enjoyed a genre.

Obviously, too, they accepted that the brain somehow defines who we are. The same can be said of Max Mack's 1913 *Der Andere* (*The Other*). Based on a well-known play and bringing a renowned stage actor to the screen, it is one of the films that introduced the theme of the doppelgänger that

would become common in German art cinema, and arguably instantiates an early form of horror based on questioning the boundaries of the self and the stability of the real world (Tybjerg 2004). Berlin State attorney Dr. Hallers falls from his horse and develops a split personality, breaking into his own house while in the second, abnormal state, and later recovering during a rest cure in the countryside. Indirectly but clearly, by means of references to the positivist French philosopher Hippolyte Taine's *De l'intelligence* (1870) combined with the way Hallers repeatedly grasps his head, the movie points to a cerebral cause for the protagonist's condition. The film is a variation on *The Strange Case of Dr. Jekyll and Mr. Hyde*, explaining the character's transformation by circumstances affecting the brain, rather than by the ingestion of chemicals as in Robert Louis Stevenson's novel.

Since those early days, the cinema has constantly conveyed beliefs about the brain. In *Frankenstein* (1931), Dr. Waldman demonstrates how the morphology of the cortex reveals criminality; in *The Brain Machine* (1955), which in spite of its title is more of a noirish thriller than a brain movie, unusual brainwaves, shown in close-ups of electroencephalographic recordings, expose a man's homicidal tendencies at the same time that an X-ray of the skull shows "the cause of the trouble"; in 1977, another *Brain Machine* converts the "tiniest electrical impulses of your brain" into audio and visual "pictures of thought," and thus reveals (with deadly consequences) whether you're lying or telling the truth; already in the present century, *Lucy* (2014) is sustained by the popular but refuted legend (recurrent in pulp science fiction) that we use only 10% of our brain… And so on and so forth. Beyond such particulars, however, what film has not ceased to do is give the brain a constitutive role when it comes to performing personal identity. Jordan Peele's horror blockbuster *Get Out* (2017), about wealthy white people who perpetuate themselves by having their brains transplanted into the body of black individuals chosen for their "physical advantages," demonstrates the persistence of brainhood as a default ideology. With variable degrees of intellectual and aesthetic ambition, plots and visuals literally unfold the axiom that "where goes a brain, there goes a person." Independently of the forms it takes, the problems it raises, or the extent to which a movie challenges it, it is what drives the performance of brains on screen.

The brain, however, can also make other filmic appearances. Zombie movies are an outstanding example. In George Romero's *Night of the Living Dead* (1968), a TV newsman reports that the Pentagon "has disclosed that a ghoul can be killed by a shot in the head, or a heavy blow to the skull. Officials are quoted as explaining that since the brain of a ghoul has been activated by the radiation, the plan is: Kill the brain, and you kill the ghoul." In Romero's

own sequel, *Dawn of the Dead* (1978), a doctor explains on TV, "A dead body must be exterminated, either by destroying the brain, or severing the brain from the rest of the body." The movie goes on to display such extermination with relish, but the zombies remain flesh-eating creatures. To this day, as illustrated by the TV series *The Walking Dead* (launched in 2010), zombies are killed by destroying their brain.

In the mid-1980s, *The Return of the Living Dead*, which treated the undead in a campy mode, introduced several novelties. Zombies could run and speak; most importantly, they ate brains rather than other flesh, and could no longer be terminated by destroying their brains (see Dendle 2001 for the zombie-brain motif). The image of the brain-eating zombie became widespread in popular culture – so much so that a luridly illustrated book discussing animals, microorganisms, and parasites that feed on other organisms' brains announced its topic as "real-life zombies" and as "creatures with zombie-like diets" (Klepeis 2017). Finally, zombies, brain eating or other, have become respectable subjects of philosophical discussion about problems such as the definition of life and death, the relation of mind and brain, or the persistence of personal identity (see, e.g., Greene and Mohammad 2010; Kirk 2019 for an overview). Insofar as the reanimation of corpses is somehow due to radiation "activating" the brain, and given that only the destruction of this organ brings about the undead's definitive demise, the brain plays a theoretically important role. On screen, however, such a role is very limited, and that is why one does not need to speak about the brain to figure out the zombie's philosophical significance (e.g., Coulombe 2012; on the zombie's body and internal organs, see Le Maître 2016). In any case, zombie movies generally do not enact the brain so that having or eating one determines or affects identity in ways that shape plot, action, or visuals.

The exceptions date from the 2010s, a period that saw an increase in the popularity of zombies, and an expansion of the genres, media, and formats in which they are performed (Bishop 2015). In the TV series *iZombie* (2015–2019), a medical student-turned-zombie tries to retain her humanity by eating brains; she thus acquires the dead person's memories and skills, and flashes of what happened allow her to solve crimes with uncanny insight. In *Warm Bodies* (2013), a zombie romantic comedy, a good-looking male zombie called R eats brains, and "feels alive" when he then experiences the victims' memories. "The brain is the best part," he says to himself while feasting on the organ, "the part that makes me feel human again." The diet sustains his attraction to the equally good-looking non-zombie Julie, and presumably furthers his reversion into a living human. The brain thus plays a basic visual and performative role, representing a sort of "neural turn"

in the zombie universe, but based on a trivial enactment of the creed that "we are our brains."

* * *

This book focuses on fiction films that were created for the "big screen." What is excluded here, of course, is not the possibility of viewing these films on small screens, but rather, TV or Internet series as unitary objects of analysis. Organized in episodes designed to be broadcast in annual or semi-annual seasons (or in shorter periods for miniseries), such productions offer a concept or narrative that is fundamentally based on recurring protagonists. Given the continuity of plot and characters, understanding an episode requires viewing prior ones. Drawing inspiration on the American philosopher Stanley Cavell and his views on the significance of film for persons' ordinary moral lives, Sandra Laugier (2019) calls attention to the fact that our experience as spectators of a "serial" (i.e., a series with a continuing plot that develops sequentially episode by episode) is intimately connected to how we become gradually involved with the characters. The tempo and continuity of a relationship that may evolve almost in real time decisively help shape what we find interesting in a serial, enable its assimilation into our existence, and make it matter for us. There is, to my knowledge, no series of that sort where the brain motif plays a constitutive role. Hence, in spite of dealing in interesting ways with politics, violence, justice, race, or gender, series do not speak directly to the brain-based nexus of embodiment and identity that is a central theme of the movies discussed here. Naturally, the *absence* of a motif and of the theme it supports could perhaps be considered as a way to tacitly question or dispute their significance or how they are performed or interpreted. Following up such possibility systematically would make it impossible to delimit a filmic corpus. Nevertheless, some TV "anthology series" (i.e., series that present different stories, and sometimes different sets of characters in each episode or season), include self-contained episodes that place the brain motif center stage; a few of them will be discussed.

The terms *theme* and *motif* have just been employed in the senses they usually have in literary or cinematographic contexts. The former designates a main idea (or thesis, or question, or meaning) within a story, and the latter, an element (realized through visuals, sound, or dialogue) that sustains and informs the theme. For example, the relations between embodiment and personal identity may constitute a theme that is performed, in part, by a brain motif enacted in dialogues or surgery scenes. Thus, the overall approach of *Performing Brains on Screens* can be described as thematic. I have in this connection used the indefinite article advisedly when referring to *a* theme

and *a* motif. No analysis can exhaust a movie, say what it is uniquely about, or identify "what is really there" to the exclusion of meanings, themes or motifs that are not. Criticism can be more or less well argued, commentary more or less well elaborated, and both can make more or less sense depending on their stated goals and their historical or institutional settings. And while it is not the case that anything goes, what criticism and commentary cannot do, given the intrinsic polysemy of art in all its forms, is to claim exclusive epistemic authority or to provide supposedly definitive interpretations. In this regard, the thematic outlook is both modest and clear.

Sometimes in obvious, sometimes in circuitous ways, each of the movies examined here offers themes and motifs, and therefore meanings, distinct from those of brainhood and embodiment. It can be convincingly argued that the main theme of a movie that begins with the transplantation of a white man's brain into a black man's body in 1960s America is race relations in that time and place. However, as can be shown through the analysis of visuals and dialogues, the brain motif serves as a main frame, as a medium for performing the racial theme. It also generates transversal issues of embodiment that may include, but do not depend on the question of race. The motif is therefore a resource for understanding the film, while the film is a resource for figuring out those issues. In discussing movies in such a perspective, I have tried to keep in mind Roland Barthes's lucid lesson:

> The relationship of criticism to the work is that of a meaning to a form. The critic cannot claim to "translate" the work … What the critic can do is to "engender" a certain meaning by deriving it from a form that is the work. (Barthes 1966, 32, translation slightly edited)

Scholarly commentary on motion pictures, no matter how smart, broad or deep, cannot replace watching them, which is the only way of having a comprehensive filmic experience. I therefore hope that *Performing Brains on Screen* manages not to lose sight of the circumscribed task and limits of interpretation, and will encourage viewing.

Chapter 2, "Brains in the Pulps," explores the brain motif in science-fiction pulp magazines on the 1920s and 1930s, and outlines resonances between brainfilms and the pulps. Chapter 3, "Naked Brains and Living Heads," focuses on movies, produced between the 1950s and the 1970s, in which "ectobrains" (brains that live outside a body) play a main role. Kept in a vat or freely moving, these characters are usually evil and seek power. A comparison with films staging heads kept alive separated from the rest of the body

sheds light on their meaning. The pictures examined in Chapter 4, "Personal Survival," enact interhuman brain transplantation into younger bodies as the means of realizing personal immortality, thus raising such question as: To what extent do brains sustain the continuity of the older person? Which challenges await the hybrid made up of A's brain in B's body? Moving then to "Frankenstein's Brains," Chapter 5 documents how, in the long and varied history of *Frankenstein* productions, the original theme of the creation of life was quickly replaced by a brain transplantation subplot, and it discusses such a thematic transformation. In most movies, having memories of a "real" past functions as criterion for being one's authentic self; amnesia and memory replacement or manipulation therefore pose radical challenges to personal identity. Chapter 6, "Memories, Lost and Regained," explores this vast topic in films that locate memory in the brain. The conclusive chapter "'Imagine: They Are in the Human Mind'" wraps things up and underlines the persistence of the body in spite of the relative disincarnation operated by the reduction of self to brain.