INTRODUCTION

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Existing film scholarship that draws from the field of cognitive science has characterized commercial filmmakers as practical psychologists, who are experts at shaping our senses and 'preying (usually in a good sense) on our habits of mind in order to produce experiences' (Bordwell 2011). A skilled filmmaker will elicit emotional responses, draw the viewer's attention to the appropriate part of the frame, make the audience jump, follow stories, and remember important items of information. In short, filmmakers are very skilled at guiding the thought processes, visual attention and reactions of their audience.

While directors, screenwriters, editors and cinematographers are not normally trained psychologists, the application of folk wisdom was in effect during the earliest stages of filmmaking history. Pioneering filmmakers employing the 'tableau' style (in which each scene plays in a single shot with a static camera, far back from the action) guided the viewer's eye by way of composition and staging. They drew on common-sense assumptions about pictorial emphasis and guided the viewer's visual attention by having one actor come forward while the others turned away, or one actor might briefly move to the centre of the frame. Recently, Tim Smith has used eye-tracking equipment to empirically illustrate how filmmakers use dialogue, composition, staging, lighting, cutting, face expressions and gestures in order to steer our attention quite minutely within the frame to areas of maximal information (Smith 2012).

The use of folk wisdom amongst filmmakers was not employed exclusively for the purposes of guiding visual attention, however. Emotional responses also became an area of interest – while filmmakers and actors had not conducted research about the power of face expressions in a formalized setting, they understood that viewers would respond differently to the onscreen events if they saw a face well up with tears, raise an eyebrow or smile up close rather than from a distance. The changes that took place during the development in film style since the era of tableau filmmaking – the rise in sophistication of cinematography, editing and sound design – hinged on the collective efforts of filmmakers across

cinema's history intuitively discovering how to interface with evolved and socially learned habits of mind, in order to provoke the intended effects on its audience. Joseph Anderson places the role of the filmmaker as a practical psychologist and the universality of cinema's ability to elicit many of its intended effects across cultures in an economic context. He comments that the producers, technicians and artists in Hollywood discovered how to make their products accessible to individuals across economic, national and cultural boundaries in order to maximize potential profits through trial and error, rather than training and research in psychology (Anderson 1996: 13). He also notes that the capacities we developed that allow us to engage with movies were not designed specifically to watch movies; they evolved to meet other needs that filmmakers were able to exploit. Our minds are the result of past evolution, when our capacities were being sorted by the process of natural selection. We have perceptual and cognitive systems developed 'in another time, in another context, for another purpose' (ibid.: 15), yet cinema is tailored to suit our needs in order to elicit the responses that it does.

The analogy between the filmmaker as a 'practical psychologist' and an actual psychologist could be misleading if the differences are not recognized, however. While filmmakers are skilled at guiding the visual attention and thought processes of their audience, the underpinning mechanisms that allow viewers to respond so precisely do not necessarily need to be accounted for. David Bordwell comments:

> Throughout history, filmmakers have worked with seat-of-the-pants psychology. By trial and error they have learned how to shape our minds and feelings, but usually they aren't interested in explaining why they succeed. They leave that task to film scholars, psychologists, and others. (Bordwell 2012)

The activities of filmmakers and psychologists need not be understood as synonymous, then. Art and the field of psychology have different origins, purposes, effects, and criteria for success. Furthermore, psychologists have a responsibility to hypothesize and confirm, prove and disprove, and report their findings, while artists are free to explore and create effects without needing to explain the underpinning psychological mechanisms. Commercial filmmakers only need to understand how to exploit the human mind, and they are accountable only to themselves and their financial investors. Notwithstanding all of these differences, we can recognize a point of overlap where the interests of filmmakers and psychologists meet.

This book will advance the claim that the model of the filmmaker as a practical psychologist can be extended to some of those who work within the avant-garde, but in a different sense to commercial filmmakers. While this model does not pervade all experimental filmmakers, there is a cross-generational tendency within the field that fits this pattern. Experimental filmmakers who fall within this tendency may be understood as practical psychologists in three principal

ways. First, they draw inspiration from mental operations and perceptual facilities that have also been studied by actual psychologists – albeit avant-garde filmmakers generally explore these themes through introspection rather than laboratory-based scientific analysis. The ways in which the concerns of avant-garde filmmakers and cognitive scientists intersect will be surveyed; topics will include narrative comprehension, memory, visual perception, synchronization and synaesthesia. Secondly, avant-garde filmmakers can be understood as practical psychologists in the sense that they provide cognitive and perceptual activities that are generally unrehearsed in cinema, if not life more broadly. Unlike the work of commercial filmmakers, experimental films are not tailored to exploit existing habits of mind in order to be effortlessly engaged. Finally, avant-garde filmmakers can be understood as practical psychologists in the sense that they produce films that offer occasion to reflect on human comprehension skills, perceptual facilities and general habits of mind by subverting the ways they are typically engaged. This book as a whole will demonstrate how the various case studies offer an occasion for such reflections.

Put more concisely, this book sets out to demonstrate how a range of avant-garde filmmakers introspectively draw inspiration from their own mental capacities, provide cognitive experiences under-rehearsed in life and commercial art, and offer spectators the occasion to reflect on their own habits of mind. By way of example, narrative comprehension is one sense-making skill that humans possess that has been studied by psychologists. When watching an experimental film, the viewer might be called upon to make radical interpretive inferences in order to engage with the work, rather than exercising linear narrative comprehension. They might also need to draw imaginative connections between the onscreen events instead of receiving a linear story, or engage emotionally with a film without full narrative coherence, and these are mental experiences we seldom encounter in other domains of art or life in general. Skills that are well rehearsed in popular cinema are set aside, and alternative methods of engagement take their place. Where commercial filmmakers generally exploit familiar methods of perception and comprehension for viewers to engage with their work, avant-garde filmmakers seek out alternative ways for viewers (with the same mental architecture) to exercise their minds and discover aesthetic interest in places they might not otherwise find it. In doing so, this book will argue, the avant-garde filmmaker oftentimes 'trains' the viewer to suppress certain mental habits that are routinely exercised in traditional narrative films, and instead cultivate new ways to attend to onscreen events.

This model of the practical psychologist does not apply perfectly to all avant-garde filmmakers, and so the focus will be on those most relevant. It would also be too simple a dichotomy to suggest that while mainstream filmmakers 'prey on' our skills of perception and comprehension, avant-garde filmmakers investigate and draw attention to our habits of mind by challenging them. In reality, avant-

garde filmmakers can exploit familiar capacities (e.g. the illusion of cinematic motion with 24 frames per second), and commercial filmmakers sometimes draw attention to our habits of mind as well (with the use of non-chronological story-telling, for instance). Avant-garde filmmakers, in other words, are not the only heroic outriders, but a premium is placed on challenging existing mental routines when engaging with their work – whether the filmmakers themselves actively consider the psychological mechanisms of the film viewer or not.

In some instances, the work of a filmmaker might be self-consciously informed by existing research on perception and cognition, as in the case of Paul Sharits' flicker films drawing inspiration from W. Grey Walter's *The Living Brain* (discussed in chapter six), or Ken Jacobs adopting the Pulfrich effect after reading Richard L. Gregory's influential book *Eye and Brain: The Psychology of Seeing.* The Pulfrich effect works on the basis that when one eye is covered with a light filter, each eye will receive visual data at slightly different times. In turn, this creates the sensation of visual depth when looking at a flat image (like a movie screen) moving horizontally. Jacobs has knowingly put this effect to productive use.

At other times, a film artist may work more intuitively by paying attention to their own habits of mind and examining the way in which they attend to the natural world. Stan Brakhage drew inspiration from his own perceptual experiences, calling it 'Sense as Muse' (2001d [1967]: 129). An interest in sense perception and comprehension amongst avant-garde filmmakers and writers became more pronounced in the 1960s with the work of Brakhage, along with Ken Jacobs, Michael Snow and Hollis Frampton – each of whom made reference to, or was discussed in relation to, perception and cognition. Maureen Turim comments that following this era a subsequent impatience with the personal and privileging of the perceptual led artists to champion 'theory films' in the 1970s (Turim 2009: 532) as found in the work of Yvonne Rainer or Laura Mulvey, for example. However, even if many avant-garde filmmakers resisted 'privileging the perceptual' or they predated the loose affiliation between the avant-garde, cognition and perception, their work nonetheless raises questions about the ways in which we engage with cinema that can be addressed by appealing to knowledge gleaned by the field of cognitive science.

To make the position of this book clear, then, a tendency within the field of experimental film is being surveyed. The goal is not to suggest that experimental film is best understood solely through the optics of cognitive science. Nor is it suggested that the cognitive psychologist is the most suitable surrogate for the avant-garde filmmaker in general, as opposed to the psychoanalyst, theorist, agitator or another kind of figure. Rather, instances in which this is the case, and the ways in which this may be illustrated, will be explored. In addition, while the general concept of the practical psychologist is the broad framing device for the book as a whole, it will also offer an occasion to revisit a body of films that warrant more

critical attention than they have already received. Not all of the issues discussed will relate directly to cognitive science, even if this remains the framing device.

For the remainder of this introductory chapter, the way in which research on cognition and perception is relevant to a discussion of avant-garde film will be explained. Then, the central goals and structure of the book will be detailed, along with a rationale for the use of cognitive science. Some of the advantages and limitations of applying cognitive theory to a discussion of avant-garde film will also be considered, along with a contextualization of where this book sits in relation to existing literature on experimental films.

Cognition, Perception and Avant-Garde Film

Now that the terms by which the avant-garde filmmaker may be understood as a practical psychologist have been defined, the ways in which existing research on cognition and perception is relevant to avant-garde film may be considered in further detail. In one sense, this book can be understood as a continuation of existing scholarship on avant-garde film, since it expands on prior references to cognition (the processing of information) and perception (the reception of information). In another sense, it can be understood as a break from existing scholarship. While filmmakers and scholars have made recurrent reference to cognition and perception when discussing experimental films, few have drawn from the field of research itself. The influential writer P. Adams Sitney contends that avant-garde film addresses skills of cognition and perception, rather than exploiting them by confounding, and in turn drawing our attention to them. He describes Michael Snow's use of the camera in *Wavelength* (1967) as a 'model of cognition' (Sitney 1978: xxxiv); for example, without using any of the research from the field of cognitive science to inform this claim. Paul Sharits published 'HEARING/ SEEING: Cinema As Cognition' in 1978 in *Afterimage* without making explicit reference to research from the field of cognitive science, or psychology more generally.

Likewise, reference is often made to 'perception' without the use of research from the field of perceptual psychology. For example, Michael Snow describes his own film *Back and Forth* (1969) as a 'lesson in perception' (Snow, quoted in Sitney 2002: 356) and Stan Brakhage famously sought to provide an 'adventure in perception' (Brakhage 2001a [1963]: 12) in his work, yet neither made explicit reference to scientific accounts of conventional perception. Jeffrey Skoller characterizes Stan Brakhage, Jonas Mekas, Maya Deren, Hollis Frampton and Ernie Gehr as central figures in an 'aesthetic of subjective and perceptual exploration' (Skoller 2010: 6) without elaboration. While these various critics, scholars and artists are not obligated to draw from scientific theories of cognition and percep-

tion in their discussions, the recurrent reference to these themes calls for a direct pairing.

One writer who addressed this disparity in a discussion of avant-garde film is William Wees, who focused on visual perception. In *Light Moving in Time: Studies in the Visual Aesthetics of Avant-Garde Film* (1992), he argues that critics and writers interested in avant-garde film make claims about visual experience without drawing from the relevant bodies of knowledge. He comments that from the beginning, avant-garde filmmakers have insisted on the visual nature of their chosen medium. Fernand Léger claimed that 'The image must be everything' (1979: 41), while Man Ray described *Emak Bakia* (1926) as 'purely optical, made to appeal to the eyes only' (1963: 273). Dziga Vertov said his goal was to produce 'a finished étude of absolute vision' (1984 [1923]: 37) and Germaine Dulac campaigned for 'an art of vision … an art of the eye' (1978 [1925]: 41). Indeed, the camera-as-eye, as seen in Man Ray's *Emak Bakia* (1926) and Dziga Vertov's *Man with a Movie Camera* (1929) is a recurring motif in avant-garde film. In addition, violence to the human eye also features in films such as Luis Buñuel and Salvador Dalí's *Un Chien Andalou* (1929), and Sidney Peterson's *The Cage* (1947).

Wees comments that critics and scholars engaged in avant-garde film also highlight the importance of visual experience, yet existing critical approaches are ill-equipped to examine the specifically visual aspects of avant-garde film. For instance, Dudley Andrew proposes in *Concepts in Film Theory* that experimental filmmakers use their art to 'pose questions about seeing' (1984: 35), but does not elaborate on this claim. Gene Youngblood states early in *Expanded Cinema* that 'film is a way of seeing', but subsequently skims over the relationship between cinematic and everyday vision so as to focus on the ways in which film and video can evoke 'expanded consciousness' (1970: 72). In Sitney's seminal *Visionary Film*, he states that the central theme of his book is the 'dialogue of camera eye and nature', but his principal concern turns out to be 'the cinematic reproduction of the human mind' (2002: 370); in addition to this, the term 'visionary' refers to the imagination, rather than visual perception. Finally, David Curtis comments that avant-garde filmmakers 'have explored the camera's ability to emulate and enhance human visual perception' (1971: 12). Again, however, this claim is not explained in further detail.

The fields of cognitive science and perceptual psychology, then, are undervalued resources that are readily available to provide an illuminating and enriching account of much avant-garde film practice. As such, scholarship on avant-garde film has seemingly been calling out for a cognitive and perceptual appraisal, but few have picked up the challenge. This book attempts to extend that discussion, first articulated by William Wees and shortly afterwards by James Peterson in *Dreams of Chaos, Visions of Order: Understanding the American Avant-Garde Cinema* (1994).

Book Structure

With the relevance of cognitive and perceptual research to experimental film in place, the central goals of the book can be outlined. One of the principal aims is to frame a tendency within avant-garde filmmaking as a form of practical psychology that exploits capacities developed for the natural world and mainstream aesthetic contexts, and also creates a space in which the viewer is invited to suppress some cognitive and perceptual skills routinely exercised in traditional cinema, and instead attend to the film using less familiar methods.

No single era or subcategory of avant-garde filmmakers will be focused upon for the entirety of the discussion. The first section considers avant-garde film as a broad entity, with a loose family of filmmakers whose creative concerns intersect. In section two, particular attention is paid to visual perception, with Stan Brakhage and Robert Breer, both of whom stand out as archetypal examples of filmmakers who challenge our visual-perceptual skills in a vivid and distinctive way. The third part of the book focuses on visual music, extending the discussion to audiovisual relations in abstract animation.

The first section focuses more on the cognitive than the perceptual, while sections two and three are more concerned with the perceptual. To briefly distinguish between the two: perception can be understood as the process of using the senses to acquire information from and about the surrounding environment. It also involves testing hypotheses (e.g. 'is it a face? Are there eyes? If yes . . . if no . . .'). Cognition, by contrast should be understood as perception coupled with the mental activities that follow the reception of information, such as comprehension, inference, reasoning and learning. In short, perception refers to the acquisition of information, and cognition involves the processing of information. Cognition, then, follows perception and the two are closely linked.

Chapters one and two will focus on the cognitive skills of narrative comprehension and memory respectively, and the ways in which these commonplace facilities are challenged by avant-garde films. Chapter one will suggest that a narrative mode of comprehension is often challenged and problematized without being fully discarded in a variety of ways in experimental films. In some cases, a story might be embedded but hidden to viewers who cannot make the appropriate creative inferences, or who lack the necessary extra-textual knowledge. Alternative forms of organization that wholly reject narrative and provide alternative paths of appreciation will also be outlined. In chapter two, the challenges that the avant-garde poses to human memory will be considered. Since memories are reconstructive rather than photographic, formal aspects that pertain to the avant-garde (such as an emphasis on surface detail or an unclear global structure) make them more difficult to remember than narrative-dramatic cinema and prone to distortion. This may, however, be an aesthetic virtue for reasons that will be explored.

The rest of the book will focus more closely on the perceptual, rather than cognitive processes. Initially, the purely visual will be addressed. Chapter three will extend the discussion of the filmmaker-as-psychologist by considering Stan Brakhage's concept of the 'untutored eye'. His films aim to resist our natural inclination to identify and organize objects in our visual array, and instead compel us to attend to the visual field as a series of colours, shapes and textures. Brakhage's films and writings will be considered in light of research on visual perception. Chapter four will explore the model of the filmmaker-as-psychologist in relation to Robert Breer, in the context of research on motion and depth perception – two ordinary visual capacities that are disrupted by Breer in his films for the purpose of aesthetic interest.

In the third subsection, the discussion of perception will extend into the relationship between our audio and visual skills, with a specific focus on visual music (abstract animation, sometimes accompanied by a soundtrack). The larger claim in this subsection is that while films in this tradition do not appeal to a narrative mode of comprehension, they are tailored towards unambiguous aesthetic appreciation by exploiting two hardwired reflexes: first, they exercise our ability to detect varying types of synaesthetic correspondence (the focus of chapter five); second, they exploit our commonplace facility to identify audiovisual synchronization, and also appeal to our unique engagement with symmetry and hallucinatory vision (the focus of chapter six).

The conclusion draws the various themes together, and additional lines of enquiry are outlined for a consideration of avant-garde film within a cognitive framework. Collectively, the book aims to survey some of the points of shared concern between avant-garde filmmakers and cognitive psychologists, and illustrate some of the possible paths to aesthetic interest uncharted by commercial cinema. By necessity, the chapters vary in length according to the needs and objectives of each topic.

Evidence and Methodology

With a rationale for the discussion and a broad outline of the book in place, we can consider the types of evidence that will be used, and how the methodology of cognitive film theory will be employed. Cognitive aestheticians are committed to the relevance of empirical evidence, but formal experiments have not been conducted for the purposes of this analysis. Rather, the implications of research conducted in scientific conditions are used as a foundation for the observations featured in this book (as is commonplace with this approach to film scholarship). A variety of psychological and neuropsychological theories and studies will be employed alongside existing scholarship on avant-garde film, close analysis of case studies, personal observations and artists' commentaries on their own work.

This book is also broad in the range of fields explored within cognitive theory. Deep cognition (e.g. narrative; memory) will be discussed in chapters one and two, while the surface processes of visual perception (motion, depth) and auditory-visual perception (cross-modal verification, synaesthetic correspondences) will be considered in chapters three to six. The breadth of psychological theories employed in this discussion is a testament to the range of levels at which avant-garde filmmakers challenge their viewers.

Synthesizing strains of psychology that emerge from outside cognitive science proper is commonplace in cognitive film theory. Carl Plantinga summarizes the cognitive approach in a way that is consistent with the method applied in this book:

> Cognitive film theory does not necessarily imply a commitment to cognitive science, strictly defined, and certainly not to cognitive science exclusively. One might say that cognitive film theorists tend to be committed to the study of human psychology using the methods of contemporary psychology and analytic philosophy. This can be an amalgam of cognitive, evolutionary, empirical, and/ or ecological psychology, with perhaps a bit of neuroscience and dynamical systems thrown in the mix. (Plantinga 2002: 21)

The tradition of cognitive film theory is employed as a framework for this discussion because it is arguably the most productive framework available when addressing ordinary behaviours such as perception and comprehension. Efforts are made to acknowledge the filmmakers' craft and also to attempt to discern the intuitive psychology that underpins it. While cultural or ideological topics may be more productively addressed by psychoanalytic, feminist or Marxist readings,[1] the cognitive framework is used here for three principal purposes:

- To examine the ways in which avant-garde films can draw upon basic perceptual facilities without specialist knowledge (e.g. visual depth perception).
- To explore the ways in which avant-garde films challenge existing cognitive and perceptual facilities (e.g. suppressing narrative cues; restraining top-down processing; destabilizing the perception of consistent objects).
- To test whether the intuitions of artists and critics are consistent with cognitive research, and if they are not, how the claims of artists and scientists can be related, mediated or integrated (e.g. Brakhage's theory of the untutored eye in relation to constructivist theories of perception; Len Lye's intuitions on visualizing sound in relation to research on synaesthesia).

The argument that binds these discussions together is that the avant-garde need not be understood as a wholesale rejection of traditional aesthetic preferences or inclinations. Instead, avant-garde films accommodate and problematize our existing comprehension and perceptual skills in a variety of ways while also cul-

tivating more specialized skills. As such, an interest in the avant-garde need not be framed as simply a matter of 'preference', but rather it may be measured by the spectator's ability to detect and willingness to adopt viewing procedures that are not tailored towards effortless human discourse processing skills.

Advantages and Limitations of Cognitive Theory to Avant-Garde Scholarship

Up to this point, a rationale has been provided for the relevance of cognitive and perceptual research on avant-garde film, the shape of the book has been outlined, and the ways in which cognitive research will be applied within this book have been described. The next step will be to examine the virtues and potential disadvantages of cognitive theory as body of knowledge in relation to avant-garde film in closer detail.

A criticism levelled against cognitive film theory that closely followed its inception is that it is ill-equipped to discuss alternatives to mainstream aesthetics. In 'Cognitivism: Quests and Questionings', written in 1989, Dudley Andrew comments that cognitive theory addresses normal cases, but avoids 'complex deformations of vision and narration produced by sophisticated artists' (Andrew 1989: 5). Of course, cognitive theory *is* flexible enough to be applied to such complex deformations. Soon after Andrew made these comments, Bordwell responded by commenting that there was evidence to the contrary, since he had already used cognitive theory to address the films of Eisenstein, Resnais, Godard and Bresson amongst others (Bordwell 1990: 108). Ernst Gombrich had also discussed the idiosyncrasies of individual creative voices in the field of fine art from a cognitive perspective. Later, James Peterson would do the same with avant-garde film.

In 1994, James Peterson commented that some considered a cognitive approach to the avant-garde 'perverse', since cognitive film theory putatively builds a model of the spectator who is super-rational and computer-like, taking cues from a movie and spitting out the correct interpretation with ease. Since avant-garde films are often confusing and are open to a range of possible interpretations, they would appear to be incompatible with the cognitive approach. He comments:

> Any theory of the avant-garde that suggests that its viewers can unproblematically produce the proper interpretation of its films would certainly be wrong, but a cognitive approach does not commit one to the view that each film has only one 'right' viewing experience, or that the experience always involves active engagement. . . . human problem solving rarely follows the rigorous principles of formal logic. (Peterson 1994: 8–9)

Drawing from a body of scientific research with the intention of illuminating a 'radical cultural phenomenon' may also feel incongruous, since the scientific method is impersonal and dispassionate by design, while much existing avant-garde filmmaking and scholarship is infused with Romantic ideals that celebrate individual passions and spontaneity. P. Adams Sitney's seminal *Visionary Film: The American Avant-Garde, 1943-2000,* for instance, takes Romanticism (in part, a reaction against the scientific rationalization of nature in the late eighteenth century) as the central framework by which to discuss the American avant-garde. In spite of this, as it has already been suggested, there is a range of shared concerns and points of convergence between avant-garde filmmakers and cognitive psychologists.

Cognitive film theory encompasses a range of different approaches. These include discussions of affect and emotional response, narrative comprehension, eye tracking, neurocinematics, analytic philosophy, empirical data on broad stylistic patterns and evolutionary psychology. I have suggested elsewhere (Taberham 2014) that some of the principal evolutionary accounts for the emergence of art are dismissive or hostile to the avant-garde. If art is a pleasure technology or 'cheesecake for the mind', as Steven Pinker memorably dubbed it, why does modernist art (and the avant-garde from which it arose) '[take] all the fun out of art'? (Pinker 2002: 412). Geoffrey Miller (2010: 258) has suggested that artworks serve the purpose of sexual display, illustrating skill and resourcefulness on the part of the artist. But the avant-garde begs the question as to why would an artist create work with such a limited appeal when they could reach a broader audience with commercial art. Ellen Dissanayake (2010: 85) has suggested that narrative arts contain humanly relevant themes that derive from evolved needs and interests, and Dennis Dutton (2010: 184) adds that there is an evolutionary advantage to imagine hypothetical scenarios without the high-cost experimentation of actual practice. Experimental film, however, tends to negotiate humanly relevant themes in an oblique way, rendering it an inefficient platform to experience hypothetical scenarios through story.

All these postulations are plausible pieces of the puzzle for the existence of art as a broad entity. However, Brian Boyd offers an additional evolutionary theory that is more accommodating to the avant-garde. He frames the creation and appreciation of art as a form of 'play', a rewarding mental activity that can develop intelligence and aesthetic sensitivities (Boyd 2010: 14). By extension, avant-garde film can exercise the mind in novel and expansive ways. This is not to be understood as an activity with an evolutionary advantage, but rather a by-product of an evolved behaviour.

Since no single megatheory can encompass the diversity of cinematic phenomena, there are limitations to the application of the cognitive framework. Raymond Tallis calls for a more moderate position than 'neuromania' (Tallis 2011), which advances the assumption that all human thought and behaviour can be understood and illuminated by observing the activity of neurons in the

brain. Those who advocate cognitivism with caution are in agreement. In 'A Case for Cognitivism', Bordwell comments:

> most theoretical accounts exude a sweeping confidence that we are on the verge of the next Big Theory of Everything. Cognitivism can look like such a Big Theory, but it is not; move down even a notch from my broad survey and you will find that sharply distinct explanatory models crystallize around particular questions. (Bordwell 1989: 33)

Psychoanalytic, Deleuzian, feminist, queer, Marxist and phenomenological methodologies crystallize around their own respective questions as well. Indeed, some bodies of filmmaking may call forth a particular system of analysis according to their own interests or preoccupations. Yvonne Rainer, for instance, was less concerned with matters of perception and was more interested in investigating the reproduction of ideology, drawing from Marxist media theory, and exploring themes ranging from terrorism to menopause and divorce. A film like Kenneth Anger's *Fireworks* (1947), which dramatizes an adolescent gay fantasy, invites a reading through the lens of queer scholarship. Hollis Frampton's *Zorns Lemma* (1970), by contrast, self-consciously addresses the spectator's search for order and the process of comprehension. In this instance, the cognitive theorist may draw from a body of research that provides a workable means to explain the mechanisms that underlie the spectator's engagement with the film. It would not necessarily offer a thematic interpretation, or encompass all possible implications – but neither would any other theoretical framework. As such, an appropriate set of questions can be staked out and addressed that are suitable to the chosen methodology, and that is what this book aims to do.

If there are passages where the reader feels opportunities were missed to relate discussions back to Deleuze, phenomenology or other branches of continental philosophy, that is because I am staying within my own specialist province, leaving other considerations to those with more expertise. It is not to imply that those other methodologies are unworthy of consideration. Indeed, they have already been put to productive use. Notably, the tradition of phenomenology can be understood as a 'fellow traveler' with cognitive theory; as an approach to discuss film in relation to perception. In brief, philosopher Edmund Husserl argued that our engagement with phenomena during everyday thought is informed and limited by a series of mediating historical and cultural hierarchies. As such, the essence of an object may be understood if the transparent layers of presuppositions are made explicit and then set aside. Annette Michelson was the first to make reference to phenomenology in a discussion of avant-garde film in her article 'Toward Snow' (1978), and this was later picked up by Vivian Sobchack (1992) and P. Adams Sitney (2002: 354).

Since traditional cinema guides the viewer towards an 'intentional directedness' of its various objects (in which each object appears to serve a purpose

instead of existing in and of itself), movies become an exemplar of 'making manifest the directed and irreducible correlation of subjective consciousness and its objects' (Sobchack 2009: 436). Stan Brakhage, by contrast, provides his audience with a different mode of engagement with the images onscreen – something closer to Husserl's 'transcendental ego', uncoloured by layers of preconceptions. Consider his famous dictum from *Metaphors on Vision*: 'Imagine an eye unruled by man-made laws of perspective, an eye unprejudiced by compositional logic, an eye which does not respond to the name of everything' (2001a [1963]: 12). Sobchack (1992), R. Bruce Elder (1998: 313–24) and Alex Cobb (2007) have also drawn upon phenomenology to discuss the work of Brakhage.

Apart from that brief aside, this book will focus on cognitive science instead of attempting to straddle cognitive science (associated with the analytic philosophical tradition) with the continental school of enquiry. A detailed discussion about the similarities and differences between phenomenology and cognition runs beyond the scope of this book. But suffice to say, while perception is addressed both by phenomenology and cognitive science, their respective origins, vocabularies, bodies of research and theoretical goals are different.

Now that some of the possible advantages, limitations and alternatives to cognitive theory for the study of avant-garde film have been surveyed, the ways in which this approach might be placed within the broader context of existing literature on avant-garde filmmaking may be considered.

Literature on Avant-Garde Film

While a cognitive framework is employed in this discussion, a pluralistic approach is still endorsed, since there is no 'essential' way to address avant-garde film – a variety of methods and approaches can be applied depending on what the questions and objectives are. Different styles of writing, to state a simple fact, produce different effects. Jonas Mekas' journalistic writing, for instance, might deepen one's emotional connection with the work he discusses. Of Ken Jacobs' *Little Stabs at Happiness* (1960), Mekas says '[Jacobs'] shapes and forms transmit to us, evoke in us, or rather produce in us the states and forms of radiance . . . [of] Happiness in full consciousness' (Mekas 1972: 351). Of Bruce Baillie, Mekas says '[he is] the eternal rider, superimposed on the map of the US … but in the images of his films, he always seems to be going after some definite, and probably always the same, image' (ibid.: 417). Mekas' prose is infused with personal passions and the subjective treatment of a poet. This is a valuable endeavour, and can deepen a reader's connection with the artist's work.

Stan Brakhage's prose is also often poetic in nature, although he usually writes to address his own creative method, offering a window into the thought processes taken towards developing his personal style. Particularly in his early writing, he

revels in the polyvalence of language, adding puns and aiming for deliberate ambiguity, with the goal of creating a disbelief in the rigidity of any statement, 'knowing only poetry immortal enough to escape the rigorous belief in any one word-world as a sense-killing finality' (Brakhage in McPherson 2001: 8). In 'my eye', for instance, he states:

> In non-chicken-littleness, my eye opening out to it, now hedging wording it, mind's eye narrowing down to it, destroying it. Imagine the headline: THE SKY ISN'T BLUE, discovered by-on-while-etc. Impossibility of all of it. I sky-hypnotized, my eye involved without view, seeing thru the so-called color of it, discovering light, now sighting it down to 'flakes', 'God-gold', 'falling', 'down'. (Brakhage 2001b.: 27)

In this instance, Brakhage's prose may bear more of an aesthetic effect on the reader than an informative effect.

Standish Lawder made an extravagant claim about his film *Raindance* (1972) that appears to call forth the authority of scientific investigation, but is closer in spirit to the intuitive and evocative style of Mekas and Brakhage:

> *Raindance* plays directly on the mind through programmatic stimulation of the central nervous system. Individual frames of the film are imprinted on the retina of the eye in a rhythm, sequence, and intensity that corresponds to Alpha-Wave frequencies of the brain. . . . The film directs our mental processes, controlling how we think as well as what we see.[2]

The risk of invoking such a pairing of lyricism with scientific rhetoric is that claims are made in order to evoke a particular effect that do not necessarily accord with scientific research. The nature of synaesthesia is another casualty of this – the word possesses a long-standing poetic, metaphorical connotation in the arts, but it is also a specific neurological condition. The two distinct (if connected) terms risk being conflated. The goal of 'locking down' on particular truths or giving words singular meanings may be misinterpreted as an affront to the polyvalence and romanticism that is characteristic of the avant-garde. One important response to this concern would be to note that the goal of the cognitive approach is not necessarily to offer ingenious interpretations. Rather, it is to explicate the techniques of the filmmakers and their effects on the spectator. Examining the way in which the capacities that avant-garde filmmakers exploit and challenge deepens our understanding, if not necessarily our emotional relationship with the work, but both approaches are worthwhile lines of enquiry. Chapter one, for instance, will explore how avant-garde films can engage our capacity for narrative comprehension. Chapters three and four consider how the films of Stan Brakhage and Robert Breer engage our visual capacities in unique ways. Doing so can illuminate how the case studies 'play on the mind', but it may

also enrich our understanding and appreciation of the work, and it can shed light on the intentions of the artist, which are not always easy to discern.

Research on cognition and perception has already been productively applied to discussions of the avant-garde. William Wees' *Light Moving in Time* fruitfully drew from research on visual perception to argue that while the search for meaning from our surroundings is always active and draws from pre-existing knowledge, the naive, untutored vision that Brakhage sought to represent could be achieved if we are sensitive to the full range of our visual experiences. This will be discussed at length in chapters three and four. Unlike Wees' perceptual discussion of avant-garde film, James Peterson's *Dreams of Chaos, Visions of Order* makes more explicit use of cognitive theories in order to deepen our understanding of avant-garde film. Drawing from Bordwell's *Narration in the Fiction Film* (1985) but focusing on a separate canon of films, the book demonstrates how the formal practices and critical rhetoric of avant-garde film both exploit and are influenced by the cognitive capacities of the viewer.

While the discussion in this book differs from Peterson's in ways that will be explained, his work will be briefly detailed so that an alternative use of cognitive science to explore avant-garde film can be considered. Basing his account of the viewer's activity on constructivist theories of language, perception and reasoning, Peterson suggests that productively engaging with avant-garde film requires matching the film's details to the appropriate viewing procedures, since viewers mentally 'construct' films in the process of making sense of them. The viewer must establish sufficient coherence within the film's elements by matching those elements to the appropriate template schemata or heuristics.[3] Sufficient coherence, instead of total coherence, is sought, since making sense of avant-garde films should be understood as a puzzle without a clear-cut or definitive solution. Another claim that rests at the core of Peterson's book is that making sense of avant-garde films does not require a completely unique set of comprehension skills, even if they may initially seem unfamiliar and alien. Rather, viewers of avant-garde films 'rely on skills learned through exposure to normal, everyday discourse, as well as through exposure to many kinds of aesthetic discourse such as literature, painting and fiction film' (Peterson 1994: 17). The postulation that appreciating artwork depends on the use of ordinary perceptual and mental capacities is commonplace amongst cognitive aestheticians, but it is particularly anomalous in the context of avant-garde film. Up to a point, this claim constitutes an alternative to the received wisdom voiced by Curt Hersey, that 'avant-garde films are designed to be difficult to understand and often require special knowledge to decipher the meanings' (Hersey 2002 4).

An additional claim at the core of Peterson's book is that American avant-garde films can be understood as 'a distinct film practise operating in specific institutions, with a set of formal conventions and implicit viewing procedures' (Peterson 1994: 6). Like Sitney, Peterson places greater focus on the communal

interests and shared aesthetic conventions amongst artists, developing his own set of categories, rather than defining the avant-garde as an explosion of forms. In *Dreams of Chaos, Visions of Order,* American avant-garde film is divided into three open and flexible tendencies: the poetic, the minimal and the assemblage strains. Each one calls for different – and sometimes multiple or overlapping – strategies of comprehension, although they cannot be defined by listing a rigid set of properties.

The 'poetic strain' draws together the trance, lyrical and mythopoeic forms of the American avant-garde (see Sitney 2002: Chapters 5, 6 and 7), which were developed roughly from the mid forties up to the mid sixties. It encompasses the abstract work of Marie Menken and Harry Smith along with the 'experimental narratives' of Maya Deren and Kenneth Anger. The poetic strain can be broadly understood as an approach to cinema modelled roughly on modern poetry, which places the subjectivity of the author at the centre. Peterson provides a series of heuristics for comprehending poetic films that allow the viewer to match local details within a larger framework of the work. These include: 'interpret overt manipulation of film style as a representation of an altered mental state, such as a dream, memory, hallucination, or fantasy' (ibid.: 38), and 'be suspicious of the spatial and temporal continuity suggested by devices of continuity editing' (ibid.: 42).

The 'minimal strain', which is closely tied to 'structural film' (Sitney 2002: Chapter 12), calls for different viewing procedures to the poetic strain. Peterson argues that this shift towards the minimal strain in the sixties emerged following an increasingly intimate relationship between American avant-garde film and the visual arts. In essence, films from the minimal strain call upon simple and identifiable conceptual frameworks in order to engage the viewer with the work.

Finally there is the 'assemblage strain', which is split into two different styles: the compilation film (which is made from found footage – as in the work of Bruce Conner) and collage animation (animations from appropriated pictures, as found in the work of Larry Jordan and Stan Vanderbeek). Peterson suggests that within the assemblage strain, narrative comprehension might provide a high degree of global coherence, even if the story is bare-boned and simple. The purpose of assemblage film is to marshal disparate materials into a coherent structure (Peterson 1994: 155). An assemblage film might contain a narrative structure, or the images might be organized thematically, rather than narratively (ibid.: 168). The viewer may also make sense of the films by paying close attention to graphic relationships between the images (ibid.: 164) and the overall mood (ibid.: 161).

This book differs from Peterson's in several ways. First of all, it focuses less on specialist skills developed for engaging with avant-garde films (i.e. heuristics), and more on the ways in which ordinary capacities are exploited without recourse to specialist knowledge. As such, this analysis does not set out to argue that viewers unfamiliar with the avant-garde approach the work with all the nec-

essary viewing procedures 'pre-installed'. Rather, some necessary capacities are already in place (e.g. weak synaesthetic correspondence in chapter six, or detection of audiovisual synchronization in chapter seven – both natural perceptual 'reflexes'), while other capacities must be developed to engage aesthetically with certain works, such as attending to films that cue narrative expectations without fully indulging them (chapter one), and stretching the threshold for sustained object perception (chapter four). In addition, pre-existing categories within avant-garde film are applied instead of subscribing exclusively to Peterson's, or developing an all-encompassing series of new ones. More time is spent discussing visual perception than Peterson, and less on comprehension or heuristics.

Chapters one and two (which address narrative and memory) make recurrent reference to Peterson's work. After this, the discussion branches away. However, *Dreams of Chaos, Visions of Order* provides a fertile starting point as a cognitively informed discussion of the avant-garde. Peterson challenges the long-standing assumption that '[the] American avant-garde community trumpets the ideal of an aesthetic revolution' and persuasively suggests that it 'lives a reality of refinement and revision' (ibid.: 186). It is also an informative synthesis of literary and art theory, narrative theory, and cognitive theories of perception, which is channelled towards illuminating a path for those who want to engage with American avant-garde films. Peterson illustrates how film viewing is structured by its historical and social context, and that viewing habits evolve as the institution of the avant-garde changes – avoiding the pitfall of advocating the model of the spectator as an ahistorical, transcultural agent. In addition to all of this, his case studies are illuminative.

Now that some of the possible relationships between avant-garde film and cognitive theory have been outlined and existing research on avant-garde film has been surveyed, attention will finally be turned to the way in which avant-garde film is to be understood in the context of this discussion.

Experimental/Independent/Underground/Artists' Film

While avant-garde film will be discussed in the context of cognitive theory, this book does not suggest that the elements that make a film 'avant-garde' relate solely to the way in which they call upon our cognitive skills. For instance, commercial motivations, production processes and means of financing and distribution also have a bearing on a film's status as avant-garde or experimental. While commercial filmmaking is motivated by profit, and labour is divided between a collective of people, the avant-garde typically operates in an 'artisanal' or personal mode, and is self-funded or financed by grants from arts institutions. Instead of undergoing commercial distribution, avant-garde films are normally distributed independently or through film co-operatives to be exhibited by film

societies, universities and museums (Smith 1998: 395). One may also suggest that avant-garde films *evoke* more than they *tell*; the creative process is often based on a non-rational mode of intuition, and the creation of a work of art might place greater emphasis on the act of discovery rather than planning all the details in advance. Fred Camper proposed a six-part 'test', which gauges whether a film can be suitably dubbed avant-garde or not. Many avant-garde films do not fulfil all of the criteria, but they will adhere to most:

- The film will be made by a person or small collective, self-financed or on a small grant, without expectation to make a profit.
- The filmmaker will fulfil several roles that are typically assigned to separate people in mainstream film production. They might work as director, script-writer, editor and director of photography, for instance.
- A linear story is not provided.
- The materials of cinema are consciously employed in a way that calls attention to the medium.
- The film will possess an oppositional relationship to both the stylistic characteristics of mass media and the value systems of mainstream culture.
- It does not offer a clear, univalent 'message'.[4]

For our purposes, this is a sufficient set of parameters by which avant-garde film may be understood. In later chapters, however, more tendencies that pertain to the avant-garde will be detailed and finally summarized in the concluding chapter. A working definition of avant-garde film will be revisited in the conclusion.

The status of avant-garde film as 'oppositional' may be briefly considered. Laura Mulvey suggests that avant-garde film is to be understood as a 'negation' of the dominant mode of filmmaking (Mulvey 1996: 17). Likewise, David James sees the avant-garde as a 'critical' phenomenon, intended to be an affront to the values and aesthetic practices of mainstream society. Murray Smith refers to this understanding of the avant-garde as reactive, while P. Adams Sitney voices an understanding in which the mainstream and the avant-garde operate 'in different realms with next to no influence on each other' (Sitney 2002: xii). While Sitney's book is widely influential, the reactive understanding remains the dominant way of thinking about the avant-garde. In reality, the motivations of each artist can be taken on a case by case basis.

Why use the term 'avant-garde'? For a tradition that strives to continually develop new aesthetic avenues, it is perhaps natural that many modern-day film artists do not want to be associated with a term that was coined in the nineteenth century. Today, the term evokes the past rather than innovation, or an advance-guard. As Dave Kehr argues in a *New York Times* review of Kino's DVD box set *Avant Garde 3*:

> It's about time that someone came up with a more accurate and evocative term than 'avant-garde', particularly because it refers to a vast and widely varied tradition of films that fall outside the norms of feature-length narrative filmmaking. (Kehr, 2009)

This is a widely recognized issue.[5] No alternative has been universally embraced, however. Fred Camper comments:

> I'd like to think the lack of a stable name is a sign of the movement's health. I mean, to take off on Gertrude Stein's famous remark to the effect that a museum can't also be 'modern', if you know exactly what avant-garde film is and how to name it, it probably isn't very 'avant-garde', right? (Camper n.d)

'Avant-garde' is a French term with a military origin, which today risks evoking elitist and adversarial overtones (Poggioli 1981: 27; Meecham and Sheldon 2000: 16). Brakhage commented that in the 1920s and 30s, the 'avant-garde' Parisian works of Man Ray, Fernand Léger, René Clair, Salvador Dalí and Luis Buñuel were the only alternative to narrative-dramatic filmmaking. As a result, any film that did not follow the path of the commercial filmmaker was aligned with the work of the French artists. The term was subsequently applied to American filmmakers who emerged in the 1940s, such as Maya Deren, Sidney Peterson and James Broughton, who were not trying to emulate the French filmmakers. Rather, they were simply working as artists, using film.[6] Even with the vast differences between these various eras, geographies and trends, Smith and Camper's given definitions of avant-garde film suggest how these temporally and geographically dispersed films can be placed into the same category.

Robert Hughes compares the cultural landscape of the late 1800s, when the term was originally coined, with more recent history:

> What has our culture lost in 1980 that the avant-garde had in 1890? Ebullience, idealism, confidence, the belief that there was plenty of territory to explore, and above all the sense that art, in the most disinterested and noble way, could find the necessary metaphors by which a radically changing culture could be explained to its inhabitants. (Hughes 2009 [1980]: 9)

In the contemporary landscape of experimental film and video, modern day film artists are unlikely to refer to themselves as avant-garde, since the term seems archaic today. But while it evokes an era that began in the late nineteenth century and arguably came to a close around the 1950s, the term has lingered (in film if not the art world more broadly). Examining a cross-section of books on more or less the same body of films, one finds a division in titles between experimental cinema, independent film, artist's film, underground and avant-garde film. Each

comes with its own distracting implication. 'Experimental' is objectionable because it implies that the films are experiments, rather than fully realized works of art. The term 'independent film' today is largely associated with institutions like the Sundance Film Festival, Miramax and The Weinstein Company. An 'artist's film' brings to mind contemporary artists like Matthew Barney who branch out into filmmaking – and this is a slightly different tradition to the one explored in this book. 'Underground film' brings to mind the New York-based subculture of the 1960s, which revolved around Andy Warhol.

Scott MacDonald has suggested that of all possible alternatives, 'avant-garde' has the 'widest currency' and is 'generally understood to refer to an ongoing history that has been articulated in different ways in different places' (MacDonald 1993: 16). The term 'avant-garde' is used here instead of the alternatives for this simple reason, even if it carries associations of European art from the early twentieth century. It is perhaps also the term most strongly associated with the broad range of canonical figures discussed in this book. However, the terms avant-garde, experimental and artist's film will be used interchangeably. While all terms have different connotations and potential controversies, they overlap and all refer broadly to the same body of films – albeit with a range of subcategories, such as psychodrama, visual music, structural film and so on.

To summarize, this introduction set out to establish that there has been a temporally and geographically dispersed practice amongst avant-garde filmmakers to creatively draw inspiration by contemplating mental and perceptual capacities that also interest cognitive psychologists. This tendency provides psychological experiences that are under-rehearsed in life and commercial art, and offers spectators occasion to reflect on their own minds by subverting routine psychological habits exercised when engaging with commercial cinema. While this tendency does not pervade experimental film as a whole, it covers a range of filmmakers who will be discussed in this book.

This chapter also has suggested that scholarship on avant-garde film makes recurrent reference to cognition and perception, yet the field of cognitive science has generally been under-exploited, and so that discussion will be extended into three parts. The first part focuses on cognition, the second part focuses on visual perception, and the third part considers audiovisual perception in visual music. The ways in which avant-garde films draw upon and also challenge perceptual facilities will be considered, and the intuitions of artists and critics will be compared with cognitive research. It has been acknowledged that a cognitive discussion of avant-garde film is best equipped to address a specific set of questions relating to perception and comprehension, and is not intended to replace other methodologies. Other approaches have been briefly discussed that can serve to deepen one's relationship with a film. In addition, Peterson's *Dreams of Chaos, Visions of Order* has been detailed and critiqued, which is a notable precursor to this book.

Implicit within the following analysis is the conviction that avant-garde films, taken broadly, need not be understood in terms of the negation or the denial of pleasure. Rather, they forge new routes to aesthetic interest that allow favourably disposed spectators to think, experience and conceive in novel ways.

Notes

1. Consult Peter Gidal's *Materialist Film* (1989), David James' *Allegories of Cinema* (1989) and Lauren Rabinovitz's *Points of Resistance* (2003) for examples of texts that focus on the ideological dimensions of avant-garde film.

2. See online synopsis of *Raindance* on the Canyon Cinema website: http://canyoncinema.com/catalog/film/?i=1470.

3. Peterson follows Bordwell's lead, who claimed in *Narration in Fiction Film* that the heuristics (i.e. loose rules of thumb) needed for making sense of mainstream films are more widely shared than those used for art films (Bordwell 1985: 154). Avant-garde films appeal to heuristics that are more specialized still. Bordwell's discussion of schemata and heuristics is extended in chapter six of *Making Meaning* (1989).

4. Paraphrased from Camper's online article 'Naming, and Defining, Avant-Garde or Experimental Film' available at: http://www.fredcamper.com/Film/AvantGardeDefinition.html.

5. See also: A. Rees *A History of Experimental Film and Video* (2011: 3–4) and L. Rabinovitz *Points of Resistance: Women, Power, and Politics in the New York Avant-Garde Cinema, 1943-71* (2003: 14–15).

6. Quoted in *By Brakhage: An Anthology Volume Two*. Disc 3, Brakhage on Brakhage.