The Monstrous Brain: A Neuropsychoanalytic Aesthetics of Horror
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Psychoanalytic Aesthetics and Neuropsychoanalysis: Opposing Perspectives of the Two Cultures?

"Horror films serve as a barometer of those things which trouble the night thoughts of a whole society." (Steven King, 1981)

Psychoanalysis touches many aspects of the 'two cultures' which seem so hard to reconcile. Many psychoanalysts oppose the neuroscientific tendency as a dangerous biologizing of the mind (Blass and Carmeli 2007) worrying it may lead to turning away from fascinating interdisciplinary work in aesthetics (Glover 2008), film/literary criticism (Wright 2000, Sabbadini 2007) and cultural/social theory (Clarke 2003). It may seem that analytic applications to art, film and culture on the one side, and neuroscience on the other are contradictory and pulling in opposite directions, representing the maximum tension between the 'two cultures', a 'split-brain' (Gazzaniga 2008) for psychoanalysis and academia. One strength of neuropsychoanalysis is its attempt to reach across disciplinary boundaries. Is it possible to bring psychoanalytic criticism into the neuropsychoanalytic project and connect psychoanalytic film theory with modern brain research?

The compelling if initially strange idea of a neuropsychoanalytic aesthetics was proposed by Lois Oppenheim (2005) in A Curious Intimacy: Art and Neuro-Psychoanalysis, which focusses on the neurobiological underpinnings of affect and self, and the importance for this in the biology of the creative process and aesthetic experience. Norman Holland (2003) has also written interesting papers on topics such as the suspension of disbelief in art and literature from a neuropsychoanalytic perspective, so the groundwork for a neuropsychoanalytic aesthetics has already begun. By narrowing the focus, the potential benefits of a neuropsychoanalytic aesthetics might be more apparent. Horror seems particularly appropriate for this interdisciplinary project, as it is before all others a 'body genre' (Williams 1995) which privileges audience affective bodily participation, and the centrality of powerful basic emotions such as FEAR (Panksepp 2004), and therefore proves to be an interesting candidate in aesthetics to investigate from the point of view of psychoanalytic film theory, neuroscience and other cognitivist approaches. In what follows I am not arguing for or against different psychoanalytic perspectives on horror, but aim to introduce key concepts and suggest that in principle they can be made to yield testable hypotheses.

The horror genre is an exploration of many of our deepest anxieties, which can be interpreted psychoanalytically, including "uncertainty of bodily boundaries, fragmentation, being under a constant threat" which Urbano (2009) relates to Freud's second anxiety theory; persecutory paranoid-schizoid anxiety (annihilation, fragmentation, destruction, engulfment, disembemnerent, retaliation, biting/clawing, poisoning); depressive anxiety (guilt, destroyed inner world, death, Klein 1987); sexual anxieties of different psychosexual stages (castrating father, engulfing mother); issues around repression, repetition and the death drive. Horror also explores fears of madness itself (Fuery 2003). As Winnicott (1974, p104) wrote, the 'fear of breakdown is the fear of a breakdown that has already been experienced...a fear of the original agony which caused the defence organization which the patient displays'.

Lucyan (Ian Stambourne 2006). Stambourne's unique use of objects are a clear example of a film maker utilizing Freud's uncanny to achieve remarkable emotional effects.

Goya 1799. The Sleep of Reason Produces Monsters. "Fantasy abandoned by reason produces impossible monsters: united with her, abandoned by reason produces concept and suggest that in principle they can be made to yield testable hypotheses.

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therefore proves to be an interesting candidate in aesthetics to investigate from the point of view of Freud's system", argues William Day (1985), whose thesis suggests the "striking parallels between Freud's thought and the Gothic fantasy" have "a common, or at least related, origin", both being "responses to the problems of selfhood and identity, sexuality and pleasure, fear and anxiety as they manifest themselves in the 19th and early 20th centuries." Similarly Creed (2009) writes that "Castration, sexual abuse, perversity, excrement, bestiality, animal phobias -- Freud's case histories read like horror movies. They are alive with fears -- fear of being bitten by a horse, fear of wolves, fear of having one's bowels gnawed by a rat...Interpretation of Dreams is permeated with anxieties and phobias of a similarly horrific nature -- nightmares of falling, suffocation, ghosts, dead children, burning skin, urine and feces, people with bird's heads, snakes, men with all these have something peculiarly uncanny about them, especially when...they prove capable of independent activity...this kind of uncanniness springs from its proximity to the castration complex." (Freud 1919). Another key theme is the grave/womb, described well by E.A. Poe in The Premature Burial (1998): "To be buried while alive is, beyond question, the most terrific of these extremes which has ever fallen to the lot of mere mortality...There are moments when, even to the sober eye of Reason, the world of our sad Humanity may assume the semblance of a Hell--imagination of man is no Carathis, to explore with impunity its every cavern. Alas! the grim legion of sepulchral terrors which as well as nightmares provides an early analysis of witches, vampires, werewolves and the Devil, the last of which Freud himself dealt with in his A Seventeenth-Century

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**Horror in Psychoanalytic Film Theory**

“Freud's Death Drive is close to what is called in horror films and Steven King novels, the 'undead'” (Zižek 2004)

Otto Rank's (1914/1989) *The Double* includes possibly the first psychoanalytic commentary on a film, the silent German expressionist horror *The Student of Prague*. Rank connects the double with reflections in mirrors (which can be explored from the various psychoanalytic theories of 'mirror' (e.g. Winnicott 1967, Lacan 2007 and Kohut 1991), shadows (see also Jung 1951), guardian spirits, belief in the primary narcissism which dominates the mind of the child and of primitive man. But when this stage has been surmounted, the 'double' reverses its aspect. From having been an assurance of immortality, it becomes the uncanny harbinger of death.” (Schnei 2009)

The development of psychoanalytic feminist film theory provided fresh perspectives. Barbara Creed's (1993) groundbreaking *The Monstrous Feminine* utilized Kristeva’s (1982) theory of 'abjection', Metz's (1986) approach to film spectatorship and Mulvey’s (2009) work on the voyeuristic sadistic male gaze to elucidate the horror of the feminine in the film: the witch, archaic mother, monstrous womb, vagina dentata, possessed, femme castratrice, castrating mother and vampire. Creed critiqued Freudian claims that woman terrifies because she is a castrator: the horror is not the horrifying but the horrorific, the castrator not castrated. Around the same time Carol Clover (1993) in *Men Women and Chain Saws: Gender in the Horror Film*, introduced the concept of a film's 'reactive' masochistic feminine gaze in contrast to the Mulveyan assaultive (sadistic) gaze, as seen in the identification of both genders with horror’s 'final girl'. More recently, in *Phallic Panic: Film, Horror and the Primal Uncanny* (2005), Creed turns her attention to the male horror monster in relation to the 'primal uncanny' of patriarchal civilization: woman, animal, death. Male monsters simultaneously express and defend against the anxiety of 'phallic panic', a result of threat against 'coherent, stable, and civilised masculinity' produced by castrating the binaries of man/woman, man/animal, inside/outside, life/death (Semlik 2007). Creed and Clover’s feminist theses could lead to testable hypotheses of gender differences in reaction to particular horror themes.

Other analytic approaches include Robin Wood (2003) who uses Freud’s theories of the uncanny and return of the repressed and Marcus’s (1978) 'surplus repression', to explore the potentially subversive aspects of the monster, expressing unconscious wishes to smash social norms, a theme partly taken up by Schneider (1999) in his study of monster as metaphor. Twitchell (1988) uses Freud's (1986) Totem and Taboo and the horror of incest to analyze horror films as adolescent sexual initiation ritual/myth, while the Gabbards (1999) emphasize the compulsion to repeat and the need to master infantile anxiety in horror. Psychoanalytic contributions to horror scholarship are rich and varied at times contradictory, with many major schools making significant contributions eg. Lacanian (Zižek, 2007), Kleinian (Young 1992, 1999), and Jungian (Iaccino's 1994) *Psychological Reflections on Cinematic Terror: Jungian Archetypes in Horror Films*.

**Neurocinematics and the Cognitive Science of Horror: A Challenge to Psychoanalysis**

“The artist is...a neuroscientist, exploring the potentials and capacities of the brain, though with different tools...[Neuroesthetics] will constitute the next giant step in experimental studies of the visual brain.” (Zeki 2009)

Recently psychoanalytic film theory in general and psychoanalytic approaches to horror in particular have been challenged in their hegemony by ‘cognitive science' approaches to film. Many of the attacks are well won attacks on psychoanalysis itself including the claim that psychoanalysis is not scientific and not falsifiable. It is argued that if we need a psychology of film, it is better to use a psychology with more evidence and empirical support than psychoanalysis. New developments such as Uri Hasson’s 'neuroesthetics' (Hasson et al. 2008) seek to replace psychoanalytic approaches by researching the way the human brain and body respond to watching films based on cognitive science theories and methods, in this case viewers watch different types of films while in fMRI while their neural activity is studied and a correlation analysis (ISC) to assess similarities in spatiotemporal responses across viewers brains. Research shows substantial variability in how much control over brain activity each film exerts. Interestingly following Hitchcock's well known claims that his work represents a precise science of fear, Hanson et al. provide neuroesthetics evidence of 'aesthetic control' with Hitchcock as he always saw himself, as the master. “The fact that Hitchcock was able to orchestrate the responses of so many different brain regions, turns them on and off at the same time across all viewers, may provide neuroscientific evidence for his notoriously famous ability to master and manipulate viewers’ minds.” (Hanson et al. 2008).

Semir Zeki (2009) and colleagues are attempting a related project in 'neuroesthetics', not specifically about film but to start a neuroscientific study of art in general and argues that "how such creations can be studied in neural terms an understanding which is now well within our reach.” Neuroesthetics calls for an analysis of neural variability in the organization of the visual brain and its connection to various emotional states, and includes drawing on what artists and by extension film makers “who have explored the potentials and capacities of the visual brain with their own methods, have to tell us in their works”. Zeki proposes to study the neural responses of viewers with three ‘neuroesthetic’ claims: "that all visual art must obey the laws of the visual brain, whether in conception or in execution or in appreciation; that visual art has an overall function which is an extension of the function of the visual brain, to acquire knowledge; and that artists are, in a sense, neurologists who study the capacities of the visual brain with techniques that are unique to them", including the techniques of horror. Neuropsycosyanalysis can make an important contributions here by taking the critique seriously and providing means to validate experimentally key psychoanalytic claims and thus answer the Popperian charge that psychoanalysis is unsicientific and its propositions unfalsifiable. An increasing amount of neuroscientific data is now available for this purpose (Solms and Turnbull 2003), upon which psychoanalytic approaches to film need ultimately to be based. A psychoanalytic film theory resting on the more firmer empirically validated ground of neuropsychoanalysis can provide a stronger base from which the at times overly creative theorizing of psychoanalytic film criticism can take place.
Psychophysiology of Horror: The 'Critique of the Missing Spectator'

As well as more general critiques of psychoanalysis from cognitive approaches to film, there are more specific challenges which neuropsychoanalysis is well placed to meet. Stephen Price (2009) in ‘Violence and Psychophysiology in Horror Cinema’, applies psychophysiological methods to horror and states his ‘critique of the missing spectator’. Despite concepts such as spectatorship, gaze and ‘the body’, film theorists tend to do no empirical work studying actual responses which real spectators experience with their physical bodies in this ‘body genre’ (Williams 1995). In its place Price offers the findings and techniques of cognitive psychology and studies of biologically based perceptual processes, emotion and arousal. In accounting for the rise of slasher films for example, Price draws on Hebb’s fear conditioning and sees audience fear as resulting from observing fear depicted in film characters. He then looks at the ‘fright inducing’ elements and their increase during horror film evolution.

To explore gender issues in horror preference, Price uses cognitive gender socialization theory (Zillmann and Weaver 1996), a position actually not far removed from Twitchell’s (1988) psychoanalytic theory of the horror film as adolescent sexual initiation ritual. He attempts to resolve the paradox of horror using psychophysiological data such as arousal and the subject’s cognitive interpretations of their physical responses (alertness, sense of body operating at peak, sexual arousal following anxiety threats, rush of energy) in the context of Zuckerman’s sensation seeking (SS) personality trait theory. High SS’s try to maintain high arousal levels from both positive and negative sources and Price found they prefer pictures/films with more violent/aggressive content. In a similar study on horror film enjoyment, physiology and personality traits, Palmer (2008) found that increases in systolic blood pressure (SBP) while watching a 10:33min horror-related film were predicted by the personality traits of Coldheartedness (positively correlated) and Fearlessness (inversely correlated.) Finally, in a study reported as finding a genetic link with horror film enjoyment, Montag et al. (2008) show that variations of COMT gene (linked to anxiety) is significantly correlated with subjects startle response and its modulation. People with two copies of COMT158Met had a significantly increased startle response and decreased ability to control fear than those with both Val158 and Met158 versions or two Val158’s. They conclude by linking COMT158Met to potential affective psychopathology and alterations in neural emotional regulation and arousal systems.

The 'Paradox of Horror'

*Give them pleasure - the same pleasure they have when they wake up from a nightmare.* (Alfred Hitchcock)

Cosimo Urbano (2009) has critiqued such biological approaches, arguing they may help explain how horror films have their effects (eg. startle response) but not why we would choose to put ourselves in the position to be startled, terrified or disgusted. Urbano claims such approaches cannot answer the ‘paradox of horror’, which a question of meaning and motivation therefore more suited to psychoanalysis.

In an analysis Hitchcock’s The Birds, Urbano (2009) asks “Why the hell does Melanie go up the stairs at the end of the film? What does she think her searchlight is going to throw light on up there? Is she stupid or what?...No true horror fan would ever ask such a question...She would understand that wondering why Melanie climbs the stairs even while knowing what she is going to find up there, is the same as wondering why people pay to go see a horror film even while knowing that the film will frighten or otherwise disturb them.”

This is where psychoanalysis comes in, describing in rich detail a self in conflict, revealing that an ‘underlying ambivalence drives the subject toward rather than away from its precipitating causes. Melanie goes upstears because she wants to...unless one is willing to accept that Melanie’s reason for going upstairs is irrational, one will never be able to fully enjoy The Birds.” (Urbano 2009). Urbano’s critique is powerful, and yet I argue that like many claims of psychoanalytic film theory, it is at least in principle testable using the very psychophysiological and neuroscientific approaches he criticizes.

There is clearly the danger of serious reductionism in these purely biological approaches, and a loss of the richness and subtlety of the psychoanalytic tradition. However, it is important to take Price’s critique seriously and respond by initiating an experimental neuropsychoanalytic research programme into (horror) film spectatorship, bringing psychoanalytic film theory to the brain itself, and the brain to psychoanalysis. Increasingly sophisticated attempts in neuropsychoanalysis and neuropsychosomatics (eg. Stora 2007) are attempting to tease out the complex, developmental relationship between mind, body, self, conflict, emotion, and trauma. Urbano’s theory for example suggests the crucial participation of brain regions involved in the mediation of desire, dread and ambivalence.
Dread and Desire in the Limbic Brain

Berridge et al. (2008) have been exploring the role of mesolimbic dopamine in connection with localized glutamate disruptions in the nucleus accumbens (NA) in both desire and dread, a region equally activated by desirable and fearful stimuli (more rostral areas for desire and more caudal for fear, continuum between). They showed (in a procedure utilizing Iggy Pop to scare rats) the same brain circuit flips between desire and dread and is sensitive to small environmental variations. The mesolimbic dopamine pathway (the ‘libidinal’ SEEKING system, Panksepp 2004) plays a crucial role in generating both. “Dopamine has been suggested previously to contribute in a related way to pathological exaggerations of fearful salience, as a motivational component of paranoia in human schizophrenia...as well as for excessive “wanting” for rewards in conditions such as addiction.”

Berridge’s work is clearly important to a neuropsychoanalysis of horror, with its finding of the deep connections between fear and desire long postulated by psychoanalysts. “We experience desire and fear as psychological opposites” but “from the brain’s point of view they seem to share a common kernel that can be flexibly used for either one” (Berridge et al 2008). As well as overlap between brain circuits of desire/dread, Berridge has shown a distinction between ‘wanting’/‘liking’ circuits, and between fear/pain: “negative emotions involving fear and pain also are dissociable into core processes...core processes of fear and anxiety may overlap with those of positive desires...positive and negative emotions may share psychological building blocks (such as incentive salience) even though the final emotions are experienced as opposite.” Unconscious emotional processes are key here with core ‘liking’ and ‘wanting’ contributing to conscious desire but are in themselves unconscious.

Berridge (2004) argues that understanding the neurophysiological basis for “wanting” “provides insight into cases of truly irrational desire, where one wants what is neither liked nor expected to be liked”, which in the ‘paradox of horror’ involves seeking what on the surface can only cause pain, terror and disgust. Berridge’s psychoanalytically intriguing findings “elegantly showcases how seemingly conflicting psychological components drive our motivations. What seems to be one behavior can actually be divided, and...some things that seem completely opposite may share the same brain structure. This research tantalizingly leads to the question of how we can be aware of the emotions and motivations that combine these psychobrigal components, but not have direct access to the underlying components themselves.” (Pollick 2008)

Empirical Research Programme for a Neuropsychoanalytic Aesthetics of Horror Film Spectatorship

Social and affective and social neuroscience and neuropsychoanalysis continue to develop a large literature on fear (LeDoux 2002, it is itself interesting that scientists decided first to terrify animals rather than starting with more pleasant emotions) and other key basic emotional systems (Panksepp 2004), crucial for any neuropsychoanalytic approach to horror. Mirror neuron research (Gallese 2006), the neuroscience of self-other relations, and the biology of attachment and empathy (Watt 2007; de Vignemont and Singer, 2006) are all likely to prove useful in studying different forms of identification with film characters and monsters, to understanding horror as a ‘body genre’, and how these contribute to horror film pleasure. Recent theories of “shared neural representations” (Gallese 2006; Uddin et al. 2008) and the “activation of shared affective neural networks” enabling us to “feel the emotions of others as if they were our own” (de Vignemont and Singer, 2006) are likely to be important in this regard, along with proposals for a social neuropsychoanalysis of groups (Dodds 2008, 2009). Neuropsychoanalysis has much to contribute to an understanding of horror film spectatorship as well as to understand emotional/aesthetic reactions to film and art more generally.

One intriguing area for possible research is that Freud’s description of the uncanny is ‘uncannily’ similar to his theory of the comic (Freud, 1990), but he never formally made the connection. Horror can be at times close to the comic (LeDrew 2006, Greenberg 2009), which is perhaps most effectively illustrated in the bizarre films of the Czech surrealist Jan Svankmajer whose work hovers between horror and humour, perversion and pleasure, with momentary feelings of guilt in between when we briefly realise the enjoyment we take in the film makers sadism. The movement back and forth takes place with such rapidity and intensity that we are left dizzy and breathless. Neuroscientific work on laughter, mirth, jokes and tickle (Holland 2007), their complex relations to basic emotions including FEAR (Panksepp 2003), and Ramachandran’s (1998) ‘false-alarm’ laughter theory, could help to open up these suggestive hints to more empirical testing.

Neuropsychoanalytic Aesthetics of ‘Neuro-chic’

Finally, and more reflexively, an understanding of the psychoanalysis of horror may help us understand current public and scientific fascination with brain imaging and neuroscience. There is something uncanny, repelling and compelling about this particular piece of flesh, a pull which draws us in hypnotically to try and uncover its mysteries. The appeal is partly aesthetic and so a neuropsychoanalysis of horror may ironically help to shed light on the appeal of neuropsychoanalysis itself. To conclude, while acknowledging the connections sketched here have been necessarily highly preliminary, I argue that neuropsychoanalysis is well placed to keep much of the richness of psychoanalytic ideas while grounding it empirically with the findings of neuroscience. Psychoanalytic film theory centered through a neuropsychoanalytic lens, may provide important new directions for future brain based and theory rich research into neurocinematics (Hasson et al.), as well as moving forward the project for a neuropsychoanalytic aesthetics (Oppenheim 2005, Holland 2003).
References


