

'I wasn't expecting that!' Cognition and Shock in *Alien's* (1979) Chestburster Scene

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The 'chestburster' scene from *Alien* (Scott, 1979) is one of the most iconic scenes in the history of cinematic horror. The crew of the spaceship *Nostromo* laugh together as they eat at a large circular table. One of them, Kane (John Hurt), starts to cough. His coughs grow worse and eventually develop into full body seizures. As he thrashes, his crewmates grab him and try to hold him down on the table. Suddenly, a stream of blood shoots out of Kane's chest and a small alien violently bursts through his ribcage. The alien, covered in blood, surveys the room. It emits a high-pitched squeal and runs out of the room, with its segmented tail flailing. Kane lies dead on the table as the other crew members, in shock, try to comprehend what has just occurred.

This moment is very powerful, especially for its initial audience, who had no idea how the alien reproduced and probably never considered that an alien might attack Kane from inside his own body. (Unfortunately, most modern viewers of *Alien* are fully aware of the scene before seeing the film and thus cannot fully appreciate its impact.)

There are numerous ways one might analyse this scene. Many approaches presume that there is little interest in the scene's events *per se*. For these approaches, an analysis is interesting to the degree that it can reveal apparently deeper meanings beneath these events (for example, perhaps the scene is metaphorically about the horrors of childbirth). Other approaches assume that typical audience

responses are uninteresting. Their analyses might discuss unusual ways specific social groups or cultures have understood or used the film.

Cognitive film theory, by contrast, does not assume that the common responses to a film's basic story are so easily understood. How do viewers understand what is happening when the alien bursts through Kane's chest? And how is the scene able to generate such powerful emotions? We can use what cognitive psychology has learned about the human mind to help answer those questions in surprising detail.¹

COMPREHENSION

Film viewing is often thought of as a passive experience but, in fact, watching films requires us to engage in constant mental activity. To understand a film's basic story, we must infer a great deal from the information the film provides. This process often seems passive because it is usually unconscious.

Alien never explicitly conveys how the chestburster gets inside Kane. Understanding this aspect of the story requires making inferences based on the information that is provided. Earlier in the film Kane is attacked by an alien 'facehugger' while exploring the surface of a planet. He is brought back to the ship in a coma, with the alien firmly attached to his head. After scanning Kane, the ship's captain, Dallas (Tom Skerritt), says, 'What's that down his throat?' Ash (Ian Holm), the ship's medical officer, replies, 'I would suggest it's feeding him oxygen.' This exchange most immediately functions to increase the sense of danger to Kane; as Ash later notes, if the facehugger is feeding Kane oxygen, removing it could kill him. Yet this information soon plays another role as well.

When the chestburster scene begins, we are unaware that there is an alien inside Kane and its emergence is therefore very surprising. Once our initial shock passes, we automatically try to understand what the chestburster is and how it got inside Kane. The information that the facehugger put something down Kane's throat is now crucial –



it allows us easily to infer that the facehugger implanted the chestbuster in Kane. We are never explicitly told that this is the case, and other explanations are possible, but since this inference satisfactorily explains the film's events, we accept that event as part of the film's story.

Yet inference occurs at much more subtle levels as well. We are never told that Dallas is the captain of the ship, but we infer it based on his interactions with the crew, such as his telling Ripley (Sigourney Weaver): 'That's a direct order!' Inferences are usually based on our knowledge of the real world, but they can also be based on our knowledge of film conventions. For example, we first see the *Nostromo* from its exterior. The film then cuts to an interior shot of a hallway lined with pipes. It is not directly communicated that this hallway is inside the *Nostromo*, but we assume that it is, based on editing conventions. Without hundreds of inferences like these, we would never be able to understand the film.

Inferences are usually made using schemas and prototypes.² Schemas are clusters of features we use to organise information and form categories. Prototypes are central examples of those categories that we often use as a starting place for imagining any other member of the category. A schema of a bird, for instance, includes the characteristics 'can fly', 'has feathers' and 'whistles songs'. A prototypical bird has all of the features in the schema. When a friend tells us that they saw a bird, we generally assume that they saw a prototypical bird that can fly. Of course, there are birds that can't fly, such as penguins. Unless our friend just returned from Antarctica, however, we assume that he saw something that can fly because, in the absence of contrary information, we tend to fill missing information with prototypes and prototypical features.

Schemas (groups of features) act as baseline assumptions. Our assumptions are very often correct, so this strategy helps us successfully navigate the world with incomplete information. Schemas also allow films to convey lots of information quickly, as in the case of the ship's captain, Dallas. One characteristic of ships' captains is that they give other people orders. When we see Dallas give Ripley an order, not only do we assume that he is a captain, we also assume that he has other prototypical features of captains, such as confidence and experience, unless the film gives us reason to think otherwise.

STARTLE AND REFLEXIVE RESPONSES

We tend to think of our emotional responses to films as highly individualised because people can have very different reactions to the same film. Some people love *Alien's* suspense, while others find it unbearable. Yet it is important to remember that, although people often do have very different emotional (or *affective*) responses to films, frequently they also have similar responses, even across cultures. Emotional responses common across cultures are

usually part of the low-level mental architecture shared by all human beings. Evolution developed these affective responses because they were useful for our survival when humans first evolved. They are often reflexive and require no conscious thought. One example is the startle response. Horror films exploit this reflex by having monsters suddenly pop onto the screen from some hiding place. Their sudden appearance might be accompanied by a loud sound or musical cue. The combination makes audiences jump in their seats and scream.

Although we rarely think about it, it makes little sense for us to jump or scream when the chestbuster pops out of Kane's chest. We know that the monster isn't real and can't actually hurt us. So why do we jump? One common answer is that we 'suspend disbelief' when we watch films and thus act as if we believe the alien is real. But if we suspend disbelief, why don't we call the police when we see the chestbuster kill Kane? We don't act as if we really believe the monster exists, which shows that we do not fully suspend disbelief.

Cognitive science provides a much more satisfying explanation of why we are startled when monsters suddenly appear in films. Our brains have evolved a mechanism that makes very quick but 'rough and dirty' evaluations of objects in our environment. You may have experienced this when walking in a forest and jumping at a stick that is shaped like a snake. Your mind first makes a 'rough and dirty' evaluation that the object is dangerous, and you jump away. This evaluation is so fast that you are not even conscious of it before you jump. Fractions of a second later, a higher-level part of your mind makes a more accurate judgment – it's just a stick. Since we are dealing with potential life-and-death issues when it comes to dangerous creatures, we have evolved a rapid response that moves us to action fractions of seconds faster than we would if we had to wait for a more accurate evaluation.³ A similar process happens in films. You know that the chestbuster on the screen cannot harm you, but before your brain even has a chance to evaluate whether it is actually dangerous, your mind makes a 'rough and dirty' judgment that you should jump away. This reflex, not 'disbelief', is at the core of the startle response.

Another low-level mental process that affects your emotional response is called 'emotional contagion'.⁴ We all know that happy people can make us happier and depressed people can bring us down. Modern psychology has discovered that part of the reason is our unconscious tendency to mimic other people's facial expressions and movements. Seeing someone smile can cause us to break into a smile, but even if we don't, it makes us slightly tense the muscles that cause us to smile and the corners of our lips go up slightly. Mimicking expressions creates a feedback loop that generates the corresponding emotion, and we to some degree 'catch' another person's emotion. When



watching the chestburster scene, we see Lambert (Veronica Cartwright) scream and Dallas open his eyes wide, both of which express fear. Unconsciously, we mimic these expressions and movements, which increases the fear we feel. In contrast, if the crew members were all fairly nonchalant as the alien popped out of Kane's chest, or if they were laughing, we would still be startled, but we would probably not be as scared or shocked. Although it is not true of this scene, many times *Alien* provides close-ups of important facial expressions, such as at the end when Ripley confronts the fully grown alien in the escape shuttle. These close-ups maximise the effect of emotional contagion by giving us a very good look at a character's facial expression.⁵

A final example of the ways that films exploit our involuntary reactions to images and sounds involves music. Throughout *Alien*, we hear various mechanical sounds from the ship, such as banging, air rushing by, and humming. In the chestburster scene, starting at the first shot showing the crew at the table, there is a very faint heartbeat-like sound in the background. It is barely noticeable unless you specifically listen for it. It gets louder as the scene goes on, and is prominent when the chestburster looks around the room. Although the volume of the sound changes, its frequency stays at roughly 110 beats per minute throughout the scene – an elevated rate for most people that might occur when they are exercising or under intense stress. When the scene ends, there is a cut to an interior hallway shot. The same heartbeat sound continues across the cut, but the pace is almost exactly half as fast at fifty-five beats per minute. The sound fades fairly quickly, but acts as a cue for the audience to recover after the previous intense moment. It is almost as if the movie is telling the viewer to slow down and breathe deeply.

Although it might seem intuitive that listening to a fast or slow beat can raise or lower our heart rate, we cannot make this conclusion just by looking at our responses to the chestburster scene. After all, there are many other things going on in the scene that might cause an increased heart rate during the scene or a slower heart rate after the scene ends. However, since cognitive film theory draws from actual scientific enquiry, we can look at evidence to help evaluate our intuitions. Experiments have shown that a faster or slower musical tempo does in fact raise or lower our heart rate, as well as our breathing rate and our blood pressure.⁶ Further, it has been shown that changes in our heart rate caused by factors other than our emotions, such as musical tempo, can create or intensify the emotions we feel.⁷ We can conclude that the heartbeat sound during the chestburster scene contributes to our feelings of emotional intensity, and the slower rhythm in the subsequent scene helps us come down from our intense emotion.

SURPRISE AND SUSPENSE

Yet the feelings of surprise and intense emotional arousal are not the primary feelings we have when watching *Alien*. The most salient emotion we feel is suspense. And although we feel much more surprise than suspense during the chestburster scene, the scene is essential to the suspense we feel later in the film.

The chestburster scene is surprising primarily because, before the attack, we do not know that Kane has an alien inside him. However, there are other important factors that contribute to our surprise. When we watch horror movies, our expectations are shaped by the schema we associate with that genre. The prototypical horror movie attack scene shows the victim alone, perhaps recently separated from a group. Suspenseful music plays as the victim walks into a dark, shadowy area. He hears a sound and says, 'Hello? Is anybody there?' Then, out of nowhere, the monster attacks. The chestburster scene violates all of these features except the last. It opens by showing the victim as part of a large group, eating around a large table and joking around. There is no suspenseful horror music, no shadows, and no discussion of the alien. The scene is brightly lit. Our horror film schema leads us to assume that this is not a scene in which someone will be killed, which increases our surprise when the chestburster attacks.

This surprise lays the groundwork for increased suspense later in the film. Suspense is an emotion that requires feelings of fear, hope and uncertainty. In *Alien*, you fear that the alien will kill the crew, you hope they will survive, and you are uncertain which outcome will actually occur.⁸ Suspense is also a prospect emotion, that is, it is an emotion related to something that might happen in the future. You can't feel suspense about something that is currently happening or has already happened. The chestburster scene doesn't generate much suspense because we are so

focused on what is happening that we cannot think much about what might happen in the future.

The more uncertain you are about whether a good or bad outcome will happen, the more intense your suspense. The chestbuster scene increases your uncertainty about the future in multiple ways. First, it introduces the idea that the alien brought onto the ship can violently kill the crew. Second, the scene establishes that the film is not a typical horror film. If Kane can die in a group, in a brightly lit scene, without any suspenseful music, then an attack can happen at any time. One other factor increasing uncertainty is the nature of the alien itself. The alien does not fit the prototype of a movie monster (or did not at the time of the film's release; now, the alien is one of our prototypes of a movie monster). We do not expect one alien to create another, seemingly entirely different type of alien; now, we are less certain about what will happen in the future. Will the small chestbuster also reproduce? Will its offspring be another, very different type of alien? Will the other crew members discover aliens inside their own bodies? We cannot guess without more information, and our uncertainty grows substantially.

The shot right after the chestbuster scene – a shot of an empty hallway with a slow heartbeat sound on the soundtrack – is a perfect complement to the previous scene. The chestbuster scene shows us what horrible things can happen on the ship and makes us very uncertain about what will happen. The subsequent shot begins to calm us, which frees our minds to speculate about what might happen to the crew, trapped in a ship with a killer alien. This combination is what allows us to feel great suspense later in the film.

We are continuously processing information at many levels of awareness, mostly at a level below our level of consciousness. When we reflect on our own personal responses to films, we can only access the conscious elements of our reactions. This may explain why cognitive film theory is sometimes dismissed as dealing with obvious aspects of films and viewer responses: when you are aware only of your conscious responses to a film, those responses may erroneously seem very simple to understand. Looking more deeply into ostensibly simple reactions to film is the first step to understanding the more subtle and complex responses that everyone agrees provide intriguing challenges for film analysis.

NOTES

1. The cognitive approach was pioneered by David Bordwell in *Narration in the Fiction Film* (Madison: University of Wisconsin Press, 1985).
2. Patrick Colm Hogan, *Cognitive Science, Literature, and the Arts* (New York: Routledge, 2003).
3. Joseph LeDoux, *The Emotional Brain: The Mysterious Underpinnings of Emotional Life* (New York: Simon & Schuster, 1996).
4. Elaine Hatfield and J. T. Cacioppo et al., *Emotional Contagion* (Cambridge: Cambridge University Press, 1994).
5. Carl Plantinga, 'The Scene of Empathy and the Human Face on Film' in Carl Plantinga and Greg M. Smith (eds), *Passionate Views* (Baltimore, MD: Johns Hopkins University Press, 1999), pp. 239–55.
6. P. D. Larsen and D. C. Galletly, 'The Sound of Silence Is Music to the Heart', *Heart* no. 4, 2006.
7. Rainer Reisenzein, 'The Schachter Theory of Emotion: Two Decades Later', *Psychological Bulletin* no. 2, 2006.
8. Jonathan Frome and Aaron Smuts, 'Helpless Spectators: Generating Suspense in Videogames and Film', *TEXT Technology*, 2004.

BIBLIOGRAPHY

- Bordwell, David, *Narration in the Fiction Film* (Madison: University of Wisconsin Press, 1985).
- Frome, Jonathan and Smuts, Aaron, 'Helpless Spectators: Generating Suspense in Videogames and Film', *TEXT Technology*, 2004.
- Hatfield, Elaine and Cacioppo, J. T. et al., *Emotional Contagion* (Cambridge: Cambridge University Press, 1994).
- Hogan, Patrick Colm, *Cognitive Science, Literature, and the Arts* (New York: Routledge, 2003).
- Larsen, P. D. and Galletly, D. C., 'The Sound of Silence Is Music to the Heart', *Heart* no. 4, 2006.
- LeDoux, Joseph, *The Emotional Brain: The Mysterious Underpinnings of Emotional Life* (New York: Simon & Schuster, 1996).
- Plantinga, Carl and Smith, Greg M. (eds), *Passionate Views* (Baltimore, MD: Johns Hopkins University Press, 1999), pp. 239–55.
- Plantinga, Carl, 'The Scene of Empathy and the Human Face on Film', in Plantinga and Smith, *Passionate Views*, pp. 239–55.
- Reisenzein, Rainer, 'The Schachter Theory of Emotion: Two Decades Later', *Psychological Bulletin* no. 2, 2006.