



## Communication and Meaning in the Cinema

Nick Redfern

*Manchester, England*

*In seeking to understand the mechanisms by which the spectator constructs meaning when watching a film it is necessary to abandon the untenable concept of communication that dominates interpretative practice in film studies. The interpretation of films must be understood not in terms of the meaning(s) a film may possess or that may be determined by a film's formal elements, but in terms of the conceptual structures and cognitive operations of the spectator. Meaning is a state that arises when the spectator is able to fit their experience of a film into pre-existing information structures.*

---

Correspondence regarding this article should be addressed to the author at:

*Film is made first of all out of sound and images; ideas intervene (perhaps) later.*

Noel Burch (1981: 144)

## Introduction

The 'cognitive turn' that has shaped debates on film theory over the past twenty years in film studies has led scholars to suggest new models for how we experience film biologically, ecologically, emotionally, and cognitively. One element in the development of cognitive approaches to the cinema is the emergence of constructivism in film studies. However, there has been little debate as to what the various forms of constructivism (e.g., Constructive Realism, Social Constructionism, Radical Constructivism, and Cybernetics) have to contribute to our understanding of the cinema. In this essay I argue that the constructive realist account of the spectator's production of meaning in watching a film as set out by David Bordwell is flawed, and I propose an alternative description from a Radical Constructivist perspective, in which meaning is understood to be a state of the spectator.

### Bordwell's Constructive Realism

Rejecting theories of the cinema that rely on weak linguistic analogies and passive models of spectatorship, Bordwell has developed theories of comprehension and interpretation in the cinema within a framework of the constructivist school of cognitive psychology. For Bordwell, the term 'constructivism' is not intended to be used 'in the epistemological sense that is commonly opposed to realism;' rather, it is intended 'to signal the importance of constructive inference, or inference-like procedures, in our mental activities' (1989a: 34). Drawing on the work of Ronald Glere, he proposes a version of constructivism that is compatible with a scientific realist epistemology.

In contrast to contemporary film theory, cognitive film theory 'naturalises' the interpreted film. While the former argues that films 'employ a mystification of meaning that eludes ordinary processes of cognitive engagement,' cognitive film theorists analyse the production of meaning in terms of the ordinary psychological processes, both top-down (e.g., schemata application, problem-solving) and bottom-up (e.g., sensory, data-driven), that the spectator employs in understanding the everyday world in which they operate (Sweeney 1994). Stating that meanings 'are not found but made,' Bordwell proposes an inferential model of constructing meaning in the cinema.

Comprehension and interpretation thus involve the construction of meaning out of textual cues. In this respect, meaning-making is a psychological and social activity fundamentally akin to other cognitive processes. The perceiver is not a passive receiver of data but an active mobiliser of structures and processes (either "hard-wired" or learned) which enable her to search for information relevant to the task at hand. In watching a film, the perceiver identifies certain cues which prompt her to execute many inferential activities – ranging from the mandatory and very fast activity of perceiving apparent motion, through the more "cognitively penetrable" process of constructing, say, links between scenes, to the still more open process of ascribing abstract meanings to the film. In most cases, the spectator applies knowledge structures to cues which she identifies within the film (1989b: 3).

In his adherence to a realist theory of film spectatorship, Bordwell stresses that a film, in some form, already exists prior to the mobilisation of the spectator's psychological processes: 'Construction is not *ex nihilo* creation; there must be prior materials which undergo transformation' (1989b: 3). These prior materials are understood to be 'cues' in a film and it is these that form the basis for the spectator's constructions. Bordwell's Constructivism is a theory of how the spectator actively engages with a film in the production of meaning.

No one has yet delineated a Constructivist theory of aesthetic activity, but its outlines look clear enough. The artwork is necessarily incomplete, needing to be unified and fleshed out by the active participation of the perceiver. To some extent, artworks exploit the automatic nature of bottom-up processing; in such cases, the work can create illusions. But art is also a domain of top-down procedures. The spectator brings to the artwork expectations and hypotheses born of schemata, those in turn being derived from everyday experience, other artworks, and so forth. The artwork sets limits on what the spectator does. Salient perceptual features and the overall form of the artwork function as both triggers and constraints. The artwork is made to encourage the application of certain schemata, even if those must eventually be discarded in the course of the perceiver's activity (1985: 32).

Sweeney (1994) argues that as Bordwell makes no rigid ontological distinction between the pre-interpreted film and the interpreted film,

and given the realist epistemology in which Bordwell locates his theory, 'one must look to some supplemented or freighted object as the ontological construction of his theory.' There must be a 'realistic' given in a film, and the spectator transforms the text 'by supplementing it, making the text take on meaning.'

Bordwell argues that spectators construct a hypothesis and then match elements of a film (e.g., narrative events, characterisation, film style) to this hypothesis in order to construct a film's meaning. His model for making meaning adopts a constructivist approach that 'assumes that it is possible to arrive at inferences which are at least approximately true; it is thus compatible with a critical realist epistemology' (1989b: 277n9). Bordwell's theory and model of the spectator's activities in comprehending and interpreting a film are thus intended to represent, 'at least approximately,' what films really are.

## Radical Constructivism, Communication and Meaning

### *Radical Constructivism*

Bordwell's model is problematic as it adopts a constructivist approach assuming that inferences of the spectator are 'at least approximately true.' Confronted with such an inferential model the following question remains: *How do we know that our inferences are 'at least approximately true?'* As Bordwell offers no argument as to how a cognising subject could objectively confirm his realist approach, his theory of the spectator's production of meaning cannot be validated in its most essential particular. In asking *how*, rather than *what*, do we know, I turn to Radical Constructivism (Glaserfeld 1991, 1995) as a means of escaping the epistemological trap of realism. As an unconventional 'theory of knowing,' Radical Constructivism argues that all knowledge is constructed; and that the function of cognition is adaptive and serves the organisation of the experiential world, not the discovery of ontological reality. As we cannot transcend the limits of our experience it is impossible to tell (and therefore unnecessary to know) to what degree our knowledge reflects ontological reality.

The Radical Constructivist approach has a significant impact on the understanding of communication. In stating that the cognising subject, according to its needs, actively builds up all knowledge it is necessary to accept that meaning is constructed and cannot be communicated from one point to another. Meaning does not exist prior to its construction by a cognising subject; it does not reside in language, images, behaviour, or objects. Glaserfeld argues that the

belief that the inferences of a cognising organism derived from the environment in which it is embedded accurately reflect that environment is based on an 'untenable conception of "communication."'

If the constructivist movement has done anything at all, it has dismantled the image of language as a means of *transferring* thoughts, meanings, knowledge, or 'information' from one speaker to another. The interpretation of a piece of language is always in terms of concepts and conceptual structures which the interpreter has formed out of elements from his or her subjective field of experience. Of course, these concepts and conceptual structures had to be modified and adapted throughout the interactions with other speakers of the language. But adaptation merely eliminates those discrepancies that create difficulties in actual interactive situations - adaptation ceases when there seems to be a *fit*. And fit in any given situation is no indication of *match*. To find a fit, simply means not to notice any discrepancies (1991: 23. Emphases in original).

From this perspective 'communication' is an illusion, and as Glasersfeld states: 'There seems to be a blatant contradiction between the claim of "communication" and the apparently irrefutable subjectivity of meaning' (1983: 211); but he goes on to state that this contradiction may be overcome if we consider what takes place in communication, and subsequently examine the relationship of meaning to communication.

### *Communication*

Communication may be defined as *the successful transfer of information from one point in space-time to another*. Communication may involve the transfer of information in one direction only or may be bi-directional, and the subjects involved in communication may be human, machine, or a combination of the two (Read 1998).

What is the character of the information that is transmitted? Stonier (1997) argues that like energy, information should be considered a basic property of the universe, and should be defined operationally as *the capacity to generate organisation*. Any system that exhibits organisation contains information, and this is as true for the arrangement of molecules in a crystal as it is for the pattern of letters printed on a page. Information is the raw material that may, when processed, yield a message.

How is information communicated in the cinema? The first step is to produce a recording of the subject before the camera. Reflected light from the various elements of the scene passes through the lens of the camera and falls on the film stock where it affects the light sensitive coating to produce a latent image. The film is then processed to first develop the latent image and then to fix it as a permanent pattern of silver on the film base. This process is repeated in producing a positive print by passing the negative and unexposed stock simultaneously past a lens and a light source. In the projector, light is beamed through the moving film and is magnified by a lens for projection onto a screen. Reflected light from the screen enters the spectator's eye, where it is focussed onto the retina. Light reaching the photoreceptors of the retina triggers the breakdown of rhodopsin, causing a membrane potential that is transmitted to an action potential. The action potential transfers to synapsed neurons that connect to the optic nerve. The optic nerve connects to the occipital lobe of the brain. In the brain these nerve impulses are converted into pulses of chemical neurotransmitters, triggering a wide range of neurological activities in assimilating and analysing new information.

Sound waves emerging from a source are picked up by a microphone and converted into electrical signals. These signals are amplified and fed to a recording head where they give rise to a magnetic field that affects a tape coated with a metallic oxide. Sound is recorded as a pattern in the structure of the magnetic coating. On playback this pattern of magnetic oxide gives rise to an electronic signal, which is then amplified and causes mechanical vibrations in the diaphragm of a loudspeaker. These vibrations are mechanically coded as sound waves that, on striking the tympanic membrane, are converted to nerve impulses that give rise to a further set of neurological activities.

In the cinema a succession of images are produced, printed, and projected. The information about each image that is transmitted is the intensity of light and colour with its associated position in the frame. Sound is also transmitted. In the cinema three types of information are transmitted: light, position, and sound (Read 1998: 1). It is evident from the above description of the transformation and transfer of information in the cinema that meaning has no role to play, and Shannon (1948) states that semantics is irrelevant to any understanding of communication.

*Meaning*

If meaning is not transmitted across a communication channel from what source does it originate? According to Stonier:

Any effort to analyse the meaning of a message or the intention of its sender becomes irrelevant if it does not focus on the context provided by the recipient, potential or otherwise. The context is, of course, provided by the internal information environment of the recipient, and it is to the internal information environment that the sender tailors the message. Thus, both the meaning of a message and its significance must be ascertained in terms of the intended recipient (1997: 191).

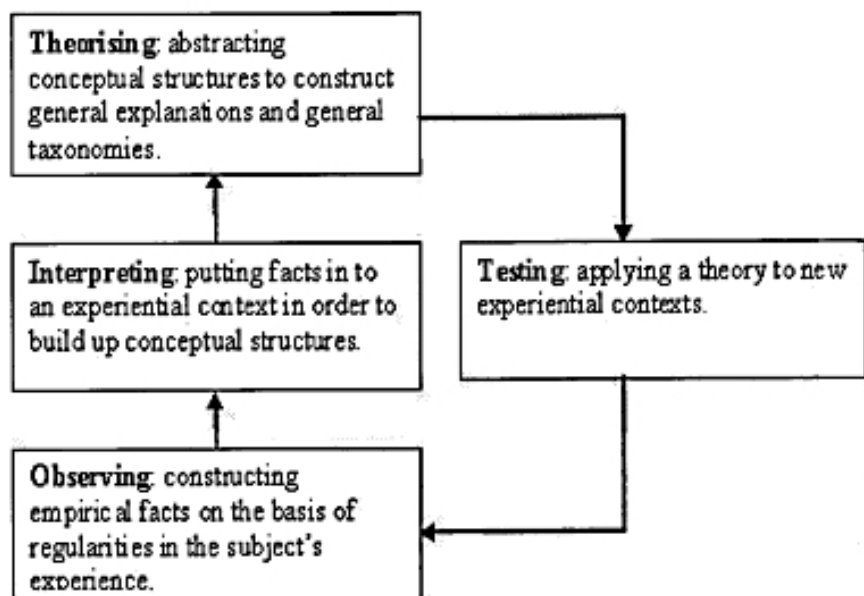
Stonier describes meaning as the product of a two-step process of *information work*: the recipient selects a specific piece of information from an environment rich in information, and then analyses the selected piece of information in order to produce meaning. Information may be described as *meaningful* when the recipient is able to successfully link it to pre-existing information structures. Stonier gives the following definition of meaning:

Meaning is a *state* which is achieved when the incoming information becomes integrated into the information structures already present in the host. This message-context complex (a semantic complex) may, in turn, be further information-processed. An advanced information system such as the human brain may treat the semantic complex as if it were a message even though it has been internally generated. This would allow for the possibility of a second-order message-context complex (the original semantic complex plus its secondary context). By repeating this process, a hierarchy of contexts may be achieved which, if sufficiently elaborate, creates *understanding* (187. Emphases in original).

From this perspective, the spectator's activity in producing meaning does not involve the *matching* of objective filmic cues to a hypothesis. As a spectator cannot transcend his or her experience of a film the objectivity of filmic materials cannot be established; it follows, then, that no process of matching cues in a text to a spectator's hypothesis can take place. From a Radical Constructivist point of view, 'facts' are not a part of reality, but are elements of the observer's experience: 'Empirical facts, from the constructivist perspective, are *constructs based on regularities in a subject's experience*' (Glaserfeld 1989: 447. Emphases in original). 'Facts' in the cinema are thus not

Figure 1

Stages in the Construction of Knowledge



the pre-existing cues in a film described by Bordwell, but are the result of an active process of *observing* on the part of the spectator. These facts are then put into a context by a spectator (i.e., they are interpreted). It is at this point that the process of interpretation in film studies typically ceases, but cognitive film studies takes the process further to engage in an activity of *theorising* that involves 'the production of generalisations or general explanations or general taxonomies and concepts about film practice' (Carroll 1996: 39). Taken as a whole this process involves a *hierarchy of constructions*: the construction of facts (observing), the construction of conceptual structures (interpreting), and the construction of theoretical statements (theorising). A final activity in the subject's construction of knowledge involves *testing* a theory in new experiential contexts. A theory is viable if it maintains its usefulness and serves the goals of the subject in subsequent experiences. These four stages are represented in Figure 1. This model refers to the experience of a subject and does not refer to (and does not need) ontological reality. As the model includes a feedback loop, the knowledge produced is *self-referential*.



If we cannot know to what extent our constructions reflect ontological reality then our constructions must remain hypothetical; and this is the case where we attempt to construct the mental and conceptual operations of others and of texts. If the cognising subject is a cinematic spectator then the production of meaning must be understood in terms of the 'concepts and conceptual structures' formed by the spectator out of the elements of 'his or her subjective field of experience.' The interpretation of films must therefore be understood not in terms of the meaning(s) a film may possess or that may be determined by a film's formal elements, but in terms of the conceptual structures and cognitive operations of the spectator. Meaning is a state that arises when the spectator is able to *fit* their experience of a film into pre-existing information structures.

### Conclusion

Bordwell asks the following question: 'Any interpretative practice seeks to show that texts mean more than they seem to say. But one might ask, why does a text not say what it means?' (1989b: 64). From a Radical Constructivist perspective not only can a spectator not know to what extent a film says what it means, the argument that a film communicates meaning to a spectator cannot be sustained. If we accept Stonier's argument about the nature of information and meaning it is clear that a realist epistemology cannot account for the production of meaning in the cinema.

- Meaning in the cinema, be it covert or intentional, does not reside in images or sounds; it is not a property possessed by a film that can be communicated from text to spectator, or that can be recovered through the performance of some ingenious interpretative technique.
- Meaning in the cinema is actively built up according to the needs of the spectator. The intended meaning of a film is irrelevant to the spectator's experience of that film.
- The formally controlled complexity of a film does not determine the context for the meanings that may be ascribed to it. The "internal information environment" of the spectator provides that context. Meaning thus describes *a state of the spectator* and not a state of a film.

For Glasersfeld (1999) the problem of meaning comes down to how a cognising organism generates units of experience and relates them

to conceptual structures that form the basis for subsequent modes of acting and thinking. In seeking to understand the mechanisms by which the spectator constructs meaning when watching a film it is necessary to abandon the untenable concept of communication that dominates interpretative practice in film studies, and to build up viable models that can account for the generation of experiential units and conceptual structures, and their subsequent use in the viewing of a film. Film studies needs to give up the forsaken search for a film's meaning(s) and to develop an *operational semantics*.

## References

- Bordwell, D. (1985). Narration in the Fiction Film. London: Methuen.
- Bordwell, D. (1989a). A case for cognitivism, *Iris*, 9, 11-40.
- Bordwell, D. (1989b). Making Meaning: Inference and Rhetoric in the Interpretation of Cinema. Cambridge Mass.: Harvard University Press.
- Burch, N. (1981). The Theory of Film Practice, trans. Helen R. Lane. Princeton, NJ: Princeton University Press.
- Carroll, N. (1996). Prospects for a film theory: A personal assessment, in D. Bordwell and N. Carroll (eds.) Post-theory: Reconstructing Film Studies. Madison: University of Wisconsin Press: 37-68.
- Glaserfeld, E. von (1983). On the concept of interpretation, *Poetics*, 12, 207-218.
- Glaserfeld, E. von (1989). Facts and the self from a constructivist point of view, *Poetics*, 18, 435-448.
- Glaserfeld, E. von (1991). Knowing without metaphysics: Aspects of the Radical Constructivist position, in F. Steier (ed.) Research and Reflexivity (pp. 12-29). London: Sage.
- Glaserfeld, E. von (1995). Radical Constructivism: A Way of Knowing and Learning. London: Falmer Press.
- Glaserfeld, E. von (1999). How do we mean?: A constructivist sketch of semantics, *Cybernetics and Human Knowing*, 6, 9-16.
- Read, R. (1998). The Essence of Communication Theory. London: Prentice Hall.
- Shannon, C. E. (1948). The Mathematical Theory of Communication. Urbana, IL: University of Illinois Press.
- Stonier, T. (1997). Information and Meaning: An Evolutionary Perspective. New York: Springer Verlag.
- Sweeney, K. (1994). Constructivism in cognitive film theory, *Film and Philosophy*, 2. [http://www.hanover.edu/philos/film/vol\\_02/sweeney.htm](http://www.hanover.edu/philos/film/vol_02/sweeney.htm). Accessed 21 April 2004.