

The Multi-Modal Matrix: Common Semiotic Principles in the Seven Modes of Narrative Film

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Abstract

From this brief introduction to the *Multi-modal Matrix*, it is hoped that the potential richness, depth and complexity of compositional choices available to the film-maker has been communicated. Understanding how film is articulated, how it may be generated by applying the symbolic code, is seen as a means of empowerment for both the filmmaker and film viewer. The former may be empowered with a range of devices with which to generate more conceptually and perceptually intriguing statements in film language, which engage the viewer and prolong that engagement; the latter may be provided with a set of tools with which to negotiate the more perceptually-challenging meanings offered in the film text. Constructive comments and suggestions for co-operative developments are welcome.

This paper introduces the *Multi-modal Matrix*; a three-dimensional, multimodal, systemic-functional model for narrative film, which sets out a method for analysing how meaning is constructed in film. The *Multi-modal Matrix* maps out the semiotic choices available to the filmmaker when offering meaning in the form of a film text, and also assists the audience in understanding how they are engaged by the text when watching a film. In the *Multi-modal Matrix*, semiotic devices are interpreted through their functional application — that is, how signs are deployed to physically and emotionally engage the audience by way of a coherent text. The *Multi-modal Matrix* argues that the film text is multimodal, operating more than one semiotic code simultaneously, and demonstrates that the various modes hold common semiotic principles which perform similar duties between the various modes.

The notion of ‘functions’ in language was developed by Michael Halliday (1973, 1975, 1985) who argued that language has developed to serve different functional needs within a community of language users. Halliday condensed a large number of functions at work in language into three ‘meta’ functions: an *interpersonal* function for establishing and maintaining social relations and expressing feelings, attitudes and opinions; an *ideational* function for representing the world, people, places and things; and a *textual* function for shaping a coherent text between speaker(s) and listener(s) within a social context. Halliday also argued that the three functions of communication operate at various ‘meaningful’ levels of a linguistic discourse; to illustrate this point, he produced an original systemic-functional model for English grammar in which different parts of the language grammar were assigned to their functional uses at different ‘levels of engagement’ (Riley 2004), which Halliday called a *rank scale*. The rank scale stands as the organising structure of the model, situated up the vertical axis of the framework; the three functions of communication lying across its horizontal axis.

This framework creates a matrix which maps out the available options from which choices may be selected and combined to construct a text of any length — the choices made giving the discourse its formal structure. Subsequently, Michael O’Toole (1994) made a substantial contribution to systemic-functional theory when he adapted Halliday’s model for the analysis of different modes of visual expression: painting, sculpture and architecture. O’Toole’s systemic-functional models heralded other inquiries into the functional uses of signs held in various communicative procedures; examples include a systemic-functional account of action (Martinec 2000, 2001), theatre (Martin 1997 and McInnes 1998), word and image (Kress and Van Leeuwen 1996, 2001), graphology (Thibault 1998), sound (Van Leeuwen 1999), drawing (Riley 2004) and film (O’Halloran 2004).

The term *multimodal* has been attributed to Gunther Kress and Theo van Leeuwen (1996:183) who used it to describe a text or discourse that offers meaning through multiple codes and sign systems: «...any text whose meanings are realized through more than one semiotic code.» The current multimodal inquiry was initially driven by linguists (Van Leeuwen 1983; Hodge and Kress 1988, 1991) who questioned the perceived primacy of writing over other modes of communication, focusing particularly on the classroom, where the increasing use of computers and digital media present meanings in two or more semiotic codes simultaneously. Socio-semioticians (Kress and Ogborn 1998; Baldry 2000) recognized that a way had to be found for analyzing and discussing multimodal texts and discourses: «... [to] create a theory of semiotics appropriate to contemporary semiotic practice.» (Kress and van Leeuwen 2001:2)

The current multimodal inquiry (Martinec 2001; O'Halloran 2004; Baldry and Thibault 2006; Kress and Van Leeuwen 1996; Eggins and Iedema 1997; Kress, Jewitt, Ogborn & Tsatarelis 2001) is concerned with understanding how different semiotic systems interact within a text or discourse to offer meaning(s). One aspect of the multimodal inquiry focuses on the identification of *common semiotic principles* held amongst the communicative modes, where semiotic resources may be saying the same things but in different ways, and where they may be specific to a single mode. The presence of common semiotic principles working as a resource in the technical production of film was raised by Kress and Van Leeuwen (2001:2) when they suggested the possibility of finding out how the *technical* resources of cinema work semiotically: «...how we might have, not only a unified and unifying technology, but a unified and unifying semiotics.» They posited that it may no longer be satisfactory to assume that the different modes of the film text perform a single specified role: «...images provide the action, sync sounds a sense of realism, music a layer of emotion, and so on, with the editing process supplying the 'integration code.'» (Kress and Van Leeuwen 2001:2) Addressing these insights, the *Multi-modal Matrix* presents the mode of *Cinematography*, which, for the purpose of this inquiry, is understood to encompass the technical process of filmmaking, divided into the sub-modes of camera (recording), lighting, sound (recording) and audiovisual editing.

THE CINEMATIC DEVICE

In their inquiry into the signifying resources of the early cinema, Russian Formalists in the 1920s (Eikhenbaum 1927; Tynianov 1927; Shklovsky 1923) posited that cinema existed and developed on the basis of its own particular, artificially created, conventionalised, '*secondary nature*' (Eikhenbaum in Matejka and Titunik 1976:22). This is realised, they argued, when things in the world are filmed from various angles and distances, and lit in various ways, producing a range of signals that transform people and objects of everyday life into «'man' and 'object' of cinema — transformed or deformed within the dimension of the art form.» (Tynianov 1927 in O'Toole and Shukman 1982:38) Thus, the real world is transformed through the selection and combination of semiotic devices of cinematography such as rhythm, perspective and camera angles, and these devices are never neutral in their impact on meaning. Through time they have acquired the internally defined, socially agreed, independent meanings beyond *representation*; a second level of meaning. The *Multi-modal Matrix* highlights the technical devices that serve as common semiotic principles, and places them within four systemic-functional frameworks, thus attributing to them the social functions they have evolved to serve in a form of social discourse. Four systemic-functional frameworks account for the four sub-modes of cinematography, and in order to describe their interconnectedness, the film text has been theorised as a *laminar* composed of layers bonded together, which are prised apart to reveal a three-dimensional construction of four systemic-functional frameworks. (Figure 1) In this configuration, it becomes apparent that, not only is there horizontal and vertical interplay between the devices in each framework, but also interplay between each of the frameworks (holding different semiotic codes) on what could be termed the axis of *depth*, creating the three-dimensional model.

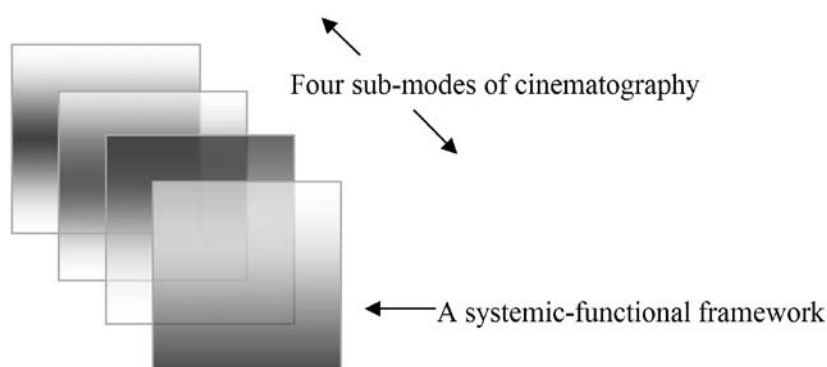


FIGURE 1. THE FILM TEXT AS A LAMINATE CONSISTING OF FOUR CONSTITUENT LAYERS

THE THREE FUNCTIONS OF COMMUNICATION IDENTIFIED IN FILM

In the *Multi-modal Matrix* cinema devices as semiotic resources are understood as serving three functional uses of communication. In a departure from the non-linguistic, systemic-functional models of, for example, O'Toole (1994), Iedema (2001), Riley (2002) and O'Halloran (2004) in which each structural/functional device serves a particular function, the *Multi-modal Matrix* suggests that each device deployed within the four sub-modes of cinematography is tri-functional, serving *all three functions simultaneously* (Figure 2):

- They serve a *Constructional* function, in their manifestation as technical resources that produce the text in a coherent film form; that is, for example, the actual, physical camera angle, and microphone distance from sound object, the intensity of light illuminating an object.

- An *Affectual* function, which correlates with Barthes's connotative meanings, positioning the viewer emotionally towards the film text, through socially negotiated values — as Jonathan Bignell (1997:187) argued: «The meanings of films are generated as much by the connotations constructed by the use of cinematic codes as by the cultural meanings of what the cinema sees.»

- A *Representational* function, which physically positions the viewer in virtual representations of different spaces and different time zones of the narrative as participant and/or observer.

Function Unit	Constructional	Affectual	Representational
Sequence			
Scene			
Shot			
Frame	FRAMING	SOCIAL DISTANCE	PHYSICAL DISTANCE

FIGURE 2 THE THREE FUNCTIONS OF COMMUNICATION AND THE HIERARCHY OF UNITS OF THE SYSTEMIC-FUNCTIONAL FRAMEWORKS

The rank scale of the *Multi-modal Matrix* is divided into a hierarchy of *Sequence*, *Scene*, *Shot and Frame* — each division operating as a *stand-alone* unit offering some meaning to the viewer, and also contributing something to the whole. Halliday's original linguistic model argued that the highest rank necessary for creating a discourse of any length was the *Clause*; by the same token, in the mode of cinematography, a rank scale of the four above-mentioned provide the necessary devices to create a film text. Everything at the unit of *Frame* is concerned with choices that occur in a space during the time of shooting in the world of the actants, unified by a single camera and lighting set-up. The next unit offering some meaning potential is that of *Shot*, made up of *Frame* units from the level below, concerning a single uninterrupted operation of the camera and lighting in a single time zone, that may include movement and sound. The next level up the hierarchy is the unit of *Scene*, which are groups of shots linked by spatio-temporal relationships; and Sequences comprise a group of scenes, where *real time* and *real space* are deformed in some way — compressed, expanded and manipulated into *cine-time* and *cine-space* and marked off by beginnings and ends that make up «...separate spatio-temporal moments» (Eikhenbaum in O'Toole and Shukman 1982:22).

COMMON SEMIOTIC PRINCIPLES

The tri-functional, common semiotic principles rest within the functions/hierarchy matrix operating as a system of interconnected components, across the horizontal, vertical and depth axes of the model. The development of the *Multi-modal Matrix* has identified six tri-functional devices, sharing common semiotic principles, dispersed amongst the four sub-modes of cinematography, as described below:

- The tri-functional device of *Framing/ Physical Position/ Social Distance* (in the sub-modes of Camera, Lighting and Soundtrack, at the units of Frame and Shot)
- The tri-functional device of *Angle/ Physical Point of View/ Social Power Relations* (in the sub-modes of Camera and Lighting, at the unit of Frame)
- The tri-functional device of *Rhythm/ Motion/ Saliency (status)* (in the sub-modes of Camera, Lighting and Editing, at the units of Frame, Shot and Scene)
- The tri-functional device of *Perspective/ Depth/ Spatial Perception* (in the sub-modes of Camera, Lighting, Soundtrack and Editing, at all four units)
- The tri-functional device of *Phrasing/ Passage/ Orientation* (in the sub-modes of Editing, at the unit of Scene)
- The tri-functional device of *Transition/ Hiatus/ Disorientation* (in the sub-modes of Editing, at the unit of Sequence)

To elucidate on how the tri-functional device, as common semiotic principle operates, the device of *Framing/ Physical Position/ Social Distance* is discussed below as an example. As a device in the Camera sub-mode, serving a Constructional function, the camera lens 'fra-

mes' salient information, creating a unit of meaning on screen, making it part of the screen event and differentiating it from the information outside the frame (and also created a series of differentiated units within a shot). The application of the Framing device in visual modes will also physically position the viewer closer or further away from the salient information on screen through the deployment of the close-up, medium shot and long shot (the scale of a screen object signalling its distance from the viewer), thus serving a Representational function. The distance the viewer is perceived to be from the object is given social meanings, what Kress and Van Leeuwen (1996) have called the system of *social distance*, where the viewer may be 'invited' close to the object(s), expressing intimate social distance, or be pushed considerably further away, expressing impersonal social distance; thus emotionally positioning the viewer towards the screen object — emotionally 'close' or emotionally 'distant'. Radan Martinec's (2001) inquiry argued that distance, as a semiotic resource, may be found in the modes of action and gesture, and refers to the social relations between interactants which are realized by the distance they stand from each other. This suggests that there are two sorts of 'distance' working concurrently in the film text — between the viewer and screen object (in the mode of Cinematography) and between the screen interactants (in the mode of Action).

The tri-functional device of *Framing/ Physical Position/ Social Distance* also occurs in the Lighting sub-mode at the unit of Frame, concerned with the illumination of objects within the action space, not the action space itself (which is performed by the tri-functional device of *Perspective/ Depth/ Spatial Perception* in this sub-mode). The illumination of objects involves the manipulation of light areas, shaded areas and dark areas that model form and illuminate surface textures, and is analogous with the system in the Camera mode, by de-limiting objects on screen (Framing: Constructional function), emphasizes or de-emphasises their importance (Social Distance: Affectual function) by placing the viewer closer or farther away from them (Physical Position: Representational function). In the Soundtrack sub-mode, the device of *Framing/ Physical Position/ Social Distance* occurs at the unit of Shot, the first of the units where movement — therefore the notion of 'time,' occurs. In its Constructional function of Framing, Sound recording is understood to be the act of isolating a unit of salient sound from what surrounds it; its Representational function serves to physically position the viewer close-up or far away from a sound; and its Affectual function serves to interpret that distance within a socially agreed code. For example, compare the mood engendered by a voice speaking centimetres away from a microphone, to dialogue heard in an empty hall. It must also be noted that, to add to the complexity and richness of the model, each function of the tri-functional device may be prised apart to reveal systemic networks of further choices and «clines» (O'Toole 2005:83) that make possible an analysis of greater delicacy and refinement.

THE MULTI-MODAL HELIX

As suggested above, the semiotic meanings available in a film text are greater in number and more varied than those of cinematography alone; for example, meanings held in music, dialogue, acting, graphics, and sounds, as Bignell (1997:187) has pointed out: «The codes of cinema are particular ways of using signs, the dialogue signs, musical, sound effect and graphic signs which

are the recourses from which particular film sequences are constructed.» In their multimodal, systemic-functional analyses of various audiovisual texts Iedema (2001), Baldry (in O'Halloran 2004:105) and O'Halloran (2004:127) have pointed out the difficulty of performing this form of analysis on time based, multimodal text because of the amount of information held therein. Clearly, therefore, the quantity and complexity of the information available in film texts demands some form of systematic framework, which is able to include all the sign systems held in the film text, and which renders the information transparent, organized and accessible to a high level of specificity. To this end, the *Multi-modal Matrix* (concerned with the semiotic mode of cinematography) is here presented as one component of a seven-part *Multi-modal Helix*, each part conceptualized as a three-dimensional *Multi-modal Matrix*, made up of variously related sub-modes. It is suggested that the *Multi-modal Helix* may comprise:

Multi-modal Matrix A - Script (with sub-modes of plot, character, and dialogue).

Multi-modal Matrix B - Music construction (with sub-modes of instruments, notes, and melody).

Multi-modal Matrix C - Sound construction (with sub-modes of volume, bass and treble).

Multi-modal Matrix D - Cinematography (with sub-modes of camera, lighting, soundtrack and editing).

Multi-modal Matrix E - Graphic design (with sub-modes of picture and text).

Multi-modal Matrix F - Staging (with sub-modes of location, sets, costume, props).

Multi-modal Matrix G - Action (with sub-modes of facial expression, posture, gesture and movement).

The *Multimodal Helix* is designed to display the overall system of grammar available to narrative film production and analysis offering, potentially, ninety-two systems of choice, which bifurcate into further systems and clines. Because of the commonality of the systemic-functional framework to each mode, many of the systems may be identified as common semiotic principles, operating inter-modally, and make possible the application of a common terminology within the grammar system. In this way the complexity of film texts may be embraced in a formal, systematic, systemic structure, and may offer the opportunity to select and combine structural/functional devices, which perform the same duty in a range of modes, and deploy them in ways which are well-informed, distinctive and 'perceptually intriguing' (Riley 2006:596).

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