Audio-visual Rhetoric and its Methods of Visualization:
Introducing a Visual Notation System for Film Analysis
© Gesche Joost 2010
© Sandra Buchmüller 2010
© Tom Bieling 2010

Background

Audio-visual rhetoric is a knowledge domain for designers in theory and practice that was introduced by Gui Bonsiepe and Tomas Maldonado in the 1960s (Bonsiepe 1961). Its theory and system is valid for all communicative actions aiming for *persuasion*. Richard Buchanan described the whole body of design practice as rhetorical argumentation (Buchanan 1989) and opened the way for building a rhetorical design theory on a broad basis. In the following years, visual rhetoric was established within the design education mostly in the US, teaching the analysis of information design on the basis of rhetorical patterns (Ehses 1984, 1986, 1988), (Kostelnick 1989, 1998, 2003), (Poggenpohl 1998). These concepts were transferred to dynamic, audio-visual media by Bonsiepe in the late 1990s He introduced the term "Audio-visual Rhetoric" to describe this approach (Bonsiepe 2008). Today, Audio-visual Rhetoric combines ancient communication theory and its huge body of knowledge with New Rhetoric (Joost 2008, 2008a) and applies this knowledge to the design domain with its visual parameters. The advantage of this approach is that the theory and practice of rhetorical communication can enhance our thinking about media communication. On the one hand, it can be applied to media analysis of audio-visual as well as digital media. On the other hand, design practitioners can draw on the rhetorical art of persuasion in order to understand design actions in general. Through this adaption and transfer of knowledge, the always evolving body of rhetorical knowledge is updated regarding new communication patterns offered

by new media, e.g. interactive patterns in digital media. For design theory this is an important approach as this young discipline is constantly seeking appropriate models for theoretical reflection upon design practice.

The Notation System for Film Analysis

Exploring audio-visual patterns of film is an analytical endeavor that is still searching for useful methods. In film theory and practice, there are different models to describe and analyze filmic structures. For film scholars, the most established method is using a written text to elaborate upon the formal aspects as well as narrative structures of any given film. But this method offers little means for reflecting specifically on the dynamic and audio-visual quality of film as such [15]. Audio-visual rhetoric provides an approach to overcome this problem by introducing a notation system for film. In academic contexts, there are some early examples of visual film protocols that foster such analysis (Hahne), (Ramsbott / Sauter). Nevertheless, none of these visual systems have been established for film analysis in a broader context, nor have they allowed for reflecting upon any film's method for temporal progression. A general issue is that there is no interdisciplinary collaboration between study of film, film production, rhetoric, and design research to come up with a viable analytic system. Bringing together all these competencies, one could design a comprehensive system that could be used in various contexts – academic as well as applied.

The Notation Protocol

We have developed a notation system, a pattern protocol that visualizes rhetorical structures. Examples of the structures that an analyst might wish to mark are, for instance the matching between auditory and visual signs, the overall emotional tone (logos, ethos, pathos), or other rhetorical patterns such as climax, repetition and the like. On top of the analytical purpose, it reveals the style and structure that emerged during the process of production. These insights are relevant for filmmakers and designers, enabling them to understand how a film is created and how it affects the audience. The notation system itself consists of a set of visual icons (see Table 1). With this icon system, the identification of the technical parameters of film is displayed in a cognitively efficient way. For example, each type of shot and each montage pattern have an iconographic representation. These icons comprise a notation language that signifies precisely filmic phenomena without having to describe them word by word.
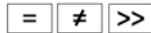
Icons of audio-visual correlation:	
Parallel/ contrapuntal/ cumulative	= ≠ >>
Shot icons:	
close-up	■
medium shot (closed/ open/ Over-the-Shoulder-Shot)	◖●◗ ◖◗ ◖◗
full shot (closed/ open/ Over-the-Shoulder-Shot)	● ◖ ◖●
long shot (closed/ open)	• ◖
wide shot	•••
intercut	••
pan (example: from long shot to full shot)	• ●
intertitle	—
Angle-Views:	
high-angle view / bird's-eye-view	⌐
low-angle view/ worm's-eye-view	⌐
eye-level-view	⌐

Table 1. Extract of the set of notation icons

The icons are set within a notation field (see Figure 1). This field is defined by the axes of paradigm and syntagma that derive from the model Roman Jacobson introduced in order to describe language (Jacobson 1956). This linguistic framework is easy to understand when we use the metaphor of a brick wall: the syntagma describes the succession of bricks in the horizontal layer, whereas the paradigm refers to the composition of bricks in the vertical layer. These bricks form structures that expand out

in both directions, horizontally and vertically. Transferring this model to audio-visual media, we define the syntagma as the succession of different shots or expressions in time. In linguistic terms, it is called the axes of combination – combining different signs one after the other. The paradigm, however, refers to all the shots or expressions that were possible at this position but not selected. For example, the paradigm describes different camera angels that could be realized for one shot, from bird's eye view to worm's eye view. Therefore, it is the axis of selection describing the actual selected sign out of a whole range of possible ones. Christian Metz transferred this theoretical model to film (Metz 1972) in order to set up a systematic framework describing general signification processes. For the notation system, these two axes form the theoretical framework that explains the pattern approach based on semiotics. It is useful in order to understand how rhetorical patterns actually create meaning and effect for the audience.
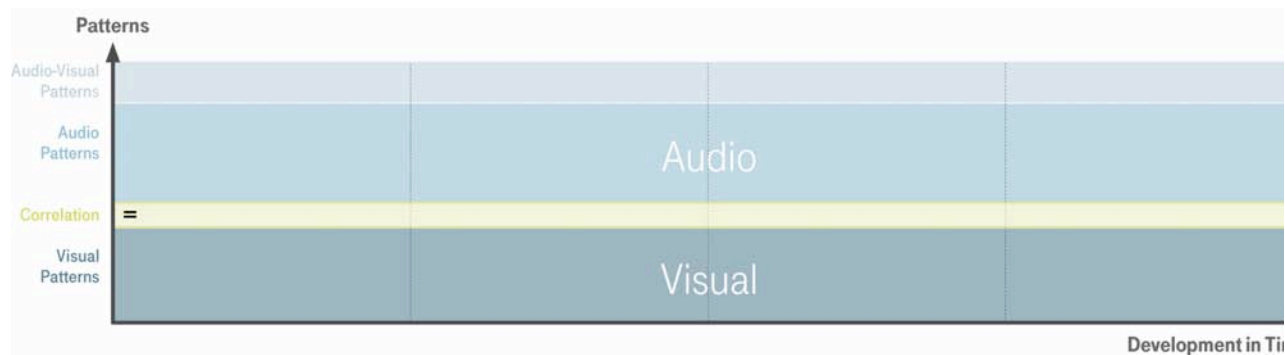

Figure 1. Notation field.

Furthermore, the notation system consists of 3 channels: the auditory, the visual and the correlation channel. In the first channel, all auditory parameters are described as being sound, dialogue, or music. The second one contains all visual parameters like single shot and montage figures, perspective, camera dynamics, colors and alike. The

third channel specifies the relation between auditory and visual channel in three overall patterns: "parallel" (auditory and visual signs accord to each other), "contrapuntal" (auditory and visual signs are set in contrast to each other), or "cumulative" (auditory and visual signs intensify each other). With this correlation channel, the overall audio-visual pattern is described, giving insights into the role of auditory stimuli within the film clip in relation to the visual succession. A contrapuntal pattern for example is a highly artificial element of style that is not often used in media, because it contradicts the viewer's expectation. Therefore, it is most often used to raise higher emotion in the audience by effects of surprise, confusion, or irony.

This notation system was applied for the analysis of film commercials (Joost et al. 2008b) as well as for Sergej Eisenstein's silent movies (Joost 2008a).

Comparison between different notation systems for analysis

Comparing different systems for film analysis, we discuss the impact of the semiotic code on the analysis itself. When applying rhetorical knowledge to the analysis of film, we take the following steps. We raise the hypothesis that a visual analysis of film conveys a *visual knowledge* about the rhetorical structure of media. This form of knowledge is virtually inexpressible verbally. Ernst Gombrich claims what the diagram presents in front of our eyes can hardly be expressed by words or as a succession of statements (Gombrich 1986). An example of this hypothesis is the visualization of the spatial information on a map. Complex information about the map on the one hand and its correlation with the world on the other are simultaneously apprehended in a cognitively efficient process without linguistic mediation. Based on this hypothesis, we

introduce different notation systems to visualize recurring patterns in film: a static visual film protocol, an animated film protocol, and a written text protocol.

In the standard film protocol, the translation of audio-visual signs into a written text means to change the semiotic code in a radical way – from image and sound to text. This process involves a loss of information, particularly of the audio-visual and dynamic quality of the sign system. The idea of using a visual protocol as tool for film analysis is based on the hypothesis that a visual diagram can be processed cognitively much more efficiently than language (Hahne 1992). This efficiency is especially augmented for the visual aspects of film, more so than for re-telling its storyline, because they lend themselves more readily to visual than to verbal abstraction.

It is not new to say that the tools and methods that are used for an investigation clearly influence the research results. This is also true for the method we suggest in this paper. To set up a visual diagram of a film focuses the researcher's attention much more on visual and structural aspects of it than on the storyline. The aim is to reduce a loss of information that occurs when the audio-visual texture of film is transferred to written explanation. In using our notation systsem, the audio-visual signs are translated into a visual structure. This method has additional advantages: the graphic displays information instantly so that the recipient can process the data in parallel. Written text can communicate information only in a sequential way, one word after the other.

In the notation protocol, information about the whole clip in each of the channels can be visualized at the same time, allowing the parallel interpretation of data and of relationships among the various audio-visual elements. Here, the pattern structure can be easily identified on the basis of a graphical representation. For example, repetitions or

climax patterns can be singled out quickly on the basis of their visual form. With this approach, large amounts of data from audio-visual media can be efficiently processed for analytical purposes.

As a next step, we compare the different systems according to their semiotic code, their mode of information and the kind of perception they require (see http://www.geschejoost.org/AVRhetorik). [[Layout editor: insert into put in html]]

	Notation system (static)	Animation of protocol	Text
Sign system (Zeichensystem)	image, language *	image, sound, language *	language *
Semiotic code	icon, index, symbol (Peirce)	icon, index, symbol (Peirce)	symbol (Peirce)
Change of media	film to image	film to film	film to language *
Reception	synchronic	synchronic and successive	successive
Mode of information	spatial	spatial, temporal and acoustic	temporal
Link to rhetoric	"evidentia" (evidence)	analogy	argumentation

Our notation system allows for the first, static kind of analysis. Put into our tool which allows this static system to run parallel to the film, it operates in the second register. Our notation system and the tool that juxtaposes it and runs it parallel to film clips makes use of animated notation for the sake of analyzing film.

Discussion

In comparing scholarly modes of film analysis, one finding is that a verbal analysis, on the one hand, is typically much more focused on the content and storyline of a film as it translates the audio-visual medium into a verbal narration. It uses the symbol as semiotic code and requires a successive perception. Its mode of information is temporal. The visual analysis, on the other hand, is more focused on the visual structure of film and its recurring patterns. It uses icon, index, and symbol as semiotic code and requires a synchronic perception. Therefore, it displays spatial information. An animated protocol adds dynamic information about the development of film and can include the analyzed film itself into the animation. It also refers to icon, index and symbol in its semiotic code and requires synchronic as well as successive perception. Its mode of information is rich and includes spatial, temporal and acoustic data.

Through visual approaches such as static visual protocols as well as animated ones, a different kind of knowledge is gained compared to a mere verbal analysis: a specific kind of *visual* knowledge. This study argues in favor of the semiotic autonomy of visual signs.

Conclusion

Our visual film protocol – notation system and tool -- can serve developers of audio-visual media in various ways. First of all, it is a helpful tool for analyzing and interpreting film as well as for understanding its composition. Moreover, including as a component the static visual film protocol makes different films structurally comparable. Using the notation system one gets a visual protocol comparable to music notations that can be used for reproduction purposes. This leads to the third point: the notation system as a software could be used as tool for film design and planning in addition to the technique of storyboarding, which is still a standard tool for the production process. With this visual aid, filmmakers can compose their texture beyond sketches of the scene and visual description. Based on these insights, we suggested the notation system as a new tool for film analysis for designers as well as for film scholars. An evaluation of the notation system and animation tool by filmmakers as well as film scholars is still pending and will be one of the next research steps.

Gesche Joost
Deutsche Telekom Laboratories;
Technical University of Berlin
Gesche.joost@telekom.de

Sandra Buchmüller
Deutsche Telekom Laboratories;
Technical University of Berlin
Sandra.buchmueller@telekom.de

Tom Bieling
Deutsche Telekom Laboratories;
Technical University of Berlin
Tom.bieling@telekom.de

References

Bonsiepe, G. (1961). Persuasive Communication: Towards a Visual Rhetoric. In Crosby, T. (Eds.) Uppercase Nr. 5, London, UK, 19–34.

Bonsiepe, G. (2008). Audiovisualistische Rhetorik in zeitbasierten Medien: Über die kognitive Relevanz diagrammatischer Visualisierungen. In: Joost, G., Scheuermann, A. Design als Rhetorik. Birkhäuser Verlag Basel. 217-232.

Buchanan, R. (1985): Declaration by Design: Rhetoric, Argument, and Demonstration. In Design Issues, Volume II, Number 1. 4-23; Reprint in: Margolin, V. (1989) (Ed.): Design Discourse. History, Theory, Criticism, Chicago. 91-109.

Gombrich, E. (1986). Kunst und Illusion. 2. edition. Stuttgart / Zürich: Belser.

Hahne, D. (1992). Komposition und Film: Projekt nach Motiven aus Camus „Der Abtrünnige" für Chor, Orchester und Spielfilm. (Volkwang-Texte III. Bd. 5. Hrsg. v. Josef Fellsches).

Jacobson, R., Halle, M. (1956) Fundamentals of Language. Den Haag, Netherlands.

Joost, G. (2008): Die rhetorische Pattern-Language des Films. In Joost, G., Scheuermann, A. (Eds.) Design als Rhetorik, Birkhäuser Verlag Basel, 233 – 249.

Joost, G. (2008a) Film-Sprache. Die audio-visuelle Rhetorik des Films. Bielefeld.
See also: http://www.geschejoost.org/AVRhetorik/

Joost, G., Buchmüller, S., Englert, R. (2008b). Audio-visual Rhetoric: Visualizing the visual pattern language of film. DRS Conference Sheffield University.2008

Metz, C. (1972). Probleme der Denotation im Spielfilm. In Metz, C. Semiologie des Films, München, Germany, pp. 154–161.

Ramsbott, W., Sauter, J. (1988). Visualisierung von Filmstrukturen mit rechnergestützen Mitteln. In: Helmut Korte, Werner Faulstich (Hrsg.): Filmanalyse interdisziplinär. (Zeitschrift für Literaturwissenschaft und Linguistik. Hrsg. v. Helmut Kreuzer. Beiheft 15). Göttingen. pp. 156–165.