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Concept of the Camera at the Analogue – Digital Crossroads

Abstract

The study examines and compares various interpretations of the term camera as a means of expression in the individual stages of the development of film sciences, as well as the overlap of the mentioned theoretical concepts into groundbreaking film pieces by relevant filmmakers. In addition to theoretical knowledge, based on aesthetic and philosophical concepts, it also monitors their practical crossovers into cinematographic and directorial practice. The paper examines two basic periods in which the camera phenomenon developed – the period of classical film shooting on film stock, i.e. the period of analogue production and the period of digital production, which brought new theoretical knowledge into the development of the camera phenomenon. The study seeks to position the phenomenon of the cinematographic camera, which lies at the crossroads of art and technology. The value of this concept in film theories oscillates between the recording device and the means of expression. The

authors of theoretical conceptions lead a long-term ontological and semiological discourse on how to understand the phenomenon of the camera in film – whether the camera is more like a pen writing in a special language or it is to be understood as a specific writing type or style. In any case, thanks to light, its mechanical-optical-electronical equipment conveys a cut-out of reality, which is a testimony of a special form and content. Film theory poses many questions and answers some of them, thanks to the knowledge of camera significance in film production realization. The purpose of this article is to zoom into the theoretical and practical side of looking at the phenomenon of cinematographic camera.

Key words

Cameraman. Digital camera. Director. Film. Film camera. Image.

Introduction

If we ask ourselves a question of what we mean by the term camera, the answer may seem simple. But perhaps the confidence with which we will answer should lead us to hesitate and doubt whether our faith and intuition are not obvious and whether we can explain them. The human imagination has always been fascinated by the magical aspect of mechanical reproduction brought about by photography. The tradition of “*natural magic*”, as the Jesuit Athanasius Kircher, who experimented with the “camera obscura” in the mid-seventeenth century, called his experiments, opened the way for photography and film. Kircher made a simple optic, using it to concentrate light rays and project images from the outside world onto a screen in a darkened room¹. The first use of the term “camera obscura” is also dated back to this time. However, whatever Kircher managed to display, whether it was the landscape or a random passer-by, he could neither modify nor preserve their image. The cumbersome attraction could not be put to practical use at that time. But its legacy was the transformation of natural magic into a human-controlled illusion, the technical basis of which was the chemical fixation of an optically reflected image. With the right number of frames per second, a

series of photographs turned into an animated record of reality – a film. The original content of the search for a record of reality has changed into a technical toy, and it has gradually changed into art and medium. All this would not have been possible without the existence of an ever-evolving object, which has become a cinematic, semiological, ontological and aesthetic phenomenon, and which bears the name: the camera. It is a comparative study and the authors use their empirical experience gained from their own media practice.

1 Concept of the Camera in the Analog Film Period

The main motive and space for the research and development of the camera as a device was the effort to improve all the properties of recording moving images: optical-mechanical parameters of shooting, quality of film stock, but also the definition of the means of expression which were brought by imaging and reproduction technology. The phenomenon of the camera thus became the cornerstone of film studies, the focal point of film theory as art, as a distinctive language and a specific medium. The approach to the camera phenomenon defines different approaches to film theory: communicational, psychoanalytic, cognitive, aesthetic, semiotic, and more. Reflections on the camera can easily change and redirect to areas related to different principles and concepts of a particular type of film theory.

In the context of our reflections, we think primarily of the film camera, as it evolved from the camera, with the ability to capture the movement and flow of real time. Already when defining the term camera, resp. film camera we come across a semiotic plot: when we say “film camera” we mean a device with a mechanical device that can expose film stock, or a device that captures a digital chip in the quality required for film? Or do we mean a specific apparatus of technical and artistic activities, which is represented by the continuous creative activity of a cameraman operating with an optical-mechanical or optical-digital device in the shooting of a film piece? Another meaning that can be hidden in this term is the display of everything that passes through the camera lens on the screen or display – simply what we see – the image output of the camera in its motion, colour and compositional diversity. Camera reflections can define questions about the basic principles of a given film theory, which are often fundamental, sometimes contradictory, and which interpret the term itself in various senses. In the study “*Projecting a Camera: Language-Games in Film Theory*”, E. Branigan proposes understanding the camera as a linguistic and rhetorical construct, the meaning of which depends on the sense shared by the interpretive community and its specific inputs to the film. In the context of art criticism, the camera plays an ambivalent, if not paradoxical, role. Many critics speak of the camera as a recording device that distinguishes film from other

¹ MULVEY, L.: *Death 24x a Second. Stillness and the Moving Image*. London: Reaction Books, 2006, p. 18.

forms of art, although the camera itself may not qualify film as art – for example, N. Carroll² and A. Danto³. The question of the extent to which the mechanical recording created by the camera may be expressive, meaningful, or artistic was dominant especially in the early theories of film, i.e. theories that we call classical from today's point of view. It is the period from about 1920 to 1970. In the 1920s, French creators and critics L. Delluc⁴ and J. Epstein⁵ presented the impressionist idea of the camera, called photogénie⁶, as a possible solution to this problem. Delluc and Epstein have appropriated an expression⁷ from

still photography, which describes the true quality of the moving image, which is “generated by the transforming power of the camera to poeticize life”⁸. As Epstein claimed, at the moment of exposure the camera allows us to see the inner nature of things. He also argued that the most important ability of film is the reproduction of motion⁹. Moreover, the idea of photogénie not only reflects the human properties of camera perception (anthropomorphic worldview) or the feeling of an ephemeral, preconceptual and inexplicable aspect of experience. The camera will be fully asserted only when it converges with the vision of a filmmaker, creator, cameraman. On the one hand, the camera is symbiotically connected with the filmmaker – the creator, on the other hand, the camera acquires its own autonomy and influence on technological unpredictability, which exceeds the plans of the creator. Russian filmmaker and theorist

V. Pudovkin criticized Delluc's notion of photogénie as a vague symbolism that obscures traditional notions of taste and beauty. For him, film is not a “merger” of the photographic image with the “genius of cinematography”, but rather is created and obtained from the correct application of the principles of montage¹⁰. His critique also marks a historical shift from aesthetic to semiotic film theories and the related camera phenomenon. The original concept concerned the aesthetic possibilities of film expression and emphasized the achievement of sublime experiences. Pudovkin's concept explores the conditions and possibilities of film language. In the first case, the camera transforms reality into a sensory form that shows new or unseen aspects of reality. For avant-garde filmmakers, the camera became a means of defamiliarization, which pointed to an alternative way of seeing or towards the “otherness” of human perception. For Pudovkin, the camera serves as a *deictic tool*¹¹ that directs the viewer's attention; guides the viewer through space-time in the order and in the sense

² CAROLL, N.: Defining the Moving Image. In *Theorizing the Moving Image*. Cambridge : Cambridge University Press, 1996, pp. 49-74.

³ DANTO, A.: The Moving Pictures. In *Philosophizing Art: Selected Essays*. Berkeley : University of California Press, 1999, pp. 205-232.

⁴ DELLUC, L.: Photogénie. In SHEPHERDSON, K. J., SIMPSON, P., UTTERSON, A. (eds.): *Film Theory: Critical Concepts in Media and Cultural Studies*. New York : Routledge, 2004, pp. 49-51.

⁵ EPSTEIN, J.: On Certain Characteristics of Photogénie. In SHEPHERDSON, K. J., SIMPSON, P., UTTERSON, A. (eds.): *Film Theory: Critical Concepts in Media and Cultural Studies*. New York : Routledge, 2004, pp. 52-56.

⁶ *Photogénie* is a complex theoretical concept that works in a number of ways. At its heart, *photogénie* seeks the essence of cinema. It is an argument for the importance of cinematic specificity, and we can mark out two ways in which the concept operates: the cultural and the aesthetic. In the cultural sense it proposes to legitimise the medium of film, arguing that film can transcend its photochemical/mechanical base, and, in the right hands, become art. See more: FARMER, R.: *Epstein, Jean*: 2010. [online]. [2021-10-18]. Available at: <https://www.sensesofcinema.com/2010/great-directors/jean-epstein/>.

⁷ It is important to note that *photogénie* was a term neither invented by Epstein nor by any of the French Impressionists. The term existed in general usage long before Louis Delluc. According to Paul Willemen it appeared as early as 1874 in the *Larousse* dictionary, and the director Louis Feuillade even wrote to the magazine *Cinéa* (Delluc's own magazine) complaining about Delluc's “Impressionistic” appropriation of the term. See: Photogénie and Epstein. In WILLEMEN, P.: *Looks and Frictions*:

Essays in Cultural Studies and Film Theory. London : BFI Publishing, 1994, p. 126. Nevertheless, it is Epstein's work on *photogénie* that is the most important because it was he who developed the idea most fully. See more: FARMER, R.: *Epstein, Jean*: 2010. [online]. [2021-10-18]. Available at: <https://www.sensesofcinema.com/2010/great-directors/jean-epstein/>.

⁸ The ultimate theme that binds together the different *photogénies* is mobility, and here we will pay particular attention to the way that mobility relates to the close-up. (...) One of Epstein's most vivid accounts of the power of the close-up concerns the way in which subtle movements of the face are revealed. See more: FARMER, R.: *Epstein, Jean*: 2010. [online]. [2021-10-18]. Available at: <https://www.sensesofcinema.com/2010/great-directors/jean-epstein/>.

⁹ TURVEY, M.: Classical Film Theory. In BRANIGAN, E., BUCKLAND, W. (eds.): *The Routledge Encyclopedia of Film Theory*. New York : Routledge, 2014, p. 90.

¹⁰ PUDOVKIN, V.: Photogeny. In TAYLOR, R. (ed.): *Vsevolod Pudovkin: Selected Essays*. London : Seagull Books, 2006, p. 6.

¹¹ A *deictic expression* or *deixis* is a word or phrase (such as *this, that, these, those, now, then, here*) that points to the time, place, or situation in which a speaker is speaking. Deixis is expressed in English by way of personal pronouns, demonstratives, adverbs, and tense. The term's etymology comes from the Greek, meaning “pointing” or “show” and it's pronounced “DIKE-tik”. NORDQUIST, R.: *Deictic Expression (Deixis)*. [online]. [2021-10-18]. Available at: <https://www.thoughtco.com/deictic-expression-deixis-1690428>.

that the filmmaker intends. In this concept, the camera enacted the compositional rules of assembly and production – the production process. If the “camera lens is the viewer's eye” – the most famous metaphor of the Soviet film school¹² – it is the filmmaker who looks through the viewer. The camera does not just point to a profilmic¹³ event; it also presents this event within a specific narrative or argumentative framework¹⁴. As a narrative interface between the filmmaker and the viewer, the camera is in the position of an ideal observer, whose perception is a synthetic product of the filmmaker's supposed observation. Because this position extends to the postfilmic,

i.e. viewing situation, the concept of the camera is enriched by the aspect of camera work and editing, which can be considered as two other forms of directing the viewer's attention. While the theorists following Pudovkin emphasized the importance of editing and assembly, A. Bazin advocated long, continuous shots. Like Pudovkin, Bazin, in his vision of the camera, combines a profilmic and postfilmic sense, which is viewed through a dialectic that compares the possibilities of the film medium with the perceptual limitations of human vision¹⁵. In a profilmic sense, it is primarily the technique of “wide” depth of field (deep focus)¹⁶, i.e. the image that allows the viewer to see distant and near objects equally sharply. This characteristic of the image also includes the concept of depth of field, i.e. the viewer's searching gaze (see depth of field)¹⁷.

An example of thoughtful work with a camera that seems to respect Bazin's theory (although it was

made much later) is the film by cinematographer G. Toland and director O. Wells *Citizen Kane* (1941). Thanks to improved film optics, this film seized the whole, “wide” depth of sharpness and used the entire depth of the image field. This way, in several plans, it offered the viewer much information that forced them to work intellectually, to choose important details, to perceive the atmosphere of the whole¹⁸. This led to the establishment of an internal mounting, which advanced the camera to an “integrator” of symbols and signs.

A strong directive of the postfilmic camera is to amplify the illusion of extending out-of-frame reality. Instead of preferring “dramatic field analysis” with a cut that “sequences” time and space, Bazin prefers to constantly reconfigure the cutout by moving the camera, light, sound, and other means of expression that the director or cameraman has¹⁹. In his conception, editing was understood as the movement of a camera that offered new compositions and cutouts. Bazin likens his camera model to an invisible guest and omniscient narrator. In film theory, camera movement and editing are very often associated and compared to the natural movements of the human eye and changes in attention as produced by the human brain. Thus, the synthesis of observation

¹² PUDOVKIN, V.: The Montage of a Scientific Film. In TAYLOR, R. (ed.): *Vsevolod Pudovkin: Selected Essays*. London : Seagull Books, 2006, p. 16.

¹³ *Profilmic*: Everything placed in front of the camera that is then captured on film and so constitutes the film image. The slice of the world in front of the film camera; including protagonists and their actions, lightning, sets, props and costumes, as well as the setting itself, as opposed to what eventually appears on the cinema screen. In studio-made fiction films, the profilmic event is a set constructed for the purpose of being filmed. At the other extreme, in observational documentary forms like direct cinema, filmmakers seek, as a fundamental element of their practice, to preserve the integrity of the real-life space and time of the profilmic event. Many films occupy a middle ground in their organization of, or relationship with, the profilmic event: as for example in the case of location-shot, but acted, films such as those of neorealism. See more: *Profilmic*. [online]. [2021-10-18]. Available at: <https://www.oxfordreference.com/view/10.1093/acref/9780199587261.001.0001/acref-9780199587261-e-0561>.

¹⁴ See also: RADOŠINSKÁ, J., KVETA-NOVÁ, Z., RUSNÁKOVÁ, L.: *Globalizovaný filmový priemysel*. Praha : Wolters Kluwer, 2020; PRAVDOVÁ, H.: Remake as a Commercial media strategy. In KUSÁ, A., ZAUŠKOVÁ, A., BUČKOVÁ, Z. (eds.): *Marketing Identity: Offline Is the New Online*. Trnava : Fakulta masmediálnej komunikácie UCM v Trnave, 2019, pp. 1065-1080; RADOŠINSKÁ, J.: New Trends in Production and Distribution of Episodic Television Drama: Brand Marvel-Netflix in the Post-Television Era. In *Communication Today*, 2017, Vol. 8, No. 1, pp. 4-29.

¹⁵ QUENDLER, CH.: Camera. In BRANIGAN, E., BUCKLAND, W. (eds.): *The Routledge Encyclopedia of Film Theory*. New York : Routledge, 2014, p. 70.

¹⁶ *Deep focus* is a style or technique of cinematography and staging with great depth of field, using relatively wide-angle and small lens apertures to render in sharp focus near and distant planes simultaneously. A deep-focus shot includes foreground, middle-ground, and extreme-background objects, all in focus. See more: *Deep focus*. [online]. [2021-10-18]. Available at: <https://filmglossary.ccnmtl.columbia.edu/term/deep-focus/>.

¹⁷ *Depth of field* is the area, range of distance, or field (between the nearest and farthest planes) in which the elements captured in a camera image appear in sharp focus. Depth of field is connected to focus but should not be confused with it. See more: *Depth of field*. [online]. [2021-10-18]. Available at: <https://filmglossary.ccnmtl.columbia.edu/term/depth-of-field/>.

¹⁸ CIEL, M.: *Metódy a možnosti analýzy filmového obrazu*. Bratislava : VŠMU, 2011, p. 17.

¹⁹ BAZIN, A.: The Evolution of the Language of Cinema. In *What Is Cinema?* Berkeley : University of California Press, 1967, p. 34.

and perception becomes similar to a montage and film image mediated by the camera. The camera records a narrative attitude that is simultaneously bound and unbound to the diegetic world: “It is a way of seeing which, while free of all contingency, is at the same time limited by the concrete qualities of vision: its continuity in time and vanishing point in space. It is like the eye of God, in the proper sense of the word, if God could be satisfied with a single eye”, as A. Bazin pertinently put it²⁰.

A striking manifestation of the physical existence of the camera in the analogue period is its movement. The theory sought to grasp this concept in physical, psychological and philosophical terms. The movement of the camera has become a fundamental expression of the dynamics of film narration and is generally considered an important aspect of directing style. This led to the appreciation and detailed analysis of the work of many important directors, who created iconic techniques and influenced the practical side, specifically the manifestations of the film language of the camera. (F. W. Murnau, O. Wells, S. Kubrick, and others.) It is also an evidence that camera movement has become a significant example of directorial virtuosity. Since the early days

of cinematography, awareness of camera movement has been defined as a large space for expressiveness²¹. As the theorist J. Mitry wrote: “It was around 1924 – when the camera really started to move – but at that time it was more moving around the characters than with them.” He cites the classic films of F. Murnau and D. W. Griffith’s film *Intolerance*²² as examples. The question of what the motive for movement is – physical, dramatic, or psychological – is a constant and persisting question of research²³.

Despite its scale and complexity, the classical period of film aesthetics can be understood as the genealogy of conflicting debates that sought the identity of film in a medium of specific concepts or techniques. It was the photogénie of L. Delluc and J. Epstein; defense of great detail as formulated by B. Balázs; rhythmic cinégraphie admired by French Impressionist filmmakers²⁴

21 BORDWELL, D., STAIGER, J., THOMPSON, K.: *The Classical Hollywood Cinema: Film Style and Mode of Production to 1960*. New York : Columbia University Press, 1985, p. 12.

22 MITRY, J.: *The Aesthetics and Psychology of Cinema*. Bloomington : Indiana University Press, 2000, p. 184.

23 Ibid, p. 185.

24 *French Impressionist Cinema* – describes an avant-garde film movement lasting approximately from 1918 to 1929. It was characterised by camera and editing techniques which both augmented the beauty of the image and evoked characters’ psychological states. Impressionist filmmakers regarded film as an art form in itself rather than simply a means for recording plays and novels. Mood and suggestion took precedence over plot. Notable Impressionist directors include Abel Gance (1889-1981), Marcel L’Herbier (1890-1979), Germaine Dulac (1882-1942), Jean Epstein (1897-1953), Jacques Feyder (1885-1948) and Jean Renoir (1894-1979). LESKOSKY, R.: *French Impressionist Cinema*. [online]. [2021-10-18]. Available at: <https://www.rem.routledge.com/articles/french-impressionist-cinema>.

20 BAZIN, A.: *Jean Renoir*. New York : Simon and Schuster, 1973, p. 88.

and debates about montage during the golden age of the Soviet school. All these aesthetic outbursts carried the phenomenon of the camera as a universal key to explicating and defending their ideas.

If we analyzed this topic three or four decades ago, we would probably focus on defining shooting, crane movement, Steadicam rides – so especially on the technical-technological view. However, from the point of view of the evolving theory, it is more likely that currently we will perceive movement as a problem in relation to the viewer rather than technology. How do we “read” and understand camera movement today? D. Bordwell and E. Branigan became pioneers in this new concept of movement. Both of them often focused on camera movement and emphasized its function, especially from the point of view of narration²⁵. Bordwell’s essay, “*Camera Movement and Cinematic Space*” (1977), seeks to develop what he calls the “perceptual approach”, which places his exploration into the realm of how we “read” camera movement. An interesting direction in which Bordwell is moving is an attempt to separate the appearance of the camera’s movement from the likely actual action of the camera that has moved. He sees the need to do so to emphasize how we perceive

25 More see: BORDWELL, D.: *Camera Movement and Cinematic Space*. In ALLEN D., DELAURENTIS, T. (eds.): *CINÉ – TRACTS: A Journal of Film, Communications, Culture, and Politics*, 1977, Vol. 1, No. 2, pp. 19-26; BRANIGAN, E.: *Projecting a Camera: Language-Games in Film Theory*. New York : Routledge, 2006.

movement and its importance, not just to identify that movement has taken place. He considers animated films to be examples, in which the movement takes place without the camera moving – similarly in case of some animated films (e.g., back projection)²⁶. At the end of the 20th century, however, came the beginning of digital disruption – a breakthrough that began with digitized photographs and cameras. By the beginning of the 21st century theorists had to face a fundamental change in the essence of film: “extinction” of tangible analogue recording and its shift to digital motion picture recording.

2 The Concept of the Camera in the Digital Film Period

The transition from analogue to digital in film became a widely discussed topic in the 1990s, when more modern theoretical concepts, determined by new semiotic and psychoanalytic directions, adopted this topic. The contradictions in the discussions between supporters and opponents were fundamental, but gradually, for a variety of reasons, the scales prevailed on the side of supporters of new technologies. It could be said that film technology in the whole production chain – from shooting to projection – has “freed” itself from “metallic

26 BORDWELL, D.: *Camera Movement and Cinematic Space*. In ALLEN D., DELAURENTIS, T. (eds.): *CINÉ-TRACTS: A Journal of Film, Communications, Culture, and Politics*, 1977, Vol. 1, No. 2, pp. 19-26.

solidity” and shifted users to “plastic universality”. This is how we would like to name the external change of the camera body, its principle of operation and the expansion of accessibility, which in many ways also influenced the work of great personalities from the circle of renowned film professionals. No matter what technologies are used in the production, editing and projection of films, they are still “haunted” by the history and logic of film or cinematography. In fact, the term “film” itself remains a sign of the uncertain transformation from analogue to digital – we still use the term film even though we refer to “movies” that are not shot on celluloid. This means that the narrative and aesthetic dimensions of film are shaped by the technology itself and the apparatus that gives them material form, and also by the fact that the change happens gradually, not always rationally and without stopping. And these changes in the visual and the principle of operation of the electronic and later digital camera also affected its film-theoretical postulation. “*Movies have become files*”, D. Bordwell²⁷ aptly named the transformation, and J. Baudrillard wrote that “*when everything can be digitally encoded, language becomes a useless function*”²⁸. Old

27 BORDWELL, D.: *Pandora’s Digital Box: Film, Files, and the Future of Movies*. Madison : The Irvington Way Institute Press, 2012, p. 8.

28 BAUDRILLARD, J.: *Impossible Exchange*. London : Verso, 2001, p. 40.

film syntax – crosscutting, montage, ellipses, dissolves, fade-ins and fade-outs, establishing shots – were responses not to a certain way of seeing images, but to a certain way of making them, which was based on the possibilities of analogue film and camera as technical devices. Syntax was a manifestation of technology, raised to the level of art. Today, even the simplest camera provides various syntax elements along with digital video features. Moreover, moving images appear to us much more natural as they correspond to our experience of everyday reality more than ever before. The tendency towards an expansive, figurative understanding of the camera as a centre of experience is a characteristic of many more modern camera concepts in film theory. This corresponds to the instrumental function of the camera, which serves people according to the human disposition of some embodied thinking²⁹. Theorist M. McLuhan presented the view that the camera is an extension of the body and mind, and mediates and connects perception and communication³⁰. The perceptual framework of interpretation invites viewers to think of the film as a fictional experience. Through the camera, the cinema offers us a “safe” place for imaginative

29 More see: LAKOFF, G., JOHNSON, M.: *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. New York : Basic Books, 1999.

30 MCLUHAN, M.: *Understanding Media: The Extensions of Man*. New York : McGraw-Hill, 1964, p. 160.

participation in alternative and impossible worlds. We can freely exist in these imaginative worlds and freely identify with the actors on the screen in the way they are presented to us. When films are produced for the public, they involve us in social practice and communication. Although there is no need to continue communication (after the end of the film, silence may remain, or a critical evaluation may come, or a message about our experience may be sent), our communication framework requires the message to be decoded. The dual function of the camera as a mediator of perception and communication creates a paradox: the film image is both a product and a perceptual and communicative act³¹.

Double camera activity – profilmic act of description and postfilmic act of presentation – as A. Gaudreault calls the “act of monstration” and the “act of narration” in the case of narrative films, is linked to perception and communication, together with their corresponding interpretive frameworks, thanks to the camera³². This paradox can be solved by privileging one or the other framework: either communication or perception. As Branigan points out, if the mode of presentation is considered

to be filtered or broken by the communication framework, then the camera assumes “*the author’s forms of utterance: commentary, indignation, irony, melancholy, ambiguity, paradox, playfulness, lyric, etc.*”³³. The subject and the way of presentation, i.e. camera imaging – are analyzed as a cultural-imaginary mirror, where the processes in the subconscious inform about the meanings shared with the symbolic order of the social world.

Communicative and psychoanalytic approaches use the word camera as a heuristic term in the interpretive process of identifying conscious intentions or subconscious desires. In these approaches, the camera serves as a construct that seeks to reconcile the audiovisual sensation with either targeted reasoning or scenarios of subconscious imagination. As the camera is responsible for all or almost all of the film’s manifestations, it becomes a global interpretive tool supporting the top-down understanding of processes. In order to better reflect the cognitive mobility of viewers, cognitive approaches to film have been supplemented by various studies with bottom-up models of understanding – those that work with local or distributed camera concepts.

Viewers continuously reinterpret the “camera” by placing it in various mental models to be in harmony

with the world of characters, or as an invisible observer or entity without a body that transcends the rules of time and space as well as the boundaries of the human imagination. This is how D. Bordwell interpreted this in his 1991 study³⁴, but even more thoroughly in E. Branigan’s book in 1992³⁵. Integrating this view into his definition of the camera, Branigan in his subsequent work proposes accepting the camera as “*part of the mental procedure used by viewers on solving interpretation problems*”³⁶. This meta-theoretical approach allows us to explore different camera concepts in relation to specific frameworks of interpretation and to highlight the aesthetic and textual effects that these frameworks support. Accordingly, the idea of the camera as a source of sensory imaging can be understood as a reference to the aesthetic framework of defamiliarization, the rhetorical principles of composition, the specific possibilities of the medium, and communication or psychoanalytic frameworks. The new concept of the camera was also important for creators who had the first opportunity to get acquainted with the new

³⁴ BORDWELL, D.: Camera Movement and Cinematic Space. In BURNETT, R. (ed.): *Explorations in Film Theory: Selected Essays from Ciné-tracts*. Bloomington : Indiana University Press, 1991, pp. 229-236.

³⁵ More see: BRANIGAN, E.: *Narrative Comprehension and Film*. New York : Routledge, 1992.

³⁶ BRANIGAN, E.: *Projecting a Camera: Language-Games in Film Theory*. London : Routledge, 2006, p. 90.

³¹ QUENDLER, CH.: Camera. In BRANIGAN, E., BUCKLAND, W. (eds.): *The Routledge Encyclopedia of Film Theory*. New York : Routledge, 2014, p. 72.

³² GAUDREULT, A.: *From Plato to Lumière: Narration and Monstration in Literature and Cinema*. Toronto : University of Toronto Press, 2009.

³³ BRANIGAN, E.: *Projecting a Camera: Language-Games in Film Theory*. London : Routledge, 2006, p. 84.

and had enough ambition and desire to experiment to bring new technologies into film practice. One of the interesting, rather experimental than commercial shocks, was the manifesto of the creators known as Dogme 95. Its rules for shooting outside the studio, in location, in natural light and with the simple movement of a handheld camera are really an expression of the ability to return to reality, in the form we know. And it fully corresponded to the new possibilities of cameras with simple electronic recording: the camera must be held in the hand, because it can be held in the hand, the camera must not contain any artistic light, because it does not need any artistic light. In this respect, the rules of Dogme 95 are not rules, but rather expressions of everyday facts about digital cameras. Many films in the digital age seem to be completely unbiased with the elaborate framing and poetics of the *mise-en-scène*. One of Branigan’s great contributions is to emphasize the idea of a narrative motif in relation to camera movement. Considering the amount of time spent plotting camera movement, Branigan lists up to seven narrative functions that say movement is motivated. For example, “*observes or discovers views*”, “*establishes the scenography of the space*”, “*reveals the subjectivity of the character*” or “*selects a narratively significant detail*”, etc.³⁷. This then leads him

³⁷ Ibid, p. 26.

to the conclusion that all other camera movements that do not fulfill any of the listed functions are unmotivated. The provocative result of this way of looking at camera movement is its argument that motivated camera movements are not visible, while unmotivated movements are. If the motivated movements of the camera are the domain of the classical style, then the unmotivated movements are the domain of art and experimental film. Here, Branigan is close to the view of Bordwell, who came to essentially the same conclusion. Branigan also names an extensive list of creators (J. L. Godard, A. Resnais, T. Dreyer, L. von Trier, A. Cuarón, K. Jacobs) who use unmotivated camera movement in their range of aesthetic expressions³⁸. However, as Bordwell says, “*camera movement during production does not guarantee that camera movement will appear on the screen*”. So its goal is to look for what it calls “*perceptual signals that determine the effect of camera movement*”. In this way, he tries to overcome what he considers too loose theoretical notions of camera movement, “*not derived from a unified critical theory, but rather ... from a mixture of technical jargon and actual parlance*”³⁹. It would be

³⁸ BRANIGAN, E.: *Projecting a Camera: Language-Games in Film Theory*. New York : Routledge, 2006, p. 27.

³⁹ BORDWELL, D.: Camera Movement and Cinematic Space. In BURNETT, R. (ed.): *Explorations in Film Theory: Selected Essays from Ciné-tracts*. Bloomington : Indiana University Press, 1991, pp. 229-236.

tempting to ask how the movement of the camera can be associated with the physical activities of the character within the narrative. Does a fast-moving handheld camera bring the running figure closer? Can a fluctuating camera express intoxication? In this way, the movement of the camera can be the main means by which we see a shift from classic film with its emphasis on connection and causation to alternative practices of unmotivated and “lost” movements. Periods of intense technological change are always extremely interesting for film theory, because the film itself constantly deals with its primary question: What is cinema? And right after that question follows: What is a camera? The advent of the digital age raises these questions in a new and interesting way, because for the first time in the history of film theory, the photographic process is questioned as the basis of filmmaking. If the discipline of film sciences is anchored to a specific material object, the real conundrum appears with the advent of digital technologies as the dominant aesthetic and social force. As digital processes increasingly displace analogue processes, what is the potential benefit for photographic film ontology? Unlike analogue representations, which are based on the transformation of a substance isomorphic to the original image, all virtual representations of power derive from numerical manipulation. T. Binkley clarifies the issues of digital technology by reminding us that the numbers

and the types of symbolization that make it possible are the first "virtual reality"⁴⁰. Analogue art is basically the art of depth or machined matter – a literal carving of light into a film raw material, the variable density of which creates a visible image. However, the transformation of matter in electronic and digital art takes place on a different atomic register and in a different conceptual area. If analogue media records traces of events, digital media creates number tokens, Binckley said⁴¹. This transformation of the concept of significance is key to understanding some of the fundamental differences between analogue and digital. And it's not just that visibility has been given a new mobility, in which it is possible to move or change its value at will by any pixel in the electronic image. Since digital art is without substance, it cannot be identified as an object, it cannot be corrected by any specific ontology. Digital art renders all expressions as identical, because they are all ultimately reducible to the same computational notation. At the heart of every representation is virtuality: mathematical abstractions that make all characters equal regardless of their output medium. However, digital cameras or even "virtual" cameras, which create completely synthesized spaces in

computers, are still based on the same optical geometry as traditional cameras and rely on the same historically and culturally developed perspective of depth and rendering of light. Comparing a digital camera with a film camera reaffirms the fundamental differences in mechanics, image recording, and optical conversion of light to a chip-generated value, defined as a numeric code.

Despite all the advancing perfection of the digital image, it is still common among creators to believe that "photographic" realism remains the holy grail of digital imaging. So if digital is such a revolutionary image creation process, why is its technological and aesthetic goal to become perceptually indistinguishable from the previous method of image production? A certain cultural sense of "cinema" and a non-reflective notion of "realism" remain in many respects the cornerstones for valuing the aesthetic innovation of digital. Of course, in the process of digital representation what thinkers like A. Bazin or R. Barthes considered to be the basis of the photographic image is still absent: its causal force as the literal spatial and temporal formation of the original event, preserved in physical material. In the most technologically advanced films of the 21st century, for example, *Matrix* (1999), *Beowulf* (2007), *Avatar* (2009), cameras have only an ancillary role. On screen we do not see the information that light originally transmitted through the camera lens, what we see is a computer-generated

artifact through modifications of many contributing visual elements and over all standing software. The computer provides a clear view that can be further developed through virtual imaging. A closer look at the camera as a technical device in the digital version, it is clear that the only thing a digital camera has in common with an analogue is a lens. But all its other components are incomparably lighter, smaller, more compact and also cheaper. The digital camera thus brings democratization to the world – it makes potential filmmakers or reporters of the world's population, it becomes a family archivist and, in countless cases, a source of visual evidence. We have known a lot of examples where the common or even non-film use of a digital camera has become the basis for film creativity in the last two decades. Many films were made, based on or inspired by documentary recordings, even sources of visual evidence, from security or surveillance cameras. For example, *Grizzly Man*, (2005) in which director W. Herzog used amateur footage to compose a dramatic story of the lead actor's life and death. Similarly, the film *Ring* (1998) or *Timecode* (2000), where the common possibilities of amateur video cameras were fully used artistically. In these and many other films, images from amateur video cameras can compete with those shot in professional formats, representing two different fundamentally different ontological and syntactic levels. The strange thing is that the electronic image

40 BINCKLEY, T.: Refiguring Culture. In HAYWARD, P., WOLLEN, T. (eds.): *Future Visions*. London : British Film Institute, 1993, p. 96.

41 BINCKLEY, T.: Refiguring Culture. In HAYWARD, P., WOLLEN, T. (eds.): *Future Visions*. London : British Film Institute, 1993, p. 98.

almost always represents the original level of reality, celluloid is a kind of "beautiful literature" that requires special design and editing, unlike these "simply" shot but successful video films.

Conclusion

What is the right answer – the right theory – in the face of the global digital spectacularity that surrounds us today, less than two decades after the advent of digital? Today's approach is marked by such rapid development and changes caused by the superfast development of digital possibilities that the astonishment of the film's instant and democratization is long overdue and today's perception of the camera is much more complex than with the lifting of Dogme 95. The current form of the film has taken over all TV and cinema screen sizes. The screen in the cinema is a thing of the past, and movies are moved from oversized to miniature display devices via digital cameras, codecs and containers, although they have no source – so to speak – except a digital code that adapts them to the sizes and formats of the display surfaces. The idea of the camera as a conceptual metaphor can help with integration – or at least imagine various new approaches to theorizing about the camera. Yes, this word – camera – does not have a single meaning, but it changes and adapts its designation according to the context of its use. The approach to the camera as a conceptual metaphor thus offers a

critical perspective on the way in which mental models of the camera differ in individual theories and change with respect to time. As Branigan notes: "Today, the camera seems to be neither a machine nor an invisible witness recording the facts of the world, but rather an aspect of collective subjectivity – a concept by which we speak and think about cinema at a specific time and with a specific purpose. And in collective subjectivity, the state of the camera fluctuates in the gray zone between the material object and the interpreting object, between the world and the language"⁴². In this sense, Branigan's definition of the camera continues the metonymic extension that can be observed in early film theories, where the mechanism of the camera defines cinema as such. Instead of understanding film as an art form, the field of film expands into a cultural habit created by all kinds of film genres and institutions.

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42 BRANIGAN, E.: *Projecting a Camera: Language-Games in Film Theory*. London : Routledge, 2006, p. 96.

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