

Vladimir Dimoski's work deals with a new phenomenon in cinematography about the transition to digital workflows, which cannot be avoided by the classical film profession of cinematographer. Vladimir Dimoski draws attention to the term „expanded cinematography“ as used by cinematographers Vilmos Zsigmond and Yuri Neyman have to refer to new digital methods of cinematography. Emmanuel Lubezski notes this change in the cinematographer's profession as a „hybridization“ toward computer, and points out that the cinematographer's responsibility is spreading into the virtual sphere of working with digital virtual technology.

The work is written in a sequence of chapters analyzing the creation of three major film works realized through this technology, namely *Matrix*, *Life of Pi* and *Gravity*. But first, Vladimir Dimoski goes through a very brief history of film, quickly arriving at the discoveries made by the first animators, which allowed stories to be portrayed as playful dreams which interested an audience excited by the unruly or illusory existence of real actors with animated characters. This discovery would eventually prompt filmmakers' interest in new technologies that would allow the extension of the trick to create similar illusory images.

In this discussion, Vladimir refers to first experiences with the model computer animation by Russian mathematician Nikolai Konstantinov and his walking cat and other 3D animated experiments like „Ed's Left Hand“ clip by Ed Catmull and Fred Parker, then Vladimir Dimoski goes straight to the theme of Virtual Cinematography in the 21st Century.

After this introduction, Vladimir Dimoski reviews *The Matrix* trilogy directed by the Wachowski Brothers with cinematography by Bill Pope, and filmed in 1999-2003. This was the first film to predict the further development of virtual cinema. Larry Wachowski, co-director and co-writer of *The Matrix* said "Our main goal with *The Matrix* was to make an intellectual action movie". The new technology has, therefore, brought new possibilities not only to revitalize action as previously shot, but also to strengthen an intellectual plane which did not appear in earlier action productions. The requirement for the cinematographer was to distinguish different worlds in the present and in a computerized future. But the cinematographer alone could not do that. A new collaborator for the cinematographer appeared - the computer effects creator. John Gaeta was the visual effects supervisor who was hired to collaborate with Bill Pope. Also hired were over a hundred computer animators working with Alias / Wavefront's Maya software and later the images were composited via Cineon. Also created was a new system of SG cameras utilizing the old idea of the gradual shooting of the horse made by cinema pioneer Edward Muybridge. CG photographic cameras recorded data for later computerized effects scenes processing. It was possible to insert real images of circular swatches at a time of frozen action.

The second feature film discussed is *Life of Pi* made in 2012 by director Ang Lee and director of photography Claudio Miranda. This film won an Oscar for cinematography, although it was largely composed on the computer. In front of the camera was only a scene in the pool with the boat, everything else was just blue screen. In this case, the most important thing was the cinematographer's work with lights and colors to allow compatibility in CGI backgrounds, where in most cases there are virtual sources of these lights. CGI effects also covered the tiger figure created by Rhythm & Hues, which had a sophisticated digital reflecting tiger coat structure.

The third film analyzed is *Gravity* from 2013, directed by Alfonso Cuarón with his director of photography, Emanuel Lubezki, who noted that the cinematographer's profession is also necessary in these new virulent areas. Collaboration with Visual Effect Supervisor is the basis, but the creator of the images is a cameraman, even though the images are not taken with a camera. The cinematographer stays involved in the creation of the film throughout his time and is involved in the artistic decisions of all its aspects, particularly, decision making work with light. Vladimir Dimoski notes that *Gravity* is one of the most challenging and experimental films of modern cinema, and explains that the innovations made with light structures and camera or actor moved virtual cinematography a great deal further. Many shots in the film could not be made in any other way except with CGI technology.

In conclusion, Vladimir Dimoski states that Expanded Cinematography is a term for an innovative cinematography, which depends on the theme of the story, which fascinates viewers with their drama in an unprecedented imaginative space. All three films are based on the character's fight for survival in an antagonistic environment. Given the environments in these films, a different, new, innovative approach to the work of the cameraman and director was required along with an expanded staff of visual effects supervisor and animators. This process is called Expanded Cinematography, because the authors of the discussed films needed to expand their tools with special CGI computer techniques. These cinematographers fully used the ability of the camera to reach its purpose, which is to expose the dramaturgy of the story. Vladimir Dimoski rightly concludes that CGI is becoming the pillar of film grammar. He ends his work by stating "... we can consider virtual cinematography as part of the evolutionary process of the development of camera techniques."

Throughout the thesis, Vladimir Dimoski brings many interesting observations from professional cinematographers in the form of quotes or examples. The quality of picture illustrations is functional with text and very well chosen. The films selected are good examples, but extremely high budget productions. Since Vladimir refers to expanded cinematography as a new pillar of cinematography, it would be interesting to include some reflections on how this new technology is affecting the cinematography of films more in the norm. But overall, the thesis is quite good. I suggest evaluate Vladimir Dimoski work with the classification B.

A handwritten signature in black ink, appearing to read 'Marek Jicha', written in a cursive style.

prof. MgA Marek Jicha