**Digital cinema – bringing film classics back to the cinema screen**

**By Erlend Jonassen**

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| **Digital cinema – bringing film classics back to the cinema screen**  **Erlend Jonassen**  **Senior Consultant – Digital film**  **Norwegian Film Institute**  **JTS Oslo - May 3th 2010** |

**Film example: The Growth of the Soil, Norwegian intertitles. 00.00.26 – 00.02.59**

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| **The Growth of the Soil, Norway 1921**  Director: Gunnar Sommerfeldt  nl0022_markensgr_001.JPG  Restored by the Norwegian Film Institute/National Library 2008, reconstructed Norwegian intertitles with the original music score by Leif Halvorsen played by the Norwegian Radio Orchestra, conducted by Frank Strobel , transferred to HD CAM SR, and mastered for DCP |

My name is Erlend Jonassen and I work with the Norwegian Film Institute in Oslo with digital distribution of films. The intention of the Institute is to take the Norwegian film heritage out to a wider audience by employing new digital means. However, I do not work with Norwegian films only, but also with films from other countries, as co-ordinator of the Norwegian Digital Cinematheque, which I shall tell you am little about later.

The opening moving pictures was the restored Norwegian film from 1921, *The Growth of the Soil* by Gunnar Sommerfeldt, here screened digitally from DCP, with reconstructed Norwegian intertitles and with the original music score by Leif Halvorsen played by the Norwegian Radio Orchestra in 2008.

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| **Digital cinema distribution**   * **a result of preservation and restoration** |

Digital restoration of damaged frames, shrinkage and all the many other kinds of damage that might have happened to a film through a century of moving images, has added much to the possibilities of bringing old film back to screenable conditions. The same is the situation for newer films with faded colours. But digitization of the films of the last century is not only, perhaps not mainly, a question of preservation and restoration. Films produced on film are in the years to come still best preserved on film. But digitization to high quality files opens opportunities for giving a wider audience access to the films, screened in cinema in a way that could create an event close to the original experience.

So there are a lot of reasons why film archives and other owners of old film material, should see it as an important objective not only to preserve, but also to transfer their treasures to professional copies for modern digital cinema – which means creating film files according to the DCI-standard in Jpeg 2000 and with 2K or 4K resolution, producing DCPs – Digital Cinema Packages - for screening on modern cinema equipment.

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| * **Films made for the cinema screen should be shown on the cinema screen** * **Screening is important presentation of the results of the work of the film archives** |

This presentation will - by using Norwegian examples – very briefly look on new ways of presenting the film heritance, especially the feature films, to a wider public and in the cinema house. And digital technologies can contribute to take the films back there where they certainly belong.

To do so is a cultural goal in its own right. But it is also important to do this to strengthen the role of the film archives, politically and financially. In these days it is often necessary to prove that the everlasting work to preserve old film material, has an impact today. In other words – old films must be screened and appreciated by the general public to grow in importance in public and political opinion. The treasures of film history must not be a half hidden secret, only known to the experts.

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| **Consequences of digital cinema and planning for digital screenings** |

Planning for digital cinema screenings means that scanning of restored films should be done in at least 2K resolution, thus opening up for mastering of the films to a JPEG200 DCPs. This might also be done from HD, with HD CAM SR coming quite close to 2K. This is no expensive process when the scanning has been done. Realized as files for DCPs the films could in the future be screened in any cinema according to the new standards for digital cinema.

The shift from 35 mm to digital has started in commercial cinema, and you have just heard Mr Jørgen Stensland tell about the digitization of the more than 400 cinema screens in Norway. It is obvious that this will have high impact on the future of cinema, early in Norway, but soon also in the whole world. The impact on the further life the film heritage is not that obvious, but will no doubt be as thorough.

This will become the situation: The world led by Hollywood - you may like it or not, but money rules – has decided on a worldwide standard for d-cinema. This is called DCI – Digital Cinema Initiative – first launched in 2005 and since then further developed. It implies a lot of details the main being: 2 K or 4 K resolution, JPEG 2000 file format, a lot of safety measures and encryption so that films usually need a dated, digital key – a KDM - to run.

And the quality of digital is now as good as 35 mm. A digital “print” could be screened a thousand of times – it will never be worn out.

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| **The Digital Cinematheque of Norway**  [**www.cinematekene.no**](http://www.cinematekene.no) |

With cinemas going digital, the Norwegian Film Institute in 2006 initiated a project to screen digitized classics in Cinematheques in seven cities all over Norway. Some of these Cinematheques were already established ones, working in cooperation with The Film Institute with 35mm prints, others were new.

The objectives of the project were: To increase the number of cinematheque cinemas, and partly to replace 35mm film with high quality digital formats (minimum 2K, DCI) for Cinematheque screenings. It was to make more classic films from the whole world available for high quality Cinematheque screenings, also including newer film, documentaries, shorts and other films of special interest.

Additional objectives were:

* To make classic films in 2K resolution available for other art house cinemas or for film societies, and also as possibly high quality alternative content in commercial cinemas.
* To set up an infrastructure for broadband HD-streaming of introductions and other film related events between the collaborating cinematheques.
* To promote digitization of classical Norwegian films to 2K or 4K.

Since October 2008 the seven Cinematheques have had weekly simultaneous screenings of the same films, some of them with streamed introductions from one of the Cinematheques to the others.

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| **Programming**  ***The Soft Skin* (1964)François Truffaut**  ***Gentlemen Prefer Blondes* (1953) Howard Hawks**  ***Larks on a string* (1969/90) Jirí Menzel**  ***Cul-de-sac* (1966 ) Roman Polanski**  ***The 39 Steps* (1935) Alfred Hitchcock**  ***South Pacific* (1958) Joshua Logan**  ***Hamlet* (1948) Laurence Olivier**  ***Saraband* (2003) Ingmar Bergman**  ***The Girls* (1968) Mai Zetterling** | ***Dracula* (1958) Terence Fisher**  ***Lou Reed’s Berlin* (2007) Julian Schnabel**  ***Daisies* (1966) Vera Chytilová**  ***Storm over Asia* (1928) V. Pudovkin**  ***The Apartment* (1960) Billy Wilder**  ***The Magic Flute* (2006) Kenneth Branagh**  ***The Searchers* (1956) John Ford**  ***Brief Encounter* (1945) David Lean**  ***Wendy and Lucy* (2008) Kelly Reichardt**  ***The Legend and Paul and Paula* (1973) Heiner Carow** |

This is just a randomly chosen selection of the films we have screened at the Cinematheques, all together now some 50 titles, about 10 of them Norwegian, just to give you an impression what is now available digitally among film classics. The digital material for these comes from different sources, but only one of the DCPs stems directly from a film archive as far as I know. The 1958 *Dracula* by Terence Fisher is made by the British Film Institute. It is still quite difficult to locate both material and rights for digital classics. In the case of *Dracula*, we had to have agreements with 5 companies including BFI (and pay them all) to be able to screen the film.

More American and British films are available than films from mainland Europe. Even so the EU-funded project *Europe’s Finest*, situated in Germany, has been a very good source for European classic, even if their catalogue is still limited to some 50 titles.

For the Norwegian films we have to do the job ourselves. The only possibility till now has been to choose among Norwegian films that have been scanned to HD by the National Library. This is not fully 2K, but good enough to make acceptable digital cinema copies. *The Growth of the Soil* is one of them. Most of the Norwegian films have not been encrypted since they are not in any ordinary distribution, which means that we won’t need to bother about keys for screening these films.

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| **Technical advantages**   * **4K equalling 70mm film** * **Restoration of old 3D for screening** * **Adding music to silent films** * **Multi-language intertitles for silent films** |

Digital cinema can make possible cinema screenings of old films that have not been seen for decades. And it also enables screenings close to the original in quality - in cases where the original format and equipment for it - are rare and expensive.

The digital technology is useful in many ways:

4K digital editions could almost equal 70mm. For those of you that stay on until Saturday you will see an example of this with the transfer of the Norwegian 70mm short film *A year along the abandoned road* by 4K scanning to a 4K DCP, which will be screened on 4K equipment at the Opera House.

The National Library has just completed restoration of some very rare Norwegian 3D newsreels experiments from 1953. These are restored to new digital 3D and can now be screened in any cinema with digital 3D equipment.

Adding music to silent films in digital versions means that the DCPs could be used both for silent screenings with live music and for digital screenings with recorded music as we have done with *The Growth of the Soil*.

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| ***The Growth of the Soil – DCP***   * **Intertitles in English, French, German, Spanish, Russian and ... Norwegian** |

We could also use digital subtitling technology to make restored silent films with intertitles available for screenings in many languages. During the restoration of *The Growth of the Soil*, a lot of work was put into the reconstruction of Norwegian intertitles, drawn from different sources, including the language of the original novel written by Knut Hamsun. To replace these intertitles in other language versions of the film was not financially possible. And as you know – subtitling on top of or below intertitle texts looks terrible and is quite unreadable. However, it is now quite possible, to use ordinary digital subtitling technology to realize the translated texts in a chosen, original-like font, completely covering the Norwegian intertitles. So this autumn *The Growth of the Soil* will be made available to cinemas all over Europe through Europe’s Finest, the EU-project I mentioned, distributing European classics. All together in one DCP you will then find intertitles in six different languages.

Thank you for your attention, and let us have a look at a few minutes from the English version.

**Film example: The Growth of the Soil, English intertitles, 00.00.00 – 00.03.50**