

IMAGO Teaching Cinematography Conference 2017, Munich Germany

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A report by Marc Swadel (member ACS, NZCS) and Erika Addis (member ACS, Senior Lecturer Cinematography Griffith Film School)

On the 13th and 14th of March, 120 cinematographers from 30 countries (Finland to South Africa, Canada to New Zealand, India to Turkey) joined together in Munich, at the HFF (the Bavarian state film school) to discuss the present, and future of educating the next generation of shooters.



It's rare to get so many cinematographers, most of whom are both practitioners and teachers, together in one place, and with the focus on how to teach cinematography. Adding to this is, was the sense of immense change within the craft – very few, if any, educators present had not originally trained on film or tape formats – the last ten years has seen an acceleration of change – from the first RED camera, the demise of film, the democracy of the HD/SLR, the rise of HDR, CGI, Metadata, LOG/LUT's and grading, to LED's and Drones. Never in the history of cinematography, has there been such a massive change, so far, and so fast.

We were warmly welcomed by Prof. Dr. Peter Slansky, Director of Technology of the HFF, Tony Costa, the Chair of the IMAGO Education Committee, and Michael Neubauer, President of the German Cinematography Society, the BVK, and soon set about a very busy, and fruitful two-day programme of exploration, based in the frankly astounding crucible of learning that the HFF is (more about that later!)

We kicked off with a series of round table discussions:

'Cinema and Authorship'
(chaired by Marijke van Kets SBC teaches at NTU-ADM)

'Documentary Cinematography - - new technologies, new role of the DOP?'
(Phillippe Cordy BVK SCS – ERACOM)

'Shooting, post production & the proper balance for creation in Cinematography'
(Prof. Jean-Paul Jarry - 3iS)

'How to encourage disciplined filmmaking on contemporary productions'
(Stephen Lighthill ASC – AFI)

'Education the Eye'
(Mag. Gabriella Reisinger AAC + Prof. Mag. Kurt Brazda AAC)
(n.b – 'Mag' prefix denotes a master's degree in Austria)

'Cinematographer and Director: How do we initiate the teamwork?'
Ella van den Hove SBC – INSAS, HELB)

Expanded Cinematography programs as a method of Education of Modern Cinematographers'
(Yuri Neyman ACS – GCI)

'Colour Grading – a 'Must Learn' for future DOP's?'
(Birgit Gudjonsdottir BVK + Dirk Meier BVK)

This was a fascinating way to start, and a good way to get to meet and interact with the other delegates. Each of the chairs hosting the discussions tabled starter questions, or positioning statements that sparked off debate and established a common ground amongst the global attendees. The one thing that came up in every discussion – was both the need to know the full production process, as well as the time honoured basics of storytelling and composition. A DOP is stronger with a Director, or Producer, and on set – if they understand the post process, and how to communicate, thus not getting 'locked out' of the full creative process. Being a strong voice in how the image looks from frame up to on the screen is crucial.

I was in Yuri Neyman's expanded Cinematography round table – and his 'school' the GCI - Global Cinematography Institute – is quite unique, as it is aimed at existing professionals.

Here is some of his talk about his school, and his view on the need to grasp the new:

'In the 1920's – The Bauhaus: The Artist, as a workman.

Everyone is a cameraman. Everyone a painter. We believe in the art side of cinematography. Photography came from a base of painting. Cinematography depends on artistry, not solely the equipment – some of the most amazing films in the past were shot on equipment that is far worse than what you have now.

In 1977 – 'Starwars' changed the roles between DOP and Director, there were 100+ CGI/VFX shots, which were the work of many people. This created a new paradigm – expanded cinematography.

The RED camera, created a revolution by its very existence.

With a digital camera – access to professional level of quality is instant – no need to do the 15-year journey from camera assistant to DOP, to access the gear.

New Technology... new Aesthetics. In 2000 there were 250 post production facilities in L.A – now there are 7 big post production houses left in Hollywood. Now we are seeing completely synthetic images. We saw what was happening to the industry. and where it was going.

Like Charles Darwin said – 'To survive, we need to adjust'.

In the modern sense more often than not the DOP is seen as a hired gun – not the creator of the image. it is the erosion of the role of the DOP.

Global Cinematography Institute is for existing DOP's, with a special accent on lighting, and the artistic tradition and knowledge of the whole CGI process – so a GCI trained DOP can be of use from A-Z in the shoot – be both shooter and pre-shoot advisor (which saves the producer money!). We have classes of 15-20, and courses run for 2 weeks. It is not just DOP's who do the course – we have directors, editors and producers also. 30% of the students are from North America – the rest of students are mainly from Europe and South America. The courses are practical courses – The DOP needs to be able to answer how to do the shot both traditionally and in CGI. Understanding the whole pipeline of technique. There are many new angles in the game opening up – for the DOP to understand, adapt and thrive in – virtual lighting, previsualisation, image management, and new areas of modern culture expanding with opportunity, such as cinematography for video games.'

Next up in the amphitheatre, Stephen Lighthill ASC gave a talk on 'The Educational Challenges of New Technologies', which gave an in-depth insight to the workings of the American Film Institute, a renowned school that counts David Lynch, Darren Aronofsky, Wally Pfister and Terrence Malick as graduates.

AFI has 28 fellows enrolled (in Producing, Cinematography, Editing, Writing, Production Design) per year, in the 2-year Master's Degree.

In the first year, they learn how to shoot, and have to make 3 short films on Sony F3 cameras, with no large monitors, no cross shooting, and with a limited amount of memory cards – and grading is restricted to 3 hours per 20-minute film, and using lift, gamma and gain only.

Stephen says that the 'Use of limitations, is crucial to the success of the program'.

In the second year – they make a 3-minute film on 2 perf 35mm, and a 20-minute thesis film on Arri Alexa. They are allowed to use LUTS, and view the rushes in a theatre. They also get trained in Nuke (6x 2hr sessions), and learn the complete production pipeline, where the files can be altered.

Stephen says:

'The Democratisation of film making tools is a sword cutting both ways, On the one hand, inexpensive tools make teaching filmmaking within the reach of any educational environment or institution On the other hand, the production discipline learned when using scarce photochemical resources, served student well. The apparent ease of contemporary filmmaking makes teaching traditional discipline – or even a useful discipline on-set – quite difficult. The benefits of the legacy technologies include a built-in apprenticeship and an intimate understanding of workflow. A huge part of the training is that, on a film crew you cannot have secrets. Everyone has to know what you are planning. There is a lot of conflict in filmmaking - What is the story - How will it be told? The golden rule for me is - DO NOT SAY ANYTHING IMPORTANT OTHER THAN FACE TO FACE.

Another important exercise is "Story in a Frame"- in which students are given a random allocation of a sentence like:

My grandma has just died, and I'm in her room, and I don't know what I'm going to do with all this stuff...

They then have to make a still to tell the story, bring the picture to class and get others to say what they think the story is. This teaches them that every element in the frame may advance or distract from the story.'



The rest of Day One was a feast of future tech talk: Ilse Schooneknaep, a Brussels based PhD student talked about 'New Distribution Technologies' beyond the standard cinema screen and VOD - from the Barco Escape projection system, VR, to the 'Mixed Reality' of the Microsoft Hololens, then on to an animated talk on 'Digital Cinematography – Lost Magic?' with Prof. Peter Zeitlinger (ASC BVK – HFF) who is the cinematography professor at the HFF, as well as being Werner Herzog's DOP since 1995. Peter told of his work involving the jump from film to digital, and relayed a hilarious story about getting a anamorphic 'blue flare' look using spherical lenses – by making a rough and ready filter out of string (see below).



A possible path to the future was outlined by Dr. Yurgen Steurer, of ARRI who gave an in-depth talk on 'Computational Imaging: Lightfield Photography'.



Yurgen relates: 'One of the promises, of benefits that Lightfield allows, is focusing after the fact. We all know if you want to shoot a still picture or a moving picture, focusing is a key element, for a

cinematographer, the decision of what is in focus and what is not in focus.

The ability to focus is not just a technical decision, it is also a creative decision.

The offer of Lightfield imaging is that you don't have to reshoot, you just set the parameters and focus it after shooting – you shoot a picture that is kind of a super representation of the image or scene, and you can re-focus after the fact. It takes the rays of light, and instead of converging them onto a focal plane, it uses micro-lenses to break apart the rays of light, and capture the actual lightfield.'

So you can see why it was the talk of NAB a year ago. The prototype camera - has 16 stops of latitude, a 755 megapixel lens and the ability to shoot 300fps.. but.. is the size of a small car, has 400+ sensor elements, and uses 40,000 Nuke software licenses to process the footage – which runs at 13Tb/min - which is a massive amount of computational power needed to make it work. Definitely one to watch in the future.

This was followed by a talk on 'Real World Effects and the Development of HDR and HFR Capture and Display

Technologies' by Prof. Stefan Grandinetti (BVK – HDM), Head of Media, Stuttgart Media University. Stefan set out to test HDR capture ability with a stereo rig to record 18 stops @ 48fps, and did this as an exercise with his students, along with Jan Fröhlich, a then PhD student, now a Senior Image Scientist at ARRI – Munich. The 'U.S.P' of Stefan's school is that the students are taught to be 'Creative Media Engineers' - a combination of engineering and arts. They had a serious amount of help and integration from professionals, and film production and manufacturing companies, which mesh the students in with the real world, and in this case, cutting-edge research.

We then commuted to ARRI @ The Bavarian Film Studios, where we were welcomed by the Oscar winning Prof. Franz Kraus, Managing Director of ARRI. Here we saw presentations of DOLBY ATMOS, DOLBY Cinema and HDR - on the only DOLBY VISION grading suite outside of the US, combined with a DOLBY ATMOS mixing stage, featuring 2x Barco 2K projectors for 3D, a 42 Speaker DOLBY ATMOS array, and Harrison 64 channel desk. As a cinematographer – seeing and hearing top level HDR projection and 3D sound playback – it is pleasing just how 'up there' technology can take the files we capture.



DAY 2

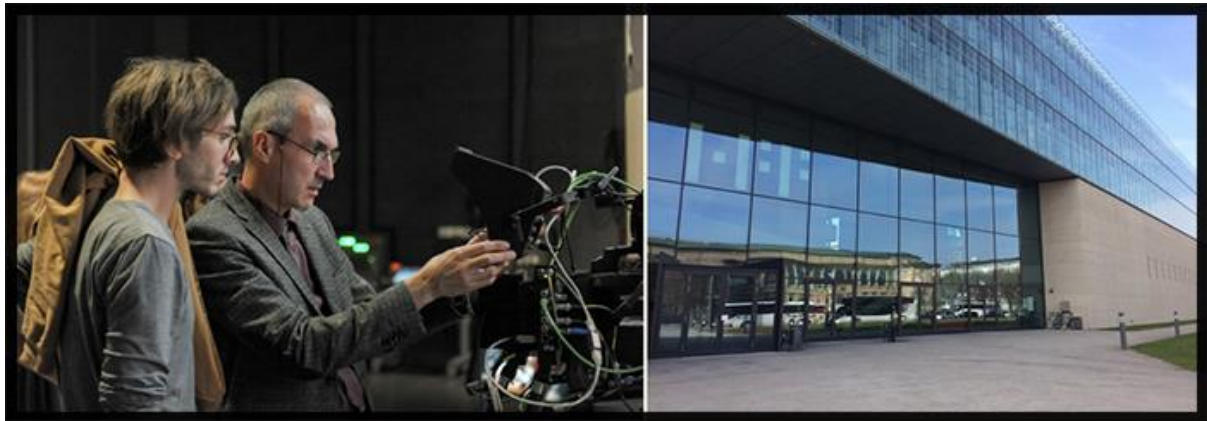
The second day, started bright and early with Yuri Neyman, and Don Arazi of Sony owned, Santa Monica Studio, gave a talk on 'Cinematography for Video Games – a new workplace for Cinematographers?'

The video game market is a massive, fast growing and young part of the entertainment market – and one where the need for realism and filmic quality is paramount. The Video Game Awards include Best Cinematography - a sign of its value in the gaming world. The Game making world has taken

inspiration from films such as Avatar, Life of Pi, Gravity, Ex Machina, the Jungle Book, and more mature narrative driven games are being made, such as Santa Monica Studios' award winning, soon to be released 'God of War', with single take coverage, and 'Apocalypse Now', the video game to be released in 2017 by American Zoetrope.

Yuri states: 'Video game cinematography: your job is to champion the shot, from conception to completion.'

Next up was the HFF's Prof.Dr. Peter Slansky who give an in-depth talk on his, and his faculty's work at the school on 'Teaching Cinematography and Directing with New Technologies'.



But first a bit about this school, and this conferences venue – HFF.

Hochschule Für Fernsehen und Film – is the University of Film and Television in Munich. It has been in existence since 1966, and moved into its amazing new building in 2011. Past graduates include Wim Wenders, Mika Kaurismäki, Roland Emmerich and Uli Edel. It has a teacher to student ratio of 1:9 and a staff to student ration of 1:4, and has between 4-8 cinematography students in each year, across two strands –Cinematography:Fiction and Cinematography:Documentary. The school has an extensive film and TV library, two full size TV studios, with robotic lighting arrays, and a full LED lit studio as well. It was a range of cameras, from HD TV cameras, an Alexa, Amira and Varicam amongst others. The array of standard and anamorphic primes in the kit room was envy inducing – but make sense when you realise that Southern Germany is the home of Vantage and ARRI.



Peter outlined the challenges of teaching in this fast moving new tech environment, and how all the departments in the school (Directing, Screenwriting, Cinematography, Film production and Media Economics) join together to work on projects and research. The students also work on research projects with external companies – such as the ‘Interactive Lens Flare Comparison’ developed with Vantage Lenses – where 55 different lenses were filmed and appraised for their lens flare characteristics, on a comparative, aesthetic and scientific basis.



Following on from this great example of student cinematographic research was another, presented by Marijke van Kets of Singapore film school NTU-ADM.



‘The Emotions of a Lens’ was a student exercise that shows the influence of Cinematography on the film experience. Marijke shot two versions of a scene, and used different lenses for each shot within, and then showed the scenes to a control group and asked them on what they thought was going on in

the scene, and the relationships between the characters. The results showed how the choice of lens formed the perceptions of the viewer to what they were watching. A great reminder that our art is also psychological as well as technical.

In the afternoon, we had a more technical time of it - Prof. Ludger Pfanz (HfG/ZKM) give a presentation on 'VR 360 Panorama, 360 3D' which gave a good primer on this new technology, Phillipe Ros (AFC Co-chairman IMAGO CCTC) gave an engrossing talk on 'New Recording Formats: Technical Evaluation in the Workflow for Artistic & Economic Purposes' – which looked at the plethora of formats in use, and Charles Poynton took us on a journey in 'Teaching Colour (& Colourist) Theory'. Charles is a Canadian academic, technician and colour theorist. He was the one who proposed there be 1080 pixels in HD, and they be square. Charles talked about his take on the film vs Digital debate, and most interestingly, the numbers behind HDR.

'Let me give you a primer on bit depth. The simplest way is to think of zero, which is black, and white which is 255 or in colour space, is 255,255,255, which is the top end of the 8-bit scale. I say that this is simple, as that is S-RGB, as used in computers, and also in the Photoshop space, which is a pixel inspector. So, 0,0,0 – is black, and 255,255,255 is what a Photoshop expert would call white. Generally, Photoshop experts grew up in print or graphics based applications, where the whitest they can actually get is the white of the paper, and it's a fixed kind of reference point, so the Photoshop experts have a very rigid notion of what white should be – it is just 255.255.255.

One of my favourite experiments is to put up a white circle on the screen in the cinema, and everybody immediately identifies it as white – but then I put up 'Real White' – as actually the white circle I first put up was 128,128,128 – it's only half way up the scale – it looks white when surrounded by black - and you have no external reference.

The Graphic Arts can't do that - as they always have the white of the paper, and the vision points around the image that establishes the scale, but in Cinema, YOU pick the scale, because the rest of the room is totally black, and if you put up something that is neutral, and put up nothing else, then it's going to be interpreted as white, so you can have things which are brighter than, let's call it, a diffuse white - and this is the whole idea of HDR – which allows you lots of room above diffuse white – meaning non-specular – specular meaning reflecting light like a mirror, and diffuse means reflects in all directions. A white shirt is diffuse; a white piece of paper is diffuse. The idea of HDR is really to have values above the normal diffuse white – mirror like levels – usually from smaller sources, like the glint of a glass, or the glint of chrome on the bumper on a 56' Chev – or the glint in some one's eye even, can be of a pixel value greater than the white of the white shirt. So that is the thing you can play with in making HDR.'



The conference finished off with a 'Cameraforum' – a screening of Werner Herzog's 'My son, my son, what have ye done' – followed by a talk on the camerawork with the films DOP Peter Zeitlinger, moderated by Prof. Axel Block (both staff of the HFF).

So there we have it - two very engrossing days, that underlined the both the challenges ahead due to fast moving technology, and also that the basic skills are a relevant today more than ever.



*Marc Swadel & Erika Addis
dine with a few hundred new friends in Munich*