

Rhys Cannon 2005848

Process Workbook

ADMA4004 – INTRODUCTION TO LIGHTING, SOUND AND AV

Learning Outcomes

- Demonstrate basic knowledge and understanding of the processes involved in lighting, sound and AV.
- Demonstrate competence in carrying out lighting, sound and AV tasks essential to good practice, and do so in accordance with health and safety procedures.
- Demonstrate basic knowledge and understanding of the processes involved in live and recorded sound.
- Demonstrate a firm theoretical foundation to their practical studies in lighting, sound and AV.



COLOUR THEORY



There are three main principals within colour theory in films.

Hue is where the colours lie on the colour spectrum, and how cool or warm they are.

Saturation determines the intensity and vibrance of the colours.

Brightness determines how dark and light the colours are and how much blacks and whites stand out



The colour scheme of a film or of a given scene reflects its themes. They also provoke intended emotions from an audience in order to empathize with characters.



These schemes can be monochromatic (one colour group) or analogous (neighboring colour groups), which gives the opportunity for complementary colours to stand out.



The environment of a scene is typically indicated by the temperature of the colour scheme; cold snow, hot sun etc.



Manipulation of temperature can help the audience understand what kind of environment the characters are in, particularly when the raw footage is unable to do so



The moods created by the colours can be completely different depending on their vibrancy and saturation.



Desaturated colours suggests sorrow and a lack of life, which can dull the senses. Whilst vibrant colours can be sickening and harsh to the eyes.



When films were first given colour they were almost always very bright, as that was what cinema-goers went to see them for at the time.



Nowadays, the brightness or darkness of a scene is utilized to structure its composition with shadows, suggest day or night, or allow certain colours to stand out from others.

SIMILARITIES IN LIGHTING DESIGN BETWEEN FILM SETS AND THE STAGE



Gels and
Gobos are
used to light
both film sets
and stages.



“

Lighting tells the audience where to look. The lighting setup guides the eye to a specific actor, prop, or part of a scene.

Lighting reflects the psychology of characters. The amount, size, colour, and harshness of light surrounding a character can be adjusted to match their emotions.

Lighting defines and supports the genre of the film. Lighting is the tool that conveys mood most clearly. For example, one of the film genres most known for its distinct lighting style is film noir, characterised by stark contrasts between light and dark, dramatically patterned shadows, and unique framing and composition choices.

The **director** shares visual inspirations and ideas for cinematic lighting.

The **director of photography** (DOP) or cinematographer creates the lighting plan with input from the director.

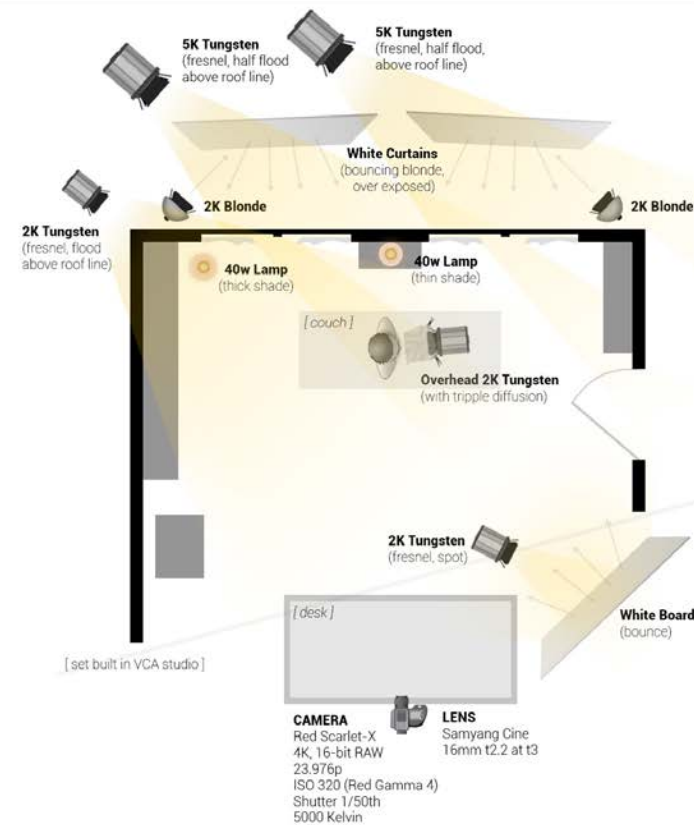
The **gaffer** designs and executes the cinematographer's lighting plan and oversees the crew that brings the lighting plan to life.¹

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FILM 101:
UNDERSTANDING
FILM LIGHTING,
MASTERCLASS (2020)

These principals of cinematic lighting design are very much applicable to theatre. The DOP would instead be the Lighting Director, and the gaffers would be Lighting Technicians. The design processes would both involve Lighting Setup Diagrams mapping out where light sources stand and how they illuminate the set/stage so everything can be seen by the camera/audience.

One major difference would be in the changes and transitions in lighting; on stage they are determined by cues, whilst each scene in a film has the lighting plan set up accordingly.



The design processes of lighting in theatre and film share the same goals:

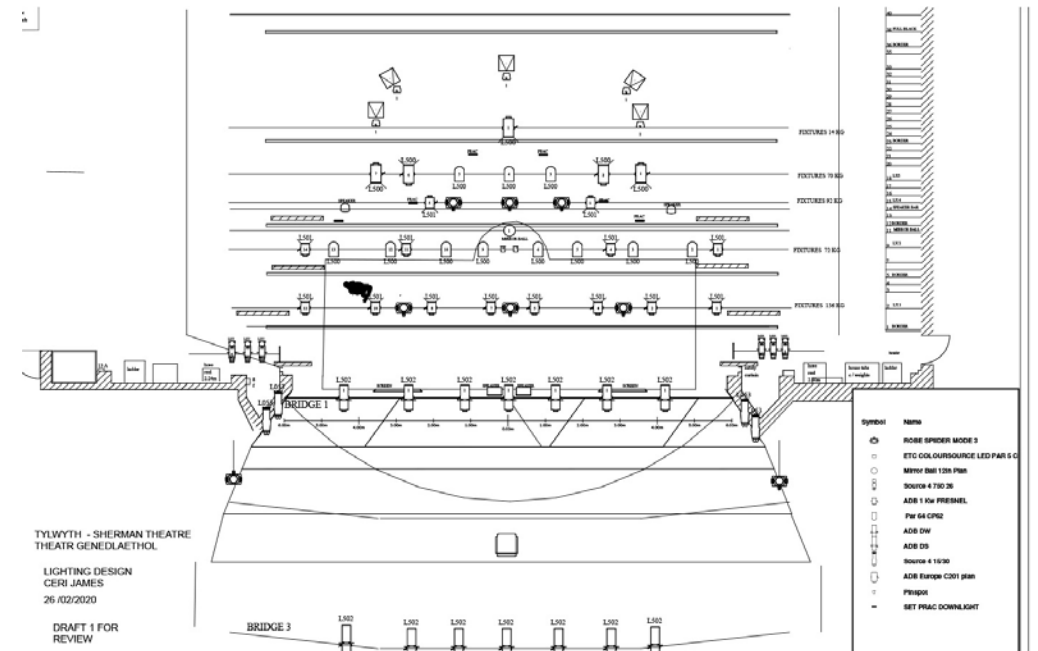
- Illuminate the actors and the set
- Directing focus – balancing what stands out the most
- Establishing the setting, time of day, environment, mood and atmosphere.

Whilst lighting a film set allows more freedom in where equipment is placed, lighting a stage is somewhat restricted by its rigging and the viewpoint of the audience.

However, this invites challenges to adapt to these restrictions and for the director and crew to experiment with what they have.



Someone I've Never Met (2015)²





Mandy (2018)



Peach Blossom Fan (2019) Shaoxing Opera



Amélie (2001)

Expressionistic



Realistic



Picnic (2017) James Madison University

Despite the differences with stage and set lighting, both can achieve realistic and expressionistic lighting plus everywhere in between. The choice of lighting for the project would befit the overall style of the film, but most importantly would reflect the given mood of the scene, and convey this to the audience accordingly.

Lighting Film Task

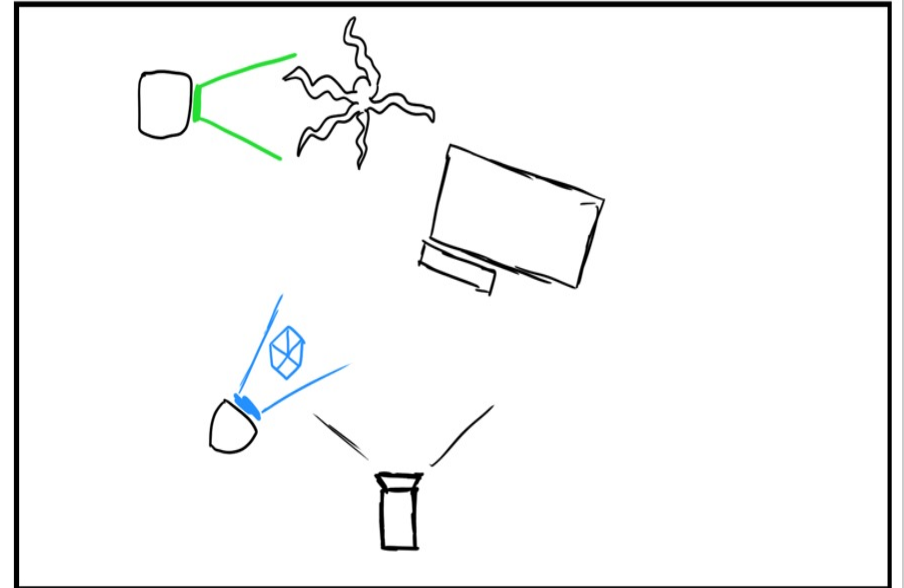
This lighting plan consisted of the small set piece maquettes previously made last year to use as subjects to shine the lights on.

I had a lume-cube with a green translucent piece of Lego in front of it to create the background and edge light around the tree. I also shined a desk lamp on the shed in the foreground and wiggled a blue prism in front of it to create a rippling water under moonlight effect.

The next clip was simpler, I placed a plasticine figure in front of a moodlight box, then I used the same rippling water light effect on the figure.

These clips were to represent the place I am at now; at home in a peaceful environment, and then later in the future feeling content no matter where I am, in a happy situation.

I added sound effects of a flowing river and chirping insects for atmosphere, and a short jingle of music to emphasise a happy mood.



SOUND DESIGN IN FILM AND IN THEATRE

The crucial difference in sound between film and theatre is its delivery and pace; theatre is reliant on cues in the form of dialogue or action, whilst film follows the script and the storyboards. What they do have in common is the purpose of conveying to the audience which sounds need to be heard the most in which scene and how all the aural elements contribute to the atmosphere and mood (dialogue, music, diageitic and nondiageitic sound effects).



THE JOB DESCRIPTIONS

THEATRE

Sound Designer - The Sound Designer is responsible for obtaining all sound effects, whether recorded or live for a specific production. They are also responsible for setting up the sound playback equipment and must make sure the board operator is properly trained. Sound Design is an artistic component of the production. The Sound Designer needs to have imagination to create sound effects and not just rerecord them.³

CAS University of Oregon (2020)

FILM

Supervising Sound Editor - Supervising sound editors manage the team that looks after each part of the sound of a film or TV drama. This includes those responsible for dialogue, additional dialogue recording (ADR), sound effects, background sounds and Foley. They are responsible for the sound budget and for organising the workflow – from sound editorial, Foley recording, ADR sessions, pre-mix to final mix - and making plans for any special requirements. After the final mix, supervising sound editors usually oversee the creation of the different deliverables, including a music and effects version which allows dialogue to be replaced with dialogue in different languages.⁴

Screen Skills (2020)



AV DESIGN FOR GIVEN STIMULUS

THE HUNTING OF THE SNARK with QLab



Introduce all characters



Zoom in on Bellmaker

Pan across characters
as they're introduced



Finish on entire picture



In response to the given poem *The Hunting of the Snark*, we have put together an animated illustration to play alongside voice over, music and sound effects via Qlab. Each fade transition switches to each character as their description is being read out in the poem.

My contribution is the illustration (created with Photoshop) of all the characters within the poem, who are unaware of being on top of the Snark's back as it is described as a mysterious and elusive creature.

SCREEN RECORDING OF QLAB SEQUENCE



Surface 1

We intended this sequence to be akin to a children's story told as a live performance; a play or spoken poetry. If we had the ability to perform this live, we would have read the poem aloud while progressing to each slide based on the verses as cues.

Because of our restrictions we resorted to designating one person as the narrator of the poem, while the other played the sequence alongside it.

One of our inspirations for this was the animated adaptations of Roald Dahl's *Revolting Rhymes* series, which consist of static drawn images (much like a story board or animatic) rather than frame animation. This was achievable within Qlab's limitations and proved to be an easy project to put together for the purpose of live performance.

With more time and resources, and less restrictions, I would have put together a small set to go alongside the projection; small objects in the foreground and actors reading the poem aloud, in order to give a sense of immersion of the poem's world.



Roald Dahl's *Revolting Rhymes*



Live/Rear Projection in Movies

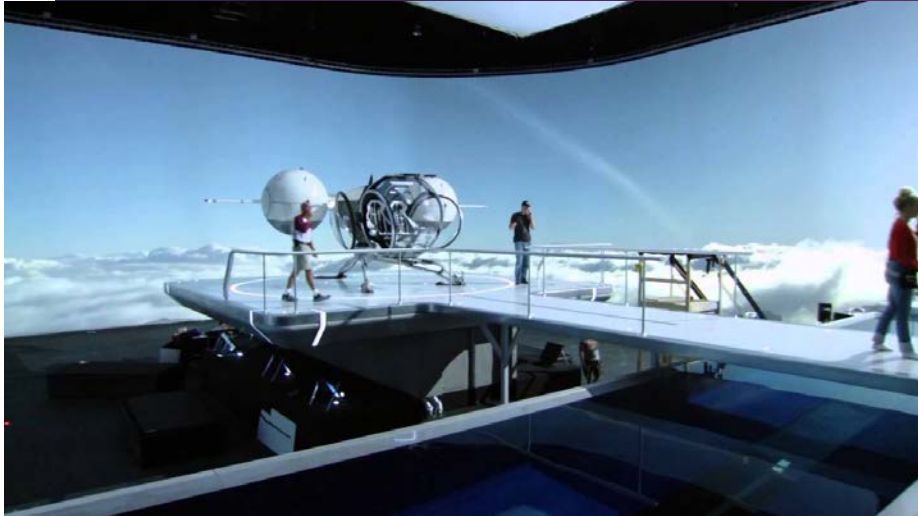
Working with this type of projection work, to me, harkened to how filmmaking had used it in the past and how it has changed today.

Rear Projection was the technique of projecting pre-recorded footage behind actors performing on a set. It was first used in the 1930's by Fox Film Corporation for the films *Liliom* and *Just Imagine* (fig 1).

This technique carried on throughout the twentieth century allowing films to achieve visual effects and stunts that weren't possible before (*Dr. No*, fig 2), and is still used today in contemporary films as homages to old Hollywood, despite being technologically obsolete (*Kill Bill Vol. 2*, fig 3).⁵



Live Projection in Filmmaking Today



After Rear Projection came the Green/Blue screen technique and became the standard practice for most blockbuster films, yet it still had its flaws (creating a green hue, fuzzy halos around actors etc).

In more recent years, filmmakers looked to the past for inspiration and utilized LED walls for creating backgrounds. Movies such as *Oblivion* utilized pre-recorded wide-angle footage of landscapes to project behind actors and foreground objects on set.

The improvements from Green Screen were accurate ambient lighting reflected off actors, and the removal of any fuzzy outlines.

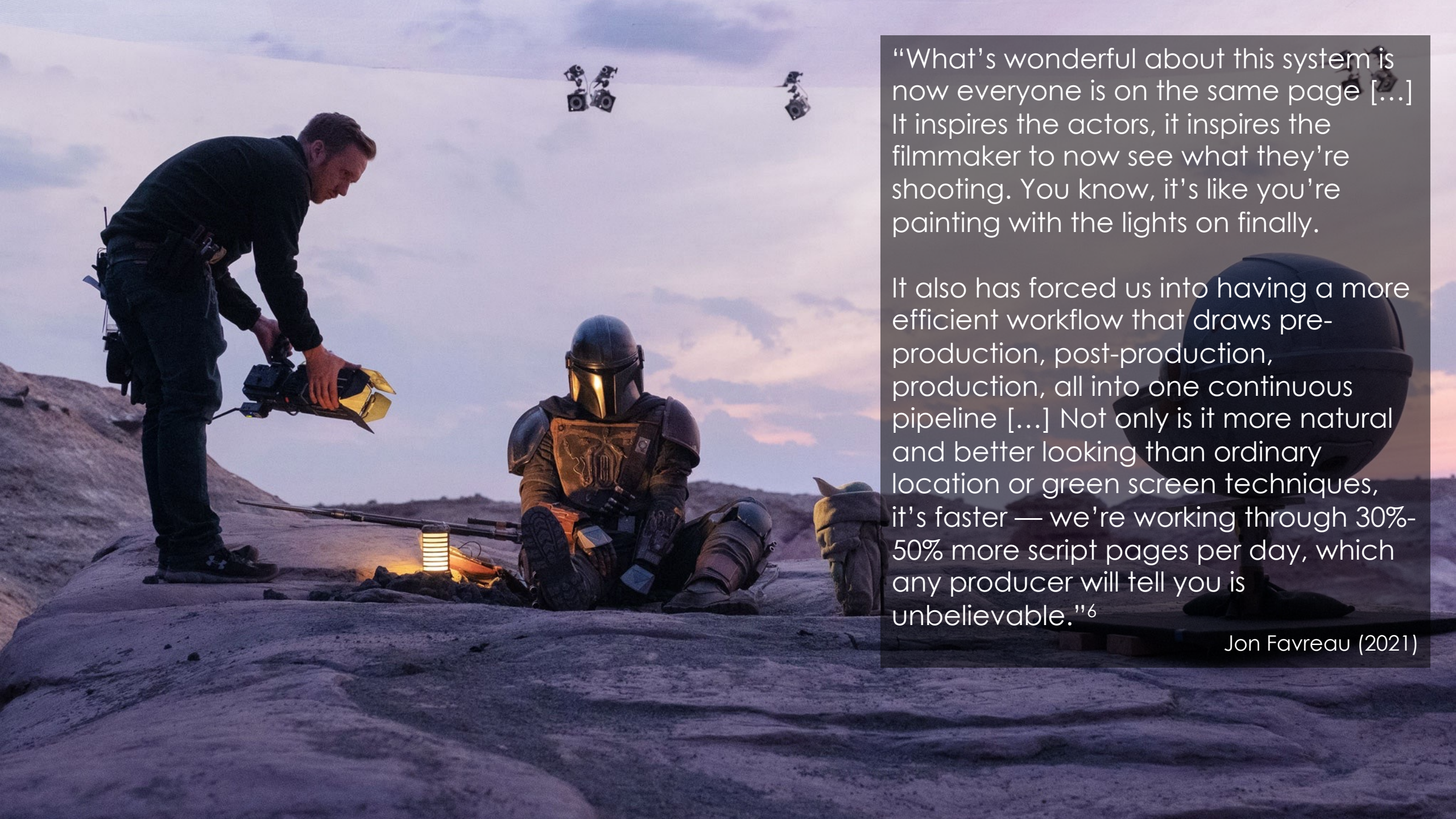
Oblivion, 2013

The latest iteration of this technology was developed by ILM (Industrial Light & Magic) of *Star Wars* fame.

With the use of *Unreal Engine*, a video game engine, the developers were able to create backgrounds from scratch and alter them in real time, allowing them freedom to make changes without the progression of a scene to restrict what can be done.

Another improvement was that the projections were consistently parallel to the positions of the camera, which meant the perspective was always accurate no matter what changes were made in the landscape.





“What’s wonderful about this system is now everyone is on the same page [...] It inspires the actors, it inspires the filmmaker to now see what they’re shooting. You know, it’s like you’re painting with the lights on finally.

It also has forced us into having a more efficient workflow that draws pre-production, post-production, production, all into one continuous pipeline [...] Not only is it more natural and better looking than ordinary location or green screen techniques, it’s faster — we’re working through 30%-50% more script pages per day, which any producer will tell you is unbelievable.”⁶

Jon Favreau (2021)

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Word Count: 1,641