

Integrating Abstract Expressionism with 3D lighting within the Light-in-Space Movement

Ashley S. Cornall

The National Centre for Computer Animation,
Bournemouth University, Bournemouth, United Kingdom
ashleyscornall@gmail.com

Dr Rehan Zia

The National Centre for Computer Animation,
Bournemouth University, Bournemouth, United Kingdom
rzia@bournemouth.ac.uk

ACM Reference Format:

Ashley S. Cornall and Dr Rehan Zia. 2021. Integrating Abstract Expressionism with 3D lighting within the Light-in-Space Movement. In *Special Interest Group on Computer Graphics and Interactive Techniques Conference Posters (SIGGRAPH '21 Posters)*, August 09–13, 2021, Virtual Event, USA. ACM, New York, NY, USA, 2 pages. <https://doi.org/10.1145/3450618.3469172>

1 INTRODUCTION

The research objective of this project was to create a unique pipeline for integrating 3D lighting with Abstract Expressionistic painting (TATE, no date b) that served the artistic goals and creative intent of the artist. The final result is a critical creative practice pipeline to that allows the artist to unpack the effects of a year-long lockdown on creativity and growth. Inspired by the Light-in-Space movement (The Art Story, no date), a combination of computer graphics (CG) lighting and painting techniques are used to create custom shadow casters from painting scans, and, manipulation of scanning technology to render a final abstract effect. The completed pipeline serves as a framework for creating a unified body of work.

2 MOTIVATION

The inspiration for the artistic practice comes from abstract art (TATE, no date a), specifically Abstract Expressionism intertwined with Surrealistic Art. The preliminary research in 3D art highlighted the need for the development and expression of meaningful aspects of tangible art, such as random brush strokes, paint thickness and ideation-in-action.

I have spent a year locked down in the same room being forced to create a space where I felt comfortable and free. This year has been a long mental struggle and one of my few comforts was the creative space I had made for myself in my bedroom. This is the subject matter for my research project and the launching pad I have used to conceptualise my mental health journey throughout lockdown.

3 CONTEXT

There is an underpinning subconscious theme in most of my work; I seem to paint subject matter entrapped in circular shapes and contrasting colours, originally inspired by Yayoi Kusama's work with entrapment (TATE, no date c). I resonate with central and

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the owner/author(s).

SIGGRAPH '21 Posters, August 09–13, 2021, Virtual Event, USA

© 2021 Copyright held by the owner/author(s).

ACM ISBN 978-1-4503-8371-4/21/08.

<https://doi.org/10.1145/3450618.3469172>

confrontational composition and these principles have been carried out in the layers of my piece that feature tangible art. Between these layers, I have made use of imaging and 3D technology which is arguably the most crucial element in painting the full picture of modern-day expression in the twenty-first century. Technology plays a pivotal role in my own life, with my screen time heavily outweighing time with the real world interactions.

It was my objective within this research project to contribute to Digital Contemporary Art as a whole and to create a conceptual piece of artwork that could be representative of modern art reflecting on the 2020 pandemic, and the effect Covid has had on the generation creating during this time.

4 APPROACH

I have created microbic-looking expressions of how I feel my brain works. In these pieces, it frustrates me to have colours touching and I enjoy creating swirling negative space. Looking at these paintings, it is obvious to me that they are a direct reflection of the inner workings of my brain. I paint what feels comfortable and right at the moment. I obsess over order and harmony and like to have control over the few places where there is chaos. I enjoy flat uniform consistency and I detest creating spaces for the eye to pause. These paintings have been a resting point for my life, and, a space for me to reclaim control, much like the meditative spaces created by James Turrell in the Light-in-Space movement (Pace Gallery, no date).

I do not plan the colours or composition before painting however I am naturally drawn to organic forms juxtaposed with vibrant inorganic colours, a concept I see reflected in Verner Panton's installation work (Modern Magazine, no date). This juxtaposition is yet another layer representing the contract between the digital (inorganic) and natural (organic) world we live in. This feels like a blueprint to my mind; an artistic petri-dish sample.

This form of expression is the polar opposite to the work I carry out in my more formal computer graphics career, and in between these two forms of expression is where this interesting conflict lies.

Using various methods, I created a shadow caster material in Maya and Arnold, using the aforementioned paintings as a gobo and placing it in the window panes of a 3D recreation of my bedroom, using the same techniques displayed by Anila Quayyum Agha in her shadow casting installations (Agha, A. Q., 2019), an intricate display of how abstract light can be intensely expressive. I then rendered frames of my 3D bedroom using the shadow casters. I printed the rendered images on watercolour paper and painted on top of the images with similar colours to the original painting, using the intricate gaps of light the shadow caster created.

When scanning these paintings, I noticed if I moved the painting along the scanning line, it created an interesting mechanical-looking effect. These adapted versions of my paintings resonated with me as they added an element of chaos that would have felt wrong for me to paint at the moment. This element of chaos and layering of refinement and tangibility can also be referenced in Gerhard Richter's work (Richter, G., 2014) with paint over photographs, again layering the digital and natural world. It felt like technology had ruined my painting, or warped my perception of it; which is what technology does to my life on a larger scale.

Souwen Chung translates the learning abilities of modern AI technology into an artistic context. Her robot "Doug" or Drawing Operations Unit (Washington Post, no date), Generation Four takes part in her performance-based artworks. As they paint together on large canvases, their lines react to each other like a sort of dance. This relinquishing of control to technology was an inspiration in adding the scanner manipulation technology

I then painted on the scanned renderings, adding another layer of tangible organic expression. This almost vandalism of a sharp 3D render was inspired by Ai Wei Wei's political movements in regards to vandalism of art in his "Coloured Vases" (Public Delivery, no date).

Finally, I scanned the paintings giving the scanner the freedom to wrap and change my painting as I moved it under the light. This left me with the final piece that I then cleaned up in photoshop; a layered representation of how technology both inhabits my creativity and limits my freedom.

5 RESULTS

I have carved a space for myself to grow and explore in the Digital Contemporary Art sphere. My artwork is a clear reflection of who I am, with my inspirations being evident all whilst still being a unique and niche piece. I do feel there is more to do, and more clarity to find in my work but this project paved the pathway to further exploration.

REFERENCES

- Agha, A. Q. (2019) 2019 – Anila Quayyum Agha. Available at: <https://www.anilaagha.com/2019installation>.
- Modern Magazine (no date) *A New Book on Verner Panton: Pop and Practicality | Modern Magazine*. Available at: <http://modernmag.com/verner-panton-danish-design/> (Accessed: 16 June 2021).
- Pace Gallery (no date) *James Turrell | Pace Gallery*. Available at: <https://www.pacegallery.com/artists/james-turrell/> (Accessed: 16 June 2021).
- Public Delivery (no date) *Ai Weiwei's colored vases: Clever artwork or vandalism? – Public Delivery*. Available at: <https://publicdelivery.org/ai-weiwei-coloured-vases/> (Accessed: 16 June 2021).
- Richter, G. (2014) *Gerhard Richter, Gerhard Richter*. Available at: http://www.gerhard-richter.com/art/paintings/#photo_paintings (Accessed: 16 June 2021).
- TATE (no date a) *Abstract art – Art Term | Tate*. Available at: <https://www.tate.org.uk/art/art-terms/a/abstract-art> (Accessed: 16 June 2021).
- TATE (no date b) *Abstract expressionism – Art Term | Tate*. Available at: <https://www.tate.org.uk/art/art-terms/a/abstract-expressionism> (Accessed: 16 June 2021).
- TATE (no date c) *Yayoi Kusama: Infinity Mirror Rooms – Exhibition at Tate Modern | Tate*. Available at: <https://www.tate.org.uk/whats-on/tate-modern/exhibition/yayoi-kusama-infinity-mirror-rooms> (Accessed: 16 June 2021).
- The Art Story (no date) *Light and Space Movement Overview | TheArtStory*. Available at: <https://www.theartstory.org/movement/light-and-space/> (Accessed: 16 June 2021).
- Washington Post (no date) *Artist Souwen Chung collaborates and paints with A.I. robots - The Washington Post*. Available at: <https://www.washingtonpost.com/business/2020/11/05/ai-artificial-intelligence-art-souwen-chung/> (Accessed: 16 June 2021).