

The Future of Learning. With Virtual Reality?

Towards greater sociability and accessibility

It looks like you're trying to
reconsider my legacy.

Would you like help?

Yes

No



Anthony Scavarelli
March 2019

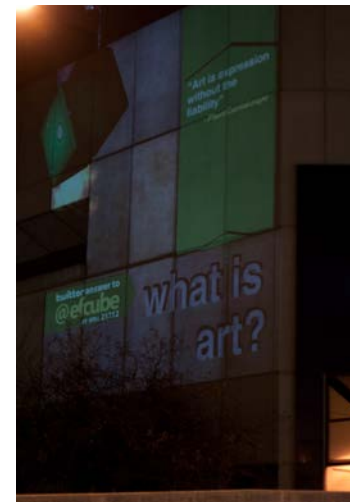
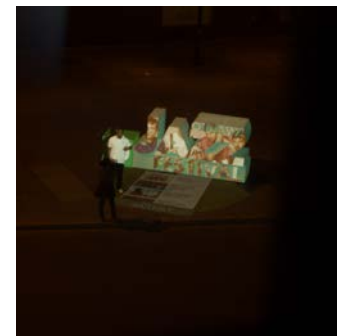
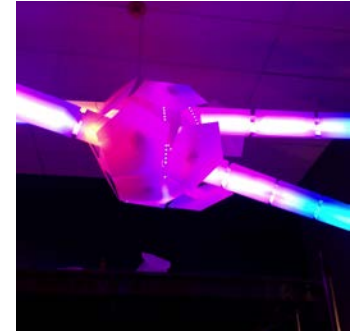
Who am I? - context is always important

- **Bio**

- Father of 3
- Husband of a very strong and supportive woman
- PhD Student at Carleton University, HCI MASc
- Algonquin College Professor (BIT-IMD)

- **Passions**

- Augmenting Reality
- Bringing People Together
- Diversity in Technology Creation



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“Life Imitates Art. We shape our tools
and thereafter they shape us.”

- **John Culkin** in 1967’s “A Schoolman’s Guide to Marshall
McLuhan”



Research Questions I am Interested In

1. How can we create **more experiential and authentic learning opportunities** in social learning spaces?
 - *e.g. field trips*
2. How do we **better connect together** within social learning spaces?
 - *e.g. educational escape rooms and social narratives*
3. How do we better **include the increasingly diverse learners** of post-secondary institutions?
 - *e.g. from the classrooms to museums and beyond*



Directions in Education

Context is always important



“I hear and I forget. I see and I remember. I do and I understand.”

- Confucius



Active Learning Overview

Constructivism

- Experiential learning
- Situated cognition
- Epistemic action

Social Cognitive Theory

- Collaboration increases learning
- Group processing / reflection
- Activate the affordances of social learning spaces

Connectivism

- Everything is interconnected
- Information topologies are constantly in flux
- All learning happens within a network

Some Relevant Educational Methodologies

- **Flipped Classroom**
 - Focus active learning in class (reflection, discussion).
 - Self-directed learning outside of the classroom.
- **Learning Together and Alone**
 - Group Collaboration
 - Group Processing/Reflection
- **Universal Design for Instruction (UDI)**
 - Materials accessible along multiple pathways



A Very Brief History of VR

Context is always important

What is Virtual Reality (VR)?

An artificial environment which is experienced through sensory stimuli (such as sights and sounds) provided by a computer and in which one's actions partially determine what happens in the environment. (source: [Merriam-Webster.com](https://www.merriam-webster.com)). XR, AR?



The History



<https://virtualspeech.com/blog/history-of-vr>

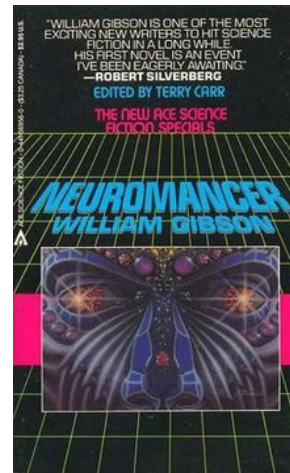
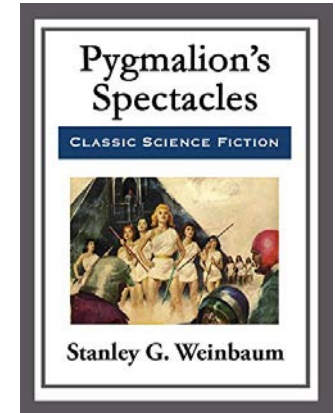
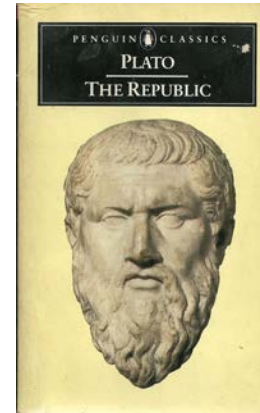
“It's those who control the fantasy
who control the future.”

- **Monika Bielsktye**, “futurist, science fiction worldbuilder,
digital nomad.”



The Fantasy

- Plato's "The Republic" (380 BC)
- Pygmalion's Spectacles (1935)
- Neuromancer (1984)
- Snow Crash (1992)
- Ready Player One (2011)



Two Main Components Drive VR

Immersion

- The technologies that brings a real user into a virtual space (e.g. display, audio, haptic feedback etc.).

=> Presence

- The psychological state in which one accepts that the virtual world *is real*.
 - User agency is important here via interactions and pre-conceived notions of how the world works.

WORLD OF WARCRAFT

Alliance

Horde



Skin Color



Face



Horn Style



Horn Color



Facial Hair



Randomize



Name





The Future of VR Learning I am Working On

Towards More Accessible and Collaborative
Experiential Education within
Social Learning Spaces



A **social-educational WebVR** platform that connects people together, to learn through socially scalable interactions and the exploration of immersive virtual environments via **Desktop, Mobile, and/or HMD VR**.



Multi-User





Multi-Worlds





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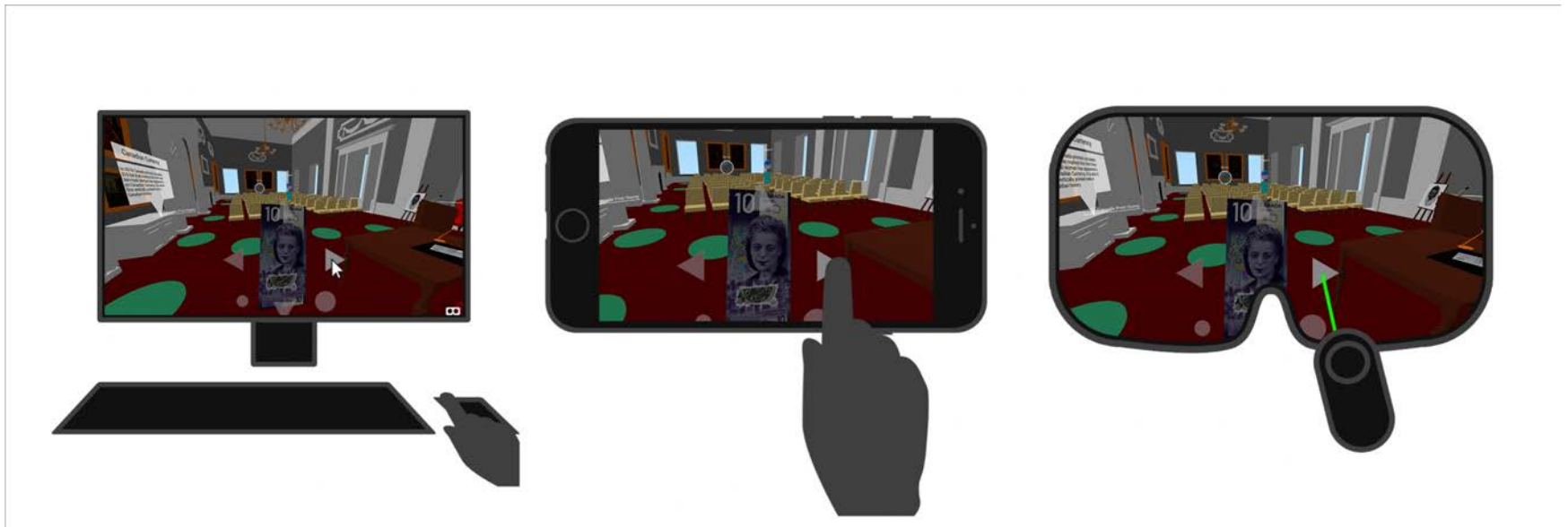




Multi-Platform



circles



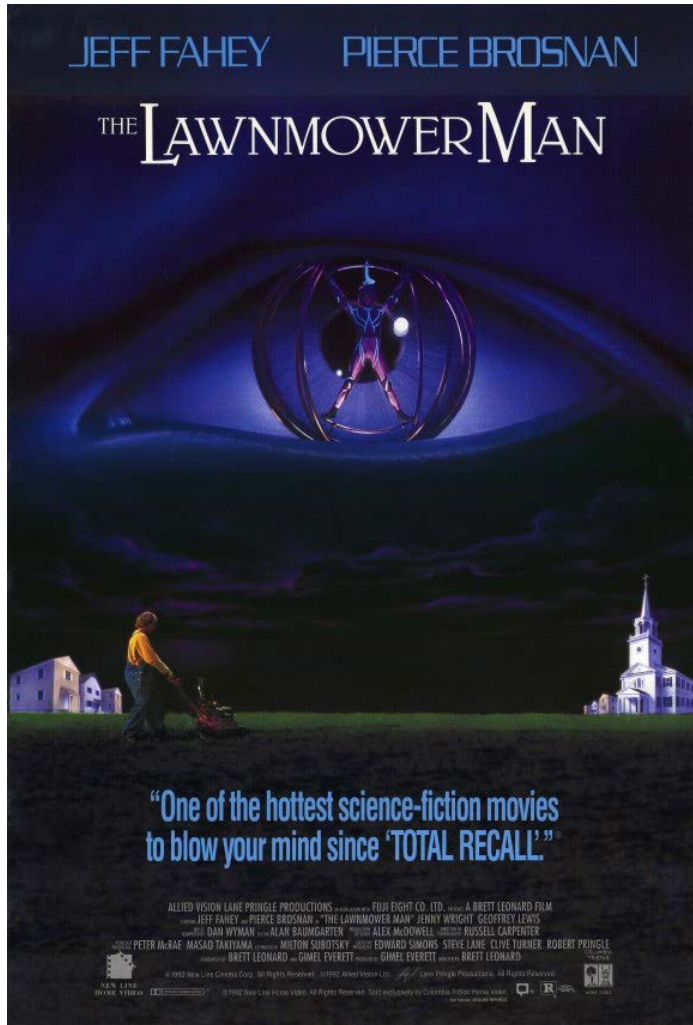
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What's Next for VR?

Directions to consider when defining the future of VR

The Holodeck / Danger Zone / Metaverse?



Low-friction?



<https://www.oculus.com/go/>

**It was a failure in the 90's and
will be now too!**



<https://kent.ca/757-l-garbage-can-with-lid1023386>

Maybe we can look to other fields for inspiration?



http://lacaserne.net/index2.php/theatre/needles_and_opium/



Though Is VR Really for Everyone?

Lack of Accessibility in the past, present, and near future ...



<https://www.inverse.com/article/44357-oculus-go-headset-preorder>
<https://www.campbellrivermirror.com/life/going-the-extra-mile-virtual-reality-arcade-overcomes-limitatons-to-experiencing-the-vr-experience/>



<https://www.xd-cinema.com/vr-theme-science-museum-china/>
<https://londonist.com/2015/07/visions-of-future-visualisation>

" We shape our buildings and afterwards our buildings shape us."

Winston Churchill, U.K. Prime Minister in 1941



Some Takeaways

VR provides us with an opportunity to **show others our dreams**; but it is a **huge responsibility** for all VR developers/architects.

- How do we make VR content more accessible?
- How do we learn together in VR?
- Where can we, as individuals and institutions, be more proactive in defining this future?

At least one thing is certain: **there is still a lot to figure out ...**

If you could create a different world,
then convince others it was real.

What would **you**
create?



Thanks (for we can't do it alone) ❤️ 🙏

Thanks to **Shannon Whiteduck-Odjick**, and the rest of the **organizers** of this event for helping spread knowledge.

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- **Tetsuro Takara** (Front-end Developer, Montreal)
- **Kirk Starkey** (SFX, Hamiton)

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