Blurring Lines – The Rise of Virtual Reality/ Augmented Reality and the University Librarian- An Interview with Sarah Howard of Queensland University of Technology

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Interview — Dr. Anke Beck
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love to see this reflected in Open Access mandates. The incentives structure around publishing needs to change and that is down to funders, too.

I also see an important role in working with private funders. My home country, Germany, for example, has a large number of private foundations that support the publication of academic knowledge. However, not all of them have “caught the wave” of digital publishing. For example, some of them still have a reference to the weight of the paper in their application forms. I am sure we will get there, but it takes a while.

ATG: *Are all your OA books funded or are there other books which are not supported by the OA funding model which are published regardless?*

AB: Yes, there are. We take special pride in supporting women in science through our program of the same name. Open Access in general helps to remove barriers and allows everyone to access valuable information, but particularly in this program we do not want to exclude talent for any reason. The goal for the program is to charge zero APCs. The interest in publishing in this program is high, but we cannot cover all the costs. In order to allow

for the highest number of publications and the highest visibility of women in science, we are looking for sponsorship from foundations and companies. But librarians can also pledge to the program via **Knowledge Unlatched**.

ATG: *As you look out over the next three to five years, what role do you see for OA monographs in the world of scientific publishing? What changes and innovations do you anticipate in that world? And how do you see IntechOpen contributing to those changes and innovations?*

AB: Already we see that academics interact with single figures, or datasets, as well as with articles or chapters rather than the whole package as we have created it. In the future, publishers will move further into curating knowledge by connecting different aspects of research using new technologies and with machine learning. Publishing already sees itself as a service industry but we will move even further into this, working with academics and digital development to serve our communities in new and more technological ways. I think we will see many changes in how content will be created, how people will work together, what a publication even *is* and how we will review it. There’s a reason why AI is a buzzword: it will play a major role in both the creation of and validation of content. I would like my company to give itself room to experiment with these new ways to arrive at new knowledge,

even if not financially successful in the beginning. I think it is generally important to allow yourself a dosage of experimentation.

ATG: *We like to end our interviews by asking what you like to do in those rare moments of downtime. Do you have any favorite hobbies or leisure activities that you particularly enjoy?*

AB: I really like to do things that make me look at and think about things differently — wine tastings, for example, where you pair wine and salty chocolate. Try it! It has surprising results. I like classical, but “crazy” music. If you have ever heard John Adams’ “Harmonielehre” then you know what is awe-inspiring to me, but possibly not inspiring for everybody’s ears. I also, honestly, still do enjoy a good academic talk with a good hypothesis and sharp conclusions. In general, I like to leave a talk, a concert or a wine tasting thinking “oh gee, I was not aware that this was possible.” Either that or to swim, where it’s just me and the water.

ATG: *Thank you for taking time out of what we know must be a busy schedule to talk to us.*

AB: It was a pleasure. Thank you for the questions. 🌿

Blurring Lines — The Rise of Virtual Reality/ Augmented Reality and the University Librarian

An Interview with Sarah Howard of Queensland University of Technology

Column Editor: **David Parker** (Senior Director Product Management, Alexander Street, a ProQuest Company;
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Virtual reality, as an educational technology, is still in its infancy. The term itself, virtual reality/augmented reality, is understood by its advocates and its newest adopters to mean different things: 360 video, Google cardboard attachments for mobile devices, browser-based, interactive simulations, headset-and-haptic enabled, software-driven virtual environments and immersive caves offer a continuum of experiences and opportunities for adoption. And if one attends an academic conference in a field that is leading in the adoption of virtual reality for learning, such as nursing, medicine, architecture or engineering, examples of each of these technologies will be on display.

From the perspective of the library and the “virtual reality expert librarian,” virtual reality often connotes a physical space (3D Printers, Makerspaces) and/or an expertise in procuring, managing and educating users in the use of software, hardware and various other devices. Organizations that serve the institution and the library specifically, such as **ProQuest** where I am employed, are engaged with supporting the curation, acquisition, hosting and delivery of virtual reality content, although our decision to license, curate and deliver hinges on the degree to which our customers are coalescing around a content type, e.g., 360 videos. What will the role of the educational technology company be that exists to serve the library as virtual reality becomes more widely deployed across universities and classrooms? This question led me to the positing of a hypothetical continuum of provisioning and deploying, with the library/patron/institution taking up a space on the continuum deploying the virtual reality technology and the educational technology company, such as **ProQuest**, providing virtual reality content and platform services. To begin exploring the efficacy of the concept of a continuum of provisioning and deploying, I reached out to **Sarah Howard of Queensland University of Technology** and conducted the following interview.

Sarah, please describe your role and your library, particularly as concerns support for virtual reality in support of course learning.

SH: I am the Liaison Librarian at the **Queensland University of Technology Library (QUT)** (Brisbane, Australia) and I support the School of Nursing and the School of Optometry and Vision Science in the Faculty of Health. The three main areas of support I offer to the Schools is in information and digital literacy, research, and collection development.

I am also currently the *Council of Australian University Librarians (CAUL) Digital Dexterity Champion* for **QUT**. This new exciting role enables me to be part of the CAUL community of practice whereby I share resources and develop skills, whilst also leading the promotion of digital skills within the **QUT Library** team. In 2017, in addition to my Liaison Librarian role at **QUT**, I was extremely fortunate to lead a project entitled

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Virtual Reality Content for Higher Education Curriculum. A collaboration between **QUT Library** and **ProQuest**, the project aimed to explore Virtual Reality resources and the use of it in higher education.

How did you become interested in virtual reality for learning?

SH: I have had a passion for the use of mobile technology in education for almost 10 years. It started when I first discovered the numerous possibilities a mobile device, such as the iPhone, could provide. Beginning with QR Codes, I was fascinated how such a simple tool could connect students with print and online information. I then discovered Augmented Reality and learnt how AR provided a more advanced option of layered information. 360 videos and basic Virtual Reality also emerged for me around this time, and I just couldn't get enough of these exciting innovations. The possibilities for the use of AR, 360 videos and VR in higher education was very exciting for me all that time ago, and still is to this day.

Please describe an early implementation of virtual reality/augmented reality at QUT:

SH: I am unaware of the very first instance of implementation at **QUT**, but I do know that the Faculty of Health, the Faculty of Science and Engineering, and the Faculty of Creative Industries have been utilising this technology for some time. For example, the School of Clinical Science within the Faculty of Health have explored and used Virtual Reality and 3D technology for over five years. Academics and researchers in the area of medical imaging have utilised fully immersive VR programs to assist students with their radiographic technical skills.

Does the metaphor of a continuum of adoption hold true for QUT? Can you give examples of increasing complexity of virtual reality deployment in courses at QUT?

SH: It certainly does. Personally, I have seen a steady rise in the uptake in the use of VR, AR and 360 videos within **QUT** courses and research over the past two years. **QUT Library** initially had one VR headset for staff and students to use, and one small set of plastic headsets for mobile phone use; but with the increasing demands across all Faculties, the Library has needed to expand the collection of hardware to meet the growing needs of our staff and students. We are currently seeking to expand the collection of headsets even further, as our headsets are constantly booked out. Requests for VR content, and advice on what VR content to use, has particularly increased in the past 12 months. Librarians are working with their academics to seek appropriate content that can be used within curriculums. The variety of platforms that VR can be found within can be limiting, as particular hardware may be required to support that specific content e.g., Microsoft HoloLens. Libraries and/or universities may not yet have the variety of hardware to meet the needs of the content required.

Using VR headsets within large lectures or workshops can be frustrating for both the academic and the students, as VR headsets are currently designed for individual use. **QUT Library** can assist academics to project VR content within large lecture theatres (using a high-powered VR headset, Oculus Rift, and gaming laptop, Alienware) but academics understandably want their students to have a more immersive experience. **QUT Library** has purchased a number of basic plastic headsets (Merge) and created four "class sets" for academics to borrow and distribute within a lecture/tutorial; however more often than not students have to share the headset as even four class sets are not enough for a large group. Students need to also have their own mobile device and a reliable WiFi connection to view content such as 360 video.

Please describe a selection of the key vendors you have worked with in supporting faculty with their virtual reality requirements.

SH: **QUT Library** reached out to the numerous publishers and vendors we already have established associations with over the past couple of years, to seek their interest and projected development of content in this area. The majority advised us that although they were interested they were not yet established in this area. Having said this, **QUT Library** has worked with not only **ProQuest** but also with **Pri-**

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mal Pictures (Anatomy.TV). We are aware of other companies such as **OVID** that also offer AR and virtual simulation content.

QUT Library owns a growing collection of VR headsets to support VR content, such as Oculus (Rift and Quest), PlayStation, and 80 pairs of basic plastic headsets for mobile phones. We use the Oculus, PlayStation and Steam platforms and associated content to mainly support VR requirements.

What do you see as the specific opportunities for library services companies in support of virtual reality? Indexing/metadata standards, platforms, aggregation, curation, others?

SH: When an academic seeks advice from their librarian for VR content, it can be a frustrating experience for both parties. The librarian, for example, will need to explore a variety of platforms to seek the content, and even when content is located, the supporting hardware (VR headset) needs to be available. For example, I was recently approached by one of my nursing academics for VR anatomy

content. She was particularly interested in a specific resource, but it turned out to only be available for the Microsoft HoloLens headset, of which we don't have within our library collection. We offered her other VR content, anatomy content that was available on the platforms supported by the headsets we have in our collection, but unfortunately the content did not meet her needs. It would be ideal for library service companies to understand what the specific content need is and to create content that can be used across all, if not many, headsets. To make the content easily found and available at an affordable price would be the cherry on top!

Where will QUT be in five years, in ten years as concerns learning and virtual reality?

SH: The interest and use of VR in various curriculums within QUT has rapidly increased over the past couple of years, and I know it will continue to grow as content options increase and expensive headsets become more affordable.

Our new Pro Vice-Chancellor (Digital Learning), **Prof Kevin Ashford-Rowe**, joined QUT earlier this year and has a tremendous interest in Virtual and Augmented Reality. **Prof Ashford-Rowe** has already enabled many

opportunities for academics and professional staff to progress in this innovative area and supports ongoing advancement. With the support of our leaders and the ongoing increasing interest in this space, I believe VR will be an important part of our learning and teaching at QUT for years to come.

What closing advice do you have for educational technology services companies interested in the opportunity virtual reality presents?

SH: VR is currently viewed as something new and exciting to use. I hope that in the future VR will be an ordinary tool to select and use within learning and teaching, just as eBooks, journals and videos are today. There will also be a wide range of content available for all levels of education, and it will be accessible to all and via any headset (which will be affordable to all!). My advice is to continue to seek feedback from academics and professional staff from around the world regarding content requirements. What do they need? What is available now that they want to use but can't (platform, cost, accessibility issues etc.)? Making the required content available on a platform that can be easily found and used would be ideal. 🌿

Booklover — Summer Reading

Column Editor: **Donna Jacobs** (Retired, Medical University of South Carolina, Charleston, SC 29425) <donna.jacobs55@gmail.com>

Summer is over. It has been a HOT one. The world is spinning a little off its axis. Reading choices have been a little intense.

Colson Whitehead was featured on a July episode of **CBS Sunday Morning**. The discussion of his new novel *The Nickel Boys* stuck with me. I had the opportunity to be in Vermont this summer, where the air was just a bit cooler than the humid steamy environment of the South Carolina Lowcountry. While wandering through **Bear Pond Books** in Montpelier, Vermont, I noticed that **Whitehead's** book was the staff pick. I bought a signed first edition. It is a powerful read based on a real story about a reform school. Will cause you to pause. Seek it out.

Social conflict and turmoil must be the theme as I had already decided to read a poem written by **Wole Soyinka** entitled "Civilian and Soldier." **Soyinka**, "who in a wide cultural perspective and with poetic overtones fashions the drama of existence," won the **1986 Nobel Prize in Literature** becoming the first African to win the prestigious award. He used the opportunity afforded by the Nobel ceremony to deliver an acceptance speech dedicated to the atrocities of apartheid in South Africa and to **Nelson Mandela** who devoted his life to not only exposing the ills of apartheid but also to diligently seeking a better opportunity for his people. One biographical sketch suggests that **Soyinka's** acceptance speech moved the world to reason with his words and the ultimate release of **Mandela**.

Akinwande Oluwole "Wole" Soyinka was born in 1934 in Abeokuta, Nigeria, the second child of **Samuel Ayodele** and **Grace Eniola Soyinka**. His father was the headmaster of **St. Peters School** and this position afforded the large family the luxuries of electricity and radio. He attended primary school in his hometown where his facility with literary composition was initially recognized and awarded. He continued with secondary education at Government College in Ibadan, at the time one of the elite Nigerian secondary schools. **Soyinka** moved to Lagos once his studies were complete and worked as a clerk while writing radio plays and short stories. From 1952-1954, he attended **University College** in Ibadan and then relocated to the **University of Leeds** to continue studying English literature under the mentorship of **Wilson Knight**. **Soyinka** immersed himself in academic pursuits, social justice causes and political affairs

in his country, theater, and writing — all of which he pursued with a passion that won him fellowships, academic positions, awards, literary acclaim and imprisonment. His works of drama and poetry are written in English and reflect the influence of his Yoruba culture.

I leave you with "Civilian and Soldier":

"My apparition rose from the fall of lead,
Declared, 'I am a civilian.' It only served
To aggravate your fright. For how could I
Have risen, a being of this world, in that hour
Of impartial death! And I thought also: nor is
Your quarrel of this world.

You stood still
For both eternities, and oh I heard the lesson
Of your training sessions, cautioning -
Scorch earth behind you, do not leave
A dubious neutral to the rear. Reiteration
Of my civilian quandary, burrowing earth
From the lead festival of your more eager friends
Worked the worse on your confusion, and when
You brought the gun to bear on me, and death
Twitched me gently in the eye, your plight
And all of you came clear to me.

I hope some day
Intent upon my trade of living, to be checked
In stride by your apparition in a trench,
Signaling, I am a soldier. No hesitation then
But I shall shoot you clean and fair
With meat and bread, a gourd of wine
A bunch of breasts from either arm, and that
Lone question — do you friend, even now, know
What it is all about?" 🌿