# Christians in the Metaverse:
## Disability and Web 3.0

**BY: DR ALEX TANG**

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**INTRODUCTION**

The Metaverse is Web 3.0, the next step in the development of the Internet. The evolution of the Internet as a private data sharing network for scientists mediated through clumsy modems to its user-friendly browser and user-friendly interface has been very rapid. Web 1.0 was when the webpages were static and we could only read off them, without much interaction. Then came Web 2.0 which was a marvellous interactive experience. We could edit, produce, and chat using that technology. There was a proliferation of chat-groups which led to blogs, personal websites, incorporating sound and video, and social media such as Facebook and Twitter. Web 2.0 for all its benefits was still 2-D. It still remained on the screen. Web 3.0 or Metaverse is 3-D. The content which we can interact with is no longer flat. It is now three-dimensional. The movie *Ready Player One* is a good visualisation of what Metaverse is.

In the first half of this paper, I will describe what Metaverse is and then I will share some implications this will have on Christians and the Church. Finally, I will examine how Metaverse may be the technology to democratize hospitality and inclusiveness for people with disability.

**Welcome to the Metaverse**

Metaverse should not be confused with multiverses which is a scientific concept that there is more than one universe, or the comics and science fiction stories that are so popular in television and movies. In fact, the term 'Metaverse' was coined by a science fiction writer Neal Stephenson in his 1992 novel *Snow Crash*. In that novel, Stephenson built a virtual computer world called the Metaverse for his hero, Milo, a hacker to have his adventures in. Twenty years later, Stephenson's Metaverse has become a reality in Web 3.0. Stephenson's Metaverse is so uncannily accurate that Facebook Corporation took the tactical step of rebranding itself as Meta, thus copyrighting the name and concept for themselves.

The Metaverse exist because of the rapid development of Artificial Intelligence (AI). Initially AI was nothing more than a glorified calculator with enormous data storage capability. When the AI in the chess-playing supercomputer Deep Blue beat chess grandmaster Gary Kasparov in 1997, it was done by examining 200 million chess positions per second. Deep Blue

has enormous memory storage of millions of chess games. What became more interesting was when it was discovered that AI could be programmed to learn and discover new ways of learning. This was called machine learning. AI Alpha Zero was given only the rules of chess and it programmed itself to win. Within 6 hours, the AI has taught itself so well that it was able to beat a human grandmaster! Computer scientists admit they no longer understand AI learning so it was renamed Deep Learning. Subsequently new AI chess engines were so powerful that it was matched against other AIs rather than humans. As of 2020, AI Leela Chess Zero is the current world champion.

The extraordinary computing power of AI in deep learning, problem solving and development of new ideas is the foundation of the rise of Metaverse. Basically, the Metaverse is composed of four main components: (1) augmented reality, (2) lifelogging, (3) mirror worlds, and (4) virtual reality.

*Augmented reality*

Augmented reality is the technology to superimpose a virtual world onto the real physical world. Google Glass is an example of a wearable augmented reality device. The person wearing the glasses can see the real world, and information or image superimposed in their vision. Those who have played the game using the mobile phone *Pokemon Go* would have seen life-like *Pokemon* in their visual space. Another useful application of augmented reality is for online shopping. If you want to buy a painting but you're unsure where to place it in your living room, you can download the programme, switch on your camera phone and place the (virtual) painting in your living room (using your camera). You can position the painting at any location and see how it fits in with your other furniture and decorations. These are some of the many applications of augmented reality. Its applications in surgery, engineering, manufacturing – to name a few – and how it keeps us connected are limitless.

*Lifelogging*

Lifelogging is the storing of personal data. Since the advent of social media, we have been storing our digital data online. Our postings, comments, photos, audio, and videos are part of the internet. Never before have such a large part of humanity been willing to reveal their most intimate details to a global audience. Many have abandoned journal writing to documenting every minute of their waking (and even sleeping) moments in their Twitter, Instagram, Facebook, Whatsapp, Telegram and other messaging channels. The Internet has enough data and information on each one of us to build a detailed persona, digital person, or avatar. Real life applications in healthcare data banks where our lifestyle choices, healthcare risks and

medical histories are available to our doctors, employers, and insurance companies. The creation of our avatar or our digital self is of especial interest in mirror worlds.

*Mirror world*

A mirror world in the Metaverse is not actually a mirror reflection of reality (our real world, the one we are living in) but a digitalized duplicate of reality made up of ones and zeros. AI is building up this mirror world even as you read this. All the Google and Apple mapping data goes into the geospatial data of this world. All the Google books and Library of Congress scans, eBooks and digital documents add to the database of knowledge. The Internet is the largest database of knowledge since life began on earth. Every photo, selfie and podcast broadcasted contributed to this database. Alexa, Assistant and Siri provided invaluable uploads. So did spyware, state surveillance data and trillions of bureaucratic forms created daily.

This mirror world is used in designing autonomous vehicles which are actually moving in a digital, rather than a real, world. Other real-world applications include the use of robotics in factories, hospitals, and shipyards. The cute autonomous robots which deliver the case files in hospitals, or the autonomic robot "police" that enforce good behaviour in the streets of Singapore moves in a mirror world. *Second Life* is a popular computer game which we can create an avatar to represent us and interact with other avatars in a virtual world. The online programmes have evolved into a complex social experiment. Avatars (humans) are developing a civilization. They are building houses, developing business, getting married and nurturing communities. It is only a matter of time before we move into the Metaverse or the mirror world using our own avatar based on our lifelogging. This technology is already available. It is called virtual reality.

*Virtual Reality*

Virtual reality (VR) is moving into a constructed digital world and interacting with the objects in that world as we do in the real world. It is a 360° total immersion experience. The first popular real-world use of VR was created by the billion dollars gaming industry such as Oculus and PlayStation. VR set allows players to play total immersive VR games in their own living rooms. Other real-world VR uses are in training and education. Pilots are trained how to fly planes, soldiers learn how to fight, and surgeons practice how to operate in a total immersive experience. When Metaverse or Web 3.0 begin to migrate to our workstation, home entertainment or houses, it will be a transformative experience. We have been interacting with 2-D objects when we are in fact 3-D beings. It would not be a shocking revelation as gaming and movies makers have already introduced us to 3-D screens and virtual world.

**Concerns of Christians in the Metaverse**

Metaverse or Web 3.0 is the next logical development of the internet. It should not raise much alarm to Christians as it is just another technology like the computer, the plough, or the printing press. Human beings are called to be creators using the materials of the created world. We are also called to be stewards of the created order. Technology is created to make our lives better. Indeed, it has. We now live longer, starve less, are healthier, and have more comforts than our ancestors. Christians are not Luddites. In fact, technology such as the printing press played a large role in the Reformation of the Christian Church. Christian concerns about the Metaverse are divided into the following: (1) Artificial Intelligence, (2) Identity, (3) Worship, and (4) the Gospel.

> *We are also called*
> *to be stewards of the created order.*

*Artificial Intelligence*

Artificial Intelligence is the elephant in the room for most Christians. Nowadays most major projects are designed by AI rather than human minds. Models of climate change, Wall Street financial transactions, and even major newspaper articles are written by AI. The genie is already out of the lamp. I have written about AI here. Yet, many Christians are ambivalent about AI. Mathematician and apologist John Lennox notes that AI "may well be the greatest problem of all in attempting to avoid the advent before 2084 of the scary aspects of Orwell's 1984".[1] This ambivalence is fuelled by science fiction stories and movies (e.g. Skynet in the *Terminator* series), mostly about AI deciding to kill all humans on earth or enslaving humans as battery sources (*Matrix* movies) and wanting to be God (*Star Trek: The Original Series*). This negative perception is not negated by the perception that AI may be benevolent (e.g. movie *Transcendence* and Isaac Asimov's Robot and Foundation series).

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[1] John Lennox examines the complex issues of AI and transhumanism and their possible manifestations in the future (hence 2084) in the context of George Orwell's authoritarian and humanist state (1984). John C. Lennox. 2020. *2084: Artificial Intelligence and the future of humanity*, Kindle. Loc.78

These, we must be reminded, are mere speculations, not facts. So far, there is no evidence that AI is not what it is: a very smart technology to achieve what they are programmed to do. They do not have consciousness or a soul. They do not have the spark of divine life that will enable them to worship God. The AI in our mobile phone has more computing power than Deep Blue, the AI chess grandmaster. All of us regard that as an essential piece of technology rather than a potential rival for the affections of God or wanting to be God.

*Identity*

Our human identity is bound to our awareness of who we are as a human being. It is not bound to our bodies. We can lose a limb and yet remain aware that we are still human. Christian consciousness of the identity in Christ is bound by the relation to God as revealed in the Bible and in His creation. Awareness of the Big Bang, the expanding universe, or stars with planets with water, do not in any way diminish our Christian identity. In fact, it strengthens our awareness of the awesomeness of the creator God. Does moving into the Metaverse and creating an avatar affects our Christian identity? I believe it will because it will expand our consciousness from a physical reality to a digital reality. It helps us to be more aware of who we are. Of course, in a digital space, we create an avatar who is not us. This is nothing new. In the real world, we have been creating our false self since Cain. This narrows down to two essential components of identity: integrity and authenticity. It will be a test of our Christian identity; how our integrity and authenticity hold in the real world and the Metaverse.

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*Worship*

Will it be possible to worship God in the Metaverse? I believe the answer was given during the two years of COVID-19 pandemic which forced many church ministries and worship to go online. Though still in Web 2.0, it proves beyond a doubt that God is in cyberspace and it is possible to worship Him in spirit and in truth there. Numerous digital churches or Christian faith communities have already been formed with regular services and other ministries. The Metaverse will expand on this to allow even more innovation to worship. There will be new

ways to pray together, meet together with a global reach, study the Bible together, and hang out together. Paul's concept of "one anothering" is being applied online.

*The Gospel*

The Gospel will be able to reach the far ends of the earth in the Metaverse. There will be greater opportunities for education and building relationships in the Metaverse. The Metaverse can only coexist with the real world. It has no independent existence. The Kingdom of God and the new earth are not just for the real world but for all the things in it. By implication, the Kingdom of God covers the Metaverse. Some Christians and theologians are beginning to develop an interest in the Metaverse.[2] There is however a need to live a Christ-filled life in the Metaverse as we would in the real world. All Christian teachings and traditions apply in both worlds.

**Hospitality and Inclusivity for people with disability in the Metaverse**

Hospitality and inclusiveness are hallmarks of the Christian church. In the real world, this has not worked out in practice. Church buildings are built with the non-disabled in mind. Very few are built with the disabled in mind. Many assessible reinforcements are only added as an afterthought. In the real world's churches, many people fall through the cracks and are excluded: the physically disabled, the bedbound, the hospitalised, the prisoners, the behaviourally challenged, those without transport, the very old and families with very young children. The church in the Metaverse may truly democratized hospitality and inclusiveness. No longer are the above mentioned excluded from an authentic 3-D worship experience or interactions with other people. Real life churches can help many of these acquire appropriate devices so that they may have a more meaningful spiritual experience.

The use of augmented reality has been used in a few research centres for dealing with children with autism.[3] These children wear a modified Google Glass where information may be

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[2] Contemporary theologian Ryan Bolger tries to develop a 'wholeness' theology using Teihard's Cosmic Christ, and the framework of Bevans' models of contextual theology for the Metaverse. Ryan K. Bolger. 2021. *Finding Wholes in the Metaverse: Posthuman Mystics as Agents of Evolutionary Contextualization*. Religions 12: 768. https://doi.org/10.3390/rel12090768

[3] In a study, the authors noted "Virtual environments are ideal for imparting skills necessary for independence before encouraging children with ASD to try these out in the real world and gain real-life experience". Yiyu Cai, Ruby Chiew, Zin Tun Nay, Chandrasekaran Indhumathi & Lihui Huang (2017) *Design and development of VR learning environments for children with ASD*, Interactive Learning Environments, 25:8, 1098-1109, DOI: 10.1080/10494820.2017.1282877

projected onto a virtual screen that the child sees. One project was to pick up an object and place it somewhere else. What the child sees will be a bright outline of the object to be picked up and a blank outline where the object is to be placed. This blank outline lights up when the object is placed there. The ultimate aim of the project is to get the child to put away his or her toys. The advantage is that the child interacts with real objects. The disadvantage is that the AR device is rather heavy and uncomfortable on one's head. However, as technology improves, the wearable device will be smaller, lighter and more comfortable. Other uses may include giving directions using Waze or Google Maps with a directional arrow superimposed on the road for the visually and/or mentally impaired. For people with learning disorder such as dyslexia, a 'corrected' script may be superimposed beside the actual script so that the person may recognise the problem and rectify it earlier.

One of the major problems faced by people with disabilities is the absence or unavailability of their medical records. This is where lifelogging becomes very useful: to have instant access to all recent records, past and present treatment plans, successes (including audio and video of the events), failures and future planning. This information will be very helpful to quantify progress and delineate successes.

The mirror worlds and the avatars will become an important area of concern and we should start thinking of it. Should a person with a disability create an avatar who is temporarily not disabled so that he or she can experience the world as most of people in the world does? It will be a great learning experience. A wheelchair-bound child can run and jump. The child can go hiking, climbing, dancing and participate in school sports in this digital world. There are ethical and moral considerations here. The technology will force us to face these issues. On the reverse side we can create avatars for temporary non-disabled people so that they can experience what it feels like to be disabled.

Currently VR technology is being used in the rehabilitation of stroke patients. It is well known that the brain is plastic; meaning the brain can learn and develop new neuropathways. In stroke victims some neuropathways were destroyed. In some rehabilitation centres, the patient wears a VR head device in which he or she sees a hand (matched in colour and texture to the patient's left or right hand depending which side was affected by the stroke). The patient is to think about moving the virtual hand to pick up an object. The theory was that thinking about moving the hand will develop new neuropathways.[4] VR will also complement multisensory

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[4] Rehabilitation of stroke patients. Schuster-Amft C, Eng K, Lehmann I, Schmid L, Kobashi N, Thaler I, Verra ML, Henneke A, Signer S, McCaskey M, Kiper D. *Using mixed methods to evaluate efficacy and user expectations of a virtual reality-based training system for upper-limb recovery in patients after stroke: a study protocol for a randomised controlled trial*. Trials. 2014 Sep 6;15:350. doi: 10.1186/1745-6215-15-350. PMID: 25194928; PMCID: PMC4167274. Other daily activities studies using VR include door unlocking, pouring water,

rooms and interactive play in children with mental and behavioural disability. In time this technology will become as common as word processing, YouTube and social media. The Metaverse holds promises and questions for people with disabilities and their carers.

**Conclusion**

We are living in exciting times. In biological and medical realms, we are living in the genomic code revolution. The mRNA vaccines are one of many new innovations coming from this revolution. We are also living in the computer code revolution. Within a few years we will be moving from our present 2-D Web 2.0 to the Metaverse Web 3.0. We are experiencing the assimilation of innovative augmented reality, lifelogging, mirrored worlds and virtual reality into our daily lives. Soon we will have a more powerful AI to solve more complex problems. Are there anything for Christians to be concerned about? Technology is not neutral. It influences the society using it. Christians have the role to ensure that technologies are used well and that those who use them are accountable. We have the knowledge. We need the wisdom.

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