



THE QUEEN'S
COMMONWEALTH ESSAY COMPETITION 2019

GOLD AWARD



2019

This is to certify that the Royal Commonwealth Society, on
recommendation of the judges, has awarded this certificate to:

Rishab Warriier



Dr Linda Yueh
Chair

Dr Diana Owen OBE
Chair of Junior Judging Panel

Vicki Wienand
Chair of Senior Judging Panel



THE ROYAL COMMONWEALTH SOCIETY

We are all connected by the internet, like neurons in a giant brain
-Stephen Hawking

When Scientist Stephen Hawking made this statement, he was trying to convey an important idea that the internet has made the world much smaller in terms of communication. He was making an analogy between the connections made by people on the internet and neurons in a brain. Both have intricate interactions; the connections between neurons are very much like a complex and wide web connecting everything together. At any given moment we have the ability to communicate with anyone immediately, when a century ago we couldn't communicate with most of the world within the time frame of a month. But nowadays, information and ideas can be spread quickly. The speed of modern communication allows us to keep in touch with people we wouldn't otherwise interact with.

In 1929, Hungarian author Frigyes Karinthy, wrote a short story called Chains, in which one of the characters challenges another to find a person on earth with whom he cannot be connected by fewer than five friends or intermediaries. This story became the inspiration for the idea of six degrees of separation which has some evidence in science. Our connections were weaker in the days before the advent of internet and social media when most people couldn't talk to someone more than a few kilometres away. Now we can communicate with people in deep space.

For the longest time the only way to communicate with others was in person, by walking over to meet them regardless of the distance. It could take months for a single message to get across and then an even longer wait for the reply. It is interesting to follow the advancements in communication. Once humans discovered writing to preserve their messages, the use of carrier animals became very prevalent. Mail expresses were created for this purpose. From foot messengers to carrier animals, from carts to trains to now mail vans and planes, we've made advances in the field of communication over the last century. This has astronomically increased the number of messages being sent by people.

Years ago, pigeons were used to carry short messages. The earliest known use of messenger pigeons dates back to over 2000 years ago by the Romans. Pigeons were trained to send messages halfway across the world in months but the danger existed that the message would never be received due to the birds being attacked mid-flight or being intercepted by the wrong person and falling into enemy hands. Homing pigeons were used in both World Wars I and II. Another wartime communication method involved the Marconi machines that used CQD and Morse codes with the use of lights.

One other interesting invention was the Electric telegram. It was the first time we were able to communicate across continents relatively quickly. In conjunction with the postal service the E.Telegram allowed people to communicate across large distances in days. Since then inventions such as fax machines, telephones, radios, and televisions, have speeded up communications. Each of which gave us quicker, faster, cheaper, and more secure means of communication. Fax gave us an easier way to communicate documents, while telephones allowed for conversations with someone far away. Radio and television made mass communication easier than ever. But the real game changers started with the invention of the first programmable computer, followed by the ARPANET (a predecessor to the internet), then continuing with email, the invention of the portable cell phone, then the WWW (world wide web)

opened to browsing, SMS (short messaging service), Smartphones and finally social media. Social media sites and the internet allowed a huge amount of development: Today, individual and mass communication methods are the fastest ever, and news, views and ideas can reach all over the globe instantly.

The internet revolutionized the world. The tentacular reaches of this gigantic information portal has paved the way for many technological advances. We now wirelessly use household devices like washers, dryers and refrigerators. The scope of the internet into our lives is awe-inspiring and frightening at the same time. The possibility of being hacked has gone up drastically. The very devices that help our lives like pacemakers, ICD's (Implantable Cardioverter Defibrillator), insulin pumps and ATMs if hacked could turn deadly. Researcher Barnaby Jack was able to remotely control pacemakers and ICD's to do some potentially deadly things like have them shut down completely or send a high voltage shock directly to the heart. He was also able to hack multiple ATMs forcing them to spit out money while playing the jackpot animation. There are frightening aspects to having devices communicating wirelessly, remotely controlled sniper rifles or bombs can complicate the security of daily life.

The effects of the internet extends far beyond just this. It also includes things like the scams, identity theft, malware and attacks on people's online identities and it has also made life easier with creations of jobs that boost the economy, ordering food from restaurants, online banking and shopping, and many other things. The internet also controls the power grids of many cities, people who have access to the entire power grid can control lives by blocking power to hospitals, where machines that keep people alive, like cardiopulmonary bypass machines, are kept. But one big effect of the internet is on the mental health of humans. People feel isolated because most of their interactions are in a virtual space with very little contact with another human being while the elderly and marginalized population feels "out of sync" with the world as they cannot keep up with the online advancements. Although the effect on the mental health of people is hugely debated as several studies have found conflicting results with some suggesting that multiplayer games and social media may actually help. Every connection we make, forms and affects our future — the internet makes this happen more rapidly and frequently.

Making predictions on the future of technology is hard. But it would be a fascinating study in using our imagination. There is quite a bit of hope for the future. In the field of medicine, the likelihood of surgeries being performed by bots seems high since devices like these are in the testing phase with some already being used. While in areas such as transport, magnetic movement vehicles like the Hyperloop can open up a new world of achievable speeds. Drones are already being used to monitor traffic, to recon, and to deliver packages to your doorstep. Robots taking over from management and household tasks such as cooking, cleaning and maybe even more. Flying cars, interactive holograms, a robotic police force, automated assistants for everyday life, and commercially available supersonic planes, may not be out of the realm by the next century. But with this advancement the most important issue becomes that of security.

As technology improves with products like CCTV cameras becoming more common along with drones and robots, the more our security and privacy can be breached and the more vulnerable we become to attack. We can't just hope that this is a problem for this generation that will

disappear very soon. So every advancement in technology must be accompanied by an improvement in device security so that they cannot be exploited by malicious entities. Certain studies have shown that a lot of things can be predicted with about 70% accuracy like gender, age, relationship status, political affiliation, emotional stability and satisfaction with life, purely using Facebook likes. Companies like Facebook, Twitter and Google cooperate with the police for important cases. Following the same methodology as the aforementioned studies, using more data points and multiple platforms can make a far more accurate picture of who you are. It has been successfully shown as possible to deduce someone's sexuality, and to determine pregnancy in women, even before their families knew, through the collection of such data. Soon we might even be able to predict a person's actions and stop them before they do something dangerous, unethical and immoral. With this kind of information gathering, organizations like the NSA or FBI could spy on anyone anywhere. The information collected by studying online browsing habits and social media personas has a high likelihood of being misused, and therefore must be protected by strict laws. It only causes problems for everyone when this information is leaked. Many laws are being enacted giving government organizations more power than they need and thus undermining the basic human rights of the public. More laws to protect our rights are needed.

Primatologist Tetsuro Matsuzawa speculates that the split between humans and chimpanzees happened because our ancestors were weak that we were kicked out of the forest to roam the dangerous savanna. To survive, our ancestors needed to be able to plan for the future, needed imagination and language. We needed to work together as a group. What makes us human is our connections. We have all the tools we need to keep the human part of ourselves from being lost.