

How will current trends in technological advancement and government surveillance affect the lifestyle and political structure of a nearby future? Will the current trend of apathy associated with privacy continue to be a social issue? I looked at a wide range of subject areas—mycotecture, connectomics, the development of Artificial Intelligence, implants and nanotechnology, government surveillance and the psychological ramifications of relying too heavily on technology (instead of our colleagues, friends, and family). I meshed together these lines of inquiry to form a glimpse into the year 2055, following the protagonists, Peter and Thena, through a graphic novel.

The new technologies and building materials available to us now, such as large-scale 3D printers and constantly improving nanotechnology, promise a simple solution to many global issues. But pure technological advancement isn't the whole answer. The 2055 I imagine is a more balanced world that still struggles with issues of free speech, general censorship, and social discrimination against hackers.

To keep up with the unending progress and not suffer the loss of personal freedoms (as the citizens of Sector 7 do), humanity must remain mindful of communication. Freedom requires constant vigilance from the citizens, and 2055 shows a prospective world where that freedom and trust between citizens is gone.

Alisa

2055:

Standing on O.L.Y.M.P.U.S

This report is a collection of articles, ads, email exchanges and propaganda that are all written from the point of the citizens of Global Government living in 2055 and 2056.

My curiosity and simultaneous anxiety has always driven me to look to the future. Science and the development of technology are relatively predictable roads to study as they relate to the future, and my fascination with the mind and psychology led me to study surveillance and its ties to technological advancement. I wanted to see how society would cope with ever increasing monitoring of every aspect of daily life and how this monitoring mindset would affect architecture, product design, social interactions, and the workings of internal governments. Putting a narrative behind this future felt like a natural way to frame my question.

I chose to examine our world 40 years in the future: not too far from and not too close to our present day. The year 2055 is not a terrible one; there is global healthcare, the UN has fused and reformed into the Global Government and climate change has been slowed due to the innovations in city construction and clothing design. But intense apathy has become normal in a society that constantly bombards its citizens with information. ADHD and depression are the two most commonly diagnosed diseases for the 15 to 40 age group. Yet society soldiers on, balancing and blending the technologic with the biologic in every aspect of daily life. The former has become more and more like the latter, and 2055 stands as a testament to the extent to which integration and connectivity are ultimately destroying freedom.

"Even in the present time it seems to me that the ways that this new sort of engineering, manufacturing, being able to modify nature, the kind of games people play [...] It's not that there's no distinction between art and science, it's that their shared stances towards the world are becoming part of how scientists and artists and engineers and designers in this more complicated space work within this idea of designed or made objects." -D Graham Burnett

WELCOME TO SECTOR 7!!!

Welcome newly appointed legal citizens of Sector 7! We're very excited to introduce you to the history and current state of Global Government, or GG. As young, fresh minds ready to take on the new challenges of tomorrow, it's important for you to understand how GG came to be and the centers that support its continued function! The following text should provide a deeper understanding of your home:

Before 2025, Sector 7 was known as the United States. Comprised of 50 separate states and 16 territories, all with their own cultural heritage and history, the US was a young country comprised of almost exclusively immigrants (as the native population had been killed during the establishment of the nation). In the early 21st century, the US stood at the brink of several social crises but with the enforcement of Global Government, these became extremely irrelevant in light of the connectivity of every Sector. The only threat that remains to the public wellbeing now is the hacking community- a malicious group of digital terrorists that seek to destroy the peace of GG. Although these hackers come in a range of severities, all of them pose a threat. All of them have the capacity to corrupt the perfect nature of GG, and bring us back to the darkness of the early 21st century. That's why you, prospective recruit should always be on the lookout: make sure that everyone is using their WebKey properly. **STAY VIGILANT!**

Global Government (GG) succeeded the UN as a governing, rhizomatic body composed of 150 Sector heads that served on a Global Council. Each of these 150 Sectors was composed of either a group or a singular country and has three main government operation centers: Media, Intelligence, & Civil Services. Media promotes the government's message throughout the sector and supports public artwork and film, Intelligence combines surveillance and minimal military units to serve as police force, IT department and Data Analysis Team for the sector and Civil Services deals with basic civilian needs and issues- law, property, taxation, etc. The three work together like a happy family: Media is informed by Intelligence as to current social needs, Intelligence sends the criminals they catch to Civil Services to be processed, Civil Services use Media to educate the public about their civil responsibilities and both Media and Civil Services supply Intelligence with information about the current state of affairs and possible hacker activity. Their partnership keeps each Sector and its citizens safe and secure!

Now as a prospective government employee, you must be asking yourself, "Man, I wonder how GG built all of these beautiful cities." The answer is simple: Nanites! City production and control are overseen by the government (specifically by Civil Services and Intelligence Centers) and so each Sector, when it wants to expand cities or start new settlements sends in a request for nanite construction. This request is evaluated through thousands of servers as a zero-sum proof¹ and is thus able to evaluate the request without knowing anything about it. When a building is scheduled for demolition, the nanite endoskeleton can simply be deactivated and the nanites will move back into the soil.

Simple and efficient, nanites have become a natural part of our lives under GG. Nanites are common in drug delivery,² control of the augmented reality experience of the web,³ and also

¹ Klarreich, E. (2014, February 3). Cryptography Breakthrough Could Make Software Unhackable. Retrieved November 9, 2015, from <http://www.wired.com/2014/02/cryptography-breakthrough/>

² Mahapatro, A., & Singh, D. (n.d.). Biodegradable nanoparticles are excellent vehicle for site directed in-vivo delivery of drugs and vaccines. *Journal of Nanobiotechnology J Nanobiotechnol.*

³ Singer, B. (2012, August 22). H+ Episode 7: Implanted. Retrieved November 9, 2015, from <https://www.youtube.com/watch?v=7YINDkn0yqY>

serve an extremely important purpose in terra forming. In order to reduce the negative impacts of additive construction, nanites were introduced as a biodegradable, metal, movable skeleton for buildings that would work with genetically modified fungi to build stable housing. As they form the metal framework of the building, they pull the fungal growth upward and around the frame, creating at first a sturdy, filmy layer of growth. Over the course of 2-20 weeks (depending on the size of the project) the film hardens, thickens and is cleaned and tanned in parts to create windows or thicker insulation. Dope, isn't it!?

The nanites themselves work with mycorrhizae to build the walls and fill in the nanite latticed endoskeleton. Drawing up nutrients and luring the fungi ever upward, the nanites push the fungi to form walls and windows. 2018 ushered in the rise of fungal plastics and bricks used as everything from clothing to building material. The artist Phil Ross was a major figure in this movement - an amateur mycologist, starter of MycoWorks and mycotechture, he saw mycelium as an artistic and later as a building material.⁴ He was one of the innovators who popularized mycotechture, and did it through mostly sculptural, very finely-controlled work. Ross saw “the most grotesque looking [being] the subtlest in terms of their demonstrations of control,” when it came to his fungal structures.⁵ His pioneering work made fungi less hated by the public and more accessible for experimentation, smoothing the transition from purely man-made objects, to more naturally constructed ones. The nanite and fungal buildings began to smell like the woods.

Some fear that nanite consumption and their absorption in plant life is harmful to the environment surrounding major cities, perhaps even more harmful than the earlier pollution from construction and the mining of construction materials. But studies show that plant life copes exceedingly well with nanite injections and since 2020, the pollution levels for Sector 7 have decreased by a factor of 10. There are no signs of decay or disease or tumorous growths present on tested plants.

Control of these nanites, the augmented reality of the web, the data stored on millions of websites and the government's own programs are all housed in one central Web, on different levels and bounced among data centers around the globe, all centralized and hidden in the Intelligence centers. All of these processes and collections of data required terabytes of storage, and as big data became an overwhelming problem in the early 21st century, researchers focused on creating algorithms and computers that could keep up with the pace of data collection. Neuroscientists focused on modeling the human connectome, a model of the human brain, saw that in order to automate the process of tracing neurons, they would have to create a more sophisticated program for differentiating the membrane edges of the cells. Simultaneously, quantum physicists and computer scientists were working on creating the first quantum computer that used electrons as its quantum bits (qubits) instead of binary bits as the basic storage unit.⁶ As these qubits can be both 1 and 0 at once instead of either 1 or 0 like binary bits, a quantum computer with such qubits would have 2^n as much processing power as a computer operating on binary. Research into creating the first quantum computer made its initial big leap in 2015, when researchers in Australia first created a logic gate, the most basic computing operation, only

⁴ Roth-Johnson, L. (2014, August 26). A House Made From Mushrooms? An Artist Dreams of a Fungal Future. Retrieved November 10, 2015, from <http://ww2.kqed.org/quest/2014/08/26/a-house-made-from-mushrooms-an-artist-dreams-of-a-fungal-future/>

⁵ Grover, A. (2012, September 8). The Future is Fungal: Interview with Phil Ross. Retrieved November 16, 2015, from <http://glasstire.com/2012/09/08/the-future-is-fungal-interview-with-phil-ross/>

⁶ Muller, D. (2013, June 17). How Does a Quantum Computer Work? Retrieved November 9, 2015, from https://www.youtube.com/watch?v=g_IaVepNDT4

using qubits.⁷ Their success propelled researchers forward until finally in 2025, the first basic quantum computer was built in Sector 6, using the designs and discoveries of the last decade. As a faster parallel processor,⁸ the quantum computer was perfectly suited to run the modeling and refining algorithms on connectomics data, and in 2028 the Blue Brain Project was able to complete its model of the human brain. Within a year, the model and quantum computer were hybridized in Massachusetts into the first AI Intelligence server named Athena, modeled off Google's deep learning software, TensorFlow.⁹ Unlike her predecessors, Watson, Siri, and Cortana, Athena was fed directly into the Web and used every existing site for education. Athena is a combination of diverse software - her logic-deduction engine and language engine might operate on different servers, in different locations but these programs recombine to form her collective intelligence.¹⁰ The designs and code were sent to every Sector head immediately after successful launch and within the next two years, the AI network named OLYMPUS was created.

Of course, along with scientific advancements in data collection, Athena and OLYMPUS by extension brought an increased vigor to the surveillance data collection of the Intelligence Centers. Before GG, Sector 7's intelligence agency was called the National Security Agency (NSA). Deploying both internal and external forms of cyber-attack and surveillance, the NSA kept the American people safely monitored on the home front and free of possible terrorist action abroad through programs such as PRISM and xKeyscore. PRISM was a program launched to reroute information through partner companies like Yahoo, Facebook, and Google and xKeyscore was used to search through information directly from any website, email, or computer file belonging to a target.¹¹ In 2013, Edward Snowden, an upper level analyst at the NSA, leaked large amounts of secure information concerning the programs the NSA used for mostly internal surveillance. His actions were seen as cowardly by the United States majority and he fled to Russia to escape charges.¹² Some called this man a hero, but the GG and especially the Intelligence Centers see him as he is: a cruel, cowardly, and foolish man, the likes of which was to be condemned. Hackers like Snowden are the main enemies of GG. Corrupting the systems of peace upheld by the government is a serious felony and is not to be treated lightly.

Through the years following the Snowden incidence, the Intelligence Centers of the GG were able to normalize the constant government surveillance and continue the NSA's surveillance protocols. Launching an extremely successful global marketing campaign in 2030 promoting

⁷ McDonald, F. (2015, October 6). Australian engineers just built a quantum logic gate in silicon for the first time. Retrieved November 9, 2015, from <http://www.sciencealert.com/australian-engineers-have-put-quantum-technology-in-a-silicon-chip-for-the-first-time>

⁸ Muller, D. (2013, June 17). How Does a Quantum Computer Work? Retrieved November 9, 2015, from https://www.youtube.com/watch?v=g_IaVepNDT4

⁹ Metz, C. (2015, November 16). Google Open-Sourcing TensorFlow Shows AI's Future Is Data. Retrieved November 19, 2015, from <http://www.wired.com/2015/11/google-open-sourcing-tensorflow-shows-ais-future-is-data-not-code/> Cade argues that the secret to AI development is the data the AI is fed, not the algorithm it is built on. When Google released its code for TensorFlow, they released the nonessential part of their product. With companies like BaiDu, Facebook and IBM working their hardest to collect talented individuals and larger stores of data, the race to AI is very close.

¹⁰ Kelly, K. (2014, October 27). The Three Breakthroughs That Have Finally Unleashed AI on the World. Retrieved November 13, 2015, from <http://www.wired.com/2014/10/future-of-artificial-intelligence/>

¹¹ Last Week Tonight with John Oliver: Government Surveillance (HBO). (2015, April 5). Retrieved November 16, 2015, from https://www.youtube.com/watch?v=XEVlyP4_11M

¹² Edward Snowden NBC News (full interview). (2014, May 28). Retrieved November 9, 2015, from http://www.dailymotion.com/video/x1xfc4b_edward-snowden-nbc-news-full-interview-may-28-2014_news

social media as a type of crowd-sourced criminal search,¹³ the Intelligence Center was able to acquire and process teraflops of data which included everything from GPS coordinates of the criminals to their browsing history and transactions through WebKey. This abundance created huge decreases in crime rates worldwide, making communities more close-knit and safer, as people felt like they could now rely on their neighbor for sound moral judgment. The Intelligence Center has run countless such operations since, using both gathered and provided data.

In order to provide ever higher levels of security to the citizens of each Sector, each member of the government or government agencies is tagged with an RFID (Radio Frequency Identification).¹⁴ RFID's emerged in 1973, and were used mostly as animal tags for strays and as barcodes for company products but has now become quicker and more complex. Employees of the GG, upon starting their work at either of the three centers, are implanted with an RFID. This allows for their medical records, Civil Services records, and personal ID is shown in a single swipe. IT'S PERFECTLY SAFE.

¹³ Youseph, R. (n.d.). 5 Ways Crowdsourcing Is Battling Crime - Daily Crowdsourc. Retrieved November 9, 2015, from <http://dailycrowdsourc.com/content/crowdsourcing/336-5-ways-crowdsourcing-is-battling-crime>

¹⁴ Greenberg, A. (2012, August 13). Want An RFID Chip Implanted Into Your Hand? Here's What The DIY Surgery Looks Like (Video). Retrieved November 9, 2015.

GG

ACCESS THE WEB
ANYTIME,
ANYWHERE.



WEBKEY-
TAILORED TO YOU.

GG

With the Web Key, get ready to experience a whole other version of the web!

With state of the art VR technology, and memory processing, the Web Key allows the user to step into and physically interact with their everyday websites. Using vision tracking and a direct link to the mind through a nanite feed into the front cortex, Web Key lets you gesture through emails, walk through videos and view photos and Facebook streams as zooming in and out of projections.

Google Hangouts have become all the more convenient now that every member of the meeting is physically present, visible and able to be interacted with. Online videogame streaming has become closer to the experience of attending a sporting event as you can toggle on the crowd view to see how many people are viewing the creator's play-through of the game. Coupled with the AI functions of Athena and others, creators are able to directly work with their customers and help them through using the product. Pinterest has become a walk in gallery - pinners have the added benefit of pinning anything in their virtual or real environment with a touch of a button. Google Maps is interactive through 360 video¹⁵ and talking images.

THE POSSIBILITIES ARE ENDLESS!

Although completely optional, most users chose to augment their Web Key experience with a nanite injection. Theses nanites, cutely called wugs, (web bugs) help to clarify the web view and sensory interface a hundred-fold. They are injected directly into the occipital, temporal and frontal lobes to stimulate certain circuits in the brain and enhance the user's brain's interaction with the Web Key!

Less than 15% of users report side-effects.

Side Effects include:

¹⁵ Hollister, S. (2015, March 13). YouTube's Ready To Blow Your Mind With 360-Degree Videos. Retrieved November 19, 2015, from <http://gizmodo.com/youtubes-ready-to-blow-your-mind-with-360-degree-videos-1690989402>

By introducing this new format, YouTube popularized VR and exposed the public to the possibilities of interactive content. Coupled with Google Cardboard and 360 cameras like bleh, it's become simple and

Bloody nose	Blurry vision	Insomnia
Headaches	Blindness	Hypersomnia
Migraines	Depression	Social apathy
Sinus infections	Psychosis	Loneliness
Tinnitus	Amnesia	

If you begin to experience depressive episodes or hear a C sharp for three hours continuously without environmental cause, please consult your doctor to check if the Web Key is working properly.

For further information, please experience the Web Key site at www.yourgatwebkey.gov

Web Key is now in your neighborhood! Those pesky screens have been replaced with geomarkers. Experience a world without the blue glare and interact with your local parks, museums and landmarks to see their history in context with Web Key.

Geomarkers are connected to the Web and host GG secure content about the locations. First created by Tom Uglow, they bring you closer to the natural way of interacting with your environment. There's no need to consult your phone or a screen because your WebKey is a direct connection to that information. Uglow realized in the early 21st century that we're, "not addicted to [our] phone, [we]'re addicted to the information that flows through it."¹⁶ His passion for simple, naturalistic design is what pushed the Geomarkers onto the market, and eventually into the environment. Embedded tech, that naturally arises and explains itself can engage the 5 senses, and become the regular experience of a Sector's citizens!

Using the 5 senses rule, Geomarkers engage all citizens, younger and older, with technology through natural objects. Find yours today, at Geomarker.gov!!!

SERVE YOUR SECTOR!

JOIN THE INTELLIGENCE CENTER TODAY!

The intelligence center is the hub of information for each Sector! Powered by your local branch of the O.L.Y.M.P.U.S AI network, it watches out for terrorist plots, criminal attacks, anti-governmental conspiracies, and makes sure that every civilian is happy with their everyday life- in terms of safety, job, home life, and as consumers in GG. But O.L.Y.M.P.U.S and the Intelligence Center need you to keep them both on track.

¹⁶ Uglow, T. (2015, May 1). An Internet without screens might look like this. Retrieved November 15, 2015, from https://www.ted.com/talks/tom_uglow_an_internet_without_screens_might_look_like_this?language=en

As an intelligence officer it will be your responsibility to either serve as a tracer - sorting through information collected from the people of Sector 7 through O.L.Y.M.P.U.S or as an upper level analyst, looking to further trace connections between the tracer's findings. As an upper level analyst, you will be serving your government to the fullest extent, searching through this material to determine patterns in the data, leads and paths that snake their way to your target. Those of you who pass through these two levels and prove to be physically fit for combat will be further trained for Psy-ops¹⁷ - psychological tactics and become part of the Intelligence Center Police Force! From spreading the GG's message to preventing and counteracting terrorist fronts through military action, you will be the force behind international peace.

The life of an intelligence officer is not easy- it requires great training, persistence, focus and loyalty to correctly do what is right- but it is an honorable profession and one that every citizen should strive for!

You will create change in your community and use your intelligence to serve your people.

The Intelligence Center awaits your arrival, recruit!

(SIGN UP ONLINE @ intel.gov to receive updates on hiring status of the center- STAY VIGILANT.)

¹⁷ IWS - The Information Warfare Site. (2011, February 21). Retrieved November 8, 2015, from <http://www.iwar.org.uk/index.htm>

Used most prominently in the late 20th century during the Cold War between Sectors 7 and 4 and in the early 21st century for Sector 7's dealings with Iran and Iraq, psy-ops have been incredibly useful on the global stage

CLASSIFIED CONTENT

(2056)



RichardDawkins

Nov 14 (5 days ago)

No one in Intel 7 knew what the hell was going on - the bugs who actually watch over everything were being watched...

Thena came back from the desert just exhausted and we couldn't find Peter for the next 6 hours until he just stumbled into the main control room like a deer in headlights. I'm completely lost.

The city is still growing. 20 miles away and spreading. Halting this program seems to be impossible. Someone just keeps rerouting everything I try to write into the software. Looking through people's wugs to try and grapple with it doesn't help. No one knows.

No one, and it bothers me that I still can't read through Peter or any of his hacker friends. I mean, the Nexus should give me total control but it's been super buggy lately and I can't seem to get to him. As a complete WebKey reader it has the capacity to show me anything he's been looking through at, anything he's been on. But every time I log on it crashes- leaves me feeling like my brains have been sucked out of my forehead.

Maybe Thena can make sense of it.



IBelieved42

Nov 14 (5 days ago)

Thena's had a lot on her back, don't push this on her.

She must have been exhausted not to pummel the poor bastard into the ground. I don't know why you brought Peter in, he's a classic Trojan horse. In any case, just be careful.

The Nexus thing is common with hackers- in fact it's the first telling sign that they play the system.

I don't think she trusts him either, which is strange because they seem to be an amiable pair.

I remember back in 2016, people were completely (or almost) anonymous online, but always (or almost) under surveillance offline. This led to a more accurate persona online vs in life, or at least led to an environment in which people weren't as afraid to speak their mind. Free speech was virtual.

In fact, almost all speech was virtual - allocated in texts mostly - texting while driving, texting while meeting with friends, texting in business meetings, texting at funerals. Hell, we even talked while texting! It was a skill to be able to stare at someone and multitask. To ignore what they

were saying.¹⁸ We ended up distancing ourselves because we wanted to focus our attention everywhere at once.¹⁹ Being online gave us that distanced control. We got to create our best selves by editing down what we perceived as our flaws.

We lost touch with who we were through social media, focusing on those snippets of text and email, we started to believe that NO ONE WAS LISTENING. We amassed followers and friends and subscribers and robots to fill that whole. Sheryl Turkle was right to say that “we expected more from technology and less from each other.”²⁰

But we could never escape conversation with others. Connection couldn't replace that, and conversations, unlike texts, emails or even Skype calls didn't let us edit ourselves. Being alone felt like an issue and it wasn't being resolved online so we reached out through VR and in person. We started to notice the little things. The wugs of others became clearer.

We were lonely and afraid of true empathy, but entering 2040 I remember I had to step outside of my Web Key, to finally talk to people before I lost myself. I know Thena went through the same torment...



RichardDawkins

Nov 13 (4 days ago)

Yeah, 2040 was a strange switch...I'm glad we have the organized Centers, but it's amazing how the hackers have still persisted in their ridiculous dreams of a rebel state.

I wonder what samples she brought back. We need to analyze them before this thing starts to infect the capital of this sector.

CLASSIFIED CONTENT
(2056)

¹⁸ Turkle, S. (2012, April 1). Connected, but alone? Retrieved November 13, 2015, from https://www.ted.com/talks/sherry_turkle_alone_together

¹⁹ Ibid.

²⁰ Ibid.

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