**From Gold Shield to Great Firewall**

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**Abstract**

The rise of the internet as a global communication system represented a new economical frontier. It allowed countries to freely exchange information across the world in the blink of an eye. China recognized how transformative this technology could be and how it could further aid its economic rehabilitation. However, the internet also posed a threat to its authoritarian control of its citizens. The internet is a vast landscape that provides social platforms for people to exchange ideas freely. The Chinese government needed a way to gain the economic benefits of using the internet while preventing its citizens from adopting foreign ideologies. In this paper I will explore how China built a wall around its internet, what its goals are for controlling the flow of information and what affects this wall has had on its citizens.

**Theories**

According to Gary King, Jennifer Pan and Margarete E Roberts, there are two theories why the Chinese government wants to censor the internet. The first theory is called state critique theory. This theorizes that the Chinese government wants to limit the sharing of any ideologies that faults Chinese leaders, the government and policies. The second theory is called collective action potential. This is the theory that the Chinese government wants to censor any potential collective action that is inspired by someone other than the Chinese government. This censorship effectively limits the ability of citizens to organize protests. [King, Pan, Roberts]

**The Technology**

In information technology, a firewall is known to be a security program that blocks untrusted internet networks from accessing your personal network and computer. It is a tool designed to provide people with a barrier of protection from any nefarious entities in the vast internet space. The Great Firewall of China is a foreign term given to the Chinese governments technological and policy rules used to filter internet content coming into the country from outside sources. This censorship effort by the government is known in China as the “Golden Shield Project.” The scope of this project includes security management information system, criminal information system, exit and entry administration information system, supervisor information system and traffic management information system. [Chandel, Jingji, Yunnan, Jingyao, Zhipeng] The Golden Shield Project was launched by the Central Cyberspace Affairs Commission of the People’s Republic of China. By 1994 the internet was becoming the most popular and widely used platform for communication. The Chinese government knew they needed to open its borders to the internet in order to maintain its economic resurgence. President Jiang Zemin believed the development of the internet represented the third wave of industrialization. He believed China missed out on the previous wave and did not want to again fall behind western powers. [Lokman] However, they did not want western ideas and influences to affect its citizens. The Golden Shield Project was launched in 1996 and started deploying in 2004. The development went through several stages before deployment.

*Stages*

The first stage on the Golden Shield project was blocking domain names and IP addresses. A domain name is given to an IP address of a server hosting web content. For instance, Googles IP address is 8.8.8.8. Instead of making people remember IP addresses for every website, a domain name server (DNS) assigns the name [www.google.com](http://www.google.com) to the IP address of Googles server. These domain names and IP addresses are put on a list that denies Chinese citizen’s access. The government worked with local police to install surveillance cameras at internet cafes to identify anyone who successfully accessed websites that are on the banned list. [Chandel, Jingji, Yunnan, Jingyao, Zhipeng]

Keyword censorship was implemented in the second stage. Keyword filtering allowed the government to scan website content for certain phrases that are deemed to be sensitive. Any phrases criticizing the government, such as “Illegal detention,” would be censored. [Chandel, Jingji, Yunnan, Jingyao, Zhipeng]

Stage three was the development of VPN detection. Golden Shield developers were able to identify certain ports used by VPN services. When these ports are accessed, the connection is halted. This hindered many of China’s VPN companies but did not shut them down completely. [Chandel, Jingji, Yunnan, Jingyao, Zhipeng]

The fourth stage was the establishment of laws preventing anonymity and unauthorized VPN use. In order to surveil users, the Chinese government required internet service providers to maintain records of its users and how much time they spent online. VPNs were required by some institutions for commerce and scientific purposes. For this reason, the government limited VPN use to only authorized providers. Anyone caught illegally providing VPN services faced fines and jail time. [Chandel, Jingji, Yunnan, Jingyao, Zhipeng]

**Chinese Citizen sentiment**

A survey conducted in 2005 found that over 80% of citizens approved of internet censorship. Some Chinese citizens even view Western perceptions of their internet censorship experience as a hoax. [Lokman] This acceptance of censorship and its effects can be seen today. After the COVID-19 outbreak that was first reported in Wuhan China, author Fang Fang released a book which accounted the event of the discovery of the COVID-19 outbreak and its aftermath. The book was critical of the attempted government cover-up of what happened but did not directly criticize the government itself. Chinese social media users, mostly young people, condemned the book and author for not acknowledging the efforts of the Chinese government to contain the outbreak. This young generation of internet citizens (Netizens) saw Fang Fang’s book as a perpetuation of Western smear campaigns to blame China for the outbreak. These Netizens have also taken aim at media that is critical of Chinese society. Big Shot’s Funeral is a classic Chinese comedy that is a satirical take on capitalists in China, but Netizens now believe this movie to be “a smear on national entrepreneurs.” Even the sale of TikTok’s US operations has been perceived as the CEO lap dogging to the US. [Wang] The increased nationalistic view of young people represents a change most likely welcome by the Chinese government. Before the Great Firewall, the internet was a much freer place for young people to express ideas and challenge authority. They were able to create content that put pressure on government officials to right any perceived wrongs. The slogan for this kind of content was “changing China through collective spectating.” Once the Great Firewall went up and strict censorship of government criticism was scrubbed away, Netizens were left with an online experience that would never show the Chinese government as doing any wrong. There are young people that have lived with a censored internet experience all their lives. They never got to experience an internet that encouraged free thinking.

**Attack on protests**

The Great Firewall is not just a tool for censorship and surveillance. The Chinese government has used its control over the internet to quell any protests against itself. In 2011 a group of Netizens anonymously organized a Jasmine Revolution. A Jasmine Revolution is a pro-democracy movement aimed at challenging the one-party rule of the Chinese government. They looked to mimic the Arab Spring uprising that occurred in the middle east. This protest started online and received global attention. It led to the resignation of Egyptian President Hosni Mubarak and inspired other middle eastern countries to stage their own uprisings. [Aljazeera] China viewed the Jasmine Revolution as a direct threat to its communist regime and responded by detaining over 25 people, making over 30 disappear and sending over 200 more to soft detentions. Some sentences were as much as 10 years. [NCHRD] A more recent example of quelling protests made headlines a few weeks before this writing. Protests have broken out in China due to growing frustration among citizens over the Chinese governments zero-tolerance COVID-19 lockdowns. It is well past the time when most of the world has ended lockdowns and opened their borders back up for travelers, but the Chinese government has chosen to continue strict lockdown polices if any outbreaks of COVID-19 are detected. These protesters know they are not able to use Chinese platforms to communicate and assemble with other protesters, so they have turned to using VPNs to access outside platform like Twitter and Telegram. What citizens are finding when they try and search Twitter for information on cities that have staged protests is a flood of spam tweets about pornography, escort services and gambling. A large number of these spamming Twitter accounts have not been active until recently, which leads to the belief that it is an organized army of bot accounts attempting to bury any mention of the protests going on. [Liao, Shu] This organization of bot accounts is being attributed to the Chinese government reaching beyond its own social media applications to control the information it wants its citizens to see.

**Propaganda and the Fifty-Cent Party**

The Chinese government uses the Great Firewall to control the flow of information on the internet, but it has evolved its tactics beyond deploying filtering technologies. China saw the need to not only filter unwanted western ideologies, but to also have Netizens advocate for the regime. They employed citizens to post progovernment propaganda in exchange for money. This group of progovernment Netizens were dubbed the “Fifty-Cent Party” by Netizens to make light of the fact that these posters get paid to side with government ideology. [Chander] The effort by the government to employ people to speak glowingly of the regime and to steer public opinion was quickly recognized and decried by regular Netizens, but over the years a new constituent of Netizens emerged that adopted more nationalistic views and came to aid the governments efforts. This new constituent of Netizens dubbed themselves the “Voluntary Fifty-cent Army.” [Han] This new constituency denounced anyone who spoke critically of the Chinese government and labeled them as various names including “U.S.-cent party.” This deliberate mentioning of the United States shows their rejection of western influences.

**VPNs**

In 2015, China blocked most of the widely used VPNs people used to access content outside of the Great Firewall. This was a surprise move by the government as it is widely known that VPNs are required to facilitate global economic activity such as banking, commerce and scientific endeavors. [Economy] The Chinese government has so far allowed the use of remaining VPNs despite its policies against foreign content. However, it has targeted individuals online with its army of internet moderators for spreading “rumors” if they choose to post strong opinions that go against the government. Chinese Netizens risk being hit with defamation lawsuits if they post anything the government deems is “false news.” A lot of Netizens have resorted to talking in code when they want to voice their opinion. They do this by using words that are similar to what the Great Firewall would most likely censor. Charlie Smith, a founder of FreeWeibo.com, theorized that this blocking of VPNs was a natural move towards China’s goal of “cyber-sovereignty.” This is the belief that the government has the right to regulate and censor any information that comes into their borders. [Yuen]

**US similarity**

Researching this topic made me think about a phenomenon that US citizens experience that has similar effects to that of the Great Firewall. In the US, we have a freer internet experience than China. Our first amendment right gives us the right to freely speak our minds. But there is a comparable phenomenon to China’s Great Firewall that some may experience in the states through media consolidation. This is when corporate entities own most, or all, of the news stations in a geographical area. [Andrews] Corporate entities have political leanings, and those leanings are expressed through the media outlets they own. If you happen to live in an area of the US that only has news outlets owned by one corporation, you will have little exposure to any news critical of the political party in which the corporation aligns its interests. The people in these regions adopt the political ideologies served to them everyday as they do not have access to alternative voices to give them the news. This situation only affects people who still consume their information through traditional means such as tv and newspapers. Some of these pockets in the US do not have great internet access which may further narrow their ability to seek alternative media voices. But the difference between the situation in the US compared to China is that China has spread their propaganda campaign to encompass the internet entirely. US citizens can find refuge from propaganda if they are able to find an internet source to seek out different voices, but Chinese citizens are locked into their bubble of information wherever they go.

**Conclusion**

Gary King, Jennifer Pan and Margarete E Roberts created two theories to explain why China created the Great Firewall. From my research I found both theories have compelling evidence to back them up. The Great Firewall of China is not just a technological barrier deployed by the government to shield its citizens from the vast content of the world wide web. It is a sophisticated collection of policies and surveillance designed to control and alter the flow of information within China to discourage the spread of ideologies and gathering of people that would negatively impact the government itself. The Chinese government designed the Great Firewall because they need the economical growth associated with utilizing the internet but did not want to risk exposing Chinese citizens to platforms that introduced then the Western ideologies or could encourage any negative political demonstrations. The Great Firewall has evolved beyond passive technology for blocking and censoring content. It is now a major government department that employs millions of workers. Early Chinese Netizens still remember a time before the Great Firewall where they were free to have political discourse and to organize demonstrations. Those that still want to express their thoughts online must do so in coded language that would slip past the censorship bots and workers watching their every interaction online. Netizens are also still able to access the internet outside of the Great Firewall, but the shutdown of the most widely used VPNs has made that a lot harder. Tech savvy citizens will be able to figure this out, but it is less likely for novice tech users and less educated citizens to bother trying. Chinese citizens have lived with this much restricted internet access since 2004. In the time since, a new generation of Netizens have emerged that have only ever known the internet under the Great Firewall. This has led to the rise of more nationalistic ideologies spreading online. The affects of China’s Great Firewall policies are working to advance government leaderships ideologies and influence. So much so that other authoritarian regimes are following suit. The ongoing protests in Iran led to the government shutting down social media applications like Instagram and Twitter in order to hinder protester’s ability to assemble. [Sriram] The grip of the Chinese government on its citizens access to information and discourse sounds insurmountable, but if citizens are still willing to find loopholes in the system and are aware of the heavy censorship they experience compared to most of the world then there is hope that they can one day demand some of the freedoms we experience when it comes to the use of the internet.

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