

A Brave New World: Internet Censorship in China

The nation of China has, for centuries, been a bastion of consistency. Years passed, leadership was passed on and dynasties were overthrown, but in general, China remained a sleeping giant: a nation that mostly kept to itself and immediate neighbors, but had the potential to grow into so much more. All of that changed in the twentieth century, when Mao Zedong led the Communist Party of China through a hard-fought revolution and into power, culminating in the declaration of the People's Republic of China on October 1, 1949. In the nearly sixty years since, China has undergone almost inconceivable change. What was once a sleeping giant has become a respected, feared world superpower: communism in China has ushered in immense prosperity. However, many nations such as the United States dislike the effect communism has had on basic human rights in China. One of the more recent controversial developments in human rights, is Internet censorship, and is the epitome of China's attitude towards freedom of expression and censorship. In essence, Internet censorship represents how far China has come technologically, how much it has changed, and what it has sacrificed to get there.

In general, though, censorship is nothing new in the People's Republic of China. The PRC Constitution (ratified in 1982) guarantees freedom of speech, the press, expression and assembly in Article 35. Freedom of religion is provided in Article 36. However, in Article 51, the Constitution takes a step back, saying that these rights do not exceed the interests of the state: "The exercise by citizens of the People's Republic of China of their freedoms and rights may not infringe upon the interests of the state, of society and of the collective, or upon the lawful freedoms and rights of other citizens."¹ In comparison to the Chinese constitution, the United States' Declaration of Independence is anarchist: "But when a long train of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute

¹ <http://english.peopledaily.com.cn/constitution/constitution.html>

Despotism, it is their right, it is their duty, to throw off such Government, and to provide new Guards for their future security.”² Even more striking is Amendment 1 of the United States Constitution, which not only protects the rights of its citizens, but protects the rights of its citizens *from the government*: “Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.”³ Such a striking discrepancy makes it clear why Reporters Without Borders, an international organization fighting for the rights of journalists, ranks the United States 36th in terms of freedoms given to the press compared to China, which is ranked 167th.⁴

But while it was Mao Zedong who led the Chinese towards its status as a world superpower and built its stability, Mao was not a big proponent of censorship (of his published writings, none mention censorship⁵). While he believed his positions were right, he also seemed to operate under the belief that people could say whatever they wanted and that they should be accountable. For example, Mao wrote for years about how capitalism was wrong, but seemed to know that he also had to fight for what he wanted, and that words were only as powerful as the people behind them. The leaders that have succeeded Mao, however, have recognized the usefulness of censoring the public (the Constitution mentioned earlier was passed in 1982, six years after Mao’s death⁶).

It is no surprise, then, that the World Wide Web, announced by Tim Berners-Lee in 1991, posed a problem.⁷ Berners-Lee invented the Web as a way for scientists at CERN to share

² <http://www.ushistory.org/declaration/document/index.htm>

³ <http://www.usconstitution.net/const.html#Am1>

⁴ http://www.rsf.org/article.php3?id_article=29031

⁵ <http://www.marxists.org/reference/archive/mao/selected-works/index.htm>

⁶ <http://english.peopledaily.com.cn/constitution/constitution.html>

⁷ <http://www.w3.org/People/Berners-Lee/Longer.html>

information, and since then it has grown into a global network with over 100 million websites.⁸ The World Wide Web is arguably the most important invention in the last quarter-century, but could have had far less impact were it not for a decision made by CERN on April 30, 1993: the World Wide Web would be free.⁹ Since then, everyone with a connection to the Internet has been able to access the Web with no royalties, allowing the Web's adoption to skyrocket and anyone from a third-grader in San Diego to a wealthy South African businessman to have the same level of access to the Web. Tim Berners-Lee is one of the more prominent proponents of net neutrality, the belief that all traffic on the Internet (and by extension, the World Wide Web) should remain neutral, anonymous and unprejudiced.¹⁰ In the United States, the net neutrality debate mostly concerns whether or not Internet Service Providers (ISPs) should be allowed to monitor and throttle traffic in order to prevent illegal activity or make sure users are not abusing their resources, but in China the problem relates to the government.

The idea of the World Wide Web posed some problems for the CCP. The main issue with the Web is that it is not confined in any way: there is not a Web for China, there is not a Web for Sweden, and there is not a Web for the United States; there is one Web. Allowing connectivity to the Web means allowing connectivity to the world. Thus, the problem became how to deal with people who encourage Chinese dissention from outside China. If a site is problematic, authorities can search databases publicly available and for the most part, find out who operates an offending website. If the owner of the site lives in China, the problem is solved: a cease-and-desist order can be sent, and it is up to the owner whether or not to obey or face legal prosecution. However, if the owner of the site lives outside the country, there is very little the Chinese government can do: ask the owner of the site to take down the offensive materials, and if he does not cooperate

⁸ <http://www.cnn.com/2006/TECH/internet/11/01/100millionwebsites/>

⁹ <http://tenyears-www.web.cern.ch/tenyears-www/Welcome.html>

¹⁰ http://news.cnet.com/2100-1036_3-6075472.html

contact the local authorities. However, the local authorities are under little obligation to cooperate, and since many websites are located in the United States or Europe, are not likely to cooperate.

Fortunately for the CCP, China was a relative late-comer to the global Internet boom, and because of this there are only a few main trunk lines that connect the Chinese Internet infrastructure to the rest of the world.¹¹ To put it another way, if the United States wanted to monitor the Internet it would have a much harder time doing so because much of what goes on is internal: most websites are based in the United States. Thus, there are hundreds of thousands of connections that lead out of the country, each of which would have to be monitored. Because China only has a few, monitoring those connections is feasible. Along with the traffic that travels in and out of the country, the other issue is the internal traffic, or what happens between computers that are within China. Since the CCP has more power than the United States government when it comes to controlling businesses, the CCP can simply order the ISPs within China to follow its mandates and censor what needs to be censored.

The problem is similar to what small businesses and corporations in America face today. In order to protect the company's image and the employees' use of time, corporations will employ firewalls that act as a gateway between the Internet and the corporate network to restrict traffic that goes out to the Internet. That same firewall is normally not used to monitor internal traffic (such as corporate instant messaging and e-mail), so similar software is installed to accomplish this feat. The differences are only in scale and magnitude: the corporation very rarely has more than one or two connections to the Internet that needs monitored, while China is dealing with far more. Also, if the corporation's firewall is too restrictive or goes down, only the corporation is without Internet: the world keeps on moving. If China's firewall were to go down,

¹¹ <http://news.bbc.co.uk/2/hi/technology/7312746.stm>

massive Internet blackouts could take place. Thus, it was important to design a system that was both effective and foolproof.

The Golden Shield Project began in 1998, after the Communist Party began to fear that the Chinese Democratic Party would be able to use the Internet to start an uprising and remove power from the communists. Essentially, the Golden Shield is an Internet firewall that is capable of blocking or restricting Internet traffic in a variety of ways: IP blocking and DNS poisoning are two common techniques.¹² Its function and its geographic location have given it the nickname “The Great Firewall of China”. The system went live in 2003, with phase one completed in 2006 and phase two expected to complete in 2008¹³, and as of 2002, the project had cost \$800 million. There is no specific way to know if a site is blocked or not without trying it, but an unofficial list is kept at Wikipedia¹⁴. Sites that are censored are fairly obvious: sites with pornography, sites covering the Tianenman Square incident in 1989, sites promoting Tibetan rights and sites promoting anti-Communist agendas are blocked.

There are a couple things to note about the beginning of the project. First, the timing is important. If the CCP had waited even a mere five years, the Web would have grown exponentially (according to the OCLC, there were slightly less than 3 million unique websites in 1998, compared to just over 9 million in 2002¹⁵, compared to a new milestone of 100 million in late 2006¹⁶) and would have been much harder to contain. This effect would have raised the cost of the project due to the size as well as the effectiveness the system has. Today, the system is at least somewhat effective because the CCP has been able to stay on top of the growing Web.

Another thing to notice is that sometimes very specific incidents need to be filtered quickly: what

¹² <http://www.theatlantic.com/doc/200803/chinese-firewall>

¹³ There has not been a formal announcement, so it is hard to tell if it has been delayed or simply not announced.

¹⁴ http://en.wikipedia.org/wiki/List_of_websites_blocked_in_the_People's_Republic_of_China

¹⁵ <http://www.oclc.org/research/projects/archive/wcp/stats/size.htm>

¹⁶ <http://www.cnn.com/2006/TECH/internet/11/01/100millionwebsites/>

if the Tianenman Square incident happened tomorrow, and the CCP needed to quickly quiet the dissent? It is for this reason that highly-visited, highly-user driven sites such as Wikipedia are blocked: they are far harder to control and predict. (Actually, as of this writing, the English and Chinese version of Wikipedia has been unblocked with some articles relating to troublesome topics remaining blocked.¹⁷ This was largely a precursor due to the then-upcoming Olympics in Beijing, and it remains to be seen what will happen with Wikipedia in the future.)

The Golden Shield, as currently implemented, is not without its flaws. While some organizations such as Reporters Without Borders and OpenNet Initiative criticize the CCP for their censorship practices, the irony is that the Golden Shield is in fact quite easy to break through. The simplest way is simply to encrypt Internet traffic.¹⁸ When a user does this, requests to download websites, files and anything else from the Internet are first encoded in such a way that only the server can read the response; when the server sends back the data to the user, the data is again encoded. This ensures that only the server and the user can actually see the data. If the server is in China, the server is under CCP control and the CCP can look at log files to do some detective work to know what was requested (more reassuring is the fact that there is probably nothing problematic on that server anyway). However, if the request is made to a server outside of China, the request passes through the Golden Shield like a Trojan horse, leaving the CCP to wonder what was actually requested.

Somewhat revealing is the fact that the CCP allows this traffic to go through. Dealing with encrypted network traffic, they basically had two choices: 1) block it, or 2) do not block it. Blocking it would indeed prevent circumventing the Golden Shield, but also might hamper legitimate business or government use. The Chinese government decided the latter risk was too

¹⁷ <http://in.reuters.com/article/technologyNews/idINIndia-32865420080405>

¹⁸ <http://www.theatlantic.com/doc/200803/chinese-firewall>

great and unblocked all encrypted traffic, opting to deal with it on a case-by-case basis instead of a blanket ban. In other words, the government showed that they valued international business and connectivity to a global market more than censoring their people.

Another problem with Golden Shield is the amount of manual intervention needed. Corporate firewalls in the United States can use sophisticated algorithms to search for key words or phrases in pages before deciding whether or not to block them. Some breakthroughs have even been made to analyze images for commonly recognized patterns and can censor based on images that may have troublesome content. However, such state-of-the-art software requires similarly state-of-the-art hardware, and thus this software is only available to companies who can afford the fastest computers. Even if they are available, these systems are designed to support corporations of anywhere from ten to a thousand employees, dealing with tens of thousands of connections at a time. A system like this in China would have to deal with potentially billions of connections at a time: performing such analysis is impossible with today's technology. Thus, the Golden Shield relies on only the most basic on-the-fly filtering, while the rest is programmed in by administrators. This scenario leaves open the possibility that some sites will slip through the cracks or that some sites will not be blocked as quickly as desired. Additionally, human error is a possibility and administrators are government employees who cost money to employ. As the Internet continues to grow exponentially, so must the force of Golden Shield administrators who monitor the system.

Of course, the Golden Shield is not the only method of censorship the Chinese government employs. Internally, the government employs an Internet police force whose sole job is to patrol the Web looking for troublesome content, such as message board posts, blog posts, comments on news articles, or personal websites. The force is rumored to be 30,000 strong, and

can feed the Golden Shield project information to modify the firewall's configuration, order website owners to cease and desist, or simply delete offending content.¹⁹ The Internet police force is symbolic of China's commitment to the complete censorship of its citizens: while the Golden Shield can act as a good starting point, only the meticulous day-to-day monitoring of Internet activity ensures even decent coverage of offensive sites on the Web, and such a large human factor also plays a role in deciding the future of what content is blocked. Together with Golden Shield, the Internet police force makes up one of the largest censorship systems in modern history.

The 2008 Summer Olympic Games presented quite a problem for the Chinese. The International Olympic Committee had given the Chinese the bid under a few conditions, such as improved media rights during the games. Wang Wei, the head of the bid committee for China in 2001, was quoted as saying, "We will give the media complete freedom to report when they come to China".²⁰ This promise, as well as a promise of improved air quality and better human rights towards its citizens was enough to give China the 2008 bid. However, by 2008, conditions had changed. While Beijing had made good on its promises to improve air quality and physical conditions in Beijing, not much had changed in human rights and on July 30, 2008, Beijing announced that it would not lift the censorship in place on the Internet for reporters, despite promises to do so.²¹

This change in policy is illuminative for a couple reasons. First, the announcement was made on July 30, only nine days before the Olympics were scheduled to begin (on August 8). There are two possible conclusions: either it was China's plan since 2001 to string the Olympic Committee along until the last possible moment, when it was too late to cancel anyway, or the

¹⁹ http://www.usatoday.com/tech/news/internetprivacy/2006-04-02-china-web-cops_x.htm

²⁰ <http://www.cnn.com/2008/TECH/07/30/olympics.internet.ap/index.html>

²¹ <http://www.cnn.com/2008/TECH/07/30/olympics.internet.ap/index.html>

retraction of increased privileges on the Internet was not planned. Events that took place in the summer of 2008 suggest the latter is the case: Tibet had been the thorn in the side of China all summer long, marring the preceding torch-running ceremonies (with San Francisco having a notable incident) and inciting large riots in Tibet. Additionally, North Korea, a friend to China but not the United States or other NATO allies, had caused controversies of its own over the summer, and China's refusal to condemn troublesome statements were not being taken lightly. Thus, it is likely that China had planned all along to grant reporters full access to the Internet, but the events in the preceding months forced the leadership of China to control the damage. (Incidentally, while the Olympics were in progress there were few complaints risen; most reporters were apparently not hampered by the censored Internet.)

There was one other thing to note in the article, and that is the reaction of Wang Wei when questioned on the retraction of increased privileges for the Olympics. According to reports, when asked by internal officials about the change, Wang responded, "don't push the issue,"²² quelling the dissention in his own ranks. The quick dismissal of the question could imply a hasty decision, perhaps one that Wang did not agree with or did not make. Indeed, Wang looked like a liar, and probably would not have made the promise in 2001 without at least tentative assurance from the government that it would be implemented.

The Olympics issue is a perfect cross-section of China's problem with Internet censorship today. Ultimately, the final direction of Internet censorship comes down to two options: reduce the censorship and allow possible dissenters to use the Internet unchecked and plan on dealing with dissenters once they have used the Internet to become better organized, or keep at least the current level of censorship and disallow all dissent within the country, while continuing to receive pressure from international rights groups and democratic countries.

²² <http://www.cnn.com/2008/TECH/07/30/olympics.internet.ap/index.html>

Other than taking away rights from their citizens, there are other factors that should be considered by the CCP when deciding the fate of the Golden Shield and Internet censorship in China. While censoring the Internet sometimes causes problems for workers using the Internet legitimately, it does also help to alleviate some of the problems the United States faces. World of Warcraft, an online role-playing game that allows players to assume the role of an adventurer in a fictional world, is designed in such a way that it is highly addictive and encourages players to keep playing as much as possible for as long as possible. In the United States, it is up to the parents to limit teenagers' playing time; in China, heavier restrictions are in place: only three hours of continuous play is allowed for players under eighteen²³. Thus, China ensures that maybe their teenagers are not able to waste too much time in front of the computer and ensures that they remain in physically healthy shape (after three hours, a message box pops up and prompts the player to do suitable exercise). More generally, Internet censorship and restriction does have its good aspects, and keeping citizens physically healthy by limiting their exposure to addicting games such as World of Warcraft is one of them.

The nation of China has changed more in the last century than perhaps all of the past centuries combined, and indeed, has changed more in the last twenty years than the rest of the past century. When Mao Zedong led his country out of irrelevance towards a well-oiled communist machine, it was clear that the country would have to make some changes regarding how its people were treated, as well as some sacrifices. While other forms of rights limitations are changes from what most Americans and Europeans are used to, Internet censorship in China is the most radical departure from the standard. The Internet and World Wide Web were designed to exchange information freely and efficiently, but using a mix of technology and human enforcement, the CCP has limited Chinese citizens' use of the Internet and the Web, and

²³ http://www.chinadaily.com.cn/china/2007-07/17/content_5438062.htm

has been able to quell dissent from within the country. It is not clear how long the Chinese will be able to have their firewalls and safeguards keep up with the rapidly growing Internet, but the fact is that thus far, Internet censorship has served the purposes of the CCP. The real question is what will happen when the next change comes to China's door.

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