# SCIENCE FICTION AS A WORLDWIDE PHENOMENON: A STUDY OF INTERNATIONAL CREATION, CONSUMPTION AND DISSEMINATION

Author(s) in upper and lower case letters

Organization
Short address
City, State, Zip, Country
e-mail: yourname@yourorganization.xxx

ABSTRACT

This thesis will determine the international nature of science fiction. The focus of this research is to determine whether science fiction is primarily western or does it have an international scope and is it being created and consumed by people in non-Western and non-English speaking countries? Science fiction's international presence was found in two ways, first by network analysis, and secondly by survey. Condor, a program developed by GalaxyAdvisors was used to determine if science fiction is being talked about by non-English speakers. An analysis of the international Amazon.com Inc websites was done to discover if it was being consumed worldwide. A survey was also conducted to see if people had experience with science fiction. All three research methods revealed similar results. Science fiction was found to be international, with science fiction creators originating in different countries and writing in a host of different languages. English and non-English science fiction was being created and consumed all over the world, not just in the West.

## INTRODUCTION

Is science fiction primarily a western phenomenon or are people actively creating science fiction cross culturally and in different languages? Science fiction has been thought of as a western genre (Rabkin, 1983). Most science fiction authors, H. G. Wells, Ray Bradbury, Isaac Asimov and so forth are talked about in the history of science fiction come from the English speaking western world. *The Cambridge Companion to Science Fiction* almost exclusively focuses on American science fiction (James & Mendlesohn, 2003). Julies Verne is one of the few non-English speaking authors to be named in many of the books reviewed for this research. (Clarke, 1999; James & Mendlesohn, 2003; Kelly et al., 2009, p. 10). Does this mean that science fiction is a genre that is found only in the West[1] or are there science fiction stories being written all around the world?

## Science Fiction Studies

The subject of science fiction is rarely found as an academic subject outside of literary studies. Despite the history and the popularity of the genre, the scholarship of science fiction did not begin until the 1950s (James & Mendlesohn, 2003, p. xvii). It started simply with night classes but then expanded into scholarly journals and "Science Fiction Studies" in the 1970s (Kelly et al., 2009, p. 9). The academic field has grown since that time but still, naturally, focuses on literary critique and talks about the cultural relevance to modern society. The literature about science fiction itself rather than the subjects within are still limited.

## Puzzle Pieces

Each research method employed was used as a puzzle piece; the methods were designed to complement each other

---

[1] For the purpose of this paper the West is defined as the US, Canada, countries in Western Europe, Australia and New Zealand.

and the result reflected this. The information gained from the Condor search was used to supplement the Amazon.com Inc data to show the global nature of science fiction.

There were a few surprises in the research. While many of the results were expected such as finding science fiction being talked about in Japanese and in Europe some of the nuances that presented themselves were unanticipated. Before starting the research, the expectation was that science fiction was global, but this global presence was limited. It was discovered that science fiction is indeed global and more wide spread than expected. It was discovered that science fiction is being written by Chinese authors and sold to Chinese audiences; science fiction is being talked about in Hindi and in Russian. Science fiction is blooming in unexpected places.

## RESEARCH

### Research Limitations

The two biggest limitation of the survey were sample size and the language limitations. The survey is limited to less than two-dozen individuals. While more would have been optimal, the survey had a large enough sample size to be significant. The second limitation of the survey was that it was only in English and Spanish. This inhibited it from gaining a larger number of participants and perhaps swayed the results because the participants had the potential access to English or Spanish science fiction.

In the Amazon.com Inc. research, the biggest limitation was the scope of the website. The retailer has not opened up a website in any Africa nation, in India or in Oceania.

### Cultural Survey

Cultural survey participants in the survey were those who grew up in areas that are not English speaking. The vast majority came from areas that would not be considered part of "Western" civilization. This was key in the exploration of the global nature of science fiction, helping to answer the question: "Can data from science fiction be used in a global context?"

The survey was designed to give insight into how science fiction is perceived by non-English speakers. Are they familiar with the genre? Does their culture have their own version of science fiction?
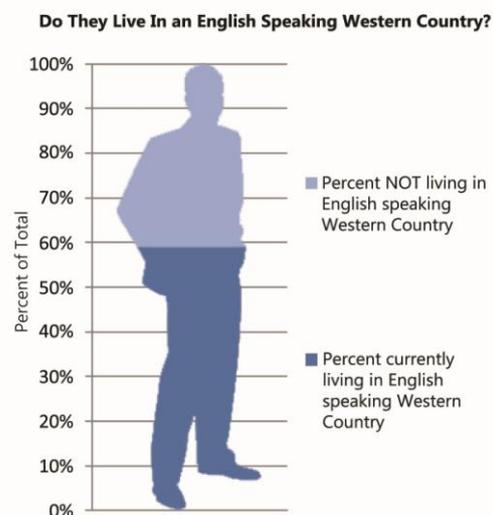


**Figure 1: Do they live where English is spoke?**

More than twenty people were surveyed; three came from Europe. The Europeans consisted of people from the alpine countries and Eastern Europe. The largest group came from Asia; the countries included Vietnam, Hong Kong, China and Indonesia, with the most people coming from China. The second biggest group of people came from Latin American countries; these countries included Honduras, Colombia, Panama and Peru. The rest of the participants came from a variety of places including Morocco, Iran, India, Pakistan, Nigeria, Somalia, Uganda, and Trinidad.
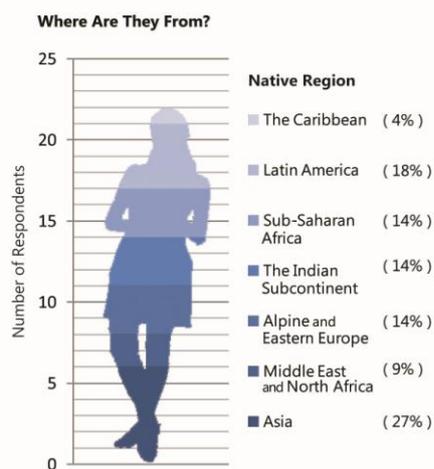
**Figure 2: Where the Respondents are From**

More than seventy percent of the participants were aware of science fiction or somewhat aware of it, and a little more than half reported that they enjoyed science fiction. There was no apparent pattern linking financial situation to exposure to science fiction. Because this was such a small data set, it is still possible that class could affect the likelihood of exposure to science fiction, but people with a variety of income levels were both aware or not aware of the genre, without any obvious correlation.

*Does your culture have stories science fiction?*

One of the first questions in the survey was "Does your culture have stories that show technology that might exist in the future? If yes, can you name some of them?" The majority answered either no, not really, or that they could not think of any. The answer was not consistent among people from the same country: most of the Chinese participants said no, but some said yes and even named a few, including *Little Dragon Boy, - TV Show, Modern Emperor Conflict in China, Future Cops* and *Future X-Cops*. This indicates that exposure to science fiction is varied and while it exists in China the wider population may not be consumers.

The participants did repeatedly mention and name "Western" science fiction that they had been exposed to. The question "What science fiction is popular in your country?" was asked. One participant who came from Africa reported, *"*I watched *Back to the Future* growing up in Nigeria, also *Star Trek* on television. I've also watched other movies like *The Minority Report* on DVD." Even though participants could not always name something that is popular in their culture, 74% answered yes to the more broad question of, "Are you personally familiar with any science fiction stories, stories that are set in the future or have a technological theme in them?"

This survey indicated that not only was science fiction international, but it was also somewhat popular in some areas.
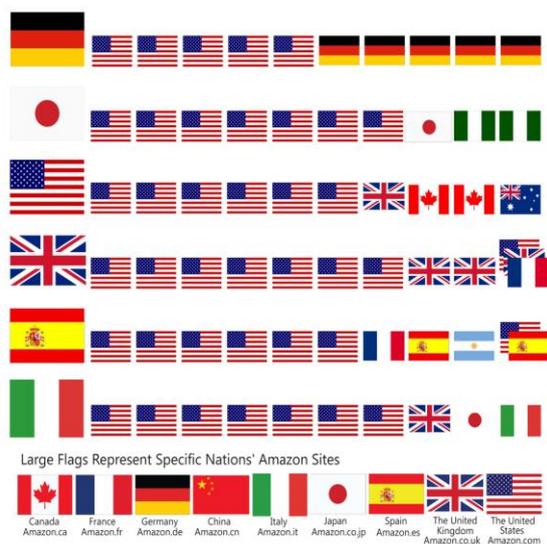
**Amazon.com Inc.**

The main question asked was if each country's site was selling science fiction written by someone who is native to that country, then that is evidence that science fiction is global and not just a Western construct.

The online retail site Amazon.com Inc. was used because of its world presence (Amazon.com, 2012). The company has websites in nine different countries: the United States of America, Canada, China, France, Germany, Great Britain, Italy, Japan, and Spain.[2] While it is possible that this data is influenced because the company is based out of the United States, and this might artificially inflate how much American media shows up in the results, the site was used because it had an international presence and each site offers unique goods depending on its geographical location.

The top 10 results of each country's Amazon.com Inc. website were found. To ensure that results came up in

---

[2] The international sites were found on "Amazon International: Around The World," published by Amazon inc. (Amazon.com, 2012).

the language of the site, "science fiction" was translated into the language of each of the site. The "top" results in all categories were searched for using "science fiction" in the appropriate language. Google Translate was used to translate the world science fiction into the different languages (Google Developers, 2012).



Large Flags Represent Specific Nations' Amazon Sites

| Canada | France | Germany | China | Italy | Japan | Spain | The United | The United |
| Amazon.ca | Amazon.fr | Amazon.de | Amazon.cn | Amazon.it | Amazon.co.jp | Amazon.es | Kingdom Amazon.co.uk | States Amazon.com |

**Figure 3: Are the Writers/Creators of Science Fiction from the same country that their products are sold in?**

### *Results of the Amazon.com Inc. Analysis*

It was discovered that in all but one market investigated there were products created by a native to that country that was present in the data. Canada was the only exception. All of the countries, including Canada, had at least one item that was writen in the language of that country, and most countries had more than one. This strongly indicates that there is science fiction creation being done in multiple countries and in multiple languages. This was further reinforced by items being created in countries that did not have an Amazon.com Inc. website. A box set of DVDs that was being sold on the French Amazon.com Inc. site had DVDs that represented three different countries, including Germany and Australia, and the Spanish Amazon.com Inc. had a book listed that was written by an Argentinean.

Some of the writers whose books were being sold could be listed under two countries; for example, in Spain's top ten list there was a Spanish/American writer who writes in Spanish but teaches at an American University(University of North Texas, 2008).[3]

It should be noted that three of the nine countries did not have science fiction that was created in their country appear in other countries searches. For example, science fiction from Spain only appeared in the Spanish Amazon.com Inc. website search. It is also possible that science fiction is not popular in the regions where there was the data gap; this will be tested later with a different tool.

It is evident that the dominant country was the United States and the dominant language was English. The flaw of using a website run by an American company is that it is unclear if the large amount of American-created and English-speaking results are because of the website's bias or if there is genuinely a strong desire for these products among people.

## Condor

To supplement the surveys and to explore the global reach of science fiction, Condor was used (GalaxyAdvisors, 2010). Condor is a program developed by GalaxyAdvisors that is primarily used to locate Galaxy patterns and collaborative networks in databases via online source (Gloor, 2006, p. 4).

These "COINS" are groups of highly self-motivated people who share a collective vision and collaborate with each other. This collaboration leaves a distinctive pattern, as illustrated in figure 4, of interconnected nodes. This "galaxy" appearance occurs because the members communicate with multiple individuals freely instead of one individual being a

---

[3] This information was verified by checking the university's faculty listings.

primary source of communication, as is in the case of hierarchical structures that have the appearance of a star. This is relevant because this signature of cross communication is found in these galaxy patterns. In the case of mapping online websites, galaxy formations appear when they give credit to a different website. For example, if website A cites website B, C, D and F, but websites B, C, D, and F do not reference other websites, or only reference back to website A, you will end up with a star configuration. If website A links to websites B, C, F, H and J, and those websites link not only to each other but to a different group of websites, you get a galaxy formation.
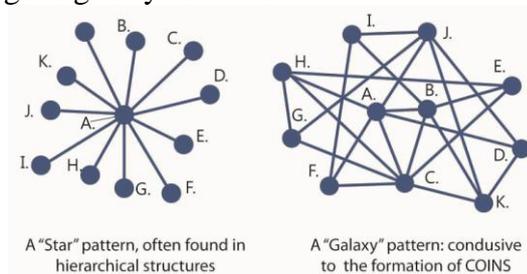


Figure 4: A Stars Pattern Versus a Galaxy Pattern (Gloor, 2006)

Condor has a "web collector" tool that can locate interconnected websites and networks. This tool enables a broader look at the world wide reach of science fiction because it can look at the World Wide Web, as it existed at the time of the search, to find references of science fiction in multiple locations as it is connected with other terms. The program then creates a visualization of these websites and their connections. For this paper, that visualization shall be the primary source of data.

### What Types of Searches Were Done?

As mentioned previously, Condor is computer program developed to analyze networks enabled to find networks (GalaxyAdvisors, 2010). Searches using keywords are done enable to locate communication networks. The network searches for this thesis were mostly done on Google Inc.

Many searches were conducted but the most relevant ones paired translated terms to look at science fiction in multiple languages. This data filled in the gaps that the Amazon.com Inc. searches and the survey questions left. The languages searched looked at what websites were talking about science fiction in more than a dozen different languages.

Two terms were used in each search. One term was "science fiction" translated into the target language and the second word used was either "future," again translated into the target language, or the translated version of the word "technology." This was because the word for science fiction is similar in many languages, so the secondary word ensured only results in the targeted language would show up. Two words were needed to ensure that the data was more accurate. For example, the French word for science fiction is exactly the same as the English word, and the only difference between the English word and the German word is a dash. The languages used were chosen partially based on the Amazon.com Inc. data: the six languages that appeared in the Amazon.com Inc. data were used, and additional languages were added if they appeared somewhere in the results. A few languages from areas that were notably absent were also added. Using the website Google Translate, science fiction was translated into Arabic, Chinese, Croatian, French, German, Hindi, Italian, Japanese, Russian, Spanish and Swahili (Google Developers, 2012).

English: science fiction
French: science fiction
Japanese: サイエンスフィクション
Italian: fantascienza
Spanish: ciencia ficción
German: Science-Fiction
Chinese: 科幻小说
Croatian: naučna fantastika
Hindi: साइंस फिक्शन
Arabic: القصص الخيالي
Russian: научная фантастика
Swahili: Sayansi ya Kubuniwa

| English: technology | : future |
| --- | --- |
| French: technologie | : avenir |
| Japanese: テクノロジ | : 将来 |
| Italian: tecnologia | : futuro |
| Spanish: tecnología | : futuro |
| German: Technologie | : Zukunft |
| Chinese: 技术 | : 未来 |
| Croatian: tehnologija | : budućnost |
| Hindi: प्रौद्योगिकी | : भविष्य |
| Arabic: التكنولوجيا | : المستقبل |
| Russian: технология | : будущее |
| Swahili: teknolojia | : baadaye |

**Figure 5: Chart of translations**

### Finding the Networks

While condor is an advanced tool, we used it to look for relatively simplistic patterns. Are there numerous nodes, and how connected are the nodes? How thick or thin is the network? The "thickness" or "thinness" of the network was used to determine if there was science fiction being talked about or possibly created in the specific language.
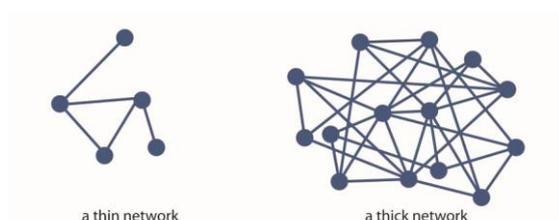


a thin network                a thick network

**Figure 6: A Comparison of a Thick vs. Thin Network**

As was expected, some languages had thinner networks than others. The

Swahili search results were the thinnest. The Swahili term for science fiction and technology only had one website connected to the term. The Swahili name for science fiction and future was just as thin and also had a single website linked to it. The website that was found in both searches was the same. This indicated that science fiction, at least not online, was not popular in places where Swahili is spoken.
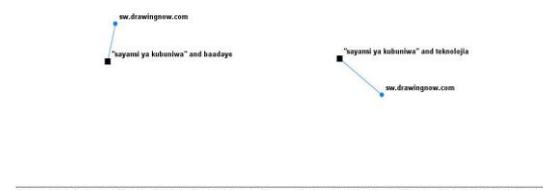


**Figure 7: Swahili language, "Sayansi ya Kubuniwa," "baadaye" and "Teknolojia" [4]**
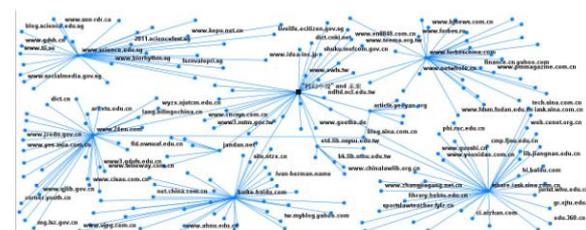


**Figure 8: (left) Science fiction translated into Chinese or "科幻小说" and Future translated into Chinese or "未来."**

Most of the languages have at least one of the two terms, future or technology, which created a similar pattern: primarily sets of stars with a few galaxies. The most galaxies were not found in the big Western languages, such as French, English and Spanish, but in the thick data set for Croatian and the thinner data set for Hindi. This is some of the strongest evidence that science fiction is a global phenomenon.

### CONCLUSION

Overall, this data suggests that science fiction is at least talked about in

---

[4] The program "Condor" was used in September 2012. Condor is a program that was created by GalaxyAdvisors for network analysis. The program harvests data from online sources and creates a visual map of that data.

different languages and in different places. The survey demonstrated people were aware of science fiction at a global level although unevenly so. It was found that people are referencing science fiction in languages other than English online. The Amazon.com Inc. data strongly shows that science fiction is global by showing non-Western science fiction is being created and sold to a worldwide audience. While Western science fiction is also being consumed, it is not the only kind of science fiction being created and sold. Science fiction is indeed a global phenomenon and can be considered an international genre. The research done for this paper indicates that science fiction is global therefore the data derived from science fiction could be used in a global context.

## WORKS CITED

Amazon.com. (2012). Amazon International: Around The World Retrieved September 2012 2012, from http://www.amazon.com/gp/feature.html?ie=UTF8&docId=487250

Clarke, Arthur C. (1999). *Profiles of the Future : an Inquiry into the Limits of the Possible* (Millennium ed. ed.). London: Indigo.

GalaxyAdvisors. (2010). Condor Core: GalaxyAdvisors. Retrieved from http://galaxyadvisors.com/services/condor-core.html

Gloor, Peter A. (2006). *Swarm Creativity : Competitive Advantage Through Collaborative Innovation Networks*. Oxford ; New York: Oxford University Press.

Google Developers. (2012). Google Translate: Google. Retrieved from http://translate.google.com

James, Edward, & Mendlesohn, Farah. (2003). *The Cambridge Companion to Science Fiction*. Cambridge, U.K. ; New York: Cambridge University Press.

Kelly, James P., Kessel, John, Disch, Thomas M., Le Guin, Ursula K., Wilhelm, Kate, Boyle, T. Coraghessan, . . . Millhauser, Steven. (2009). *The Secret History of Science Fiction*. San Francisco, CA: Tachyon Publications.

Rabkin, Eric S. (1983). *Science fiction : a historical anthology*. Oxford [Oxfordshire]; New York: Oxford University Press.

University of North Texas. (2008). University of Northern Texas Faculty Profile System. Retrieved September 2012, from https://faculty.unt.edu/editprofile.php?onlyview=1&pid=1517