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To cite this version:

Eitan Altman, Yonathan Portilla. Social Networks: A Cradle of Globalized Culture in the Mediterranean Region. International Conference on Advances in Social Networks Analysis and Mining (ICASNAM 2015), Jan 2015, Hammamet, Tunisia. 10.2139/ssrn.2518683 . hal-01091258

HAL Id: hal-01091258

https://inria.hal.science/hal-01091258v1

Submitted on 5 Dec 2014

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Social Networks: a Cradle of Globalized Culture in the Mediterranean Region

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***Abstract*— Memes have been defined by R. Dawkins as cultural phenomena that propagate through non genetic ways. In this paper we examine three very popular Internet Memes and study their impact on the society in mediterranean countries. We use google trends as well as Topsy in order to quantify the impact of the Memes on the mediterranean societies. We obtain quite different results with the different tools we use, which we attempt to explain based on some propagation characteristic of each one of the Memes. Our analysis shows the extent at which these Memes cross borders and thus contribute to the creation of a globalized culture. We end the paper by identifying some of the impacts of the globalization of culture.**

I. Introduction

According to Wikipedia, the word meme is a shortening of mimeme (from Ancient Greek), and it was coined by the British evolutionary biologist Richard Dawkins in *The Selfish Gene* [3][p. 192] as a concept for descibing evolutionary principles and for explaining the spread of ideas and cultural phenomena. Examples of memes given in the book include melodies, catch-phrases, fashion, and the technology of building arches [3, p 352].

Wikipedia further defines Internet memes as a subset of this general meme concept specific to the culture and environment of the Internet. Wikipedia cites from [6] Dawkins who characterized an *Internet meme* as being a ”meme deliberately altered by human creativity, distinguished from biological genes and Dawkins’ pre-Internet concept of a meme which involved mutation by random change and spreading through accurate replication as in Darwinian selection”. ”Further, Internet memes carry an additional property that ordinary memes do not - Internet memes leave a footprint in the media through which they propagate (for example, social networks) that renders them traceable and analyzable” [2].

We shall focus in this paper on three memes and examine some of their impact on the mediterranean region: the Harlem Shake, the Gangnam Style and TiK ToK.

The Harlem Shake: This is a cultural phenomenon that consists of recreation of a dance using always theh same song ”Harlem Shake” by the electronic musician Baauer. It is not the ephemerary dance that is important but rather, the trace that is left on videos that propagate on the Internet which are often well editted versions of the original performance of the shake. It lasts 31 seconds and consists of two parts. It starts with one person (often helmeted or masked) dancing for 15 seconds, often surrounded by other people who ignore him or who are unaware of him. Then the bass drops, and an entire crowd joins doing a strange

convulsive dance for the next 15 seconds. The first video entitled ”Do the Harlem Shake” was posted on February 2013 by the Japanese video artist Filthy Frank.

The impact of Harlem Shake on the Mediterranean area. During March 2013, Tunisians participated in an unprecedented creativity wave of Harlem Shake. School pupils were the first to reproduce the dance. There was one performance of school children in Tunis that particularly shocked the Education Minister, who then reacted in blaming the headmaster of that school. This ignited massive peotests of pupils and students in public areas, schools and universities in which the Harlem Shake was performed as a symbol of the freedom of expression.

Gangnam style: The phrase ”Gangnam Style” is a Korean neologism that refers to a lifestyle associated with the Gangnam District of Seoul (Wikipedia). According to Wikipedia, ”Gangnam Style” is the 18th K-pop single by the South Korean musician Park Jaesang known as Psy. The song was released in July 2012 as the lead single of his sixth studio album, and debuted at number one on South Korea’s Gaon Chart. On December 21, 2012, ”Gangnam Style” became the first YouTube video to reach one billion views and since May 31, 2014, the music video has been viewed over two billion times on YouTube. Park Jaesang had been busted for marijuana and for avoiding the country’s mandatory military service. His first album got him fined for ”inappropriate content” and the second was banned [10].

”Tik Tok” (stylized as ”TiK ToK”): This is the debut single by American recording artist Kesha. The song was produced by Benny Blanco and Dr. Luke and co-written by Blanco, Dr. Luke and Kesha. It was released on August 7, 2009 as the lead single from Kesha’s debut studio album, Animal (see Wikipedia). With TiK-ToK, Kesha won the best new artist MTV Video Music Award on 2010. Since it was uploaded on 2009 The number of views in youtube of TiK ToK has been growing at quite a constant rate, exceeding 150 million views on October 2013 and reaeching 192 hundred million views on Sept 2014.

In the next section we introduce the tools we used for the analysis of the above three Internet Memes. We then present a quantitative spatio-temporal analysis of the Memes followed by a section that describes the political impact of all three Memes. We end the paper with a conclusion section. A 10mins video in French that summarises this paper is available at [1].

II. Analytical tools

Our first tool we use is google trends. It allows to obtain the time evolution of the

- $N1$ - the normalized number of co-ocurrences of some sequences of words in the title of different videos in youtube, and
- $N2$ - the normalized number of different documents accessible by google that contain the sequences.

The normalized number of occurances of an item at a given time is the the number of occurances at that time divided by the largest number of co-occurrance of the sequence over all time.

Google trends provides not only a comparison in time but also a comparison in space. Indeed, it further provides the normalized numbers N1 and N2 in the seven countries and in the seven cities in which N1 and N2 are the largest.

The API Topsy of tweeter allows to obtain the number of tweets in which various sequence of words appear. We used our own tool to visualize these numbers. To use Topsy one should open an account and request a password. There is a limit on the number of a consultations allowed by Topsy per day.

III. Analysis of the three Internet mimes

In what follows, we compare the number of appearances of Harlem Shake on the WEB in different geographifcal areas. Table I provides the normalized number of appearances of the Harlem shake on the WEB ranked according to countries. It is normalized such that the country where the Harlem Shake is mostly viewed has 100 view units. Table II shows the same for Gangnam style. We see that Tunisia appears in the 6th rank worldwide. Note that no Europeam countree appears in the sevem first positions. The ranking was obtained with the google trends publically available software.

Trinidad and Tobago	100
Indonesia	97
Puerto Rico	89
Paraguay	88
Jamaica	78
Tunisia	73
Honduras	69

TABLE I

Normalized number of appearance of "Harlem Shake" on the WEB at different countries.

Table III provides the normalized number of appearances of the Harlem shake on the WEB ranked according to cities. These are obtaind again using google trends. Beside metropoles with long established cultureal tradition as New-York or Paris, we see that the Mediterranean city, Istanbul, is ranked fourth worldwide in the appearance of Harlem Shake. The penetration of the Haroem shake in that area of the Mediterranean region is even more remarkable if we recall that the song is in Spanish.

Jakarta	100
Mexico City	79
New York	78
Istanbul	73
Chicago	68
Paris	67
San Paolo	62

TABLE II

Normalized number of appearance on the WEB of "Harlem Shake" at different cities.

The Gangnam style has penetrated into Turkey, as is seen by its fourth worldwide rank obtained with google trends in table III. All other countries among the seven ranked ones are from Asia, the continent where the Gangnam Style comes from.

Vietnam	100
Mongolia	52
Cambidua	39
Turkey	39
Sri Lanka	36
Malaysia	35
Philippines	33

TABLE III

Normalized number of appearance of "Gangnam Style" on the WEB at different countries.

We next use Google Trends to compare Gangnam Style with Harlelm shake. The results are given in Fig. 1. In the upper part of the figure we compare them over youtube. This is not a comparison of the number of views of each of the original videos but the time evolution of number of new videos that have Gangnam Style (resp., Harlem Shake) in their title in Youtube.

The second comparison in the lower part of the figure is of the daily number of appearances of these words on the WEB. Both the

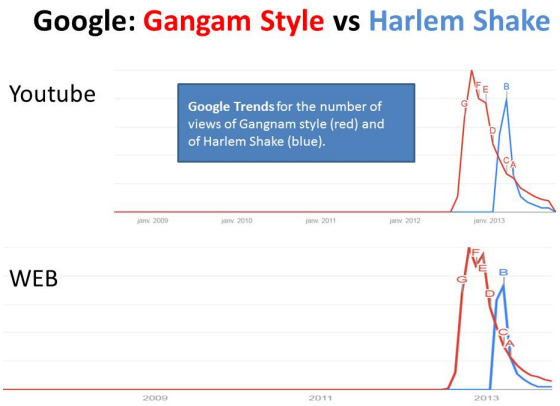

Fig. 1. Comparison between Gangnam style (left curve) and Harlem Shake (right curve) both over Youtube as well as over the entire WEB.

comparison over Youtube and over the Web provide very similar behavior and in both we see that the peek for Gangnam style is slightly larger than that of Haralem shake, whereas the total number (which corresponds to the area below each of the corresponding curves) is much larger for Gangnam style.

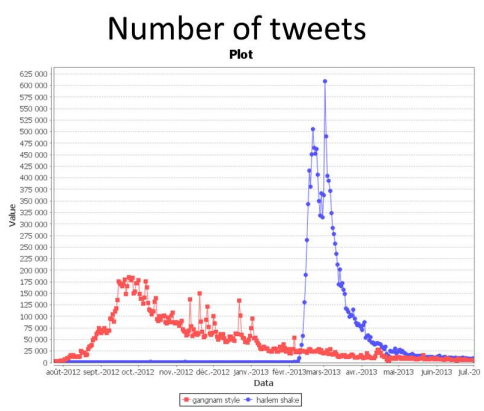

Fig. 2. Commparison of Gangnam style and of Harlem shake in twitter

In Figure 2 we compare the number of tweets in which Gangnam Style and Harlem Shake, respectively, are mentioned, using an application that we developed based on the API TOPSY. The situation in Tweeter is reversed: The peek of the Harlem shake is much larger than that of Gangnam Style where as the total number of appearances of these memes in tweets are similar.

Fig. 3 provides a comparison between TiK ToK by Kesha (corresponding to the first peek) and Harlem Shake (corresponding to the second peek) over youtube using Google Trends. We note that the number of videos with Harlem Shake in their title is similara to that of TiK ToK. Yet the peek number is much higher for Harlem Shake and is attained during a period much shorter. And then the decay of Harlem shake is much faster: the time to reach half its peek value is much shorter. The behavior of Gangnam style is similar to that of Harlem shake as we saw in the previous figures.

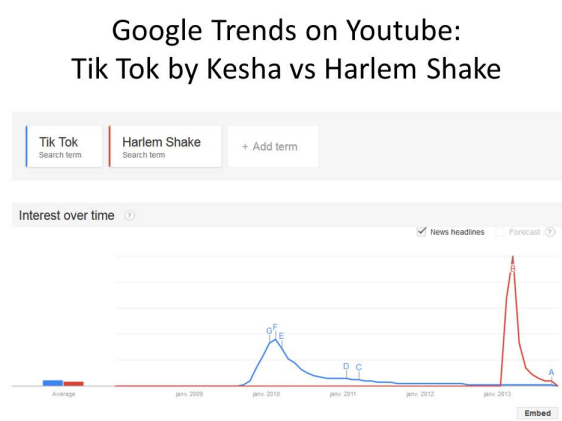

Fig. 3. TiK ToK vs Harlem Shake

In the two following figures we present another way to compare the geographic propagation of mimes. We focus on Harlem Shake and compare the number of co-occurrances of the words Harlem Shake together with each one of the words US, Egypt and Tunisia. We do so for both the number of co-occurrances over the WEB (Fig. 4) as well as for the number of videos on youtube having these

words in their title (Fig. 5) with the help of Google Trends.

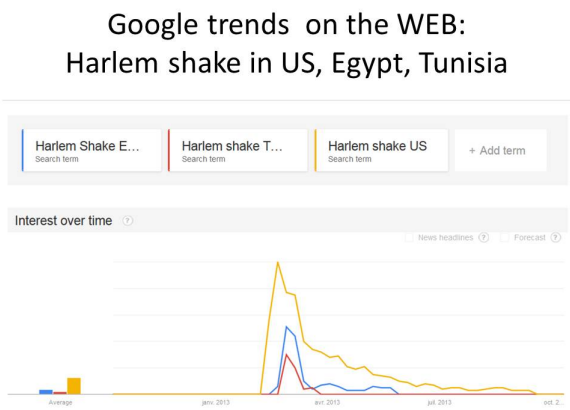

Fig. 4. Geo-localisation of events using co-occurrance of words on the WEB

Both over the WEB and over Youtube we see that it took around a week from the moment that Harlem Shake started to propagate in the US till is started to propagate in Egypt and in Tunisia, where as its decay took much longer in the USA.

Figure 4 shows that the size of the peeks at Tunisia and Egypt for the WEB is respecively one quater and one half the size in the US. This corresponds to the comparison of the number who speak of Harlem Shake. Figure 5 shows that the corresponding peek number of videos created in Tunisia on youtube is around one third the number in Egypt, which in turn is only around 10% lower than the peek in the US. This shows amaizingly high creativity in Tunisia and Egypt in terms of Harlem-Shake videos.

All the three mimes were seen to be viral in that they reach a clear peak and then the daily number of views decrease.

In the next Figures we provide the viewcounts of Gangnam Style and of Tik-Tok videos.

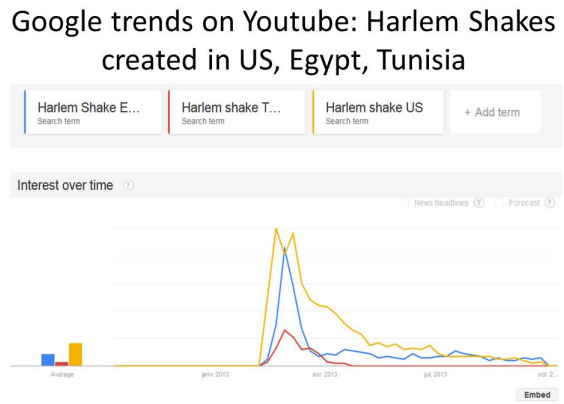

Fig. 5. Geo-localisation of events using co-occurrance of words on youtube

While the daily viewcount of Gangnam Style in Figure 6 has a similar form as the ones for other measures (N1 and N2 in Fig. 1 or the number of tweets in Fig. 2), the daily view count of TiK-ToK is flat (or equivalently, the cumulative viewcount that we see in Fig. 7 is increasing with a slope almost constant). Thus the viewcount does not have an epidemic behavior while the Internet mime that TiK ToK created does.

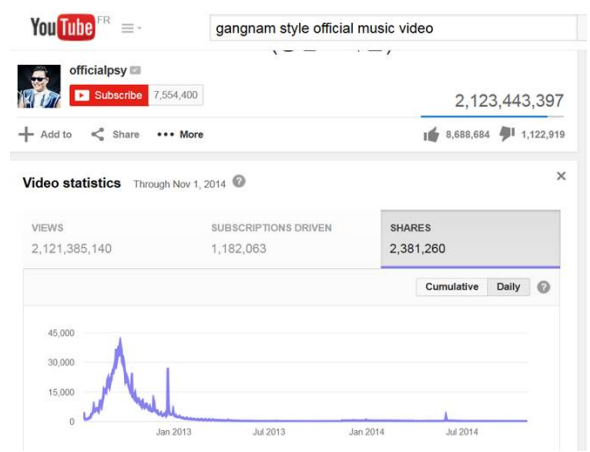

Fig. 6. Daily viewcount of the original video of Gangnam style

The comparison with the viewcount of the original video of Harlem shake is impossible

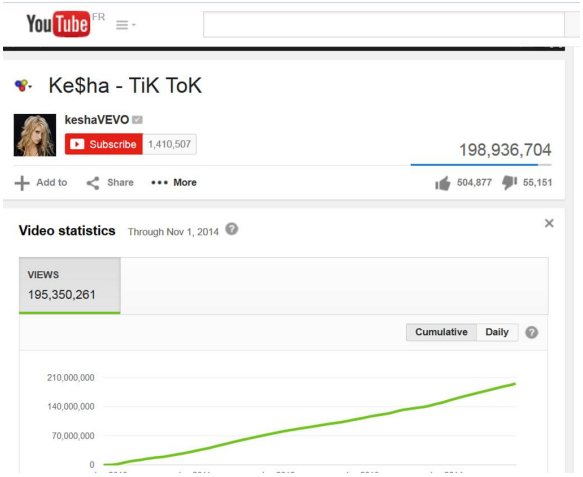

Fig. 7. Viewcount of the original video Tik-Tok

since it is not available on youtube.

Indeed, not all videos have the viewcount curve available on youtube. The vuewcount may be blocked either by the creator of the video or it is youtube that may block it if there are complaints concerning infringement of copyright by the video. It could be this second reason that holds in the case of Harlem Shake since already the original video had copyright problems [Wikipedia].

Note that the whole cooperative process of creating new versions of a meme like Harlelm Shake involves copyright infringement since they are based on copying the same original song. From the authors experience as well as many other ones', this results in the fact that new versions of Harlem Shake cannot be uploaded to facebook. Yet, youtube is more flexible and allows them to be uploaded without deleting them as long as there is no request to do so by someone who can prove that he is the copyright owner.

IV. Impact of penetration of Memes into the Mediterranean region

We have shown that the new Internet Memes traverse borders separating countries. They create a globalised culture that may bring nations closer to each other.

On August 29, 2013 Israeli soldiers were making the rounds in the city of Hebron when they heard the "Gangnam Style" from a wedding party. They accepted the invitation to join the party and joined dozens of Palestinian men dancing to the hit "Gangnam Style." In a rare video they are seen with their uniform and guns, carried on the sholders of young Palestiniens. Sommer writes in [7]: *Underneath the animosity and the history, the labels of "Israeli soldier" and "occupied Palestinian" are simply young people who just want to have fun. Watching them dance together instead of confronting each other offers a glimpse of a Middle East that while doesn't seem possible in our lifetime, is lovely to contemplate.*

It is hard for an army to accomplish occupation tasks against another nation that sharhes the same culture. The soldiers that participated in the Gangnam style were thus suspended from the army.

Ironically, Park Jaesang, the author of Gangnam Style, had been jailed for avoiding Korea's mandatory military service. The new Internet Memes thus constitute a danager for armies as they constitute a cradle for fraternity.

This also explains the disciplinary actions against Israeli soldiers that were involved in organizing a Harlem Shake on February 2013 [13]. The soldier, who produced the Harlem Shake video, was sentenced to 14 days in prison and his commanding officer was sentenced to 21 days in jail and was stripped of

his command.

Another YouTube video posted in 2010, shows a six-man patrol of soldiers walking along a Palestinian street in the city of Hebron under Israeli occupation, in full battle gear. In the midst of the patrol, the soldiers suddenly break into a one-minute dance on the TiK ToK music of Kesha [5]. The video was removed from the YouTube account where it first appeared after Israeli television reports brought it to the attention of the military, but not before other video bloggers managed to copy and republish it. Mackey writes in [4] concerning this event: "It is a reminder that while the war of ideas in the Middle East might have ancient roots, it is often waged by young people more interested in contemporary youth culture than age-old texts."

V. Conclusion

We studied in this paper some recent Internet Memes that have traversed the borders of countries and/or languages and have had a social/political impact on the mediterranean region. They contribute to the creation of a globalized cultre that has no borders and which has a potential in bringing closer together different nations.

Acknowledgement

The work in this paper was done within the *Structure Fédérative de Recherche (SFR) Agorantic, Culture, Patriomoines, Sociétés numériques*.

The work of the second author was partially supported by the European Commission within the framework of the CONGAS project FP7-ICT-2011-8-317672.

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