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English vs. Arabic: Differing Al Jazeera Frames

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Abstract

Media frames tend to be defined relationally to the norms, identities, values and banal practices of targeted markets. Through a precise statistical study of semantics in large collections of news items, in Al Jazeera English and Al Jazeera Arabic respectively, we present in a visual and intuitive manner, a comparative study of media representation of the macro frames of representation used in the Arab spring, and the relation of the diffusion of these frames over time to the regional norms, identities, and values of the targeted markets of each of Al Jazeera's language service. We use innovative tools to visualize the diffusion of these of these narratives over periods of time, and in doing so, are able to quickly summarize how the news media in the differing languages narrate the aforementioned macro frames in relation to socio-political and economic regional norms.

Key Words: Assemblage, Framing, Al Jazeera, Media, Ontology, Epistemology.

Introduction

Following the Arab Spring uprisings of late 2010 and 2011, there was a great deal of discussion of the impact of Al Jazeera upon the development of the revolutions and in the dissemination of the normative influence of the revolts throughout not only the Middle East, North Africa (MENA) region, but across the entire globe. In light of such discussion, an analysis of the frames and narratives disseminated during the Arab Spring protests by Al Jazeera becomes key for understanding the normative influence of and reaction to the Arab Spring imputed to Al Jazeera's coverage.

As each media outlet tends to tailor its narratives towards its targeted audience in order to attract a steady readership and thus sustain advertizing profits, we argue that the dominant frames and narratives within Al Jazeera's English and Arabic services exhibit stark differences. A statistical analysis of articles that discuss the Arab Spring, in Al Jazeera's English and Arabic coverage illustrates contextual differentiations between the respective language services. It further identifies distinctive political rationalities and narratives. Our first goal is to scientifically confirm, thanks to progress made in machine learning and semantics analysis, what has already been discussed in a more qualitative and less rigorous fashion. Secondly, as our tool allows us to examine dominant frames within coverage, we look to locate narratives that structure the logic of reporting for a region. Our research has shown that understanding this basic logic allows analysts to better predict reporting outcomes.¹ There is a practical application to such research. Indeed accurate predictions can be used in development of public image campaigns for both corporate and political entities through attempting to avoid behaviors that fall into

¹ Research for StatNews is being conducted between The University of California at Berkeley Departments of EECS and Statistics, Harvard University Department of Statistics, Peking University's LMAM, School of Mathematical Sciences and Center for Statistical Science and San Francisco State University's International Relations Department.

the logic of negative coverage in a market and designing marketing strategies that will produce positive frames.

Our preliminary research shows that there are some basic differentiations in coverage between Al Jazeera's language services. Professor Shaden Khallaf of the American University at Cairo commented upon differentiation between Al Jazeera's English and Arabic Services, arguing that Al Jazeera's Arabic services "tend to narrate the world through a Palestinian lens that the English services do not exhibit."² It is also easy to observe anecdotally the anti-colonial fervor of the MENA region that is so often directed at the United States and Israel.

This paper aims to apply recent advances in "Assemblage Theory" to the study of media psychology. Simply, assemblage theory aims to examine how public and individual psychologies are constituted in the relationship between the global, neoliberal logic of governance and the amalgam of political rationalities and cultural, historical contexts that structure the subjective mind of local publics. Our media studies application of assemblage theory examines how these global and local factors influence both formation and public perception of dominant narratives frames established in the mass news media. In this way, we diverge from functionalist assumptions concerning the relationship of social structures like the news media and public thought and instead examine instead their mutually constitutive nature.

Section one defines framing theory and demonstrates its applicability for use with a technology for a visual toll for the statistical analysis of news, developed at UC Berkeley, and housed at StatNews.org. Our basic question is how media analysts can use StatNews technology to determine the basic logic of reporting used by a news outlet. The paper's focus then shifts to examining how existing public political rationalities and

² Shaden Khallaf, "The Arab Spring: impact on Asylum and Human Rights in the Middle East and North Africa", interviewed by Luke Barnesmoore (20 June 2012) following a discussion on the Arab Spring in June of 2012 at the Graduate Institute in Geneva

cultural, historical contexts of target audiences work to construct the basic logic for reporting. After a short review of framing theory and the neoliberal logic of governance as defined by Ong and Collier, we examine how such theoretical lenses lend themselves to the application of StatNews technology for both academic and predictive media analysis through introduction of our two pronged assemblage model. Section two turns to StatNews's statistical approach and visualization strategies. We then analyze our data sets of Al Jazeera English and Arabic coverage of the Arab Spring using our two pronged analysis to both develop a predictive frame for future Al Jazeera reporting on uprisings in the region as well as define the political rationalities and cultural, historical context that gave rise to the normative logic of reporting in order to leave room in our predictive frame for the possibility of a shift in the dominant logic of reporting. In our conclusion we reflect on how our findings may contribute to future attempts at development of such predictive frames for news media analysis.

Section One:

Framing Theory

The literature on framing theory has developed to such a great degree over the years that, while key to our methodology, we afford only a basic overview of its key points within this study. The psychological considerations of Walter Lippmann in his 1922 article featured in *Public Opinion* represents the origin of the concept framing within the study of public opinion. Lippmann argues that humans are "learning to see with [her or] his mind vast portions of the world that he could never see, touch, smell, hear, or remember. Gradually [she or] he makes for himself a trustworthy picture inside his head of the world beyond his reach."³ How, though, does one construct such images?

Entman endeavors to provide us with an answer to such questions through his

³ W. Lippman, "Public Opinion" (New York: Harcourt Brace & Company, 1922).

research of the early 90s. He establishes that one's epistemological relation to the world is built on frames defines as "information-processing schemata,"⁴ which operate through "selecting and highlighting some features of reality while omitting others,"⁵ Within light of this argument, Goffman's adds that the analytic task of such framing research ought to center around the identification of frames within media discourse. He further posits that under the guise of informing the public, media can deliberately influence public opinion through the use of such frames.⁶ Indeed, it is important to examine how media narration influences the ways in which the public "selects and highlights some features of reality while omitting others" as conceptualized by Entman.

Kiousis and Wu identify images of foreign nations as objects as key to examining international public relations and mass communication.⁷ According to Kunczik, "mass media reporting of foreign affairs very often governs what kind of image of a country or a culture predominates."⁸ In portrayal of other nations, the popular news media tends to establish simplified dichotomies of "we" versus the "other" and then classify data under these two categories; the we versus other frame is often constructed as mirror images of positive attributes versus negative ones. Through such practices, consumers are inundated with maps of shared meanings that are collectivized, simplistic and reflexively cognitive; these maps form preconceptions with which the public selects and analyses future information and behavior. As a result, overtime, the public develops images of

⁴ R. M. Entman, "'Framing U.S. coverage of international news: Contrasts in narratives of the KAL and

Iran Air incidents", *Journal of Communication* 41.4 (1991): 6-7. p. 7

⁵ R. M. Entman, "'Framing: Toward clarification of a fractured paradigm", *Journal of Communication*

43 (1993): 52-57. p. 53

⁶ E. Goffman, "Frame analysis: An essay on the Organization of Experience", (Cambridge: Harvard University Press, 1974).

⁷ Spiro Kiousis and Xu Wu, "' International Agenda-building and Agenda-setting: Exploring the Influence of Public Relations Counsel on US News Media and Public Perceptions of Foreign Nations", *The International Communications Gazette* 70.1 (2008): 58-75 p.58.

⁸ Kunczik, Michael. "Images of nations and international public relations." (Mahwah, NJ: Erlbaum, 1997.)

nations, or “hardened prejudices”, which “[express] the convictions of a particular group (or its members) about an alien group (or individuals because of actual or assumed membership of the alien group) without consideration of their correctness.”⁹ Such prejudices- or preexisting political rationalities¹⁰- not only impact understanding of current conditions, but also explain how the public analyses the past, and what it expects for the future. Thus, prejudice within the logic of coverage for a specified country can lead to formation of prejudiced mechanisms for knowledge formation. These prejudiced logical mechanisms structure basic public mechanisms for calculation and rationalization of truth and acceptable behavioral norms,¹¹ and are thus key to understanding public perception of emerging frames. To those points we need to add Ong and Collier’s discussions of Neoliberalism as a mobile technology that works through use of preexisting political rationalities and cultural, historical context in order to better understand how the basic logic of reporting is assembled.

Ong and Collier understand international neoliberal governance as having distinctive mechanisms for de-contextualization, re-contextualization, abstractability and mobility across many and varying socio-cultural sites.¹² The global form’s assimilates new political environments and rationalities within the global neoliberal order through codifying heterogeneous objects and contexts within a lexicon amenable to both market control and valuation. Its Mechanisms for mobility allow neoliberal logic to migrate as assembled global forms are limited or delimited through processes of de-contextualization, re-contextualization and abstractability in interaction with technical infrastructures, administrative apparatuses, and value regimes and their embedded political rationalities and cultural, historical context. This limitation and delimitation takes

⁹ Ibid.

¹⁰ Aihwa Ong, “Boundary crossings: Neoliberalism as a mobile Technology,” *Royal geographical Society (with The Institute of British Geographers)* (2007): 3-8.

¹¹ Aihwa Ong and Stephen J. Collier, “Global Assemblages” (Malden: Blackwell, 2005).

¹² Ibid. p. 10

form from the synergy of global and local regimes of governance and mechanisms for thought. After shifting discussion to the implications of analyzing the global forms of neoliberalism within the process of assemblage, Ong continues on to define the term “global assemblage” in terms of an inherent tension between the broadly encompassing, seamless, and mobile connotations of the word global and the more heterogeneous, contingent, unstable, partial and situated connotations of the word assemblage.¹³

Rather than focusing on macro changes in the configuration of governance structures and society, this approach examines phenomena, such as dominant news media frames, that articulate the substance of these macro shifts. It also focuses its analysis on “domains in which the forms and values of individual and collective existence are problematized or at stake, in the sense that they are subject to technological, political and ethical reflection and intervention.”¹⁴ In the formation of news media frames, we see the influence of market regulation unifying the narratives of frames otherwise defined by normative logics for reporting that stem from the historical, cultural context and pre-existing political rationalities of target audiences.

Ong’s scholarship on neoliberalism in eastern contexts is key for understanding how neoliberalism operates in the global arena. In the developing nations of South-East Asia, neoliberal governance technology is applied to specific cultural groups (socio-economic) and geographic regions, rationalized as either an exception to neoliberalism, as is done based on religious affiliation in Malaysia, or as a neoliberal exception, as is applied to regional zones in China. Here Ong’s scholarship demonstrates the shortcomings of wave-based theories concerning the spread of Neoliberalism stemming from their assumption of western context. Such contextual application of the neoliberal form allows for the development of the unequal rationality and social inequality

¹³ Ibid. p. 9-10

¹⁴ Ibid. p. 4.

necessary to consent to the global neoliberal project. This contextual application of the neoliberal form also obscures the logic-making process within the context of pre-existing social and cultural identity formations.¹⁵ Aihwa Ong's conception of neoliberalism as a mobile technology argues that neoliberal logic possesses the capacity to traverse multiple and varied contexts through articulation of this logic in terms of pre-existing political rationalities and cultural and historical contexts.¹⁶

StatNews and Framing

This research builds upon previous media framing studies; for a discussion of the use of our media analysis tool in sociological research, see Clavier and Barnesmoore, Claver and El Ghaoui, and Miratrix for an in depth discussion of the applicability of StatNews technology and its statistical methodology for use by media analysts.¹⁷

In "*The Whites of Their Eyes: Racist Ideologies and the Media*,"¹⁸ Stuart Hall states that:

*The media are... part of the dominant means of ideological production. What they 'produce' is precisely representations of the social world, images, descriptions, explanations and frames for understanding how the world is and why it works as it is said and shown to work*¹⁹

¹⁵ Aihwa Ong, "Boundary crossings: Neoliberalism as a mobile Technology," *Royal geographical Society (with The Institute of British Geographers)* (2007): 3-8. EtI All.

¹⁶ Ibid.

¹⁷ -Sophie Clavier, Laurent El Ghaoui, Radka Cahlikova and Andrew Stimson, "Country Profiling: Media, Foreign Policy Orientation, and the Limitations of Framing Theory.", *International Studies Association* (New Orleans: ISA, 2010).

-Sophie Clavier, Luke Barnesmoore, Laurent El Ghaoui and Guan-Cheng Li, "All the News That's Fit to Compare," *International Studies Association 53rd Annual National Convention* (San Diego: ISA, 2012)

¹⁸ Stuart Hall, "The Whites of their Eyes: Racist Ideologies and the Media," John Thompson, *The Media Reader* (1990).

¹⁹ James Watson, "Representing Realities: An Overview of News Framing," *Kieo Communication Review* 29 (2007): 107-131. P. 107

Hall demonstrates clearly one of the key nodes by which our technology could be applied to sociological studies of the mass media in that it illuminates the decisive role the news media plays in the definition of normative public subjective perceptions. Ideas and subsequent logic are the material through which subjects form knowledge. Thus, understanding the logic by which the mass media narrates certain types of events or topics allows for prediction of what types of ideas and knowledge will manifest in future occurrences of said event or topic. The ability to identify and quantify, over time, both the appearance and dissemination of macro frames, allows us to establish an empirical basis by which we can substantiate qualitative hypothesis concerning public knowledge of specific topics or events. Also, use of StatNews machine learning approach allows us to examine a body of text otherwise too large for efficient use of traditional analytic methods when applied by a single analyst.

Epistemic Approach:

Our epistemic approach is two-fold.²⁰ First, our research in framing theory indicates that dominant frames and narratives established in the public mind by political rhetoric and the news media are the basic materials with which the general public forms its knowledge. Thus, we apply StatNews' machine learning software to visualize the dominant frames for a specified topic within large data text corpora of news media coverage and political rhetoric. In this way we hope to identify the basic epistemic materials available for Al Jazeera's English and Arabic audiences in their formation of knowledge concerning the Arab Spring. The second aspect of our approach argues that the synthesis of global, neoliberal logic with the local, pre-existing political rationalities and cultural, historical contexts of Al Jazeera's English and Arabic coverage gives rise to

²⁰ This section is part of a larger body of research being conducted by Barnesmoore on the relationship between mass media reporting and public epistemological norms.

epistemic mechanisms. Within our assemblage approach, these epistemic mechanisms can be considered as mechanisms for thought defined above. This synthesis between global and the local norms comes, at least in part, as a result of the blurred boundaries of global governance caused by the increased flow of transnational capital in a technologically globalized world.²¹ Finally, we argue that epistemic materials, after being processed by our epistemic mechanisms, form the contours of public knowledge. If we take StatNews as a metaphor for our epistemic approach, we see corpora of documents as epistemic materials, our algorithmic approach as an epistemic mechanism, and our subsequent visualization as the knowledge produced. This epistemic understanding gives rise to our two pronged assemblage approach for news media analysis.

Two Pronged Assemblage Model:

Our approach is to identify the dominant logic that structures each source's, in this case language market's, narration of events. Our model is two pronged, and looks to first demonstrate the dominant logic of narration through use of framing theory. It then identifies possible sources for this logic in the political rationalities and cultural, historical context of the target audience and the global context of news media narration through use of Assemblage Theory.

The first step of identifying frames is done through processing large data corpora of news media articles with algorithmic machine learning software that produces concise visualizations of the latent text data of related terms for our selected topic within said corpora for a specified topic. In the case of our study, the initial search term we examined was "Arab Spring." This approach allows the analyst to examine how dominant frames are constructed across time and in relation to momentous events.

²¹ Akhil Gupta, "Blurred Boundaries," Aradhana Sharma Akhil Gupta, *the Anthropology of the State reader* (oxford: Blackwell, 2006) 211-242.

Understanding how a topic is narrated over time allows the analyst to identify transient logical for narration and their occurrence in time. The next step is to analyze possible sources of our discovered logic within dominant political rationalities and the historical, cultural contexts of each respective market following Ong's Assemblage theory. From this analysis, the analyst is better able to identify the variables that give rise to normative logics of reporting and improve capacity to foresee major changes in the dominant logic of reporting.

This dual-pronged model allows us to both predict how future events like social uprisings will be narrated by the news media and thus perceived by the general public in a specified language audience as well as keep room in such predictions for the type of events that might cause a shift in the logic of narration. We give an example of how our two-pronged assemblage model has been applied in our larger research on media coverage of the Arab Spring to better orient the reader with our approach.

In our study of New York Times International coverage of Egypt following the Arab Spring we saw that the Camp David Accords and Egypt's alliance with Israel gave rise to the dominant logic of reporting for Egypt; as the basic logic of reporting seems to have risen from Israeli, Egyptian military relations, we can predict that a shift in military relations between the two nations might lead to a shift in the dominant logic of reporting that the Arab Spring itself was not able to muster. In the above, the basic logic is demonstrated as a result of our first prong of analysis, while analysis of the effect of the cultural, historical context and subsequent political rationalities that arose from the Camp David Accords as well as the possibility of a shift in dominant logic come from our second prong's Assemblage node.

We argue the findings from our tool allow an analyst to better understand the basic logic of reporting for a region and how events such as uprisings and key elections impact that coverage. Fusing this understanding of finite context with understanding of

the overarching neoliberal logic for reporting as defined by Ong allows for a more subtle and nuanced method for predictive media analysis. This model can also be bridged from the news media into analysis of many forms of large data corpora with relevance to public knowledge such as legal decisions, government documents and political speeches.

Section Two:

StatNews Analytical Method

The StatNews project at UC Berkeley aims to provide a web-based service to media scholars that delivers user-friendly visualizations of statistical analyses of various news databases. A prototype, currently in operation at statnews.org, allows registered users to perform simple queries, based on occurrence and co-occurrence. Our next version will provide for more sophisticated analyses.

Occurrence and co-occurrence analysis is a well-known, useful tool to explore both the frequency of terms and the context within which terms are mentioned in a corpus. However, counting words is often not enough to provide a differentiated context. One of the key contributions of the StatNews project is the notion of comparative analysis, which is based not only on positive samples, as is a basic word count, but also on *negative* ones.

Nicholas Kristof	Roger Cohen	Nicholas Kristof	Roger Cohen
mr	obama	videos	olmert
people	iran	darfur	persian
obama	said	antibiotics	chemical
said	american	facebook	mohammad
president	president	sudanese	ali
world	iranian	janjaweed	dialogue
new	israel	youtube	cease
american	states	sudan	iranian
years	new	sweatshops	tehran
united	united	invite	holocaust

Co-occurrence: uses only "positive" samples	Comparative method: requires all samples
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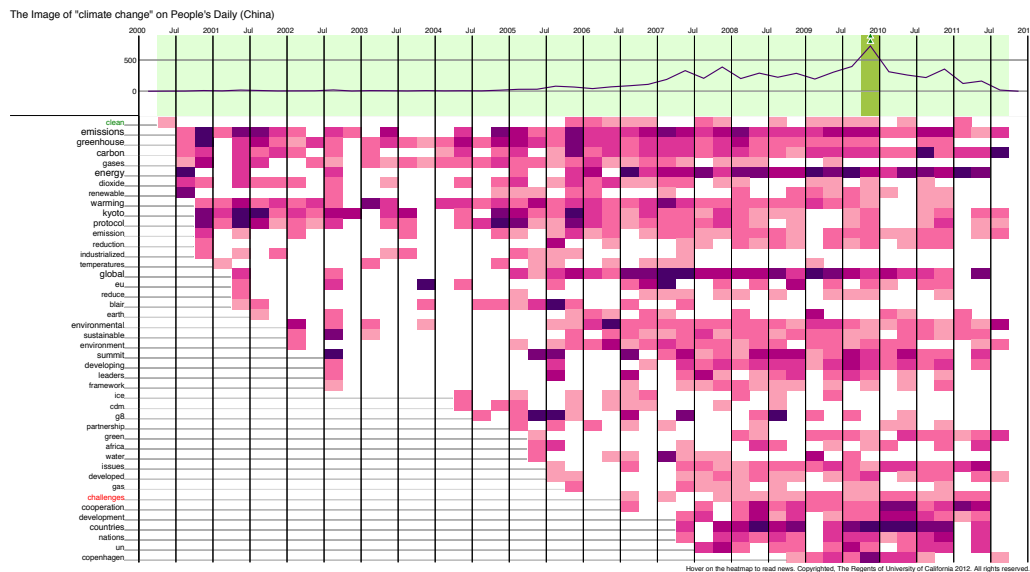
In order to clarify this point, consider for example the problem of analyzing the opinion pieces of two “op-ed” writers from The New York Times, Nicholas Kristof and Roger Cohen, during a specific period (two months prior to the 2008 US Presidential Election). The table above shows the results of two kinds of analysis. On the left panel, a counting method was used to determine the terms that arise most frequently in each one of the sets of opinion pieces. We observe that the “image” of the two authors is not very distinct; they both talk about the US Presidential elections quite often. On the right panel, a comparative method was used; it computes a short list of other terms that are strong statistical predictors of the appearance of the queried term.²² We now observe a radically different, and highly contrasted image. This contrast is achieved due to the fact that the comparative method, in order to find keywords associated with one author, uses the terms used by the *other* author as well. That is, the method uses not just positive samples (the corpus corresponding to one author) but also negative ones (the corpus from the other author).

Comparative analysis can be applied not just to compare two different authors. It can be used to find the “image” (context) of a certain topic, as it is mentioned in a given corpus; and, to visualize how that image evolves over time. In its basic instance, the method computes a short list of other terms that are strong statistical predictors of the appearance of the queried term in any document unit (typically, a paragraph).

Consider the example of analyzing how the term “Climate Change” is mentioned in a corpus from China’s *People’s Daily* (English version). Now, the “positive” class is the set of document units (paragraphs) that contain those terms; the “negative” class is the

²² “Understanding Large Text Corpora via Sparse Machine Learning”, by El Ghaoui, Pham, Duong, Srivastava & Bhaduri, to appear in J. Statistical Analysis and Data Mining, 2013; or B. Gawalt, J. Jia, L. Miratrix, L. El Ghaoui, B. Yu, S. Clavier, “Discovering word associations in news media via feature selection and sparse classification”, In Proc. 11th ACM SIGMM International Conference on Multimedia Information Retrieval, 2010

rest of the corpus. In order to observe changes in image across time, we perform a comparative analysis on a “time slice” of the corpus, one for each quarter.



In the image, the shaded boxes identify when a given term appears in the list of word predictors for “climate change.” A darker box indicates that the term is present for a longer duration (apparent along the horizontal axis, calendar time) and appears more frequently. The relative size of the list of predictors (ordered by appearance in the list of predictors over time) is a marker for the total sum of weights associated with that term, over the whole time span. Overall, this analysis demonstrates that recognition of a problem like climate change by an official body like the United Nations (as seen with the spike in coverage initiated by UN environmental summit in Copenhagen) leads to increased coverage in the Chinese press.

The particular statistical method used to find the keywords relies on a relatively new area called “sparse statistics”; in our setting it means that the algorithm tries to find a *short* list of terms. Compared to previous machine learning approaches, this sparse statistics method represents several benefits. In particular, the algorithms restrict the

output to a short list, concentrating the information within a large database into a human-interpretable result. Further, sparse regression approaches enable comparing “positive” and “negative” classes to best distinguish corpora from one another (explained in more depth below). Other methods that singularly examine co-occurrence do not weed out terms that co-occur frequently but do not bring any useful meaning, such as stop words (“the” or “a”). Many other methods also rely on simply removing pre-defined terms manually, or fail to take into account negative examples.

Section 3: English vs. Arabic: *at this time we are still developing our data.*

Initial Statistical and Key Word Findings:

As we are still developing our data, we briefly discuss Al Jazeera English and Arabic coverage of presidential elections in Egypt. Obviously, for optimized application of the two-pronged assemblage approach multiple queries within multiple time frames would be required. English coverage of Egypt and the Arab Spring Revolutions rose by 225% during the month of May during Morsi’s election, while Arabic coverage saw only a 53% rise. English and Arabic coverage are similar in that they both mention **Mubarak**, reflecting the historical context of Egypt. English coverage differs in that it has a heightened focus on repressive government tactics both in the appearance of the term **curfew**, which connotes government oppression, and the term **khawaia**, which references political activists in Bahrain. This likely rises from the western liberal norms of the Al Jazeera’s target English language audience. English coverage also renders the term **ambassador** due to coverage of the death of the US ambassador in Benghazi.

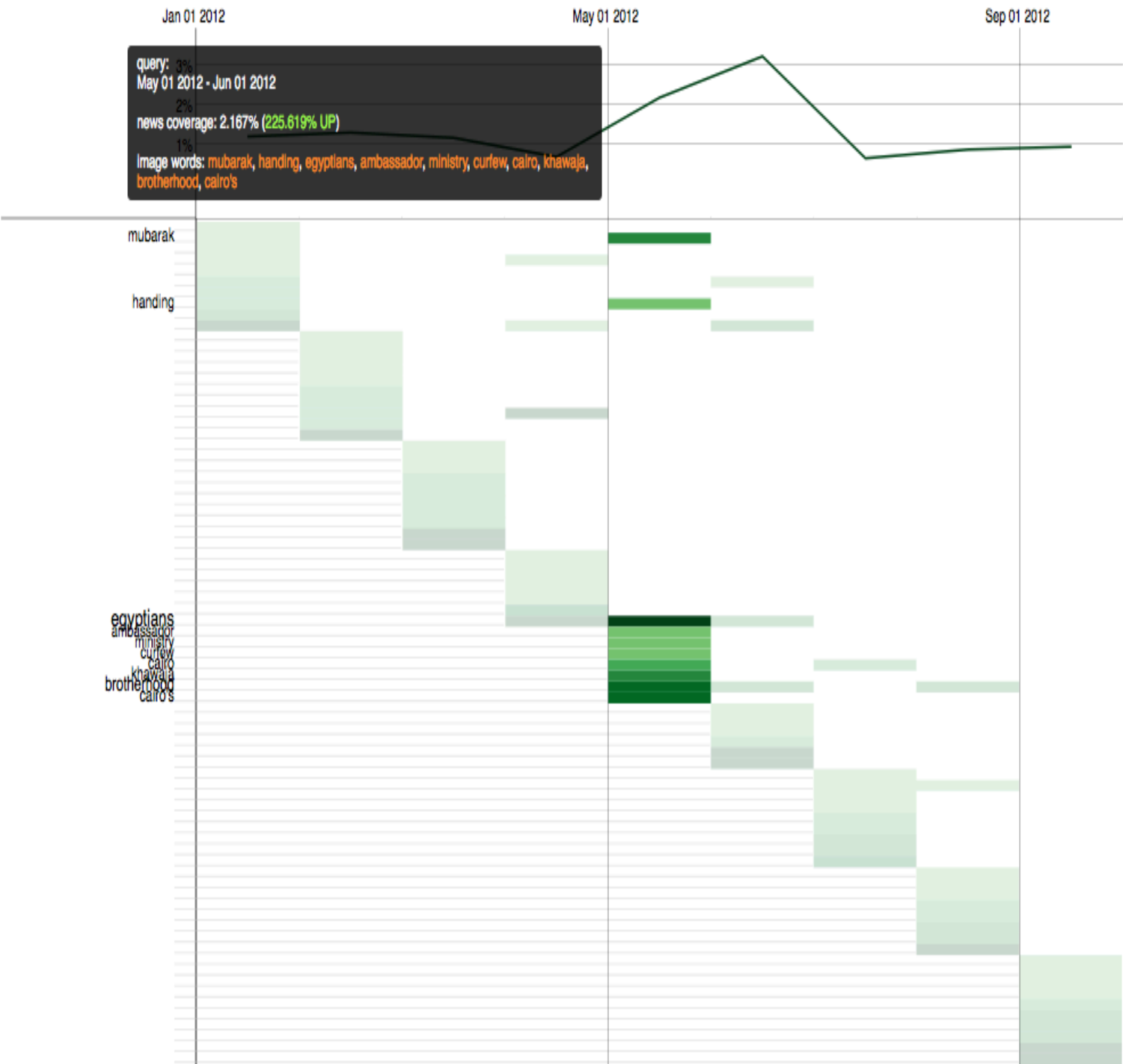
Arabic coverage seems to give a more in depth view of key actors in that we see the term **Shafiq**, which refers to Ahmed Shafiq, the former Egyptian Air Force General, likely due to the greater knowledge of relevant actors within the Arabic audience. Arabic coverage also does not seem to have the same focus on political

repression as western liberal norms are not as dominating a pre-existing political rationality within Arab audiences. We also see the term **film** in Arabic coverage in reference to the death of the US ambassador in Benghazi. This demonstrates a heightened focus on the film that initiated the ambassador's death as opposed to coverage of the ambassador himself. The difference between English and Arabic coverage of the incident in Benghazi indicates another divergence in coverage predicated on the differences of historical and cultural context between the respective audiences.

This differentiation in coverage of government repression in Egypt and attacks on US officials in the region illuminates how global neoliberal regimes of logic, that impel news media agencies to target regional language audiences to sustain revenue, are assembled with the pre-existing political rationalities and historical, cultural contexts of said target audiences in order to inflect the formation of news media frames. With extended data, we may examine whether the dominant logic that structures these divergences is transient across multiple topics. In this way would begin to develop the first prong of our two-pronged model. From there we would examine the local context that gave rise to this logic of reporting in-order to create space within the model for a possible change in the dominant logic of reporting.

Graph 1, English:

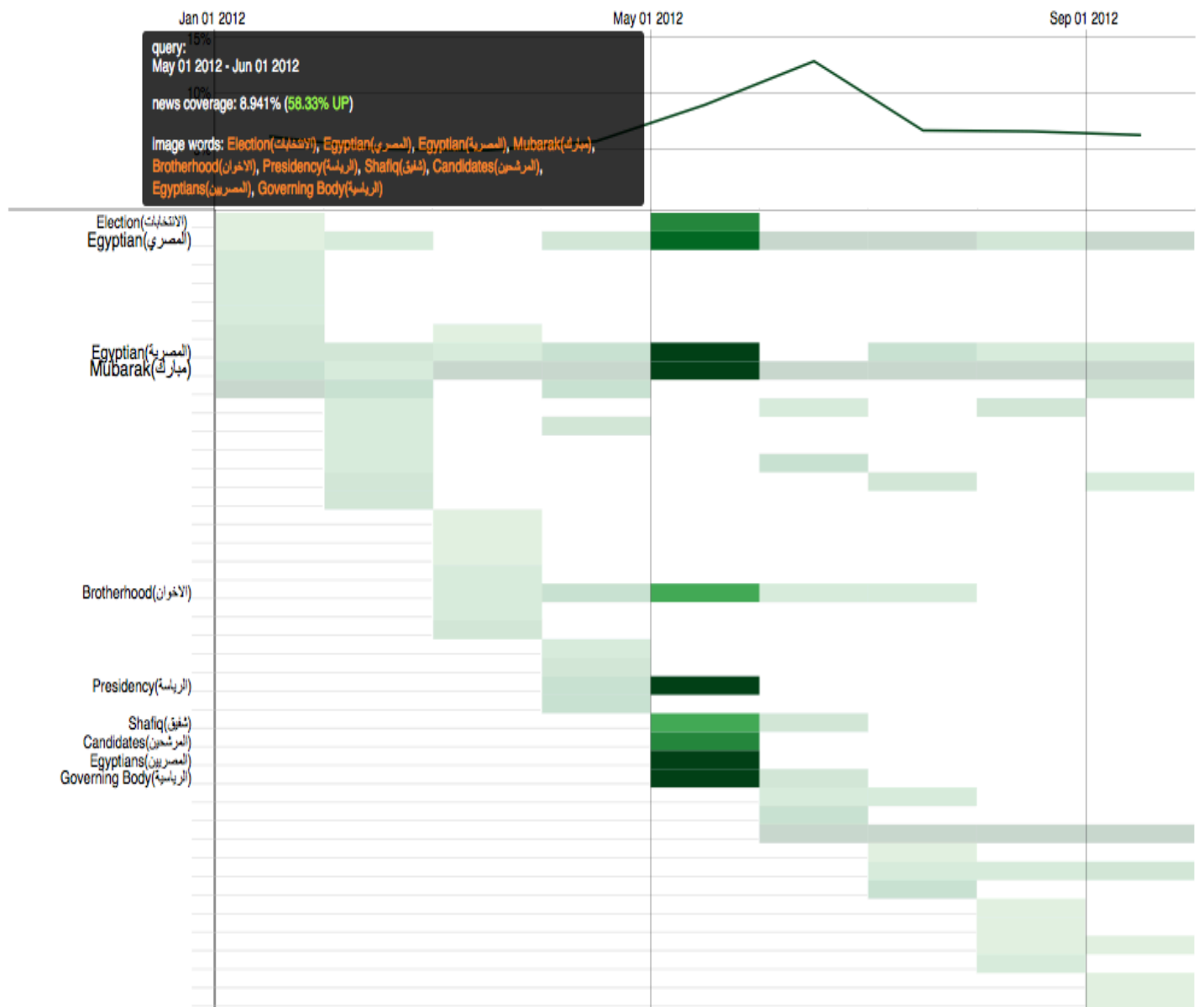
Query: Any: arab spring, revolution, protest, regime change, democratic All: egypt



Hover on the heatmap to read news. The StatNews project, UC Berkeley. Copyrighted, The Regents of University of California 2012. All rights reserved.

Graph 2:

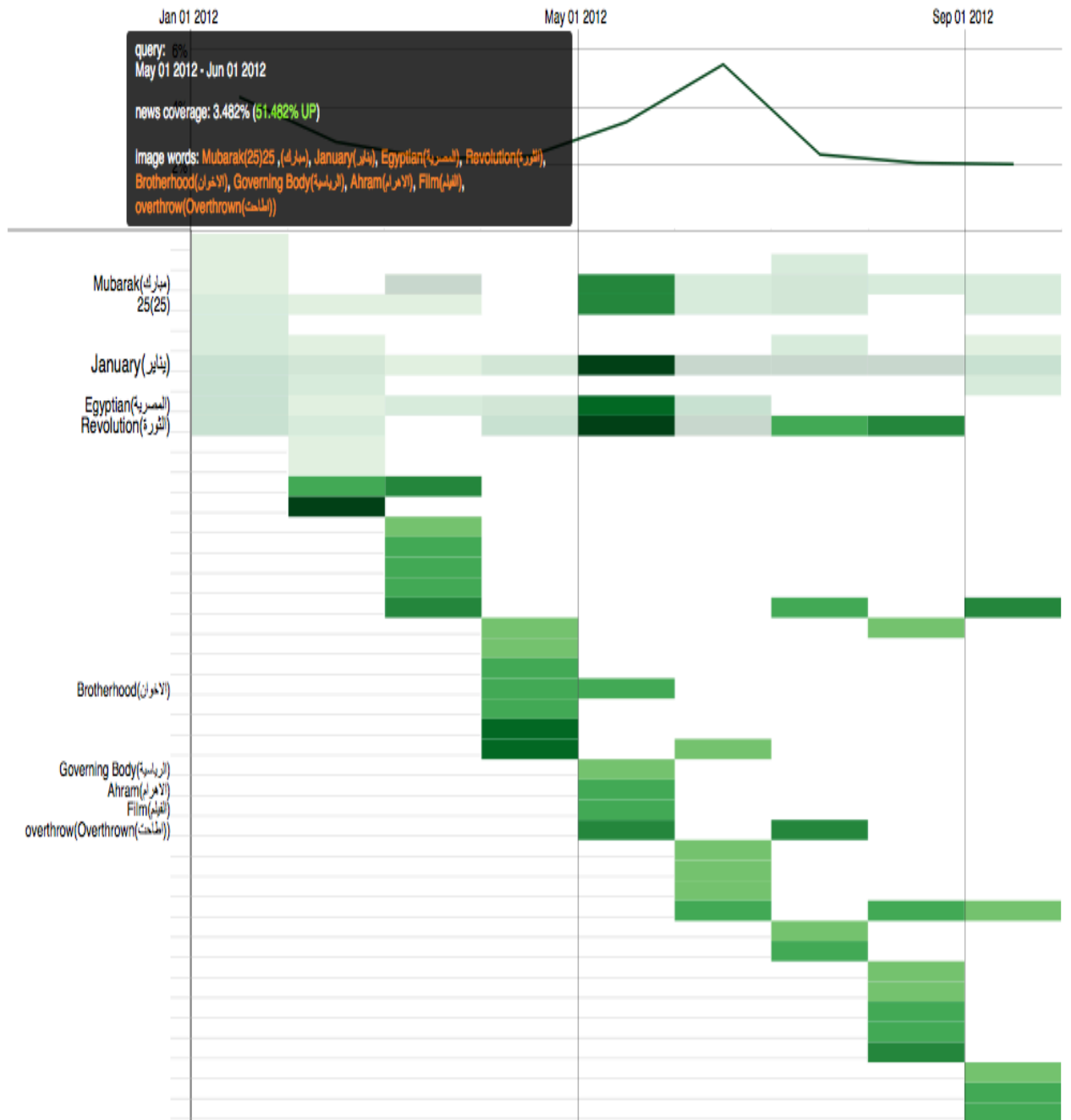
Query: Any: Elections(9)انتخابات, رئيس, رئاسي, رؤساء, تصويت, صوت, ديمقراطية(9) All: Egypt(مصر)



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Graph 3:

Query: Any: Spring(الربيع) Arab(العربي), Revolution(ثورة), Demonstration(مظاهرة), Regime change(تغيير النظام), Democracy(ديمقراطية) All: Egypt(مصر)



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