Revolution, religiosity, and social change during the Arab Spring as viewed by the news and Twitter

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Abstract

1   Introduction

Much has been made of the use of social media during the Arab Spring. At this point, it is almost common knowledge that the emphasis on social media as a *cause* of the revolutions is overblown (Bruns, Highfield, & Burgess, 2013; Goldstone, 2013). However, many scholars have pointed to the fact that the use of social media may have aided certain aspects of the revolutions in important ways for different people (Gallé, Renders, & Karstens, 2013; Papacharissi & de Fatima Oliveira, 2012; Starbird & Palen, 2012) and that data from social media may help to understand how the revolutions grew and spread (Bruns et al., 2013; Lotan et al., 2011). By the same token, recent work

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has suggested that data from news media during the time of the Arab Spring may have itself been indicative of important developments during that time period (Joseph, Carley, Filonuk, Morgan, & Pfeffer, 2014; Pfeffer & Carley, 2012).

The present work takes the view that social and news media data can be used to support or refute hypotheses that have been generated in recent work as to the causes and consequences of the Arab Spring. At the same time, we also support the rash of recent claims that the myriad methodological trapdoors that exist within this type of data suggest the need for cautious, nuanced analysis which accounts for or at least admits these possible biasesJoseph, Landwehr, and Carley (2014); Morstatter, Pfeffer, Liu, and Carley (2013); Ruths and Pfeffer (2014); Tufekci (2014). While previous work has dealt with some of these issues, ...

...These concerns include the fact that "data-driven" analysis often suffers from post-hoc conclusions which substantially increase the number of "researcher degrees of freedom", even if unintentionally, in the analysis .

1.1 Concrete Hypotheses

- **H1**: as the number of topics increase, you get increasing civil unrest

- **H2**: protestors represented many different groups in places where revolutions were successful

- **H3**: virtual networks materialized before street protest networks.

- **H4**: Allegedly large increases in higher education did not lead to economic improvement and resulted in frustrated recent college graduates. Some of the term networks in Tunisia could be used to illustrate "youth bulge" and quantify this dissent theory.

- **H5**: It would also be interesting to look at want terms are highly connected with unemployment in both the news and twitter term networks over time.

Supplement w/ country-based vingettes -> where these methods are helpful. E.g.

- Attempt to quantify how Mohammad Bouazizi's setting himself on fire spreads across normally disconnected factions within the Twitter data in Tunisia from Dec 2010 – Feb 2011.

- I think we could use our religiosity terms to measure factionalism/sectarianism at the onset of Egypt's protests. Both counts and term networks could be useful.

1.2 Data Exploration

- correlations w/ official indicators

- Regime-type effects

Why newspaper is bad data for this: Difficult to extract organizers, who is actually involved if you arent native and involved in the scene

Questions he asked to get at instability when was the first time you saw a cop? were you working w/ the military

Indicators of instability the extent to which the government put out contradictory statements and/or relinqueshed to public outcry internal factionalization within the government rising unemployment, strikes, inflation, tourist industry, petty crime, violent attacks, ideologists stuff,

Things that twitter was used for: Symbolic language (majority) meet here ... (minority) documenting repression... (minority)

Important to note that people in Egypt knew something was going to happen weeks before the 25th ... something in Cairo is gonna happen

Difference between really biased newspapers ... who said nothing was really happening ... and the international news who could cover it reasonably

Reasons why egyptians decided to revolt: well if they can do it (Tunesia) ... most Egyptians consider Egypt a pivot point of the Middle East opression in general

what did the intercountry interactions look like?

Egyptians relied heavily on rumors ... when you havea start where everyone knows the news is propaganda .. you rely on rumors more

Also when the media is obviously lying ... I'm looking at this streety as its being recorded ... the typical egyptian deligimizes the news

they also get a lot of international news from satellite TV ...

People responded to instability by creating their own states, (re)defining thugs and prosecuting them thugs are people w/ darker skin from specific neighborhoods ... state used thug for people who

the state runs through the threat of instability ->

the downtown area before aug 2013 ... every week protests ... we need people to pick up *trash*

Luxor -> Islamist attack in the 90s

Political islamists are the other (since the 20s)

state insecurity -> terrorist attacks (Anti islamist/extrimists)

a lot of Egyptian scholars have dismissed Islamist symbolism ... the people want a secular gov't

2 Related work

2.1 misc

Lots of event-data studies. Also, complaints that models can't predict (http://parusanalytics .com/eventdata/papers.dir/MPSA11.ICEWS.sequence2.1.pdf). We should develop a model that is both suggestive and predictive.

this special issue: `http://onlinelibrary.wiley.com/doi/10.1111/jcom.2012.62.issue-2/issuetoc`

2.2   (Mishra et al., 2014)

2.3   (Goldstone, 2011)

If a protest draws support mainly from just one class or group (peasants, workers, students, urban shopkeepers, professionals), the state can confront that group as a disruptive force, and seek to unify elites from other sectors against that threat. However, if protestors represent many different groups, it is much harder for the state to find allies against them. Moreover, while a state can claim to be preserving society by acting against isolated disruptive elements, it is far more difficult to maintain legitimacy when acting against a broad cross-class coalition. Elites are more likely to desert the state, creating crippling elite divisions, if protestors represent a broad spectrum of society. In addition, a broad cross-class coalition facilitates further mobilization by creating 'meganetworks' linking prior, tightly-linked within-group networks to each other. The impact of public media in favor of the protestors is also greater if media representation shows protestors as representative of the whole society, rather than as one particular group seeking partisan advantages for itself.

three successful revolutions in the Arab world in 2011, in Tunisia, Egypt, and Libya, all demonstrate the crucial role of cross-class coalitions.

In short, what was just recently a remarkably tough coalition capable of unseating a regime, even of conducting a civil war to do so, can become a pack of feuding forces in the aftermath of successful revolt. There are three ways that this fracturing of coalitions can play out – constructive opposition, paralysis, or polarization.

It is too early to tell which outcome is most likely in the Arab revolts. It is still possible that a future event

2.4 isa from goldstone

`https://isaconf.confex.com/isaconf/wc2014/webprogram/Paper40159.html` When they began, there was hope that the Arab Revolutions of 2011 would be like the peaceful "velvet" or "color" revolutions in the USSR and Eastern Europe in 1989, or in the Ukraine in 2004. Instead, with the possible exception of Tunisia, they have turned out to be more like true, classic revolutions with civil wars, counter-revolutions, high levels of violence, and extended periods of turmoil and sudden shifts in government. There are a number of reasons for this difference, including (1) the greater youth of populations in the Arab revolutions; (2) the role of ideological contenders for power – Islamists – alongside the secular liberal revolutionaries; (3) the major interventions of outside powers; and (4) greater internal regional, ethnic and tribal divisions.

2.5 Goldstone (2013)

what resulted from this common foundation of unemployment, inequality, corruption, media links and protest differed enormously from country to country. In Tunisia, Egypt, and Yemen seemingly invulnerable autocrats who had ruled for decades surrendered power, stepping down or fleeing in the face of mounting nation-wide popular protests. In Libya and Syria similarly autocratic leaders instead mobilized for war and undertook an all-out military assault on their opponents; Libya's failed but Syria's regime has so far succeeded in holding on to power. In contrast, in Algeria, Iraq, Saudi Arabia and Bahrain protests fizzled or were quickly snuffed out. And in Morocco, Oman, Kuwait and Jordan monarchs turned to varying degrees of constitutional reform and working with elected parliaments; in these cases reforms appear to have brought peace by deflecting demands for revolt or revolution.

Three factors of regimes that indicate how they faired: -personalist regimes (where a single individual – who may have begun as an elected leader, or head of a military or even party regime

– takes control of the national government) are particularly vulnerable to revolutionary collapse in the event of widespread popular uprising -monarchies () were much more stable -Personalist regimes include the regimes of Saleh in Yemen, Ghaddafi in Libya, Assad in Syria, Ben Ali in Tunisia, and Mubarak in Egypt -Libya is the major outlier among the personalist regimes, with vast oil revenues forming the base of the economy and providing the regime with substantial resources.

-a number of regimes in the region rule major oil and gas producing states. As Michael Ross (2012) has argued, states that control revenues that are easily and secretly controlled, that do not require taxation, and that are large enough to give the state the ability to maintain a large cadre of elite supporters, institutions, and popular largesse have exceptional resilience against popular demands. -The oil-poor states (Morocco and Jordan) went the furthest in their reforms; the oil-rich states (Oman, Kuwait, Saudi Arabia) did the least

-a state's position in the international states-system has major consequences for the possibilities of change. - Bahrain faced perhaps the most massive protests ever seen in an authoritarian regime, in proportion to its population. However, it received help from Saudi Arabia.

In sum, the single best key to where regimes in MENA have been overturned or faced massive rebellions is where personalist regimes have arisen. In contrast to the monarchies, which all have either survived with reforms or even become counter-revolutionary, the personalist regimes have all crumbled – with the exception of Syria, which is slowly succumbing to civil war and survives in large part because of a favorable balance of external intervention. Among these regimes, the relative ease with which they were overthrown depended on the availability of oil revenues and the impact of international actions.

It has seemed odd to many that the Arab states not yet mentioned – Lebanon, the Palestinian Authority, Iraq, and Algeria – were hardly touched by the wave of protests that erupted in the Arab Spring.

This too can be explained by a focus on the state, rather than on the structural or populist reasons for protest. The countries where the Arab Spring had its impact were monarchies and personalist regimes

Egypt and Tunisia changed their regimes with relatively little violence. Yet their change has not gone as smoothly as hoped.

Yemen has had a relatively peaceful change of regime, but it has not had peace

The vast majority of revolutionary transitions took 5 years or more, with a median of 8 years

?

The early adopters were middle-class, educated, and underemployed, relatively leaderless, and technology-savvy youth.

Six "phases" to the revolution: preparation phase: involving activists' use of digital media across time to build solidarity networks and identification of collective identities and goals ignition phase: involving symbolically powerful moments which ruling elites and regimes intentionally or lazily ignored, but which galvanized the public protest phase: by employing offline networks and digital technologies, small groups strategically organized on large numbers international buy-in phase: digital media networks extended the range of local coverage to international broadcast networks climax phase: the regime maneuvered strategically or carelessly to appease public discontent through welfare packages or harsh repressive actions information warfare phase: various actors, state-based and from international civic advocacy networks, compete to shape the future of civil society

ICTS can also empower authoritarian security forces in improving their management and coercion capabilities. It is wrongheaded to construct a technologically deterministic theory of contemporary democratization,

along with wealth, telecommunications and information policy can contribute to democratization (Norris 2001; Milner 2006; Howard and Mazaheri 2009). Many have hypothesized that increased

Internet usage supports the growth of democratic institutions (Hogan 1999; Abbott 2001; George 2006).

Yet both democracies and dictatorships have fast-growing numbers of Internet users, Internet hosts, mobile phones, and personal computers. Authoritarian regimes may develop their digital communication infrastructure specifically to extend state power (Kalathil and Boas 2003).

digital technologies (may) provide the entry points for young activists to explore democratic alternatives, an action landscape such as cyberspace that allows for political discourse and even direct interventions with state policy, and coordinating mechanisms that support synchronized social movements through marches, protests, and other forms of collective action (Kirsh 2001; Warschauer, El Said, and Zohry 2002; Abdulla 2005, 2007; Shapiro 2009).

it makes most sense to look for "conjoined causal conditions," the set of multiple indicators that together provide a fulfilling narrative for understanding political outcomes. An examination of the political impacts of digital technologies should not assume positive or negative effects

Independent Variables used: Average Incomes Within Country Wealth Distribution (Gini) Levels of Unemployment Demographic Variables (pop. size, degree of urbanization, youth buldge) Censorship Sophistication (we created an index combining the OpenNet Initiative's monitoring of countries that had instituted no filtering, or a range of selective, substantial, and pervasive filtering on content for political, social, security reasons or used automated tools to do s) Fuel-dependent Economy (countries' level of oil production and its share in the global oil resources available)

Dependent variables Regime Fragility - Full membership in the set of fragile Arab Spring countries was given to the countries where street turnout was surprisingly large, attendance was consistently high over several days, domestic media attention unusually interested, and protests took place in an unexpected number of diverse locations. Lower scores went to cases where protest turnout was small, concentrated in only a few locations, or protesters themselves were quickly dissuaded.

Social Movement Success

Results: First, not being a country where the national economy is dependent on fuel exports is a consistent ingredient in all the recipes of social movement success. Second, widespread use of mobile phone technologies was less important for the success of social movements than Internet use. However, the latter does appear as a key ingredient in two causal recipes. Therefore, having a mobile-enabled population is useful, particularly when protests have been ignited. But more than access to mobile technologies, having a long-term Internet-enabled civil society appears in all recipes.

Discussion For scholars of social movements and collective action, there are several interesting aspects of the Arab Spring: the distributed leadership of protest organizers, the core groups of elite publics (literate, middle class, youth, women, and technocrats) that were relatively quick in joining them, and the important role that international news organizations played in giving them the global exposure to help stave off overtly violent reactions from security forces.

Digital media had a causal role in the Arab Spring by providing the very infrastructure that created deep communication ties and organizational capacity in groups of activists before the major protests took plac

For the most part, it was physical intimidation that discouraged activists from communicating about their political activity on Facebook

A peripheral counting of media use and digital diffusion levels reveals that the countries experiencing the most dramatic changes had low overall percentages of social media use (Mourtada and Salem 2011). But limiting the analysis to aggregate indicators precludes the possibility of telling a more complex, causal story. Moreover, if there is anything to the analytical frame of networks, the use of important media by a few important nodes of users could be exceptionally consequential. This is why, to unpack the complexities of the Arab Spring, we must employ analytic approaches

that make possible the examination of complex social systems that constitute the overall aggregate of state-based cases.

Goldstone (2011)

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? social media helped democratic ideas spread across borders, through informal networks of families, friends, and interested onlookers.

The intensity of political conversations that took place preceding major street protests supports the idea that virtual networks materialized before street protest networks.

Facebook pages and Twitter conversations were essential for designing and trying out new strategies as events took place on the ground.

2.6 isa from goldstone

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parties are used as vehicles to push specific people through

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regime class-spread Average Incomes Within Country Wealth Distribution (Gini) Levels of Unemployment Demographic Variables (pop. size, degree of urbanization, youth buldge) Censorship Sophistication Fuel-dependent Economy

Regime Fragility Social Movement Success

black-out of media vs not black out media religious freedom indices

Twitter News international network position Ethnic diversity / group indicators

Twitter and news as independent or representative of?

3   (Expected) Results

Tunisia timeline: 12/27/10 -> 4/9 Ben Ali fled Egypt timeline: 1/25/11 -> 2/11 Mubarak leaves

Libya: 2/15 -> 8/20

We are considering the following three things for three "levels":

1. How do the following correlate with any of the religiosity or instability indicators?

    (a) religious terms

    (b) network graph level metrics

    (c) mentions of terror groups

    (d) mentions of ethnic groups

    (e) revolution/insurgent/violence or adaptation terms

    (f) size metrics - number of actors, number of posts, number of words, number of ties

    (g) mentions of sports

    (h) mentions of disease

2. Overall- is there a stronger signal in news or twitter?

3. Are news and twitter at all correlated with each other?

3.1   General Covariates- the "strong obvious signal"

We study these things in general (not worrying about over time)

I (KC) expect most of this will say - NO CORRELATION

3.2 Country differences by time - the "somewhat hidden signal"

We study these things using the images for country only data where the boxes are normalized by number of articles.

I (KC) expect here that most of this will show - a) twitter and news have similar signals, and most things are across most countries

3.3 Temporal differences - the "subtle" signal

Here we pick the indicators - general instability (low high), level of terrorism, and for each indicator we take the set of countries that are in some level - e.g. low on general instability, then for each value on the indicator we take the variable (e.g. number of articles using a term related to violence) that has been normalized and find the average across the countries for that month. Then we plot the over time images (so there is one line per level of the variable) and talk about the trends - and put a verticle bar where the revolutions began

Here we are therefore analyzing change by time by level of indicator

I (KC) expect here that most of this will show - a) twitter and news have similar signals, and the average for some indicators will be very different
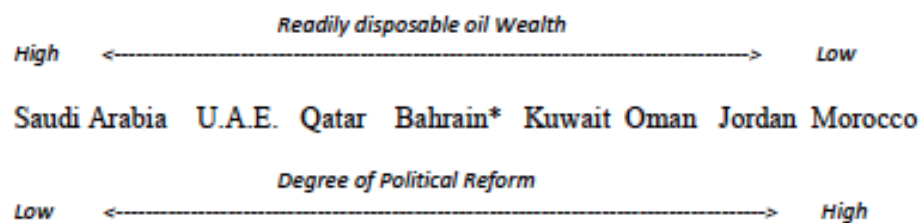
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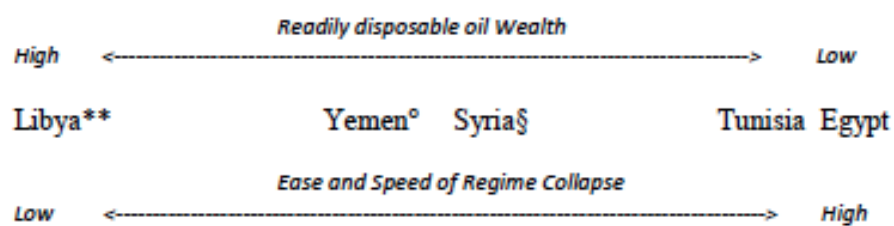
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Figure 1. Monarchies in the Arab Spring

Readily disposable oil Wealth

High <--> Low

Saudi Arabia   U.A.E.   Qatar   Bahrain*   Kuwait   Oman   Jordan   Morocco

Degree of Political Reform

Low <--> High

*Counter-revolution assisted by Saudi Arabia external intervention

Figure 2. Personalist Regimes in the Arab Spring

Readily disposable oil Wealth

High <--> Low

Libya**   Yemen°   Syria§   Tunisia   Egypt

Ease and Speed of Regime Collapse

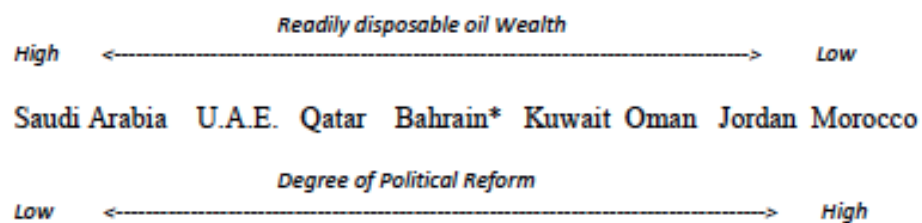Low <--> High

**Collapse hastened by major external intervention by NATO
§Collapse delayed by favorable external intervention by Iran
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Figure 1: Goldstone (2013)

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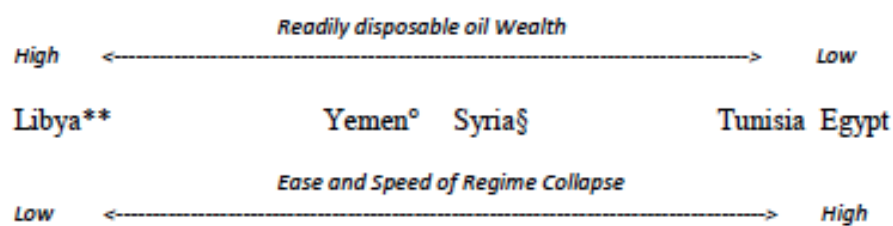°Collapse slightly hastened by external intervention by the U.S.

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