Mapping the Austrian Political Twittersphere

How politicians, journalists and political strategists (inter-)act on Twitter

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Abstract: Politicians, journalists and political strategists in Austria increasingly discover Twitter as a channel for political conversation, forming a - more or less - distinctive Twittersphere concerned with national politics. This paper aims at mapping the relations between the actors within this sphere, which enables new ways of informal, but public communication between different types of professionals, and between professionals and citizens from the outside. Assuming that received @-mentions are an indicator for the influence of an actor within this sphere, we conducted an interaction and network analysis of the 374 most active and important users tweeting about Austrian politics. Following the selected users for four months, we built a database of their tweets and all tweets mentioning them. This corpus of data was used for a comprehensive network analysis of Austrian political actors on Twitter using the software Gephi. The results are mixed: While central actors within the political Twittersphere are mostly well-established, political professionals, who form their own dense network within the broader sphere, non-professionals are positioned on the edge of the network, but may still get in touch with professional actors, join the conversations and thus broaden the debate.

Keywords: Twitter, politics, journalism, discourses, networks, mapping, Austria;

1. Introduction

The changing nature of political participation is a major strand of discussion within the academic debate on potentials and challenges of the Internet for democracy (Bimber, 2001; Castells, 2000; van de Donk et al., 2004). The Internet may have „drastically altered the cost structure of participation" and "increased the spectrum of possible political activities" (Anduiza et al., 2009, 860), but if and how people use those new possibilities to engage in politics is still heavily debated. Dutton (2009) speaks of the Internet as the 'Fifth Estate', where actions of networking citizens enable a new source of accountability. Davis (2010, 746) states, that "politics, for those already engaged or interested, is becoming denser, wider, and possibly more pluralistic and inclusive. But, he

continues, "at the same time the mass of unengaged citizens is being subject to greater communicative exclusion and experiencing increasing disengagement".

Twitter, which has now "established itself as the world's second most important social media platform" (Bruns, 2011, 2) does allow for a new, low-threshold exchange of ideas and opinions and may intensify connections between political actors and citizens. Taking the example of Austria, we address the question how the political Twittersphere is organised and if and how it is open for participation from outsiders. Following Larsson and Moe (2011), the broader question thus is if and how Twitter contributes "to a broadening of participation in public debate, and to what extend it merely serves as yet another arena for already established societal actors" (ibid., 2).

2. Twitter and Political Communication

2.1. The Twittersphere

Communication on Twitter is open for participation and the global "public by default" (Bruns, 2011, 2). Through the manifold options to link messages to users (@mentions), external content (web links) and topics (Hashtags), Twitter communication takes on the form of networks of users and messages densely interconnected. It forms dynamic interaction spaces within networked publics, "complex networks that are bottom-up, top-down as well as side-by-side", that can be "reactors, (re)makers and (re)distributors" (Ito, 2008, 3). Boyd (2011) refers to networked publics not only as spaces constructed by networked technologies, but the "imagined collective that emerges as a result of the intersection of people, technology and practice" (ibid, 39). Twitter publics can be understood as interconnected and fluid conversations constituted by the interplay of users connecting and relating to each other. Virtually all users may join conversations – the notion of the "Twittersphere" relates to this openness. The Twittersphere, however, is not an end in itself. Plenty of Tweets link to other media content and vice versa, making Twitter an integral part of today's "networked public sphere" (Benkler, 2006).

While the Twittersphere itself is open-ended, the way people practice it, the "window" they view it through, is individually structured. Users view their personally composed "Social Awareness Streams" (Naaman et. al., 2010), streams of messages tweeted by all users someone choses to follow. These channels are is bound to individual networks of weak and latent personal (Haythorntwaite, 2002) as well as informational ties people choose to maintain. Who someone 'follows' (followers) determines which messages s/he receives, and who someone is "followed by" (followees) determines the primary audience for a user's messages. Apart from that, users can search and view all Tweets sent worldwide at any time. The widespread use of Hashtags (words preceded by an '#'-sign functioning as keywords) enables users to follow messages on certain topics and events without following each user participating in the debate. Following a Hashtag is thus an easy way to get insights into conversations of relevance for a larger number of users. Bruns and Burgess state that a Hashtag serves "as a vehicle for otherwise unconnected participants to be able to join in a distributed conversation" (Bruns & Burgess, 2011, 49).

2.2. Twitter and Political Discourse

Consequently, a lot of research on Twitter has focused on the analysis of messages through Hashtags and some of this work is directly related to politics and political discourse. Small (2011) conducted a content analysis of Tweets containing the Hashtag '#cdnpol' - an abbreviation for 'Canadian politics'. She shows that the Hashtag was hardly used for 'real' conversations (only 7.4 per cent were marked as 'conversational', 3.1 addressed other users), but rather for the distribution

of news and statements. In the context of the Swedish election campaign in 2010, Larsson & Moe (2011) argue that Twitter has contributed to a broadening of public debate as large numbers of users contributed tweets with the respective Hashtag '#val2010'. However, only a minority participated to a larger degree; a result which is also supported by Tumasjan et. al.'s (2010) study of tweets related to the German Federal elections in 2009. Again, only a small share of the tweets mentioned other users. The political Hashtags in those studies, thus, seem to be less a forum for political dialogue than a channel for the (mere) expression of political opinion and the dissemination of news. It comes as no surprise that the quantity of tweets within a Hashtag on a given day is closely connected to 'offline' events that are covered by mass media, as both Larsson & Moe (2011) and Bruns & Burgess (2011) state. But, as the latter authors show in their analysis of tweets containing the Hashtag '#ausvotes' connected to the Australian Federal Elections in 2010, topics discussed on Twitter do not necessarily mirror topics represented by mass media. Quite on the contrary, topics that have been heavily communicated by politicians and journalists alike, like the asylum seeker policy, play a minor role in the twitter conversations, whereas traditionally less prominently covered topics, like the broadband policy, are heavily debated on Twitter (Bruns & Burgess, 2011).

A different approach to analyse Twitter conversations connected to election campaigns has been taken by Jürgens & Jungherr (2009). They collected all messages of users that have been tweeting on the German Federal Elections in 2009 (indicated by a set of keywords), 33048 accounts in total. They show that the number of Tweets sent by users was related to certain political events and that people tweet more, the closer the elections come. Tweets connected to the run-up for the German elections are also the research objects in a study by Welpe et. al. (2009), who conducted a sentiment analysis of tweets containing one of the party names. They showed that tweets contain more positive than negative keywords connected to parties, and that the semantic categories 'uncertainty', 'efficiency' and 'work' score highest. A sentiment analysis has also been done by Shamma & Diaplous (2010): They analysed sentiments of tweets commenting on the US presidential TV debates of 2008 and showed how people reacted on particular topics and incidents.

Apart from parliamentary politics and elections, Segerberg & Bennett (2011) have analysed Hashtags connected to protests related to the Climate Change Conference in Copenhagen, 2009. By relating Twitter messages to other online media (news websites, blogs), they found that the microblogging service cut across and connected diverse networks, actors and locations. Maireder & Schwarzenegger (2011), who looked at Tweets and Facebook updates connected to the student protests in Vienna in 2009 in a qualitative analysis, described comparable observations: The conglomeration of internal and external communication of the group resulting from the transparency of the media channels in use, integrated different actors into the conversations and drew a lot of interest to the scene. Having investigated the homogeneity or heterogeneity of opinion in tweets, Yardi & Boyd (2010) showed in a case study on a specific part of the abortion debate in the US, that people are exposed to a lot of different opinions within respective conversations on Twitter.

2.3. Twitter use by Politicians and Journalists

Politicians are increasingly using Twitter themselves. A Nielsen (2009) study, for example, shows that 68 of 612 Members of the German Parliament used Twitter in the run-up for the 2009 elections, and in the UK 111 out of 650 Members of Parliament were tweeting in early 2010 (BBC, 2010). Citizen Initiatives in the US (Tweetcongress.org) or Canada (Politwitter.ca) track how their representatives make use of the service. Analyses of tweets by members of the US Congress

(Goldbeck et al. 2010) and US Governmental Organisations (Waters & Williams, 2010), however, found that most of them were using Twitter for self-promotion and simple information diffusion rather than conversations.

Twitter can help journalists to do research for their stories, establish and maintain contacts to sources, increase contact to their audiences and promote their work. Thus it comes as no surprise, that journalists are using Twitter to a large extent. According to Cision (2011), 25 per cent of German, 41% of Swedish and even 66% of British journalists use Twitter as a source. While official Twitter channels of most news organisations are hardly conversational and mainly link to content on the company's website (Armstrong & Gao 2010), journalist's personal twitter accounts are used more dialogical. Hermida (2011) argues, that journalism needs to participate in the networked conversations if it wants to gain (or remain) an important position in networked publics (gain position vs. play role). The value of journalism within Twitter is the conversations that are developed around news stories and linked to journalistic content. Journalism increasingly needs to interact with its environment to develop "ambient journalism" (Hermida 2010) – a continuation of what Deuze and Bardoel (2001) had called "networked journalism": "The convergence between core competences, functions of journalists and the potentials of online" (ibid.).

Within this context, Twitter could play a major role as a channel for communication between journalists of different media companies or bloggers. In a case study on the diffusion of a news story through journalistic networks, Anderson (2010) shows how information spreads from local to regional and, finally, to national news websites. News were "pushed forward by a set of quasi-institutionalized digital actors acting in their own organizational interest. Likewise, bloggers with one foot in the national and one foot in the local blogosphere (...) acted as a 'bridge' between the lower and higher traffic blogospheres. We see here neither informational anarchy nor the complete re-emergence of an older, mass media dominated hierarchy, but a new model somewhere in between" (Anderson, 2010).

3. Research Focus & Questions

The low-threshold nature of communication on Twitter and the individual-based organisation of its network seem to be perfect for the kind of information diffusion Anderson (2010) was focusing on. Furthermore, Twitter provides an easy and informal way for all actors within political discourses - journalists, bloggers, representatives of political interest groups, experts and politicians - to exchange information, ideas and arguments. Previously, these actors interacted only in formal ways, by way of conducting interviews or attending press conferences, formal appointments and similar events. Of course, back then journalists and politicians also met and talked informally, but only sporadically and in private ways.

In contrast, Twitter, provides a continuous channel for communication; communication that is neither strictly formal nor bound to a certain time and space. It consists of more or less informal daily conversations about a wide range of topics, politics amongst others, and it's public. Focusing on users regularly tweeting about Austrian national politics, we investigated interrelations between those actors to answer the following research questions:

- If and how do politicians, journalists and other professional actors within the political system use Twitter to interact with actors of their own and/or other professions and do they interact with users from outside the professional political sphere?

- How is the Austrian political Twittersphere structured with regard to interactions between heterogeneous actors (users with more/less regular interactions, user clusters, role of particular actors)?

4. Method

Following Roger's (2009, 2010) suggestion to research the web by using its own means, we developed a methodology leaning on an approach by researchers from Queensland University of Technology. These scholars developed mapping and visualization tools in the context of their "New Media and Public Communication: Mapping Australian User-Created Content in Online Social Networks" project (Bruns 2011; Bruns & Burgess, 2011; Highfield et al., 2011). In this project, Tweets containing popular Hashtags have been collected, processed and visualized. Assuming that @mentions are indicators for interaction between users, and the count of received @mentions is an indicator for the influence of an actor within a topical 'Twittersphere', the Australian researchers have mapped the @mention network between users participating in discourses marked by a certain Hashtag such as "#eqnz" for the New Zealand earthquake in 2010, or "#spill", for the purported leadership challenge against then-Australian prime minister Kevin Rudd. Their method enabled them to „highlight the shifting roles played by individual participants over time, as well as the response of the overall #hashtag community to new stimuli – such as the entry of new participants or the availability of new information" (Bruns, 2011, 24). Moreover, they described different phases in the overall discussion and identified users involved as well as highlighted the spill-over of mainstream media reporting to Twitter discussions.

Contrary to our colleagues from Australia, who focused on Hashtags, we chose a user-centred approach. This decision was taken because the vast majority of tweets do not contain Hashtags (Hughes & Palen, 2009; Maireder, 2011). Thus tagged messages are the exception, not the rule. Furthermore, users generally tweet on a wide range of topics not necessarily represented by single Hashtags. These arguments hold particularly true for the national politics discourses in Austria: The topics change very often and if Hashtags are used, they are not used consistently; even less in messages directed to a particular user employing @mentions. At the same time, our (non-structured) observations in the run-up to our research showed that a distinct, limited group of users heavily shaped the discussions: mostly journalists, some politicians and experts.

Our first goal, thus, was to identify those users in a structured way. We composed a list of political keywords[1] and searched for those words within Twitter's public timeline using the software YourTwatterKeeper[2] to retrieve messages from Twitter's application programming interface (API). We compiled a list of 400 users by collecting the names of all users, that had mentioned at least two of the keywords, and ranking them by the number of keywords they used, the number of tweets using one of those keywords, the number of followers and listings. The list thus represented those users, who heavily participated , in different debates concerning Austrian domestic politics, who had at least 100 Followers and were listed by other users – an indicator for importance. We then manually adapted the list by excluding bots (automated accounts) and non-conversational accounts, and included top-users from the Austrian Social Media Radar we hadn't included yet.

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[1] Those were political party abbreviations (spoe, oevp, fpoe, gruene, bzoe), names of the most prominent politicians (Faymann, Strache, Spindelegger, Glawischnig, Bucher, and others), names and words representing current political discussions (i.a. Scheuch, Grasser) and Hashtags used for political TV shows (i.a. #sg11).

[2] Twapperkeeper software by John O'Brien, available at https://github.com/jobrieniii/yourTwapperKeeper

In the end, we had 374 accounts. Next, we coded professional backgrounds of those users based on the information in the user profiles and the links provided: 69 politicians, 83 journalists, 28 other political professionals (experts, lobbyists, strategists) and 194 'ordinary' citizens (people without an affiliation to an organisation working politically). We then collected all Tweets of those users as well as the Tweets mentioning those users from October 8, 2011, to February 7, 2011, using self-programmed tools accessing the Twitter API. All Tweets were collected within a database including the user name, the Tweet itself, the date and time of publishing and some other variables.

From this data corpus, we chose four weeks[3] as sample periods. Assuming received @-mentioned were an indicator for the influence of an actor within the Austrian political Twittersphere, we conducted a comprehensive overall @-mention-network analysis of political actors on Twitter, differentiated by professions and visualized using the network analysis and visualization software Gephi[4]. While the sheer number of @-mentions is one, but not a sufficient indicator for influence, we additionally conducted a series of other analysis based on activity, numbers of users mentioned, as well as incoming and outgoing messages sorted by profession.

5. Results

Social networks can be defined by the interactions between actors. In Twitter, these interactions can be traced by @mentions people are using in their tweets to specifically address someone else. These mentions, however, have very different meanings: They may be used (a) to directly address another user (@name as the Tweet's first letters), (b) to quote a tweet of another user (RT @name or via @ name or @name and quotation marks) or (c) to mention someone in a tweet (@name within the text). All those forms are included in our network analysis without distinction, because all of them can be counted as indicators for the relevance of a user within the discourses.

Figure 1 (next page) shows the discussion network of those users, who received at mentions from at least twenty different users. Users, the nodes of the network, are represented by dots. Users mentioning each other are connected by a thin line, the edges. The more often they mention each other, the closer they appear in the visualization. Proximity and distance, however, are approximations. The algorithm we used[5] clusters the edges by relative distance, but is not able to provide precise metrics. The size of the nodes represents the number of mentions a user received: the in-degree. The larger the circle, the more often a user was mentioned by others. The color of the nodes shows our classification in terms of profession. Politicians are pink, journalists are green, other professionals are yellow and non-professionals are blue.[6]

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[3] We had to choose shorter time periods, because all tweets were also manually classified by political topic, allowing us to analyse topic networks. The weeks were chosen based on the observed variety of political topics on the agenda. The respective methods and results are, however, not covered in this paper. Please visit http://www.twitterpolitik.net for information (German only).

[4] Visit http://www.gephi.org for a description or see Bruns (2011) for use of the software for mapping online publics.

[5] Gephi's „Force Atlas"

[6] Unfortunately, the print version of this article is black and white only. For a full colour view please see the article's online version at http://www.donau-uni.ac.at/cedem
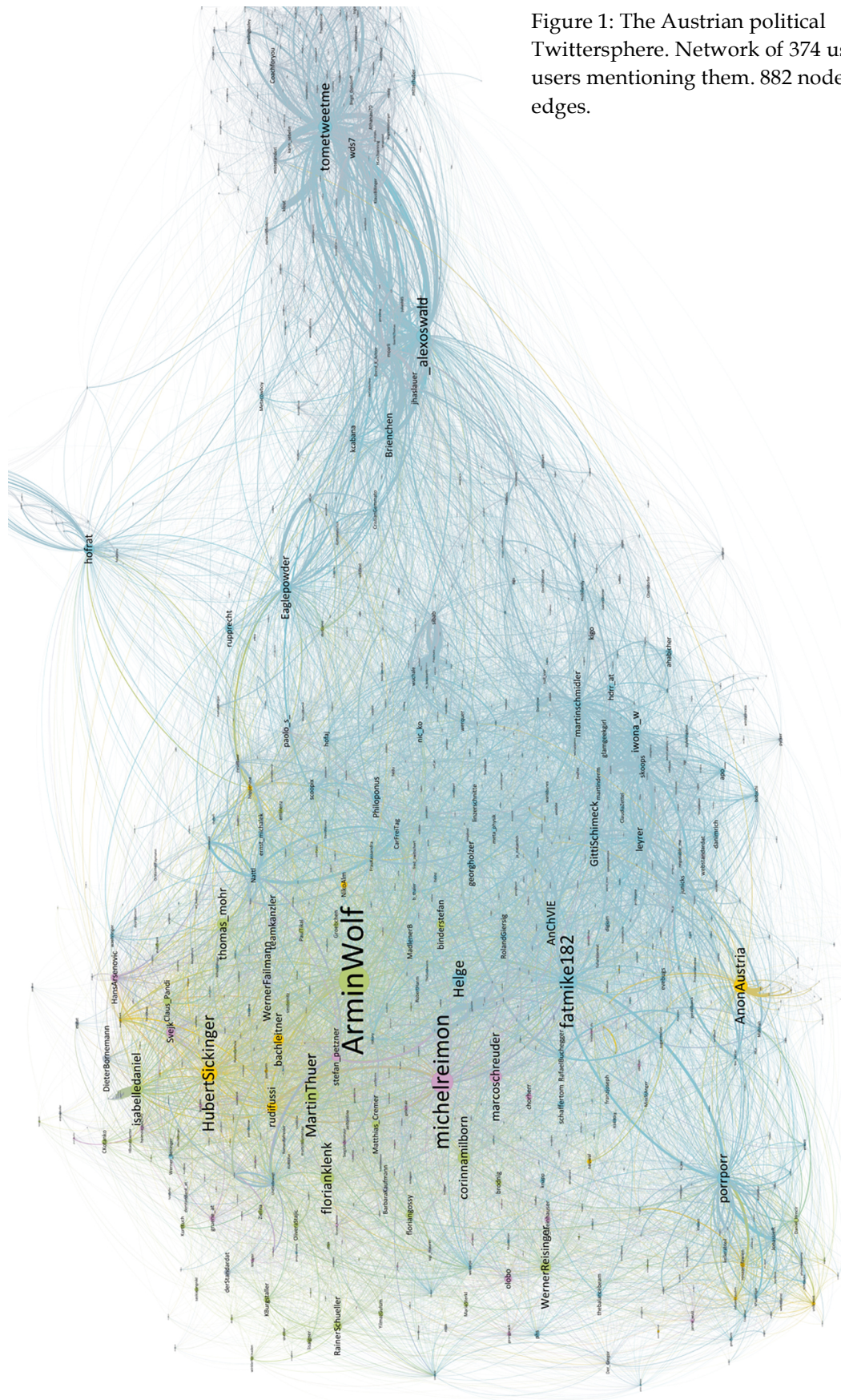
Figure 1: The Austrian political Twittersphere. Network of 374 users and users mentioning them. 882 nodes, 24384 edges.
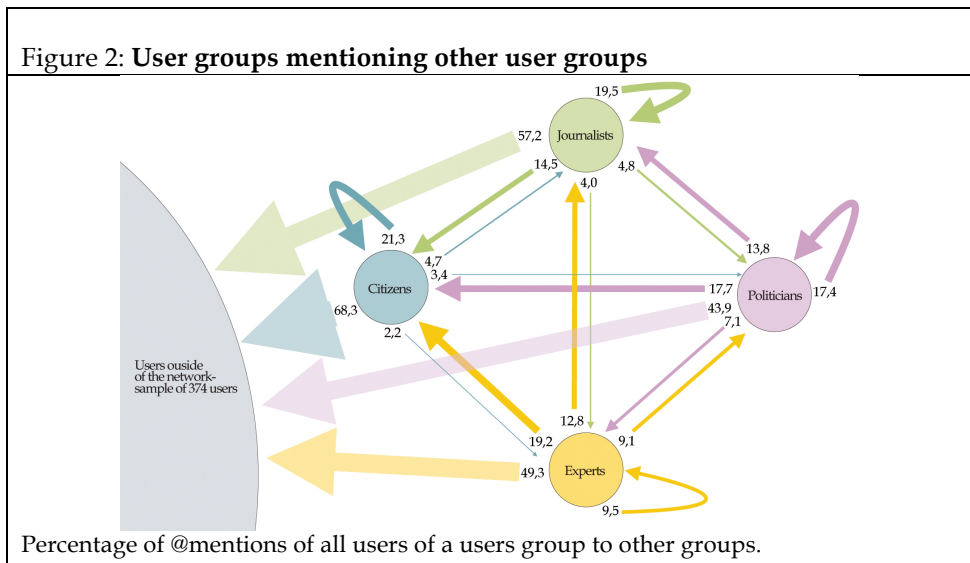
The figure shows the traditional political actors in the upper-left part of the network. Journalists @MartinThuer (private TV), @isabelledaniel (daily newspaper), @florianklenk (weekly) and @thomasmohr (private TV) alongside the political strategists @bachleitner and @rudifussi, the political scientist @HubertSickinger, the politicans @HansArsenovic (Green Party) and @Stefan_petzner (BZÖ, right-wing) and @Svejk (webmaster of the People's Party) are the users most often mentioned by others and thus central for the political discourse network of professional actors, but not in terms of connections to users outside of the cluster of professionals, which are very weak.

The Users @arminwolf, anchor of the famous late night news broadcast ZiB2, and @michelreimon, member of parliament (Green Party) in Austria's federal state Burgenland, are densely connected to both political and non-political actors within the network. This is also true for @marcoschreuder, another politician from the Green Party, @corinnamilborn, the deputy editor-in-chief of Austria's largest news magazine and @helge, a famous blogger. They represent "bridges" between discussion networks of political professionals and other citizens.

Other users partly form clusters by themselves. One of those networks can be identified on the right corner of the network visualization, consisting of people mainly concerned with marketing. Users @_alexoswald and @tometweetme are professional marketers at the center of their own clusters and largely connected to people outside of the initial 374 users. Anonymous user @porrporr is central in a small cluster in the lower-left corner of the visualization that consists of political activists and politically active students from the left political spectrum. Journalists @corinnamilborn and @WernerReisinger connect these users to the political professionals. The large cluster in the lower-central part of the visualization is mostly formed by citizens that heavily interact among themselves, with users @fatmike182, @helge, @AnChVIE and some others connecting this cluster to political professionals.

In a more general perspective, the @mention-network of professional actors, politicians, journalists, experts, strategists and lobbyists, is – more or less - distinguishable from a greater network that also includes non-professional, but politically interested users. While some politicians and journalists are more oriented towards other professionals, forming a dense network among themselves, some are more equally engaged with other professionals and non-professional users. Users in the outskirts of the network, who are close to other professionals, like @claus_pandi, @hansarsenovic or @isabelledaniel, are mentioned more often by professional communicators than other users, while users like @marcoschreuder or @bachleitner, are mentioned by both groups more equally.

Figure 2 shows which groups are mentioning other groups. Interestingly, journalists mention journalists, politicians and non-professionals quite often, while politicians and other professionals do not mention journalists very often. Both politicians and other professionals mention politicians and non-professionals very often. Accordingly, both journalists and politicians may be seen as having conversations among themselves more than they do with other groups and journalists. However, they sometimes mention politicians when they distribute news about a political incident or ask a question. However, all professional groups seem to be open to conversations with people from outside the political system, a vast majority of mentions goes to "citizens" or users outside of the network.

Figure 2: **User groups mentioning other user groups**

Percentage of @mentions of all users of a users group to other groups.

Additionally, users do not necessarily mention people from the same groups they were mentioned by. This may be explained by the fact that we do not distinguish between direct @mentions and Retweets. If someone was mentioned by a particular group more often than s/he mentioned this group, this could mean that s/he was retweeted often by those users but did hardly have any conversations with them. If we only count the number of mentions, we have high numbers because people have long and/or recurring conversations with a limited number of users. Thus, we did another analysis and compared the number of mentions of a user with the number of individual users mentioning someone, shown in table 1.

Table 1: Ratio of the number of messages and the number of users
mentioning users of a professional group

	Ratio	100 mentions come from
Politicians	1 : 2,02	50 different users
Journalists	1 : 2,00	50 different users
Experts	1 : 2,15	47 different users
Citizens	1 : 3,18	31 different users

We see that the users mentioning another one are quite diversified. For politicians and journalist, the number of users mentioning them is about half the number of @mentions. Thus 100 mentions come from 50 different users. Compared to political professionals, citizens talk more to each other – they tend to "chat", while professionals are more likely to have "Q&A"-style conversations.

6. Conclusion

The transparent nature of Twitter and new methods to analyse and visualize network data allow for new approaches to track in-media interactions of actors within a certain discourse sphere. This case study on the Austrian political Twittersphere is a first attempt to map interactions of a particular group of interconnected users based on a topic they communicate about and their profession. It adds some indicators to questions on the changing nature of political participation from a structural, macro-sociological perspective:

Politicians, journalists and other professional actors within the political system use Twitter to interact both with actors of their own profession and other spheres. Politicians score highest with regard to conversation among themselves. Nevertheless, conversations are also quite open to the participation of users from outside the political system; about third of all messages including @mentions by professionals mention political non-professionals. There are, however, huge differences between users within the groups as the network diagram shows. A good part of professional users are forming a highly connected cluster, whose members are discussing with each other, while others connect to citizens much more. Other clusters, noticeably a political left-wing and a social media and marking cluster, are also well distinguishable from the rest of the network.

With regard to the question on the changing nature of political participation, the conclusion is mixed. On the one hand, central actors within the political Twittersphere are mostly well-established, political professionals: Journalists, experts and politicians. They form their own, dense network within the broader sphere. On the other hand, non-professionals may well join the conversations of the political centre, but it depends on with whom of the elite sphere of political professionals they interact with. Even though they might be ignored by some users, they get involved via users acting as "bridges" in the network, such as @arminwolf and @corinnamilborn or other citizens close to professionals like @helge or @fatmike182.

If our basic assumptions about received @mentions and number of users mentioning being an indicator for a user's importance are reasonable, we could conclude that Twitter used for political communication is another arena for already established societal actors, but not exclusively. According to our results it also helps broadening the public debate, because chances for 'ordinary' citizens to get in touch and discuss with the establishment of political communication are much higher on Twitter than in traditional contexts of interaction.

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