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>> [Clapping] Bring on Bernie.

>> Bernie Hogan: [Laughter] How can you follow that up?

>> How do you top that?

>> Bernie Hogan: Well you can try. So, I got a significant challenge ahead of me today. Not only trying to condense some insights from the world's social graph into 40 minutes, but also keep your attention as the blood-sugar plummets on our way to lunch. So, I'll try not to get between you and lunch, and so, we'll run through this relatively quickly. But before I start, I do like to sort of do a non-visually aided introduction to the talk, and then actually give it. This talk is like many, a sort of smashed amalgam of various different pieces, research, research of mine, research of other people's, where I'm trying to assert a couple of different things. The first one, and I think perhaps the broadest takeaway, is that social media can be analyzed at a multitude of scales. But even when we get right down to the most personal scale there's a lot of very compelling, and interesting things to discover, and that those things are actionable. We can work with it, and we can -- oh, yes, on number three -- and we can do interesting work that's both sort of computer tech savvy state-of-the-art, but also sociologically meaningful. The second thing that I'd like to bring forward is that not all ways of doing [thumping sounds] research with data with big data and accessible data are appropriate. And that there's ways to get yourself into both legal hot water, and just bad PR by not thinking through a lot of the issues involved in data collections, and I'll give examples of that here about some good studies that I think really did a great job of being sensitive to these issues on Facebook. And some not so good studies that while being very germane [clicking sound], and very important from a sociological point of view, also have really challenged the limits of what we think is ethical for data. And then finally, I just want to [inaudible] my own personal work of course. [Inaudible] my HCIS work looking at interactive Facebook diagrams, we'll render a nice interactive diagram of the WebShop group at the end of this thing. But also an assertion that there is some ways that we can think about the difference between us our live identity, our identity in the present, you at any given point and situation, and us as the sort of digital traces that we leave behind [clicking sound], and that we use to construct profiles, construct identities online. And that we have to have a lot of different kinds of considerations when we think about; what it means to leave data traces, how they both enable us to speak to the world, but also silence us by making us feel self-censored or surveyed. And so those are kind of the three takeaways, and perhaps we can get rolling on that. So, yes, of course, again starting with Facebook, a lovely website. Here maybe this is what people first thought of Facebook as just a flurry of faces, different people that you might know. These are a Radio 4 listeners, it's part of a study I did for the "So, You Want to be a Scientist" competition on Radio 4. This was amateurs who had a scientific or what they thought

was a scientific idea, and then they worked with a mentor in order to actualize that idea. So they called me up, and said, "We'd like you to be a mentor." I thought it was quite flattering because I guess that means that obviously [slapping sound] I'm a scientist [laughter]. So this was quite reassuring, or at least the BBC thinks so. Not sure what they know, but perhaps a fair bit. So, we put this together, and we found that people do a lot of different interesting things with their profile picture on Facebook, or they tend to not show themselves drinking or smoking. Radio 4 listeners, so [banging sound] bear this in mind [laughter]. People who are couples tend to show themselves smiling more frequently. Women smile more frequently than men. People tend to show themselves in sort of significant life course moments, and we've got some models on this and ... But suffice to say are very careful with their profiles. But there's other ways to look at Facebook of course. One is this nice political statement right here. Anybody -- yes it's a political statement. No, isn't this just Facebook? No, it's not self-evident; it says a couple different things. The first thing it says, "Facebook is very dominant in North America and Europe." The second thing it says is. "It is globally connected, but there are places that are obscluded [sic]." The excluded places -- there is a really lovely map that overlays this with a massive map of lights at night. Demonstrating that there are stark differences in why it's excluded in different places. One, for example, in Russia and China, it's excluded because there's different social networking sites that are very active there, and less prominent in Brazil because there's another social networking very active there. In Brazil, it used to be Orkut although Orkut is receding. In Russia start off with Class [sic] or LiveJournal, moving to Classmates, and more recently in VContact Vkontakte [sic], and in China YY [sic], RenRen, QQ [sic] -- you can see a picture here, and Webooo [sic]. But yes, you know Facebook is not simply a totalizing force even though if it has 900 million members across the world, but the political statement is saying, "Look we are global, but after the first glance you have to be mindful of these exclusions that are there." And of course in Africa it's relatively sparse, but that's as much a function of the lack of broader Internet connectivity, as it is a migration to other social networking platforms. But, maybe this is how you think about Facebook these days [chuckling], which is company stock [inaudible] too low. But nevertheless -- oh I guess it was -- nevertheless there's still a lot of data there even if it's exclusive, even if it's sliced and diced in some ways there's a lot of data. Why don't we just, you know, grab that data and see what we can do with it? Well, that's what Pete Warden did, and it got him into a whole lot of hot water. He argued that because he didn't join Facebook, he wasn't bound by the terms of service; which says, "Don't spy on the site." And so he took all of the publically available friendship links that he could find from the address book, at the time this was 200 million, of a 400 million user profiles, but those 200 million profiles were linked to the other ones that weren't exposed [chuckling], so it drew a pretty massive graph. And he said, "Oh I'm going to release this graph as, you know, a wonderful social science tool." And that didn't last very long before the lawyers went after him, and as [snapping sounds] well as privacy scholars. And one of whom -- oh that's not the right, here. One of whom, and this is also an [inaudible] for other Web Shoppers. In my cohort and WebShop in 2003, I was sitting right here, and Michael Zimmer was sitting right there, and Esther [assumed spelling]

showed up later on, but she was presenting my year. She was in the WebShop the year prior as a student. So, Michael was saying, "This is an absolutely horrible idea, you can't just release all this data." And gets into this pretty long discussion of some of the reasons why it's inappropriate. But ultimately the lawyers at Facebook were the main force in this. Pete Warden got onto other interesting things like: pointing out that your iPhone can track you where you are, and he built an application to show you this, and do some really interesting and compelling research. But this was a bit of a blunder. And it's a blunder for people like me who download ego- networks in Facebook, and if I then produce an ego-network or show an ego- network. Now if you have this entire dataset you can reinsert the ego-network into that full dataset, and now so you can deatomize , and do all sorts of thing that mitigate against privacy. Facebook themselves have also sort of taken another turn with this lately; which is saying, "If you have the means, and a good research question you can come to Menlo Park and work on data." So they don't need to release this to the world. This is becoming increasingly important with insights such as; The 3.74 degrees of separation on Facebook that was published by Lars Backstrom and colleagues, but can't really be verified by anyone else because no one else gets that data. So, they say, "Well you can come to Menlo Park, and reanalyze it using your algorithms, and we'll work that way." There's other ways to get data, -- and so I sort of covered what I said there [clicking sound], and this one another dataset that might have people in hot water, which now again is under lock and key. It's still available, and has led to some excellent research papers. There's in AJS , there's one in JCMC , there's one in PNAS , and any other acronyms? [Laughter].

>> White House.

>> Bernie Hogan: CIA, FBI, [inaudible].

>> What? [Laughter]

>> Bernie Hogan: Who's heard that in 12 years? Anyway the old idea was that in old days, -- and so, I've was doing a similar thing in this group incidentally; so, we have an ever better discussion about that [banging sound]. I'm probably not going to get to my own work, but this is okay because I think this is probably more useful. So, in the olden days of Facebook there were these things called networks. And a network was a term for a specific local, or area -- say, there was the Toronto Network and it had a million people, and there was the Harvard Network and it had people who went to Harvard, and you could join these; you didn't need to be from Harvard or from Toronto you just sort of simply join them. I thought they were really great to be able to see who was who in your Network, but subsequently the API released all that data anyway. The idea however, though was that there was for a little window of time there was nice little privacy bug in there, and so that if you were in the Toronto Network, you could see the friendship links of all the other people in the Toronto Network. And so, what they did at Harvard they said, "Oh great we can use this data to build the Networks for the students at Harvard." They built these networks -- oh is it supposed to Harvard? It's now been [laughter] -- so were going to go somewhere with this. At this university in the northeast -- all this, you know, language. And they put

all this together [snapping sound] with demographic information Harvard [inaudible] a lot that was shared; things like parental SES, where people staying...

>> Shush.

>> Bernie Hogan: ...in dorms, and this was supposed to be in [inaudible] of Networks. But they said, "Well we have to make sure it's not atomized." So, the cohort things like there's the people taking near middle eastern languages, there's 1700 people in this cohort and so forth. Which means you didn't have to go into this dataset, you didn't have to high performance computing. You just had to Google, you know, colleges in the northeast with near middle eastern language courses, and you're left with three. One of which has a you know a cohort of that size to know you can figure out it's Harvard. So, there was a giant stink over this. This was also done without the students consent even though it was public. So, this was what it said, "Oh we're not going to have our dataset." Released it and then say "the T3 dataset is still off line as we take further steps to ensure the privacy of students in the dataset. Please check back later for additions updates." Very lawyerly, you know, we're not going to pull this off. And there's of course a backlash. Is there a Michael Zimmerman slide? Yes. Yes. Yes [clicking sounds]. And he's got a great paper on this called But the Date is Already Pubic . And it's worth reflecting on this that some data is publicish, and that, you know if you're taking data this without the consent of people you ought to be mindful of it. Now incidentally the reason I said that, "We're doing something like this today is because" normally and I'm sort of migrate into EgoNet discussions. And in an EgoNet if Ben and Mark are friends, and I'm friends with both of them Facebook will tell me if they're friends. If Ben and Mark are friends, but I'm only friends with Mark; Facebook won't tell me anything about Ben unless we're all in a group together. So I don't have be all of your friends to download the Network of friendship relations on Facebook, if and only if we're in a group together. So everybody's in this group and that's why we posted that picture, and so forth. But yes. It is a bit of a privacy hack, and something worth being particularly mindful of in your own work, and in which groups you subscribe too. I won't go through this dataset, but this is another way to get it. This was back before Facebook even realized the value of social network data. And so, Mason Porter at Cal Tech at the time, he's now a professor at Oxford said, "Hey can I have all this data?" And they said, "Okay here you are." And amazingly just gave them the [inaudible] college, the affiliation, the gender, the cohort, and the friendship routes for the first 100 schools on Facebook. And so that dataset is available; however that dataset has been scrubbed very, very delicately, and can be still be available publically for use. As a consequence of, you know once bitten twice shy being sensitive to how to release these data, and how not to release them. Didn't stop Michael Zimmer from complaining though, but that's okay. He was a sharp guy here as well [laughter]. So, just you know it's important, "one does not simply walk into Facebook data. So, here's some examples of studies that I thought did a lovely job with it. Gilbert and Karahalios, Eric Gilbert, Karrie Karahalios. When Eric was a graduate student at UIUC, did a Grease Monkey script. Put it in a browser, said, "Tell me are these people really close to each other? And then downloaded a whole bunch of data

from them. And then showed a nice regression model showing you could predict tie strengths based on trace data. The other thing that's worth noting is this paper there's a whole bunch of sort of fictitious or stylized profiles, and he's very sensitive to the distinction between "I have the data to analyze," and "this is what you need to see it." But you don't need to see a real Facebook Network; you don't need to see everyone's real profile photos in order to accomplish that. Here's another really wonderful paper by Sinan Anal and Dylan Walker. Sinan was sitting over there in my [laughter] year in WebShop, and he was dynamite then and he's dynamite now. Man this guy just keep an eye on him. So, this is the early version of the paper. The more recent one has been published in a little journal called Science . [Laughter] You know he's doing all right [inaudible]. But, no it's really interesting what you can do there in terms of AP testing on Facebook, and he's looking at this movie -- I can't remember which one, or he didn't tell me, or it doesn't matter. But sending out these status message updates [clicking sound] "Hey you should join this site." And one group gets the opportunity to do this by personalizing messages. Another group gets to select which of their Network to send, and another group gets to blast it to the Network. And so they examined where did the uptake happen most effectively, and as you may or may not think if you blast it out you get the most people up-taking the movie database. However, if you look at it down the line most of the people then stay with the movie recommending database. The ones who did the personalized message it was more expensive, but the people that they chose were very effective in staying on the site [clinking sound]. Or it was a very effect way to diffuse this. So, which is another way of saying in the 90% you think it is a good idea to spam all of your friends with Café Press and Farm build updates, but in terms of the long term adoption patterns you both reduce the amount of noise on Facebook and succeed in retaining people by allowing [banging sounds] for personalized messages. Great insight, and didn't involve downloading and sharing any sorts of data. Here's some other ones. This is stuff you can do you when you're at Facebook or with people at Facebook. Moira Burke who wasn't at Facebook at the time, but worked with Cameron Marlow and Tom Lento [hands clapped]. Guess who was also WebShop that year? I know, Tom Lento. [Laughter] Do I actually study anybody who wasn't in this room that year? Honestly I'm not sure. It was a good time. But, yeah, Tom was sitting there at WebShop that year. So, no sort of geographic hamophaili [sic] based on interests. And so, what they looked at is the idea that there was this series of studies. Nicole Ellison [assumed spelling], Cliff Lampe [assumed spelling], Chip Steinfield started this sort of real trend for a flood towards looking at social capital on Facebook. This notion of positive social resources that you get, and they had this curious finding that, you know the more time people spend on Facebook, the more they would report social capital, or positive social capital. I say this with a sort of quasi causal implication, but that's partially because not only did they look at it, you know in a cross-sectionals study, but they did look at long term, and they found that there were increases. And so, those that were on Facebook longer were, you know doing this, or getting more social capital, or increasing amount of social capital. So, okay. that seems - kind of cool. But how can we make use of that other then say, "Get on Facebook you'll be able to get a job from your friends, or something." Well, so since then there's been a lot of work looking at how to disentangle that in terms of what kinds of

behavior on Facebook is working in. Here is one example of a paper that does that [pause]. [Inaudible] what's Deb WebShop, but she's here [laughter]. All right, this is your example.

>> Right.

>> [Inaudible].

>> Bernie Hogan: Of course, of course...

>> She spoke that WebShop last year.

>> Bernie Hogan: Okay good.

>> And that made her career. Right there [laughter].

>> Bernie Hogan: Yeah that's what I figured. That [inaudible] WebShop [laughter]. [Inaudible]. Yes, and so, you can do also lots of other things, predicting personality, again pulling down data and then using personality test, and so forth. Really wonderful plausible stuff. So here's the sorts of things that I do with this. I was really interested in my graduate school days about how to capture this sort of vague notion of a personal network. The network that people act on; when I need a favor who do I call, when I'm stuck at the airport what sort of media do I use, if I have a life crisis who do I self disclose this too, and so forth, and so forth. And getting this out of people is really difficult. The earliest sort of name generator techniques. I believe Patrick in the audience here is working a lot on name generator, he's saying, "I'm working to improve them that's because they're terrible." They're really tedious things to do. The earliest ones is list off six people, and now to does Bob know Charlie, does Bob know Dave, does Bob know Ethan, does Bob know Fred. Does Charlie know Dave, does Charlie know and so forth, and so forth; and you do that with six people, and people get kind of a bit miffed. People know more than six people. You start doing this with the 20, 30, 40 people in the sort of active network people go cross eyed. So, I was looking at a way to do this with pen and paper. It was a lot of fun you can see that visualizing -- personal networks or something is the paper. But then I figured could there possibly be a [tapping sounds] -- trying to monitor time here, Could there possibly be a way to do this with an existing trace network data? So, I came up with hideous little thing right here called NameGenWeb. I wouldn't recommend going to NameGenWeb because of what Elizabeth was previously talking about. Facebook had magically changed their API, and it's broken. But the development version we have fixed this and it's quite robust, so, you can go to NameGenDev [sic] and check this out. So with this download a Facebook network, and then visualize it and look at it, and so we've used this in a multitude of studies now. Drawing down the Facebook networks, and sort of interpreting them relative to a whole host of issues; whether it's relative to survey data, whether it's visualizing in the lab and showing people their network relative to what they drew, whether it's hacking this tool to use it to get a large scale group network. And there's a lot of fun plastic things we can do with that. But ultimately it was usable and miserable, so I got some grant funding, and now it looks sexy and like almost like map like. Because I have a wonderful

graduate student Joshua Melville who's got a real good sense of fit and finish on these things. And again, I named NameGenDev is the one that works not this one [laughter]. You don't have to click that consent box right there, that's just for our grant we have to contact some people, and say, "did this tool work?" So you can do it without that sort of consent there, you just get the data [clicking sounds], but we would like obtain you at some point. More recently we have -- Ven [assumed spelling] made this into a nice interactive diagram that you can point and click and see parts of your network. And it was a real triumph to have us be able to do this: visual it all in the browser, have it interactive in the browser, so that we don't have download other tools, go through install processes, or deal with flash or java applets because both are heavy and not good for uptake. Oh, in between this one where it was ugly, and this one's that more pretty, you know the algorithm stayed pretty stable, and we feel that there's other ways you could do stuff with it. Now this for example, while you can sort interact with it, you can basically mouse over and click. But what if you want to analyze this network in all sorts of interesting ways, and so we took the underlying engine, and worked with the Social Media Research Foundation; myself, Marc Smith, Arber Sinney [assumed spelling]; primarily Arber being Dev [sic] on this putting together the Social Net Importer for NodeXL to allow you to download Facebook networks through that as well. So, why would we want to do this? Well, one of the things that as I was saying at the EgoNet level there's lots of interesting questions that you can ask. And the one that I mention is social capital. Social capitalists are being on the rise. So, as an example of one study that I did of this. We first considered social network measures as indicators of social capital. So, if you have a larger network you ought to have more social capital. If you have a network with more different clusters that might be a network that has a greater diversity of information. If you have a network that's denser, you have a network that's more protected, and more robust. And so, we defined these measures, we calculated them for a series of students at a Midwestern university -- [laughter] look who's on the paper and you'll know... I'm pretty sure we're allowed to say, but anyway you'll guess, or go snoop. And we found through this ugly regression table; which I'll summarize for you rather than expect you to read, was that -- because well the leadoff on this; a graduate student at Ohio University at the time, and now a graduate student at Michigan State University was looking at class and socioeconomic status. And he found that socioeconomic background once you've controlled for a lot of other factors actually did not predict a diversity of groups, a diversity of different social clusters in these Facebook networks. And those factors were things like: their friending patterns, their extra circular activities, and the extent to which they were engaged in different worlds. Now I don't want to hang too far on that story because who are the people that are able to engage in extra circular activities, and who are the people that feel comfortable friending lots of other individuals, and so that model is a little more complicated, and I'm not going to show it. But one thing we also notice is that oddly enough, the average degree of an individual's network, as in I know people who know lots of other people. People I know have very dense connections. That was very strongly correlated with socioeconomic status; which is a finding we've have replicated, but we're not really sure what it means. But what we think is that the higher the socioeconomic status the more people assume that it's okay to hangout

with the "popular people", or assume that it's okay to befriend those, or think that's the way that friending is supposed to work. As a consequence you see the replication on Facebook of pre-existing inequalities where wealthy consider themselves as more central, and friend as such. Were as people of less privilege backgrounds assume less of their ability to befriend others. But that's just a tantalizing quasi finding that we would like to pursue in more detail. But beyond that, you know, you say social structure well it isn't social capitalism, so certainly there must be a better to study social capitalism that, so, yes there certainly there is. There are scales of these things lovely scales. Dimitri Williams at Northwestern's come up with really nice distilization of...

>> USC.

>> Bernie Hogan: What?

>> USC.

>> Bernie Hogan: Oh is he a USC now? Oh my God. How long have I been [inaudible]?

[Background discussion]

>> Bernie Hogan: I thought he was there. I'm so sorry.

>> He's visiting.

>> Bernie Hogan: He's visiting.

>> [Inaudible].

>> Bernie Hogan: Where was he?

>> In Illinois.

>> Bernie Hogan: In Illinois. So completely fact checked. Sorry. Actually this is another way of testing whether or not she's paying attention [laughter]. As a point of trivia. And yeah, and whether you can hear me in the back. So, yes you can hear me in the back. Dimitri if you're watching I'm really sorry [laughter]. USC's a great place. I don't know if [inaudible] will think of this either at the moment in this topic, but I'm sure you'll find somebody. Yeah so, Dimitri coming up great scale. De scaling God knows how many items. I believe it was 45 or 50 potential items of social resources into these two scales; which kind of seem like a Bridging Scale and a Bonding scale; Where bridging meant a sense of being tapped into the world around you, a sense of connectedness, a broader sense of community [background sound], and here Facebook makes you feel like part of a larger community -- willing to spend time. These measures hang together really well, really high alpha, really nice predictive power, in a lot of different studies. There's also a Bonding scale; which is [inaudible] differently, but also hangs together really well with things like could someone loan you \$500, or do you use the help from people on Facebook in times of need, and so forth. And this is more, you know, intimate social resources, a sense of being connected to people

that you know. For the Sociologist in the room you might find the notion that job advice is in the Bonding Scale sort of curious, because job advice, these are the notions of the strength of weak ties is something we often thought that would happen from our weak ties that are far away. But nevertheless in this scale it seems to be interpreted as a bonding measure. Anyway we went we looked at that, we look at the way people actually acted on Facebook, and came up with some models for networks, Oh yes, so then what we wanted to do was we wanted to look at network structure on Facebook. It doesn't actually impact those social capital measures, or is it really the stuff that Moira was doing just the way people behave on Facebook. And so, one of the things we wanted to do was look at the sort of clusters on Facebook. Here's a stylized example of how one might cluster a Facebook network. This was my network. This is also the obligatory slide. I show this virtually every topic. It hasn't been update for three years although my network has. I think it sort of pretty in some right. The black squares, for those of you who that are curious, are people that I denote as being personally close offline. And so, something's that worth noting is that those people tend to cross multiple groups; which is also a problematizing the notion that you can group a network; that sometimes those network groups overlap, and the people who are the most important tend to be people who overlap in these groups. But nevertheless we can still count the number of groups. I have people family, high school, undergraduate, grad school, professional, and so forth, and so forth. We get these numbers. We use a spiffy community detection method to denote the number of groups, and we come up with models. I'll spare you most of the models although in theory you'll be able to read the paper we're not sure. You can get a draft of it, but it's still in submission after several, several months, so neither yea or nay. But one thing we found that was really interesting, and again this was a surprise for us. The Bonding scale something that you would expect to be related to people in really dense, densely connected with each other. If I have lots of friends who know my friends, you know shouldn't I have a really good sense that they can provide resources for me. Well it's funny because the way that networks work on Facebook is that if you have a really dense network. What you have is a really dense high school group, and a really dense work group, and very few people who know each other. Whereas if you had a less dense, less clustered network on Facebook, what you have is a couple of people from high school, and sport team, and these people know these people, and these people know these people, and there's lots of crisscrossing connections. So, the measurement says, the network has a lower clustering coefficient, the network is not as tightly bound. But from the prospect of the individual, it feels like a single cohesive network, it feels like a thing, that Facebook is a known quantity, and not "oh my family's on Facebook, and my workmates are on Facebook. And so, people like this with this sort of low transitivity scores actually report much higher bonding whereas those of high transitivity scores actually report much lower bonding; they feel their network is much more fragmented. So, this is interesting. First of all number one by actually downloading the networks themselves, and looking at the network structure we're getting a new view. Oh this is independent of any behavioral measure. We're getting a new view into how networks work, how people feel about their network. And second of all we're starting to empirically approach the notion, one of the dark sides of Facebook, the notion of collapsed context. And so, collapsed context

is one of the most, I would suggest one of the more significant issues on Facebook today, and indeed on any site where people try to draw in multiple connections. It's a real-user interface challenge; to try to represent multiple social roles, how to actually define what information I'm supposed to put on what site, and it's also something that's really irritating from the point of view of anyone who just wants to give you a friend list, and not worry about filters, and not worry about privacy, and just you know, ideally make everything public. So Mark Zuckerberg has consistently noted that, "Having two identities for yourself is a lack of integrity," or shows a lack of integrity. This notion that people are being duplicitous when they have multiple identities. Denying the notion that I may be very different when I am up here talking, you know in lecture style then when I'm at the pub, or that I, you know am when I'm home with my family, and so forth, But that's sort of a hindrance rather than a sort of something that we need to think about, consider from a design and social-science and policy prospective. So, the modern family, modern life we may think of. And this is very old this is from Georg Simmel a lovely piece called, The partially intersecting social circles of modern life; , which was then translated into sciencey [sic] speak in the '60's as the web of group affiliations. Sounds really networky, [sic] right? And then what's more, I guess contemporary, then something that's networky? Social circles. But it' sort of ironic that was the actual title back in German, but it got mistranslated, and so then we forgot about social circles and these social roles in the process of rereading Simmel. But it's a lovely idea that we do have these partially overlapping social circles that they're not complete, and they do have different roles. Then Facebook will collapse all of them into Friends, Friend of Friends of Everyone. And yes, while it is possible to have a slightly differentiated relationship on Facebook through privacy settings, they tend to be tedious and underused and complicated. So, one of the things that I did in my work is examine how individuals perceive their Facebook network, and how when they see their network discussed in terms of these groups they may perceive it differently, and will they act on it differently. One case, is this gentleman here "Bolivar." Bolivar is a recovering person who's in an anonymous group, you know not the ones with the masks [laughter]; the ones with the 12 Steps, and Bolivar, he's doing really great, peer support leader. As peer support leader people have to contact them when they're having a relapse with their particular issue. And, you know they're used to contacting people on Facebook, and so they contacted people on Facebook, and he's describing this issue to me. Now, and here's his view of his network. The anonymous people are completely separate; they're a part of his life that he wants to keep, well anonymous. And then he has his immediate family, which he tries to keep separate, and then he has these four groups that he says, "are kind of linked, you know, these partially overlapping social circles. There's a hobby group, a friends from a foreign country, and ex-students, and so forth, friends in Oxford,. When you look at his Facebook network, something else emerges that became a sort of problem for him, and one that he couldn't quite put his finger on until he say the diagram. And that was the sense that he can't simply get rid of those anonymous people as much as he would like to. He can't simply filter them out because, they're the purple ones, right, for the colorblind people hence the little arrows; they're the purple ones that are connected to the hobby group. It turns out once they've come on Facebook, people from his

anonymous friends actually discovered they were friends with other people he knew, thus self-deatomizing, and also embedding themselves in his web of relations; which made it harder for him to segment. And so this sort of collapsed contact issue was very real for him, and then had other sort of spillover effects. Another example of this that's happened is how -- this was actually one done by Josh Melville, my graduate student during his MSC thesis. He looked at the same issue, and he describes his concern about. -- oh, laser pointer? No laser pointers. Oh you. Yes, that again. [inaudible]. Young man you have to. You have a laser pointer too. Your name is Ben, right?

>> Ben: Yes.

>> Bernie Hogan: Yes.

>> Ben: [Inaudible] [laughter].

>> [Inaudible].

>> Bernie Hogan: Oh yeah. It's not working. Oh Ben's totally worked yesterday.

>> Just pass this down.

>> Bernie Hogan: Shall we pass this down. Come on teamwork. [Background conversation] Because I am not.

>> Make sure it's not on [inaudible]. A joker [inaudible] to be sure [laughter].

>> Bernie Hogan: All right. So, this group up here Gaza. The student that immigrated from the [inaudible] territories to the UK to study school. And she has this one group of this one small kind, but these are all in the same Facebook group; this is her audience whether she likes it or not. Now are her friends are aware of her audience and sort of the cultural issues? No. "I remember once of my friend from University posted a link on my wall. They know I'm in into sexual politics and gender and stuff like that -- he knew I was doing a module on it. So yeah, this link was to a woman's blog who was some kind of online sex worker who specialized in weird and creepy fetish porn [laughter]. [Laughter] I mean, it was all reasonably tasteful because it was her blog and, you know, not a porn site, but, you know, there was nudity there and some pretty hardcore feminist statements about sex and whatever. So yeah, I sort of fell out with them a bit over it because...though they probably weren't thinking about it. I've got very religious family back home in Gaza who look at my profile all the time. If, you know, one of my young cousins had clicked on that --I won't do the laughing [laughter]-- they would have just thought it was porn because they don't understand. They wouldn't get it. I'd have been in a lot of trouble. So yeah, I was pretty mad. I had to delete it." An example of. The fact that my audience is different from necessarily somebody else's perception of my audience, and that these issues all come to a head as we collapse into this one big flat network that was very beautiful with the blue on black Face-board. And so, yes returning to our network. So what this has led me to is

starting to think about how to reassess social identity online. Moving from a notion that online is about necessarily a logic of performance; this is a pretty consistently used framework for online identity. It comes for Rubin Guttman. [assumed spelling] It's referred to Drama [sic][inaudible] Approach. It is that we have a front stage, and we have a back stage. A front stage is where we seek to do impression management, and fulfill a role in that is considered appropriate in a specific situation or behavior region. That's the front. And the back stage is where we ready ourselves for that performance. So, that in the back stage I'm furiously, you know, putting slides together, and, you know, complaining about this, and I'm Googling something at the last minute, and I'm looking at a typo. And I'm trying to hid all that, that went into the production of this role, so what I do is give you the best, you know, impression. And the front stage/ back stage dynamic is something that has been explored a fair bit, it's great as a notion of performance, if not necessarily performativity [sic] a more recent concept. But a kind of -- it doesn't necessarily work great online because online we're not simply performing in front of a bounded situation just like being in situ right now. Instead we're submitting artifacts. And yes, the act of submitting an artifact, the act of putting a picture of, or act of commenting is still a performance [rubbing sounds], but that performance lingers on when we're gone. And that performance is then managed, massaged, curretted, by a whole host of individuals outside of our control. Facebook has EdgeRank; different programs have different ways of curretted this content. They have privacy settings, and simply noting the identity relationship that we have with our audience masks the role of this third-party. These algorithms that do a substantial amount in regulating who sees what content, and ideally trying to flatten all of that because while it's you know, it's easier to program. And so, moving more towards an exhibitional [sic]approach where we start thinking about how we submit artifacts that are then curretted by third- parties is something that I think will help us move towards considering in some ways how performance online maybe different from offline. But then of course you can think of difference online/offline. I don't want to make too strong of distinction about it, but nevertheless, start accessing how this works. And let's start thinking about what are the consequences of this. The consequences for public debate, the consequences for self expression, for social support; for those who those need to "come out", say, as lesbian or gay to their family and friends. "Coming out" on Facebook is a tumultuous and terrifying process that is generally at the end of the coming out process that happens long after a lot of exploration on other sites, a lot of exploration using pseudonyms, a lot of browsing and consuming. It is not the first port-of-call because once you're out on Facebook they say, "You're. Out." Which is not necessarily the case for everywhere on the web. So, what does this do? What are the consequences? I assert, is that it drives down, or may drive down discussion to a lowest common denominator of what's appropriate for individuals in their personal network. I can post, you know a radical leftist or radical rightist politics, but then I will get some sort of comments saying that, "That's not really cool." Or I'll have a friend feel uncomfortable, or people will feel de-friend each other. And as a consequence, we start to think of Facebook as a place, as sort, of sanguine happy talk relative to perhaps Twitter; where we drive home whatever extreme discursive position we can. This notion of a lowest common denominator, and leading to sort

of a political polarization coming from this is actually being consistently shown in many studies in many places. But I'll give one small taste of this, and [inaudible] PEW Internet have noted that people do in fact de-friend those and censor content; people who posted they disagree with, who posted frequently about politics, disagree, argue and so forth. Differences for both Liberals and Conservatives. But nevertheless this is something that people do and they do in their network trying to assess what they think is an appropriate audience and act accordingly. This leads to one last thought on identity from this guy right here, and I'll conclude with this. Anyone here know who this guy is?

>> Yeah, that's 4Chan [sic] Guy.

>> Bernie Hogan: Yes 4Chan Guy. Yeah. I'm good. So, 4Chan Guy. 4Chan Guy known as Moot-a-lie [sic]. Moot started a website 4Chan. I would not go to it right now [laughter]. Yes, for those of you that didn't laugh don't go there right now because if you did laugh you know better. And so, 4Chan is one of the sort of anonymous sinkholes of content online, and it can be pretty vulgar, and pretty nasty, but also really interesting and really creative. And Moot really wanted to defend 4Chan, and he got a platform for this in 2009 when he was voted the most influential person online in Times, sort of, online poll. Their poll was poorly done, [laughter] in such a way, that people could vote multiple times, so, people on 4Chan setup a sort of gaming system that got very creative. And not only put Moot at the top, but arranged the next 20 in an acrostic [laughter] that said, "Marvel cape also the game." And yes, so, those of you who not only know 4Chan, but know the game you have lost it yet again. For of those who don't know the game, the gamers do not think game; it's like try not to think of elephants.

>> Right.

>> Bernie Hogan: So, Moot has been [laughter] very adamant in noting that we need not drive ourselves into a single online expression. That 4Chan, the reason the lol-cats and all sorts of fun creative culture come out of 4Chan is because it allows people to fail. It allows people to try on new ideas, and allows them to express themselves in ways that are constrained in their personal network. Now 4Chan is a bit anarchic; which is why in his most recent project you still have to sign in with an identity. You are known to the moderators, but you're not known to the other people. You can choose whatever identity you want, but if you just want to avoid people putting up very nasty things. And he has this lovely quote that he gave at, I believe it was south by southwest, and that kind of puts him in the position of Anti Zuckerberg, and this is his -- he's asserting that Google and Facebook [inaudible] "Google and Facebook would have you believe that you're a mirror, but we're actually more like diamonds. Look from a different angle, and you see something completely different. They're different facets of our personality that need not be constrained, put together, re-personalized [assumed spelling] customized and filtered into one single box, that the online space is a really open place where we can express ourselves, acquire different kinds of resources, and explore in different ways." So I guess I've given you a taste of how that's been done on Facebook and how we may do it elsewhere, and I look

forward to seeing how you'll approach it in the future. So that's it. Thanks to me colleagues and all these different places. Horary, All the help they've given. And thank you.

>> All right.

[Applause]

>> Take on the questions.

>> You talked about how people are very careful about posting on Facebook because they can't distinguish between different groups of friends and things is, but that they're willing to be much more polarizing and such on Twitter. Which is completely public and has no controls, and anything like that; Why is that?

>> Bernie Hogan: Yeah. it's really neat. It's really weird. And so we're exploring that and it does seem to be the case. We're exploring at the OII. Well, one issue is that there's more of a personal connection. The other is that Facebook assumes a single name, as opposed to a pseudonym. But we did an experiment. Neil Bassom [sic] my master student did this great Facebook app experiment, sort of an AB testing type of thing. Where download 30 of your most recent statuses, 30 most recent statuses posted on your wall by somebody else. And then we gave them two prompts. The first prompt was; an employer must look at your Facebook page, click on the posts that you want to hide. The second was; Facebook is going turn every post public, click on the posts you want hide. So, first of all. Do people censor more of their own posts, or more posts of other people? Are your friends the problem or is it you? [Laughter].

>> It's you.

>> You.

>> Bernie Hogan: It's you. It was weird. There were lots of variance, and some people were more friends. On the whole people were censoring more of their own posts than others. But more interestingly, are they censoring more posts in the employer situation or the everything's completely public situation?

>> Employer.

>>Bernie Hogan: Employer. I'm like, yes employer is a subset of everyone [laughter]. But employer is also a more salient threat. And, individuals on Facebook are concerned with salient threats, and not just Facebook. Alice Marwick and Dana Boyd, you know, -- [inaudible] WebShop, back in the day. Is she here? Somehow [inaudible]I vaguely remember her being here [background discussions]. You know, she's super Dana, so, I mean if you ever come across her work you will. But her and Alice Marwick in this paper, on Twitter, talk about nightmare friends. This notion that's there's these specific people who are really salient threats in our network, and we respond to those. And I sort of in a cheeky way tried to fold that into this exhibition metaphor; that we're not just posting to our audience, but to these wandering critics that can just cause disaster

everywhere. And we're posting not for the critics, but in light of the fact that these critics might be there. As we come up salient threats, "moms on Facebook," "my boss is on Facebook"; they start to color our self-censorship in ways that are not so salient on all public all the time sites. And I'm not really sure why, but it does seem to work that way thus far. Oh. Someone else moderate because I can't judge. Oh, I think you were first.

>> [Inaudible] On going comment I guess what your were just saying in relationship between Facebook and Twitter that goes back to kind of previous discussion on [inaudible] talking about the real-world or the face-to-face interactions that we have. Regarding Facebook, or regarding our internet clicks, well there not just clicks, that's actually face-to-face relationships...

>> Bernie Hogan: Sure.

>> ...Which Facebook in comparison to Twitter often has more of these kinds of face-to-face interactions where your mom will call you after you have a post.

>> Bernie Hogan: Yeah, yeah.

>> And in thinking how we regulate our exhibition, we're thinking about what other kind of audiences we have to will become part of our day to day conversation. As well as the people who are across the globe and [inaudible] group.

>> Bernie Hogan: Oh yeah absolutely. And while treading dangerously towards tech determinists' territory; I would like to think that there is a fundamental distinction between sites that have bidirectional links where we both have to agree, and sites that have asymmetric links. So, we can think of LinkedIn and Facebook as these ones where I have to befriend you and we have to agree on that, so we have to have a mutual acknowledgement of our relationship. As behaving different than site such as Twitter and Google plus where you don't have that bidirectional relationship. And of course on Twitter and Google plus some people can have, you know, a million friends. Whereas on Facebook you cannot you're really limited, but even then people tend to have fewer [pause] friends on Facebook, than they do followers on Twitter. And I do think that, that plays out differently these small designed situations fundamentally starts framing sites in different ways. And framing them, Facebook claims itself as a social utility for example, it's not a not a social network site it's a utility, and these decisions guide people whether you're allowed to use a real name, or a pseudonym. They guide people into different ways of expressing. And the fallout from that it's not necessarily deterministic, but it does guide people into specific patterns of behavior.

>> One more.

>> Bernie Hogan: The power of defaults. Yes.

>> [Inaudible] [background discussions] to be positive and nice and cute and let positive posts on the site or is not, no dislike [inaudible] there's no dislike button. [Inaudible].

>>Bernie Hogan: Yeah. You know, even though there's no dislike button. What's really fun is to go to open status search; which is a way of checking out the things that people write publicly, and just search for dislike button. There's lots of people saying, "I wish there was a dislike button." It's like oh, my dog died. And you know, I wish there was dislike button, but I'm really so sorry. And of course Google tries a more natural approach with the plus 1, and you know, Twitter retweets, which is a way of suggesting, also related to the asymmetric thing; that their attention regulation areas. They're trying to diffuse information rather than to identity regulation. We're trying to say, "Here's me, and my identity, and what I think is positive and appropriate." But yeah. If you go to status search and look for that, you see lots of comments like "I wish there was a dislike button, because of that inability to do that." It's a very deliberate decision. It's meant to make things more positive, and that's what works in that social network. I don't know where we are.

>> Take one more sure.

>> Bernie Hogan: Okay. All right, first hand. Oh, oh, oh fighting. Who hasn't spoken?

>> What about the sort of bifurcation between various social media sites. So, you present, you know, a family network on Facebook, but your professional network on Twitter, but your hobby relationship on Interest. I mean [inaudible] and anonymous.

>> Bernie Hogan: So, Josh Melville, who I mentioned here a couple times, that's his interest is in. What is the true social network? Is there a true social network? Can we represent that from what we get from across all these sites? We know that it's not just, you know, we want to keep things hidden from people because, you know, it's terrorism, or whatever and ... ,but that people have legitimate sort of interest in regulating content. But, so, is there a true social network amongst all of these if you merged them all together, merge them email, what do you come up with? Were do people want to go? Because it's an open question right now. Most people are not necessarily even doing studies on personal networks let alone personal networks across different sites, but it's really ripe for analysis. I did it with different media; so, cell phones, instant messenger, and so forth in my dissertation, but up here it's still just all kind of hovering in Facebook territory. But I would love to see more work on under what conditions do people use which site? And start coming up with the perhaps [inaudible] as to why that is the case and also senses of success. But my last plug on that is that I think that there's still a lot of room for exploration and discovery in the clients side. In me, I suck all this information down and I manage it. I think the future is in mobile devices that do this. You know, Apple's now doing this, Google's now doing this, you look at your address book and it's now a triple charge social media hub with Facebook and Twitter and everything, and not just, you know, phone numbers it's not dull. And so, there's a

lot to be said for taking that power back by saying, "I am the keeper and manager of all of my different networks." But where that's going to go I'd love to see.

>> All right. Wow.

[Applause]