

Day 1, April 21, 2017: Afternoon Session – 3:40-4:55 p.m.

***Conversational Journalism:
How Bots and Artificial Intelligence Can Get Us There***

Chair: Sanette Tanaka, Product Designer, Vox Media

- **John Keefe, Bot Developer & Product Manager, Quartz Bot Studio**
 - **Joey Marburger, Director of Product, Washington Post**
 - **Andrew Phelps, Product Director, New York Times**
 - **Travis Swicegood, Director of Engineering, Condé Nast ATX**
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John Keefe: Thank you. Thank you so much. Yeah, last time I was here, I sort of set the bar up by doing jumping jacks in a hoodie that had lights on it. [laughter] And so, Rosenthal said, “You gotta do something better than that.” So, we’ll see what happens.

I’ll tell you a little bit about the Bot Studio. It’s just gotten underway. We’re talking about bots. We’re looking into bots of all sorts. [Getting PowerPoint set up.] Looking at bots of all sorts. We’re going to.... We’re looking into bots software, basically, that you can type with, right? So, chat and text. Software that you can talk with, like, my friend Alexa here. Hi, Alexa. Alexa, hi.

Alexa: Hello.

John Keefe: OK, good. She’s there. That’s going to be important. We’re also experimenting with artificial intelligence. And a lot of what’s behind the bot boom is AI, so we’ll talk a little bit about that. And we’re also in the Bot Studio developing tools and learnings for you. We have a grant from the Knight Foundation to do exactly that. So, we’re going to.... This is not just for Quartz to learn how to do this. It’s for Quartz to learn how to do it and then share it with you. So, we’re going to be doing that coming up, too. Throughout the entire project, too.

So, let’s just talk a little bit about what we’re doing here. And let’s do this with an experiment. OK. So, anybody have a cell phone? Anybody have a cell phone? [laughter] OK. Take out your cell phones and text ‘hi’ to this phone number. OK? I have a time limit here, so you guys have got to do this quickly. All right. So, get going on that. And if it’s working, you should start to—you should have a little texting coming back to you. Is it working?

Audience: Yes.

John Keefe: Yes? OK. It won't go long, but what you're going to experience is a very super-simple bot, right, based on the answers to the questions. And I know they are very complicated questions. I hope you get through them. That you.... It will come up with a different answer. We experimented with things like this at WNYC when I worked there. This is a very, very simple bot that is designed to react to you in a slightly different way depending on what you text.

So, at Quartz, it has been mentioned a couple of times in the presentations today, we are pretty experienced with conversational interfaces. The app that you download for Quartz is just a conversational interface. There's no headlines to click. There are no links like that. It's this, where you have a text-based interface. If you haven't seen it yet, this is what you get. And we have a lot of personality in there, too, so it's not just the conversational interface.

It's also the use of animated gifs and emojis and amazing smart writing. This is not a bot. This is a whole bunch of people writing for the app every day, and that's what's being served up. And but those people have a lot of personality and bring a flare to the coverage. This was during the presidential campaign, and it said at the start, "Good afternoon. Hey, what's Donald Trump been up to?" And one of the buttons you could click was, "OK. I'll take the bait." And it went into a whole series of things that Donald Trump did that day. And at the end... This was his whole thing about denying knowing about David Duke and the Ku Klux Klan. And then here, the options that you had were, "OK, is that it?" or "Seriously, stop." And that's the kind of flare and fun that the writers play with.

Here, though, you'll notice you can't actually converse with this app. And this is an important point. Through a lot of experimenting, the folks that built the app came up with this notion of having two choices. But what if you had more than just two choices? There have been lots of experiments now with Facebook bots and other things, and we're absolutely doing that now, too. This is a mockup of a Facebook experiment that we've been working on. And here at the bottom is open white box. What will people say? What would you say? What would you ask? We're starting to get a sense of exactly that. A lot of it is not very useful. So, we're trying to figure out how best to do that. As was mentioned, too, the Facebook F8 Conference announced a lot of interesting ways that we might be able to play with that white box. So, we're looking into that. OK. Again, all of this, all of our learnings we're going to share with y'all.

All right. So, let's talk about voice interfaces. So, I have my friend, Alexa. Alexa, load cat facts.

Alexa: Here's your cat fact. The life expectancy of cats has nearly doubled since 1930, from 8 to 16 years. Meow.

[Laughter.]

John Keefe: OK. So, a little bit of personality there, right? And information. There's a lot of challenges that you run into when you're making experiments and

journalism and information services for a voice interface. For one thing, there is nothing to browse here. You can't just sort of look through things. That's kind of challenging. And despite the meow, which I really love, that's kind of why basically my daughter goes back to cat facts every day, because there's a little bit of personality.

Alexa, load Quartz demonstration.

Alexa: Hi, John. How are you today?

John Keefe: Good!

Alexa: Oh, great! Would you like to hear about today's news?

John Keefe: Sure.

Alexa: Are you sure about that? Because it's pretty depressing. [laughter]

John Keefe: OK, no.

Alexa: OK. Talk to you later. And goodbye, all of you other humans in the room, too.

[Audience reacts.]

John Keefe: So, if your news app is more like that, maybe you'll want to come back the next day. So, we're experimenting a lot with our personality, trying to figure out how to bring some of the flair and great writing that is in the app into our voice interfaces. OK. I don't have to play the movies, because they work! Yay!

So, quickly, on AI. I want to talk a little bit about AI. You've probably heard a lot about it. Artificial intelligence. Machine learning. The ability of machines to do thinking for us. This also is not new. There's been a lot of work in artificial intelligence for many years. What is new is, especially for you as journalists, is that it's much more accessible now. All right?

So, I equate this to Google Maps. Not very long ago, you may remember that putting a map in a newspaper or on a website took a \$10,000 software package and a lot of data from various parts of the world. In fact, how would you ever have all of the world's data on your computer? It would have been almost impossible, except Google has it, right? And now, we can just use a couple of lines of code and we can put a map of anywhere in the world.

This is basically what's happening with AI right now. Here's a picture I took from in front of the Quartz building in Manhattan. If I simply upload this to the Google Vision API, I get this. If you can't read it, it says, "Car. Vehicle. Road. Lane. City. Urban Area." The google artificial intelligence engine behind this has just identified what this picture is about. Right? This is amazing. It's super-cool. But the coolest

part about it is that it's accessible for almost free. Matter of fact, if you're not hitting it frequently, it is free. And this comes back as code that you can use in your own applications. This is not even just something you can do with landscapes. You can do it with people too.

Google Vision API says that this picture is very possibly about Joy. And you can see it's recognized her facial features. Unlikely sorrow, anger, surprise. Also, unlikely headwear, which is kind of a mistake, because there is headwear there. So, but since you can just send a photo to this service, you don't have to have the whole engine on your computer. Just like you didn't have to have the whole world on your computer, right?

So then, what could you do with something like this? I decided to make a little experiment. Actually, Jake, is he here? Could you put the lights up a little bit? All right. So, this is a raspberry pie. It's a very simple \$35 computer. On it, I've put... It's got a little camera on it. And I'm going to walk over to my friend, Robert, here. Look up. I'm taking his picture. OK. So now, this is going to the Google API if it works. The light goes out if... OK, then it's gone up. Then, what could you do with that? What could you do with that? What does it say? Alexa, load latest picture. Oops. That's not the command. Alexa, stop.

Alexa: I wasn't able to understand the question I heard.

John Keefe: Yes, I know. [laughter] Alexa, load latest photograph.

Alexa: The words I would use to describe what I see are: audience and speech.

John Keefe: OK. Audience and speech. It didn't say anything very much our friend, Robert, here, but it did recognize that this is an audience and maybe that you guys are listening to a speech. That is kind of crazy. This is a \$35 computer. You don't need access to that whole, whole library at Google on your computer. You can access it through the API.

Lastly, I'll just talk about the fact that we are developing journalism tools, so these are not just audience facing tools. These are things for you. We're going to get them into Slack, because most of you, I suspect, are using Slack. A lot of the U.S. and world journalism population is using Slack, so we're going to put those tools into Slack and make them also available for you. And that will be likely in this fall. If you're interested, drop us a note at bots@gz.com. And that's all. We'll talk more.

Joey Marburger: So, what I want to talk about is kind of how we approach product development as a whole at The Washington Post. Up front, we develop a philosophy. So as a journalistic organization, we thought, okay, the bots platform, the excitement and the wave of it, basically, it needed some laws to it. Because we didn't want to put out, like, false information. And you know, it's got a long ways to go. It's young. So, we should kind of set a foundation.

So, I'm a huge sci-fi nerd. Love Isaac Asimov. And if you've ever seen his actually not super great interpretation but iRobot with Will Smith, it's all about the three laws of robotics, where basically robots aren't supposed to kill you ... until they try to kill you. Hopefully, a conversational journalism bot will never try to kill you. So, I developed basically three quick laws. I wrote about this on medium. You find it pretty easily. I'm not going to read them in the interest of time. But they are pretty kind of spot on to kind of the laws of robotics, which is, we don't want to spread false information. You know, a human, it should follow what a human journalist tells it to do, unless it tells it to spread false information. And also, you've always got to start at zero. Many programmers know that it actually starts at zero. So, this is actually three.

So, but we did a lot of experiments in bots. Trey and I have actually talked about bots a ton over many adult sodas. And we're very excited about it, because it's just this great simple experience, and technology is getting so much better for it. Like, AI is getting better. Big data is more accessible, as John was eluding to. So, we knew we wanted to try a bunch of things and see what's out there, because it's kind of hard to have a ton of successes when you're like on the bleeding edge.

So, I'm only going to go over, like, three bots, which are kind of our favorite. But we actually have almost 100 bots, actually. Like, 99% of them are internal though. So, this is our most successful reader-facing bot. It's called a Feels Bot. So about 30 days prior to the U.S. presidential election, if you opted into it, on our politics Facebook page, we would message you in the morning—or in the evening and ask you how you feel about the election. And it was just like five emoji responses from like super angry to happy. And we would curate all that, and then in the morning, we would show you a graph, basically, of how people were feeling.

We knew that we had to have a cadence in alerting people, but not annoying people, because we'd already built a bot for that, that was just a general news bot, which didn't do very well, which we figured would happen. Even though there's—I don't know—a billion people on Facebook Messenger, I don't think anyone's built a bot that has that many users. So, this was really fun to work on and it was moderated, curated by a human. It had a low user count, like, less than 10,000 people, but the engagement, meaning people actually answered the question every day for 30 days, was greater than 65%, because it's simple. It asks you a simple question. It was a very charged election. And you know, if you ask people how they feel, it turns out they will tell you, which is great.

So, we'd generate these kind of like social cards from it and highlight a few, some of the best responses, so we'd share them, say, on Twitter [or] put them up on our site. We generated these kind of little graphics out of it that we really fun. And we did this every day for 30 days. It was a great exercise. Empathy is a powerful driver in conversation.

The other thing [bot] is we called it a Virality Oracle. It's a Slack Bot on the Slack Channel. It's a public channel inside The Post that is powered by a really amazing algorithm from our Data Science Team that from the second the story is published,

it starts monitoring it. And it knows within the first 30 minutes of publishing if it's basically going to be viral. It's really popular. Like, viral is kind of a loaded word. And it notifies the channel, and we can look at it, to go in and maybe add something to the story [and] already start writing off of it a little bit. And this, we get about three-to-five stories like this in a day. And then it also models out a 24-hour traffic window. And then the bot also emails us a digest, so we can see, like, life cycle of stories, which really a bot is a tool. It's like a service bot or utility bot. It's very handy.

So, this is actually the data behind the bot, which I'm not going to go into super detail on, but we can nerd out about it later if you want to. So, it was our prediction model that has taken all these data points that this bot is just like eating and just like gobbling up. And then, you know, we ran it for a long time. Almost a year, actually. A machine learning to get really accurate. And we ran it on every story. Published about 300 stories a day. And we found, we'd add in like a new metric and it would get a little better. And over time, now, we're about an 80% competency rate.

This is everyone's favorite though. It's the Marty Bot. So, Marty Baron, who is our editor, that's Marty's picture up there. It is not actually Marty. So, this is tied into our web or kind of publishing scheduling system, called Web Sched. And whenever a reporter starts a story, they actually put in when they plan to publish it. So, what is the deadline, which can always be changed. There's actually a bunch of other stuff it does, which is really intimidating, so if you're behind, as these poor people are, it will tell you, like, hey, you're either close to your deadline or you missed your deadline. And it personally messages you. It doesn't, like, shame you in a channel or anything. And it's really funny when it messages Marty, [laughter] which I think has maybe happened once.

So, this is a pretty cool thing, too. It's called Heliograf, which is another kind of way to think of a bot. It's not a conversational bot, but it takes in data points from a feed and basically can craft stories. Very simple, short stories based on templates. Anybody ever play Mad Libs? You know, you put in a noun, pick an adjective, whatever. This is kind of what that does. So, we use this for Olympics and elections. So, we published a story on every single Olympic event, because of Heliograf. And then for elections, we posted a story on every single race in the U.S. on election night and generated newsletters, generated tweets. It powered this thing. And we did all sorts of fun stuff from it. So, it was like a bot that was helping us, you know, do better journalism.

But as John was talking about, audio bots are super, super huge right now. Amazon doesn't call Alexa a bot, even though, like, pieces of it inside are a bot. They, like, refer to it like it's an operating system, not as audio AI. And that's the Echo and Google Home. Our politics-slash-briefing was one of our fastest growing products last year. We copped the wave, like, just right. There's a reason that they are out of stock on Amazon all the time. They are actually outselling a lot of their other hardware. Jeff Bezos, our owner, is like personally driving this roadmap, which also gives you an indicator of how successful it is and super fun.

But what we're thinking about in bots and kind of how it plays into your day-to-day life and your habit is, like, bots can do very simple tasks. Like, it shouldn't do everything, because then you've got a lot of cognitive overhead. It's a lot of work. Sometimes you don't know what to ask a bot, you know, other than like, "What's the news?" So, we're thinking about, like, that the future is here. Like, you can build these things. And actually, now, there's a lot of tools. You can build them pretty easily. Amazon has a tool called Lex, which with point and click, you can build a pretty robust bot without any code. So, I mean, the future is here. It's just it's not evenly distributed. Just as the quote from William Gibson, who's another science fiction writer, and I think this is like super true for bots, totally. Like, bots, again, aren't totally new. They're just getting more accessible. It's almost becoming a household name.

So, we think that bots can fill all these spaces between platforms, like, on different platforms, but also they kind of like fill in these gaps a little bit, like between things. You know, like, a bot could notify you to catch you up on where you left off in a story while you were listening to it on the train into work, and you sit down at your desktop and it's like, "Hey, buddy, here's where you were in that story." It fills that space a little bit. This is what we're starting to work on a lot right now. We're calling it like a hand-off bot. So, pretty exciting.

Really excited for the next couple of speakers. I remember, like, bringing this up in the newsroom. Nobody really understood it. Why would we do this? And then, especially when you do the first one and it gets like five people that use it. You're like, "We've got to keep doing it. We've got to keep doing it." And it turns out that you learn a lot from experimenting. And when things are really simple and really hard, it's very attractive to a designer and a product person. So, we'll be iterating on bots for a long time to come. Thank you.

Andrew Phelps: Hello. It's great to see so many humans in the audience. [laughter] We're still winning. There any bots in the audience? Just one right here. Rosenthal, isn't it crazy to think that there will be an ISOJ in the future where there will be bots in the audience? I don't know how far in the future. The future is coming. It's just not evenly distributed.

Rosental Calmon Alves: I am a bot.

Andrew Phelps: You're a bot. I knew it! That's the only way this guy can put this thing on for 18 years! [cheers/applause] Very impressive. All right. So, speaking of humans, I would like to talk about humans. Oh, there's my mike. And let me just go over a little bit of the context that I think we've already gotten here. But we know the explosion of messages apps is out there, right? 1.2-billion people use Facebook Messenger. 1.2-billion people use WhatsApp, which is owned by Facebook. Snapchat, in terms of IOS apps, non-native IOS apps, number two in terms of how much time people spend with that app. Think of how big the app store is, right? iMessage is the most used IOS app. And of course, good old-fashioned SMS is on 4-billion phones.

So, news organizations, rightly, went where all the users are. They rushed to get on these platforms, leading to what Neiman Lab, the paper of record for the future of news, called the botification of news. I think that's actually from December of 2015, so that's how long we've been talking about this now.

You know, I think this is happening now because we're moving toward this more personal relationship between news organizations and their readers. And the rise of bots happens at this moment because it really facilitates those relationships. And all of the predictable headlines have shown up, right? This is from the other day. "Journalists beware. This bot we saw at Facebook F8 may do a better job than you." This is so predictable. All the people who are worried that we're going to automate all the humanity out of journalism. "Written by a robot: Will algorithms kill journalism?" I love this one: "Rise of the Machine: Journalists under threat as AI robot writes article in one second." [laughter] That's actually really slow for a computer. [laughter]

So, I work at The New York Times. And The New York Times is actually filled with humans, with human people. We have 1,100 of them in the newsroom. And we're really proud of them. Journalists, of course, are people with backgrounds, and points of view, and unique perspectives. And what I've noticed in the bot space is that there are a lot of great experiments out there, where they're either playful or useful or sometimes both, but the bots tend to have their own personality. You know, like a bot will have this sort of character created for it, or it will sort of have like kind of a voiceless or entity-less personality, or it will kind of take on the personality of the news organization [and] have sort of an enterprise voice, right? But I figure we have all of these great humans that are expensive, and emotional, and really hard to maintain, so why not squeeze more out of them right?

So, here's one of them. This is Sam Manchester. He's a deputy sports editor. I don't know if anyone had the chance to see this. It was a relatively small experiment, but Sam was one of a lot of journalists who went to the real Olympics. And we actually ask Sam to text with people, text with anyone who would sign up, his personal observations from the games. You know, not breaking news, not headlines that you could get anywhere else, but to talk to people the way he might send texts to a friend, right? Pretty familiar interface.

And I think what's really powerful about this is, now all of a sudden, The New York Times, or at least NYT Sam is saying, "Hey," right? Like, when is the last time The New York Times said, "Hey," to you? For a big, old news organization like The New York Times, that's a pretty big deal. And now suddenly, The New York Times is appearing next to your mom, your friend, your significant other, in a very kind of personal and familiar space, right?

This is one of the texts that really was a crowd pleaser. This was Sam's observation that no one was in the athlete's village for food. They all went to McDonald's. All these athletes went to McDonald's. Isn't that crazy? I thought that was amazing. And we really had to draw this out of him. Here is a trained kind of sports editor,

you know, first of all, who's not used to being a reporter. In fact, we had to take his photo, because we couldn't find a single one. But also who just wasn't used to writing in the first person about what he was observing and really making it personal. And it was texts like these, observations that only he saw that no one else could get anywhere else, that I think really brought this to life. We knew we had succeeded. This is sort of the ultimate sign of success when the fat Jewish—[laughter]—rips off someone who rips off Sam's text message. I think this was the first text message to go viral, which was—well, you see it right there. He was commenting on the world's most pointless job.

So, what's funny is people at the office would be like, "Great job on the bot. loving the bot. I've got some feedback, some thoughts on the bot. How come the bot doesn't say this or that more often?" And we'd always be like, "It's not a bot. This is a real human person with like flesh and a brain sending you texts. There's nothing automated about this." This was like an effort in just sort of radical humanity. But for some reason it was hard for people. It didn't really stick. And I think it was hard for readers to understand sometimes. These are just some of the responses we got: "Am I supposed to text back? Didn't realize I'd get a response to a question. Best part." I think people were trying to understand, like, how they should interact with this person. They were almost like, "Are you sure it's a real guy? Are you messing with us?" You know, they didn't quite trust us. People had very personal, emotional reactions. "If I had a friend at the Olympics who texted me six times the first week, I would end our friendship." [laughter] So, that's somebody who did understand that it was a person.

But the overwhelming majority of responses was something like this, "Can Sam continue texting me during the workday in a succinct, interesting way about the whole world?" Well, the answer is no, because we only have one Sam. Just some data to give you a sense of it. So, he sent 70 sort of mass-texts out to the audience, right? 30,000 replies came in. And he did his best to actually answer them individually. In fact, there was a Monday, sort of a down day in between events in Rio, where we did like sort of the equivalent of "Ask me anything," where we promised that if you sent him a text, Sam will answer your question, and we did not 100% succeed. And so, we actually had 1,300 people tell us, like, "This is an amazing feat of journalism. And this is so cool, and I can't believe I get to be this person." We had a lot of other people saying, like, "Why doesn't this guy ever write me back?" including people inside the building, unfortunately, [laughter], because we forgot to put their numbers in.

The point is, Sam doesn't scale. So, it got us thinking, well, how do we scale a human? How do we bring more of these sort of one-to-one experiences to a wide playing field? That led to this experiment.

So, that's Nick Confessore, one of the great politics reporters who was covering the Trump Campaign during the election. We created a Facebook Messenger bot. It was called NYT Politics Bot. And the idea was to combine sort of the intimacy and the charm of a human with the utility of a bot. So on the human side, Nick would actually sort of script conversations every morning. (Oh, I have three minutes.

Thank you.) Would sort of script conversations every morning. Choose your own adventure style. And this is the important part that reflected his point of view about the campaign from his unique vantage point, right? This wasn't the voice of The New York Times. This wasn't a, quote/unquote, objective experience. And people really reacted. They really liked this experience. We got a quarter-of-a-million people to have some sort of an interaction with Nick Confessore that they thought was personal and sort of unique to them.

On the automated side, we actually sent out daily alerts with the election forecast, so as you can see, if you can read that, "With 22 days until the election, Hillary Clinton has a 90% chance to win. Donald Trump has a 10% chance." So, there were some bugs [laughter] that we were not able to work out in time, but the point is that we were able to give people real utility, not just sort of the humanity.

I'll go through this quickly. This is Gilbert Cruz, our television editor. He is a walking IMDB. He has every television show and movie in his head. And Gil is a great guy to be friends with if you've just finished binging on a show and you need a new show, because you can ask him what you should watch, and he'll give you the perfect recommendation, right? It's like a real privilege to be able to ask him that. But he doesn't just spit out a recommendation. He usually responds with a question. He'll say, "Well, what's something you watched recently that you really liked?" And then you'll say, "I watched such-and-such show." And then he'll say, "OK, well, what's another show that you watched recently that you liked?" And you'll answer. And what he's basically doing is establishing the common metadata of those shows in his mind to come up with a recommendation. People love his recommendations.

So, we did this hack week, where we brought him into the lab, and we basically recorded him talking to people about what shows that he thought they should watch. And then we realized, this is structured data. Like, this guy taking this curated subset of IMDB, effectively, with his point of view built in, is basically creating structured data. We could make that a bot. So, we did. We called it Gil Bot. That's just a joke, actually. We did not. We did not create Gil Bot, because somebody else beat us to the market. If you haven't seen it, it's called And Chill. It's a texting service. It's actually very clever. It's very well done. And it's very similar. So, you know, I think this demonstrates that there's real value for people.

Finally, I don't know if you guys have heard the new podcast from The Times, The Daily. I think it's a great show. It's hosted by Michael Barbaro, an accomplished reporter and just a bright, funny guy. And actually, we have a similar thing with Michael, in that you can get texts from him every day, sort of like Sam did in Rio. What's fascinating about audio, as a lot of people who might have worked in audio know, it's a very intimate, very personal medium, right? And Michael is very good because he talks to you like a person.

And when we talk about bots, we end up talking about something other than bots very quickly, which is making journalism more accessible, more conversational, more friendly, more real. The most common feedback, that's caught my eye at least, is people write us to say, "Michael feels like a friend. You know, this feels

personal for me.” And it really came home for me when my brother—this is my little brother, Dave—texted me out of the blue. And he’s not like a podcast guy or really like a news guy. “You guys do such a great job on The Daily, I want to be Michael’s friend.”

So, that got me wondering, well, could we make Michael your friend? And anyway, this sounds like I’m winding up to a big demo. Unfortunately, I’m not, because it’s not ready. But we are playing with the idea of creating a voice model of Michael Barbaro’s voice, similar to Alexa, so that maybe you could actually—sorry, Alexa, not you—so that maybe you actually could interact and maybe even be friends with Michael Barbaro.

It raises the question of whether that’s something people want, you know, if we actually want to enter this uncanny valley of too human or we’re not human enough. And I think that’s just a question that we don’t have the answer to. But the point I want to drive home is that, you know, I’m not worried about this technology driving humanity out of journalism. I’m really excited about the promise of technology bringing more humanity to journalism and creating more one-to-one experiences with more people that otherwise might not have been possible.

So, I will turn it back over. Thank you.

Travis Swicegood: Hey, thanks, everybody. I am going to mute this, because I’m going to be mentioning her name in a little bit. So, I’m going to talk about bots. There are a couple of different types of bots. Sanette talked a little bit on some definitions earlier. I’m breaking mine down into two different types. The first type are helper bots. We have a bunch of these. Everything from our ad deployments.... Our brands can go out and say, “We need a new ad placement here, with this configuration on this site, for these key words,” things like that. And all of that deployment is handled through a conversation in Slack. We have things on dev ops around deployment. A bunch of internal stuff that fall into the realm of helper bots.

But I want to talk about one that is public: Condé Nast Haikus. This is on Twitter. You can go follow it right now. There are a couple of bots here that are working in concert. There is one bot that scans all the content that goes through Copilot, which is our internal content platform, and looks for haikus. This is an example of a really hard problem that’s easy for a computer to tackle. I wouldn’t want to be the person tasked with going through all of our stories looking for the 575 pattern, but a computer is really good at that. When it finds one of these haikus, it posts that to an internal Slack channel. Anybody at the company, can join that. And that’s where the second bot comes in. We have a bot inside that channel that is scanning of votes.

So if there is a haiku that somebody has flagged and said, “Oh, this is a good one,” and enough people do that, it will post it to this Twitter account. That’s an example of what seems like a relatively easy problem that’s hard for a computer to do. It’s relatively easy for us to look at a haiku and say, “Oh, this is really funny,” or, “This is really relevant,” or, “That’s an interesting way to phrase this.” It’s harder for a

computer to do that and do that successfully. So here, we're melding humans and computers into these multiple bots to give you Condé Nast haikus on Twitter.

There's the other class of bots, which is what has been talked about mostly today, and that is the conversational bot, so a bot that you interact with through either Facebook Messenger or iMessages or Alexa. So one, again, this is something that's public that y'all can go use right now if you want, if you go to Teen Vogue on Facebook and tap 'message,' you can find out what type of makeup you should be wearing or what your supermodel twin is—supermodel style twin, I think, is what it is. But this is just a quiz interface that goes back and forth. You pick the quiz that you want and then it walks you through this predetermined workflow. At the end of it, we calculate it up and give you the result of it. This is something the editorial team can do. Now that everything is in place, they can add new quizzes. And it's something we're looking to turn into a product.

So, I could see where a makeup brand could come to us and say, "Hey, we want to launch this new brand, and we want people to be able to get matched with the product in this new line that works for them." Here, we'll do that.

Another one that we've got is.... This one is still in development. Should be out here in the next six weeks or so. We're adding an Alexa skill from Epicurious. The demo that we have right now, you ask Alexa to ask Epicurious, "How do I cook a steak?" There are a lot of variables that go into cooking a steak. We need to know what type it is to figure out whether or not we're going to tell you to cook it by time or to cook it by weight. We've got to figure out how long or how well you want it cooked, and then we can get you kind of a rough estimation of where you need to be.

For us, this makes total sense, because the majority of Alexa Echoes are sitting in kitchens, so providing something of the data that Epicurious has around how to cook things via Alexa was just a no-brainer. But again, it's a decision tree that we're kind of walking you through. It's something that you could have a conversation with somebody about, but we're turning it into a bot.

So, the common themes that we have here, particularly among these last two conversational bots, they could have both been walls of text. The quiz style thing is a little bit harder, but BuzzFeed has done a pretty good job of creating the standard webpage quiz format. It doesn't have to be conversational and you answer one question before you see the next one. We could have gone that route. For our Alexa skill, it's filling in something that's a pretty well established pattern—a cookbook or a recipe. That already exists. And you can go in and find all the different pieces that you need to figure out how to cook a filet mignon properly. So, it could have just been a wall of text.

I do want to say that I'm not 100% sure that these are exactly the right way to go about doing this. Bots, particularly, conversation bots, we're still in an era of experimentation. Trying to figure out what is a good fit, what isn't a good fit. Depending on what we find out from the engagement with our users, we may find out that quizzes do work better on a webpage where you can scan the whole thing

before you commit to doing it. We may find out that there's a really good reason that recipe books and cookbooks are still out there. That might be the best format. But we're trying to experiment with taking the information we have right now and taking it from the standard wall of text or standard page that presents the information and turn it into something that has a conversational workflow.

The key thing here is to reframe how you think about the content you have. Epicurious is a great example of this, as a publication that produces a magazine about cooking. It produces.... It helps you cook various things, gives you recipes, all that good stuff. But you think of the content as, oh, at this publication. We have all of this knowledge that we can take and turn into something that we could conversationalize *if* we reframe how we look at it.

So, you might be wondering what the deal is with all these photos. This year, I've made it the furthest I've ever made it in Project 365, which is take a photo every day, post it somewhere. I'm posting them to Instagram. I've done it to Flickr before. I've done it to Facebook before. But this year I'm doing it. I'm also trying to expand my horizons a little bit out of photography. I've got to the point where I can take okay photos. I always feel like I'm a good photographer until I look at the people that work at Condé Nast and the photography that they're able to produce. When I look at the pros, I'm like, oh, well, I'm just.... I can take a good snapshot, but that's about it. But in expanding from photography, I've also tried to reach into videography. And in doing that, this is going to sound really, really stupid. But I figured out the photography and videography are not the same thing. [laughter] Just because you're good at taking a still photo doesn't mean that you can take a good video.

Now, when I take a photo, I'm thinking, okay, how am I going to frame this room? What do I want the focus to be? OK, snap, done. I have that moment in time that I've captured. When I'm thinking about videography, I have to think about the movement to that. What's the attention going to be? Where's the focus going to be? Where's it going to go from and to? There's a whole bunch of other variables that you have to think about. Then, you have to start thinking about, how am I going to piece this together into the story that I'm going to tell? If you're trying to tell a story with photography through multiple photos, it's piece together those photos. With video, you have to think about how you want to piece it together from shot to shot. What do I need to support this shot that I'm doing here as part of an interview versus this shot here that's B-roll? What does this B-roll support? What should be playing over the top of it? There's all these other variables that go into it. Similar, similar skills, but you have to really change the way you think about it.

Likewise, when you're thinking about narrative stories or blocks of text, you have to think about it differently if you're going to do it conversationally. Taking.... One of the topics or the broader topic today is conversational journalism. We're not going to be able to take the journalism that we have that we produce now as a story, as this great thing, and turn that into a conversational bot and just give you a sentence or a paragraph at a time. We're going to have to rethink how we do that.

Some of the experiments we've been doing at Condé Nast are moving us in that direction. Rethinking how we want to present different pieces of content in different ways that might work. And I'm really excited about the stuff that we have coming out this year and to see what everybody else does. So, thanks.

Q&A Session:

Sanette Tanaka: So, something I've been thinking a lot about [is] news historically has been a one-way street. Publishers publish content and then the audience consumes it. So now with bots and with conversational journalism, we're inviting our audience to interact back with us. So, I'm wondering, why? What value is it that it gives our audience in, like, participating in this interaction? Anyone can take that. [laughter]

Joey Marburger: That sounds like an Andrew question.

Andrew Phelps: Does it sound like a me question? I mean....

Sanette Tanaka: I think it's toward Andrew.

Andrew Phelps: So.... No, you go ahead.

Travis Swicegood: I think it's about the personalization. Personalization of content is a big thing. What's the next most interesting thing that I could read? And personalizing that to the user rather than the broader segment or some editorial voice really helps with engagement on the business side of things, but also just gives users a better experience. And I think that personal one-to-one is what we're—at least when I think about it, that's the thing I'm after when I'm thinking about bots as a means of communicating.

Andrew Phelps: Yeah. And I would add that the word *trust* shows up a lot lately and, you know, it's counterpart *distrust* is showing up a lot lately. And one of the speakers earlier was talking about the fact that when we talk to people, those walls sort of fall away, and we tend to listen more and trust one another more. And so, if you can have these conversations with news organizations, I think that can really change the relationship that people have with us and can really help with trust. And you know, I think when people feel heard or feel understood, they are more likely to identify with a news organization as some—you know, a news organization looking out for them that has their interest in mind, which is really important now.

Sanette Tanaka: Flipping that conversation back, like, what value—have you seen any value for your journalists in participating in these conversations? I mean, you've all mentioned a little bit, like, Andrew, you were saying their eyes are opened by, like, having to participate and write in a different way. Are there other things that you've seen that have been beneficial in the newsroom from having these conversations?

Andrew Phelps: I think people are—or journalists, by allowing themselves to be people, are experiencing more stories that they might not have otherwise put in their copy, right? But that in the case of Sam Manchester, [he] had all these moments that he saw that he might just tell a friend about, but why not tell the tens of thousands of friends that are texting with you about it? And I think that opened his eyes to the kind of storytelling that this more personal experience can unlock. And I think it also exposes our reporters to more real people and to their stories. I mean, there's no better way to get someone's story from someone than just to talk to them.

Sanette Tanaka: Yeah, that definitely makes sense. Joey, what have you seen?

Joey Marburger: Well, the thing I didn't mention in my presentation is, we did a similar thing to what The Times did with Sam and the Olympics, but we did it around the presidential debates. So, for every presidential debate over SMS, using Twilio empowered by Slack Channel with another bot, it would take text and send you updates. And we had Aaron Blake from the Fix was powering it, and he introduced himself. And the whole premise of it, because we did some test runs with them, is [they] were like literally texts, like, you're just texting one person. And we're not going to try to do too much at the beginning, and it doesn't have to be, like, a link to a story, so there were no links. Photos, gifs, short, short texts. So, like, what you would send to a friend. It was, like, really hard for him at the beginning until like the first debate, which we just kind of piloted onto the small group. And he was like, "Oh, it was actually pretty fun," because he could just, like, use emojis and kind of like, be like, "Whoa!" It took all this pressure off, and he was just like gunning to do it every time after that. It was like super fun.

Sanette Tanaka: Hmm. And John, Quartz has been doing this for a while. Like, writing in more of a personal chat-like way. I know you just joined Quartz recently, but from your conversations there with people you've spoken with, do you know if it was much of a learning curve? Like, what was involved in getting journalists to be able to write in this way?

John Keefe: It was based on the original prototypes and a lot of playing with language. A lot of playing with how to actually produce this every day. And one person can't really carry that, so you have to have a... We have a document that talks about what the personality is, what the flavor is. And as we add writers for the app, you have to kind of get a feel for it and spend some time watching it. As you mentioned, I'm new, and I had a chance to work on it for a day. And what they do, the magic they do to turn it into another voice, the voice of the app, is kind of amazing. I think a lot of people have made the point that the people are key to this. This notion that bots are replacing us, it certainly hasn't happened. We now have a staff of people writing for the bot. So, that's definitely how it's evolved.

Sanette Tanaka: I feel like a common thread in a lot of the talks have been around accountability and trust and fake news. What challenges have any of you seen in creating content for these platforms which have been criticized as perpetuating, quote/unquote, fake news?

Joey Marburger: So, actually, that's why we did that SMS. It wasn't really even a bot. That was, I think, our second reader-facing thing, because we had done the Messenger kind of general news bot. But we did it over SMS, because everybody has essentially SMS on their phone, even dumb phones. So, we thought that could be more interesting, because it was more personal. So, it could get people to trust us. And what Aaron was doing in messaging people was always, like, reinforcing our fact checking, the amount of due diligence we had done to things, the research we had done, and sometimes that ended up like a fire emoji or whatever, but that was fine. Like, I think it was just like you felt that one-to-one side of it. I think Messenger was just this giant funnel, which was way more—it's 100% a bot. So, it just felt cold, and that was fine, but the SMS side, we thought that did a lot for us. And we had a lot of reader feedback over email and through texting back of just, like, how fun it was and how much they learned. And Aaron responded to a few as saying, like, "Thanks. And if you want to know more, drop me an email," and then would start conversations. So, it created this little bit of community, which then immediately it's like a handshake and you immediately trust the person more.

John Keefe: I would add that our Slack Channel, among the writers and editors who are working on the bot, spend a lot of time, which I don't think is taught in journalism schools right now, as like the ethics of a particular meme as an animation to go with a news story or a particular emoji. There's a limited number of emoji and you can get—they can be expressing different things. So if you write something and then you put a smiley face, but it's about a tragedy, that's problematic. And so, there's a lot of debate going on in the Slack Channel of, what's appropriate? What's not? Does this work? Does it not? And trying to find that which is—it speaks to keeping the credibility, but also the playfulness at the same time. And it's not a very easy line to walk sometimes.

Sanette Tanaka: Yeah, that's a good point. It's not just inaccuracy. It's, is the tone accurate? It's a lot of editorial judgment there. We don't have a lot of time, but if anyone has any questions and wants to come to either....

Man: One question.

Sanette Tanaka: One question, I hear.

John Keefe: Are you it? Are you the question?

Man: Can you replace...[inaudible]...the bot?

[Some laughter and mixed response from panelists and audience.]

Joey Marburger: Pretty harsh.

Andrew Phelps: [laughs]

Sanette Tanaka: I didn't hear it.

Man: That was a joke.

[Laughter.]

Rosental Calmon Alves: All right. Thank you very much!

Sanette Tanaka: All right. Thank you.

[Applause.]