Caroline Kitchener: Hi everybody. Thanks for calling in today. I'm Caroline Kitchener, one of the

associate editors here at The Atlantic. Today, I am very excited to have Derek

Thompson on the phone. He's calling in from Chicago. Hi Derek.

Derek Thompson: Hello, good to be here.

Caroline Kitchener: I'm going to start by giving everybody a little bit of background on you. Derek is

a senior editor at *The Atlantic*. He writes about the fascinating intersection between technology, business and the media. His book, *Hit Makers: The Science of Popularity in an Age of Distraction* came out earlier this year. He also wrote one of our cover stories for the November issue of *The Atlantic*. It's a dive into X. The company associated with Google that exists to invent these big, sometimes

seemingly crazy solutions to the problems of the day.

We got a lot to talk about. We're going to go through a lot of different subjects here, but before we get started, a little bit of housekeeping. As always, this call is about your questions. I've gone ahead and compiled a bunch of questions that members sent in before this call, but we'd also really love for you to write in and submit your questions in real time as we're talking.

Okay. I think we are good to go. Derek, I want to start by talking about your book. For everybody who hasn't read it, the book seeks to answer the question: in this increasingly digital age, what is it that makes something popular? What is it that makes something go viral on the internet? Can you answer that question in a nutshell for us, Derek? Give us the thesis of your book.

Derek Thompson:

Yeah. I can certainly try. You summed it up very well. It's a book about why we like what we like and it uses stories of hits throughout pop culture history to answer that question. These examples go all the way back to Brahms' lullaby in the 19th century and some of the examples are as recent as *Fifty Shades of Grey* and Facebook. Basically, one of the theses of the book, probably the most useful thesis of the book for today's conversation, is about what I call the Myth of Novelty.

That is this idea that we'd like to tell ourselves that we like new things. We like to tell ourselves that we like new fashions and new songs and new movies and even new ideas in politics. The truth though is that we tend to like things that are sneakily familiar. We tend to like new songs that sound a lot like the old songs that we like. Every year of the century, a majority of the top 10 films in the U.S. have then sequels, adaptations and reboots.

Familiar, familiar, familiar. Even in politics, there's this theory called the Theory of Fourteen which says that no American president, this is actually a Jon Rauch piece published in *The Atlantic* a few years ago. No American president has been elected more than 14 years after his first year in the senate or governor's mansion. We like relatively new faces but what do we want those faces to say? Hope, change, make America great again?

The Center of American Progress has a theory that we like highly traditional messages from highly new faces. Once again, this goes right back to my theory that I came up with looking at music and movies and the history of entertainment. We love new products that are sneakily familiar. I think that once you intuit this and use this as a frame to not only analyze the world of culture but also analyze your own taste, you'll see this thesis coming up over and over.

Caroline Kitchener:

Why is that, Derek? It seems boring that we like things that we already know about. Any ideas about why that is?

Derek Thompson:

Sure. I think it's a lot to do with psychological safety. It's really easy to process ideas that are familiar and it's actually very taxing to process ideas that are complicated and new. If you like evolutionary psychology, and some people do and some people don't, the explanation there is actually very, very simple. If you are a hunter gatherer 10,000 years ago or 50,000 years ago, trolling the savannah of Africa or Asia, and you see a plant or animal that you recognize, a plant or animal that is familiar. That familiarity is a very good sign that the plant or animal hasn't killed you yet. You should have a dispositional preference for that thing because something in your brain should tell you this is safe. I think we have that idea all the time.

When we listen to a piece of music that has a familiar chord structure, a part of our brain says, "Ah, that's safe, that's nice." When we watch a movie or a, let's say, a horror movie or a thriller where we sense there's going to be an ending that's going to answer the question, that the anxiety of not knowing will be resolved by the solution of knowing the answer to the secret. There's something safe and wonderful in that. We want to stay inside that experience because it promises us a bit of psychological safety at the end...something that psychologists sometimes call an aesthetic aha moment where we transition from the anxiety of not knowing to knowing the answer to the question. Even in the subject of ideas, Caroline, that you and I work in in journalism, I think that in many ways what readers or listeners in this case, hello everybody, are looking for or listening for is an aesthetic aha.

They have a question that they want answered, an anxiety that they want resolved and they are waiting for someone to resolve that anxiety and tell them why is this happening. Why does the world look the way that it does, but what we were are ultimately hunting for is an answer that feels right, that clicks in our minds and that click, that aha moment I think, speaks to a familiarity that we're hoping to discover in products as diverse as music, movies and journalism.

Caroline Kitchener:

Turning to politics, you mentioned the fact that many candidates have used the message of change, but what you're saying then is that we like this message of change and indifference but only because it's familiar?

Derek Thompson:

Sure. Change things back, right? That's how Trump won. Make America great again. The most important word in that sentence is the last one. Lots of voters are nostalgic for a past that maybe never was. I think it's a fascinating thing that some people are nostalgic for an American past that is exaggerated. In many ways, the US is richer now than it ever was, safer now than it was certainly in the 1970s and 1980s and yet, the same slogan that worked in 1981 works again with Ronald Reagan. He said make America great again in 1980, it works again in 2016-2017.

There's this incredibly powerful idea particularly during moments of change I think that we need to reclaim something that we lost. I think later in this segment, on this call, we're going to talk a little bit about the news ecosystem. A lot of people are duly afraid of Facebook and Twitter fake news and Russian propaganda and all of these concepts that you can think of together as the dark side of technological change.

What do a lot of people want? If you ask me, a lot of people are nostalgic for Walter Cronkite. They want one avuncular figure to tell them this is the way it is. I am the mainstream news. If you listen to me, you are one of 100 million households getting the news from one person and we can all live inside the same narrative of America. That is nostalgia that we feel. I think that in many ways, we lust for this, that a part of political nostalgia is this lust for a past sometimes that did exist and sometimes did not.

That doesn't diminish the allure of politicians that say things used to be better, we used to get this...I can make it great again.

Caroline Kitchener:

I went to your book talk about two weeks when you first released the book about two weeks after President Trump's inauguration. I'm curious – what the experience was for you of writing this book about popularity and the fact that we want these familiar things, and writing that throughout the election. Did you have any kind of inkling that because of your research, this Make America Great Again slogan would be as effective as it was?

Derek Thompson:

Yeah. Writing the book while watching Donald Trump is a really fascinating phenomenon because a lot of the stories that I could report out the most fully were, almost by definition, historical stories because those were the stories that are clearest to us. I think in a weird way, nothing is more opaque than the very recent past.

Today's news or yesterday's news always feels confusing. How exactly do I place it? When you're writing a book, you need a long theory, a big theory, and so in many cases I was going back sometimes 10 years, sometimes 50 years, sometimes 150 years to impressionism and Johannes Brahms to write stories about pop culture hits, but in many ways, Donald Trump is exactly a creature of the forces that I was talking about. At one point in the book, I talk about, and this may sound like I'm initially changing the subject, but I promise I'm not...

A part of the first chapter is about the history of the Billboard Hot 100, which is the most famous register of popularity in music. For a long time, the labels could essentially dictate popularity in music. The gatekeepers could pay radio DJs to play whatever songs they wanted and then people would reliably come to like those songs that played over and over again because we love familiarity and the more times we hear a certain song type or a certain song structure, we tend to like it more.

Recently, since 1991, the Billboard Hot 100 stopped measuring radio air play so much and started measuring points of sales data at record stores and it turned out that as the gatekeeper lost its hold on the music business, the two genres that had been overlooked in the 1980s, hip hop and country, soared up the charts and in many ways, hip hop and country have been the dominant sound for the last 20 years in music rather than rock and roll.

In many ways, the story of music in the last, say, 20 years, even 60 years, has been that it changed from top-down structures where elites dictate taste and the public just follows up to bottom-up populist, popularity, a bottom-up structure that's a lot more chaotic. Okay, now let's finish talking about music and maybe some people in the call can think, "All right, well, that sounds actually a lot like what's happening in politics." There was a long time where there was this theory of politics called The Party Decides, which says that if the Republican Party, for example, wants a certain person to become the Republican presidential nominee, they'll give that person a lot of money, they'll all stand in line, they'll get on television and say, "Vote for Jeb Bush. Vote for Jeb Bush."

The public will dutifully follow and they will vote for Jeb Bush who will become this Republican presidential nominee, but as everyone knows that didn't happen. Jeb Bush peaked I think at 4% of the Republican primary vote. Instead, Donald Trump, a man with no elite support in the Republican Party was able to capture the nomination and eventually win the Presidency. Once again, in party politics, power used to be a top-down structure, now it's become bottom up.

In many ways, this is a political phenomenon but I think it's also a media phenomenon. When the channels of exposure are very, very scarce, it's easy for elites to control them, but now what you're seeing is in this age of abundance, when there are so many TV channels and websites and newsletters and radio shows, all of which have a certain amount of influence, it's impossible for any one gatekeeper to control all of them.

In many ways, I think many of the problems that we're dealing with right now, from the fake news crisis to even Donald Trump's victory at the Republican primary is an outcome of this confusing age of abundance. That is the big, macro idea here is that technology has given us this enormous abundance of media option and it is changing our world faster than we know how to explain it.

Caroline Kitchener: Interesting. All right, on that note, talking about gatekeepers, I want to turn to

Facebook and other huge tech companies that we've been reading a lot about

today.

First, some of our listeners may have read a piece by Alexis Madrigal that *The* 

Atlantic published last week on how Facebook has impacted American

democracy. This is something that you have touched on in your work too, Derek.

How has Facebook impacted the American media landscape?

Derek Thompson: The short answer is we don't yet know. We're still trying to figure out exactly

how important Facebook is as a media shaper of political outcomes.

Here are two ways I'm thinking about this issue. On the one hand, even though Facebook continues to insist that it's not a media company, it's still very clearly a media company. It's very obviously a company that people go to to get news from, that's what a media company is. Facebook is in many ways the most important source of news for the millennial generation which increasingly ...

Caroline Kitchener: Was it always that way?

Derek Thompson: What, with millennials?

Caroline Kitchener: Was Facebook always this big way that everybody got news or has that become

the case more and more?

Derek Thompson: Well, I think it's going to become the case more and more since the introduction

of the newsfeed. A brief history of Facebook is that the company started in 2003 as a way to digitize college yearbooks. Facebook itself was the name of many yearbooks at colleges. It's certainly the name of the yearbook at my college, Northwestern in 2004. When I learned about facebook.com in the autumn of 2004, I initially thought that it was a Northwestern creation, that it was just you had a print product, a little binder that had the faces and names and birthplaces of all the freshmen at Northwestern and then you have that exact same thing

online so I assumed it was just the same thing.

Initially, it was just an attempt to digitize college yearbooks which is a relatively a small bore innovation, but then once you get enough people on it, once you create this national and even international network of people talking to each other...then Mark Zuckerberg introduced this concept of a newsfeed to essentially make Facebook a little bit more like Twitter and make it a central portal of not just pokes and photo shares, but also for media consumption.

Since then, certainly for the last, I'd say, seven years or so, Facebook has been an enormously important portal of news and since Twitter's IPO specifically, it's been probably the most important source not only of news for many millennials that is people under 35, but even, Caroline, you know this at *The Atlantic*, an enormous amount of our traffic comes from Facebook. We are reliant on the

distribution mechanism in order to meet our readers. What's really interesting about Alexis's piece, which is really brilliant and I really recommend everybody read it, it reads like a horror story in that he doesn't overplay any one detail. He simply places the facts one after another in terms of the news industry's realization of what Facebook is.

Going back the say 2012 or 2013 with a lot of people saying, "Facebook really seems to be quite powerful in terms of driving traffic to our news sites," that's number one. Step number two is when we realized, "Wow, we're really reliant on Facebook in order to meet our monthly numbers. We need this company in order to find our readers. This is the most important portal of news. Then step number three is, "Wait, if Facebook itself is the newspaper of the future, but Facebook doesn't have editors and Facebook doesn't have fact checkers and Facebook doesn't pay journalists, then Facebook is a newspaper that isn't a newspaper. It's actually just an information portal, an information infrastructure that allows for any piece of information to go "viral" whether or not it's true." This is the thing that I think it scaring a lot of people.

If Facebook is a newspaper optimized for attention rather than truthfulness then attention doesn't necessarily gravitate to truthfulness, it gravitates to gossip or to outrage or to emotions, to anger and indignation. You can make someone angry and outraged and indignant by lying to them. This is the easiest way probably to make someone to feel something very emotional is to tell them a story that isn't true.

Now, as we begin to realize that Facebook is this infrastructure that allows for any piece information to go "viral," that means *The Atlantic* and *The New York Times* and all of our competitors and friends throughout the truth telling media ecosystem are competing with fabricators and propagandas. When you attach that to the fact that these fabricators and propagandas are working for certain political groups then the implication for democracy are really scary because it means that United States is no longer living within the same country when it comes to what the news is and what the truth is about our nation. We're living in countries of our own creation optimized for personal attention and not for truth telling.

Caroline Kitchener:

One of our members, Barbara, she wrote into us concerned about the ways in which media companies are clearly trying to compete in the social media age. She is concerned specifically with the change in headlines that media companies choose to share on social media.

She referenced this *New Yorker* piece that was shared under Facebook under the title, "Toys R Us and the Trump Voter." Well, first of all, this piece had a different headline on the *New Yorker* website, but she also says that the piece really had very little to do with that headline. She felt that it was an attempt to make the story more sexy and make people click on it. Is that a new thing or is that something that media companies have been doing since the start of social

media ...trying to package their content in a way that will make people click rather than, rather than a way that is accurate?

Derek Thompson:

It's a great question and thank you, Barbara, for asking it. I would say two points come to mind. The first point is that news organizations have been sneakily lying with headlines for hundreds of years. This is not a social media phenomenon. It's a headline phenomenon. There's an old thought in journalism that says the key to writing catchy headlines is simplify and exaggerate. Simplify and exaggerate.

This is not an axiom that was invented in 2003. This is an axiom that is decades' old. This has been happening for forever in news. The fact that it's been happening forever though doesn't make it right. It just makes them familiar, it just makes it old. I think that serious news organization like the *New Yorker*, like *The Atlantic*, are constantly wrestling with this question of, how do we make our headline as interesting as possible while maintaining that key element of truth?

If we write a headline that is about Toys R Us bankruptcy that has nothing to do with Donald Trump, but we notice that people only want to read articles that include the word Trump then this question will arise, should we put the word Trump in the headline? Well, on the one hand yes, you might get a few more clicks from people who are going to click on basically anything that has the word Trump in a headline on their Facebook or on their Twitter feed. As Barbara's message indicates, a small amount of trust is lost on the part of the news organization when they lie to readers about what's in these articles. Actually, Alexis Madrigal, the author of the Facebook piece we're just talking about, and I have talked a lot about headline optimization and how to write the perfect headline that both accurately frames the story and allows for the strongest possible truthful dramatization of the story because that's what you want to do in a headline.

With this piece though or with pieces like this that lie to readers, what you get is readers reacting to the fib by saying the next time I see a *New Yorker* headline I might trust it 5% less. If they feel lied to again, they'll trust that news organization another 5% less and another 5% less, 5% less. It's not like all of a sudden one bad headline destroys that brand's veracity or that brand's equity in the minds of readers, but over time a seemingly deliberate strategy to lie to readers is bad for news organizations.

That's why I know at *The Atlantic*, I have this conversation with my editor all the time, we grapple with this question. How do we dramatize the headline without lying? How do we walk that very fine line between powerful emotionality and truth? It's a great question.

Caroline Kitchener:

Turning away from media but staying on the question of big tech. Andrew wants to know to what extent do big companies like Google and Facebook depend on revenue generated by the sale of user's personal data?

Derek Thompson:

Well, Facebook and Google make the vast, vast, vast majority of their revenue, I would guess over 85 over 90%, from advertising, from display advertising. The way display advertising works essentially is that you have a certain every individual, Andrew, me, Derek, you Caroline, has a certain psychographic profile that Facebook has gathered both from information that I give it directly, like my birthday, and interactions that I have on the site like articles that I like and stories that I spend time on reading. They have a sense of how old I am, where I live, my propensity to be liberal, my propensity to be conservative, my propensity to Bonobos, buy pants from J.Crew. They have models of all of this and I am considered a part of a certain psychographic, even in terms of where I live.

What Facebook can do with this information is either very canny if you are an advertising person or perhaps a little bit scary if you're someone who's very precious about their personal information. Facebook can do this. They can say, "All right, Derek is part of a group of 1,000 people living in the East Village of Manhattan who have a certain propensity to buy J.Crew chino pants that are blue." I mean, they can go very, very specific.

What they'll do is this. It's really brilliant. They'll say, we'll divide this thousand-person group in half and we'll show half of this group an advertisement for J.Crew chino blue pants and we'll deprive the other half of that advertisement on their newsfeed. From that they can measure exactly how successful that advertisement is at converting people just like Derek into J.Crew pants buyers. I mean, when you step back, putting privacy concerns aside, you step back and it's brilliant. It does give these companies a perfect indication of how valuable this little square on Facebook is.

On the one hand, Facebook is answering with strategies like this an age-old question, can we be persuaded? Can we be manipulated? How persuadable and how manipulatable are we to buy certain things, to vote for certain people based on certain messaging, the frequency of that messaging and even the style of that advertisement, right? Are we more likely to buy those pants if it says, "Buy the pants now," or more like to buy them when they use social influence and say, "Hey, Derek, your friend Caroline shopped at J.Crew recently, you should too." They can try all sorts of stuff and if someone is fascinated by psychology, I think this is holy grail level interesting to me. It also is a little bit scary and as consumers of social media and digital advertising sites that are free, that old adage is once again true. If you're using a product that is free, you are probably the product. You are being sold and indeed we are being sold. We're being bundled up and put into psychographic categories and sold to J.Crew. That is the purpose of an advertising platform.

Yes, they do depend on revenue generated by our data. This is what makes them valuable. This is what makes them two of the most valuable companies in the world and whether or not you are either both interested in it or scared by it is a perspective that I think there's probably a lot of diversity on this call. There's

certainly a lot of diversity I think even in *The Atlantic*'s newsroom on the degree to which this is interesting versus good.

Caroline Kitchener:

Well, I have a lot more. I have many more questions about that but we're tight on time and we have a bunch of member questions about work, the work that you have done on work. I want to turn over to that. Sam has been reading you for a while, he references a cover story that you wrote in July 2015 about what a world without work might look like and he asked in the intervening years, how far have we progressed toward that vision? It would be great if you could give a little snapshot of what that story was saying and then talk about where we've come since then.

Derek Thompson:

Sure. Yeah. The story which, right, was a cover story two years ago, was about this idea that there were lots of technologists predicting a future without work, predicting that automation and robots and algorithms and software would eventually come to be able to do most of the work in retail and many manufacturing and throughout the US economy. I wanted to ask the question, "Okay, then what? How would we deal with this? Does work matter to human psychology or if the robots can do it, can we simply relax and hang out?

One thing that I came up with is a three-part definition of work. Work is money first of all. It is the way that the vast, vast majority of us earn money or certainly all of us until retirement. Two, work is actual product, it is the sewing of socks, the writing of code, the shaping of metal and then finally work is purpose, it is meaning. It is in many ways how we define ourselves, how we identify our individuality. If you go to a party or you go to any sort of gathering, a conference, one of the first questions is, what do you do? That is the first question about individuality: what is your job? What happens when jobs go away for a lot of people? These are the questions I was asking.

In terms of how far we have progressed, I think there's a couple of important things to point out. First, in the piece, I mentioned that we probably wouldn't see any signs of this until the next recession or the recession after that because a vast, vast majority of changes to the workforce don't happen during recoveries but happen during recessions. One brief factoid about that is that it's largely understood that manufacturing in the US in terms of employment is in structural decline. I mean, this is simply true that manufacturing used to employ about a third of people in the workforce and that was about 11% so it's clearly declined. If you only looked at periods of growth in the economy for changes in manufacturing employment, you'd actually find that manufacturing jobs have grown since 1960s because more than 100% of the decline in manufacturing jobs has happened during recessions.

This is really important because it suggests that if we're interested in validating the technologist's thesis that machines are going to take human jobs, you can't pay too much attention during recoveries. You have to pay a lot of attention to recessions and the period immediately following recessions. Why the incredibly

long preamble, and I'm sorry for that? It's because if you look at the unemployment rate right now it's extremely low. It's been under 5% for I think more than a year and a half. If you look at wages, wages seem to be growing, especially at the bottom. Even prime age participation rate seems to be growing so there's lots and lots of individual statistics that suggest that a future without work isn't anywhere close. It's way away the future if it's happening at all because look how much work there is to do and how many people we need to do it.

I think that's a very fair point and I use that point not only in the cover story but also I've written a lot since then about how there is not a lot of data suggesting that a world without work is anywhere close to now but again, I go back to my point about recession. That the time to look for structural changes to the labor force, the time to look is in the middle of recessions and immediately after recession. That's when the big changes tend to happen. Right now, what you see actually is the US economy adding jobs in a lot of sectors that are really surprising... like I think restaurant jobs have grown more than healthcare in the first half of this year which is remarkable.

Restaurants are now one of the major growth industries for the US labor force which is a huge change from most of the 20th century and those are the changes that I'm not sure are going to last during a recession or after. I'm glad that Andrew asked this question. I'm constantly buried in Bureau of Labor Statistics data about what the labor force is doing and where it's going and I can offer updates every six months if that thing is appreciated but right now, the labor force is really doing quite well.

Caroline Kitchener: It's fascinating. It's not a narrative you hear that often.

Derek Thompson: Yeah.

Caroline Kitchener: Okay. Now, we've got Dan, he is asking, has the distraction of technology in

social media had a measurable effect on worker productivity or the economic

slowdown over the last decade?

Derek Thompson: It is a great question and people have tried to answer it but non-satisfactorily.

Here's the reason why it's difficult to answer. Productivity at least as measured by the government has actually been in structural decline since the 1960s and I joke in my cover story on X that this is a little bit ironic because the discipline of creativity research in psychology was essentially founded in the late 1950s, early 1960s. Like, we've been creative for thousands of years but the actual academic study of creativity is really only about 60 years old and practically all of the decade during which creativity research has been emerging, quantitative measures of US creativity have been potentially declining as the productivity has

decreased.

There are lots of reasons to why productivity might be down, one might be measurement. I could talk about that for an hour but methodological measures of productivity might not be the most interesting thing for this call but basically, there are a lot of economists who essentially say, "Productivity is fine, it's just that we don't know how to measure it anymore." That's one. Number two is that as any country gets older, it's possible that it becomes less productive. Again, advanced economies have, their average age has grown as social media technologies have bloomed. These are two completely secular trends. Like the aging of America and the growth of Facebook have nothing to do with each other but both might be forces that hold down labor force productivity theoretically.

I guess the long answer short is that A, productivity seems to be in the long-term funk; B, social media distractions seem to be in a long-term growth pattern; C, it's difficult to tie the two together because there are so many other variables, so many other ingredients in this jambalaya, that it's really hard to prove that one thing is causing another.

Caroline Kitchener:

One of the productivity conversations that we have a lot is, is it more productive to work from home? Is it more productive to work in an office? What's interesting is that we're now seeing companies like IBM calling workers back into the office, which I think a lot of people didn't expect with all the advancements in technology. A lot of people think technology was supposed to make it easier to work from home. Why are we seeing this trend of employees flocking back into the office and is it backed up by research that we are more productive when we are in a designated workspace?

Derek Thompson:

Again, the research on this is kind of mixed. There are studies that suggest that workplaces that are concentrated are more productive and there's also research that suggests that working from home can be more productive as well, especially for certain types of workers who can be distracted by too much social interaction. I think that it's important to remember that organizations have interests other than maximizing the productivity of individual workers, which is to say that, let's say working from home makes an individual more productive on a day in, day out basis but also makes that employee more likely to leave the company because they feel less of a social inclusion with that company. They feel less of a social tie to other workers because they're only on slack, they're only working from their couch. They never see the people they work with and so they don't have a touchy feely relationship with their place of work. This makes them more likely to be peeled off by competing companies.

If it indeed is the fact that people are more likely to leave when they work remotely even when they're more productive, then for IBM, they might be thinking, "Well, look! If you're more productive in a six-month basis but then we have to hire your replacement after seven months and hiring to replace the productive worker is unbelievably labor-intensive, which is very unproductive, right?"

Caroline Kitchener: F

Right.

Derek Thompson:

You can see how this is a complicated issue and I think a lot of companies are wrestling with this, particularly at a time low in unemployment right now, you have workers who have power, right? There's a lot of job opportunities out there, a lot of job openings. That means that a lot of high productivity workers are eyes out the window thinking, "Where I can I jump to next? What's more prestigious? What can it give me a 20% pay bump? What's going to give me even better benefits? I wonder if something else is out there." If you're a company that allows this individual to work from home, on the one hand it may be you're allowing them to hang out with their kids more, hang out with their wife more or just not have to make the morning commute and they're happier that way and are more likely to stay with the company...

For now, but what if another company comes along and says, "We want to give you a 20% pay bump?" That individual might say, "I don't have any relationship with my office. No one's feelings are going to be hurt if I leave this company. I'll just go." I think it's a complicated issue and again, I think it's important to look not only at the productivity numbers as well as the retention numbers in thinking about whether or not working from home is the right strategy for any particular company.

Caroline Kitchener:

I haven't thought about that. It's been so interesting to watch so many of these big tech companies create very attractive campuses which essentially model college and make life so easy with all kinds of amenities that just make life better for the worker and make them want to come to work every day.

Derek Thompson:

Yeah. I mean, there's clearly been a move to do that and it's a lot to do with the fact that you have a lot of young people who have come from incredibly well-stocked college campuses demanding the same thing from their new companies and the new companies essentially trying to recreate a collegiate atmosphere on a corporate campus.

Caroline Kitchener:

Yeah, with the community aspect of as well. Okay. In our last few minutes here, I do want to touch on your fantastic cover story in the November issue on X or, as I thought it was called, Google X. For everybody who hasn't read the piece yet, what is X?

Derek Thompson:

X is the moonshot factory at Alphabet which is the parent company of Google. Technically, X and Google are both companies within alphabet but basically all the profits, all the revenue, is coming from Google. What does X do? It basically works on moonshots which are crazy big bets on the parent company of Google so technically X and Google are both companies within Alphabet but basically all the profits, all the revenue is coming from Google. What does X do? It basically works on moonshots which are crazy big bets on the future. This is an organization that's working on self-driving cars, they're working on drones. They're working on contact lenses that measure glucose in a diabetic person's

tears. They have invested cold fusion and hover boards and space elevators and air ships that never had to land. Basically, they work on all the hardest most awesomely weird stuff that you might imagine might populate the future of our great nation.

It was incredibly fun to go into their secretive lab, go into their campus, interview their CEO, ask her, tell her, interview their chief engineers and their product managers and just all sorts of people throughout the company to figure out how do they think. What is different about a mind that's working on radical creativity versus a mind that's working on incremental innovation and I think that an important distinction is that it's not so much that they are smarter or that they have more time to sit in a darkened room and just close their eyes, smell the smoke emerging from Indian leaves.

Honestly, what it really is about is a corporate tolerance for failure. If you are only working on the hardest stuff in the world, you're going to fail a lot because the hardest stuff in the world is by definition hard. If it was easy then you'd never fail, and it's really interesting to ask them, how do you build a corporate environment that is allowing of and even inviting of brave failure, smart failure, betting on this best possible answer to complicated questions knowing that for now the question might unanswerable? Whether it's devising the next widget for the drone of the future or figuring out how to get a balloon to fly, 70,000 feet over the earth and transmit internet to some remote village in Peru, these are the sorts of ideas they're working on. It's all incredibly difficult awesome stuff but one of the most important things is how deep do they think about failure and so two quick things that they do.

One, they actually, if they think that a group of people have worked on a project as hard as possible and then decided to shut it down and save the company resources, they'll pay those people a bonus and this is called a failure bonus sometimes because in a way you are paid a bonus in order to fail.

Caroline Kitchener: I love that.

Derek Thompson: Some people that I've talked to, they're like that doesn't make any sense. This is

stupid. Bonuses are incentives, you incentivize success. You incentivize failure, you'll get more of it. That's basic economics. Well, yeah, but this is also basic economics. All of us here are familiar with certain teams at certain companies that are allowed to work forever on a project that never does anything, how efficient is that? It's incredibly inefficient to pay a group of people month in and

month out to work on something that is never going to work out.

Far better to incentivize them to end that project as soon as they realize the project is unfeasible. That's why you pay failure bonuses. That's a really subtly brilliant idea. The second thing they have is an annual celebration of sorts. Dia de Muertos for failures at the company where people get up and talk about,

very emotionally sometimes, their biggest failure that year, something they worked on and loved but didn't work out.

Sometimes you believe and talk about losses in the family or failed relationships, it's basically a day for people to hug each other about their failures in the previous year and again, I can imagine people saying, that's way too touchy feely—that could never work out at my organization. But it's important to realize that people go to work to succeed. They go to work to feel good about themselves, to get pats in the back and high fives and thumbs up either virtually or literally palms on their back.

Not every work project ends with success and it's important to build in structures ways for people to take enormous shots knowing that failure might come and then to still have that pat on the back that says, "I know you did your best even if this didn't work out and I applaud you for doing your best."

Caroline Kitchener:

Google X or X, do you think that this is going to be something that a lot of the big tech companies do? Are we going to see these radical creativity incubators from Facebook and Amazon? Is that coming down the pipeline?

Derek Thompson:

It really could and it really could for two reasons. First, you've definitely seen that research and development at the government level has declined tremendously since of the golden age of invention in America. There was a period in the 1960s where we were spending three times as much as a share of the economy on research and development at the federal level. It really is terrible how much the US government has gotten out of the work of basic science.

The Trump administration again wants to cut the NIH National Science Foundation by another I think three or four billion collectively. I mean this is terrible stuff, we are eating our seed corn or, as I said in the piece, refusing to plant the seeds of ambitious research and then complaining about the bad harvest several years later when we see productivity numbers go down. It's really important for the federal government to keep dreaming big, so we've outsourced a lot of this work to the corporate sector.

Corporate R&D is up but a lot of that work is, as I said in the piece, more D than R, more incremental development of existing technologies than basic R, research in new stuff. To X's credit, it is working exclusively on really weird new stuff that can help people and really change the world...so that is my brief advertisement for X.

My advertisement against X—because I'm a journalist, not just a marketer for this company that I happen to spend some time at—is twofold. One, because X is working on a lot of hard stuff, they don't have a lot of successful products. Google Glass was potentially their most successful commercialization, or the most famous commercialization that was a relatively famous flop. They also are

the company that incubated Alphabets, a self-driving car company, and that does look pretty successful. It's probably the most advanced self-driving technology in the world.

Also, X only exists because Google is essentially a monopoly, a search advertising monopoly. Facebook is monopolistic as well. Amazon is showing monopolistic signs as well and in a new administration that is more skittish about large companies dominating the economy and more excited about antitrust regulation, I think these companies could be in trouble. Amazon and Apple and Facebook and Google could all be in trouble for showing monopolistic tendencies and indeed some of them have already been fined in Europe for just that.

The reason that this long story actually answers your question. A good way for a company to get on the government's good side or the public's good side is to have a corporate research arm. AT&T in the middle of the 20th century was a government sanctioned monopoly that had Bell Labs. Bell Labs was the research lab at AT&T. Bell Labs came up with the transistor. Bell Labs came up with cellular technology, solar cell technology. So much of what we consider to be basis of modern electronics and computer science came from Bell Labs and indeed Bell Labs was sort of a corporate mascot for AT&T.

I do think that it's possible that Facebook and Amazon might try to build their own Xs, thinking this will be a good way for the government to get off of our backs. They'll see that our largesse, our size, allows us to invest in basic science that we're not doing anymore at the federal level. The public will appreciate us for that and will get off our backs because of it. It is an argument that could be made.

Caroline Kitchener:

Yeah, I'm wondering specifically about the public. Do you think that, when people learn about X, they feel better about Google?

Derek Thompson:

Well, there's two things. First, I do think there are people outside of Alphabet who read about X, maybe read my article and maybe skip the last third where I'm more critical about the company and it's a place for tech ecosystem, who are like, "Wow, X is awesome and X is Google X and Google is Google and if X is great then Google is great." They'll just make that mental mash happen and they'll have happier feelings about Google because of X...that's possible.

The other thing that's possible though, as I suggest in the piece, is that people inside of Google might feel better about Google because of X. People might be more likely to work for Google because they say, "Google is still a place that does big things because I heard that X is working on balloons to distribute internet and cars that drive themselves." Google might not only be able to keep people because of X but it might also be able to draw people to Google or to another place at Alphabet because X beams out this corporate signal that represents the idealism of the company.

I think it's a complicated story. I also think that people on this call are clearly a little bit nervous about big tech. Journalists certainly talk about the dangers of Google and Facebook all the time, partly for reasonable reasons but also partly because Google and Facebook are advertising duopolies that threaten our publishing model. So it's self-interested for us to be concerned about Facebook and Google's growing role in the news and ad ecosystem.

For the most part, tech companies are really popular outside of this call, outside of our newsroom, outside of the rare people that read *The Atlantic* disproportionately in the world. Most people love Google and Facebook and Amazon. These are companies that make their lives easy and convenient and cheap. So I think that as certain journalists build a case against what Facebook has done to democracy, what Google has done to the news ecosystem or to the advertising world or what Amazon is doing to mom & pop stores, et cetera, there are a lot of people who just adore these companies for their efficiency.

Caroline Kitchener: Okay, well, we are about 10 minutes over time. I feel like these industries are

changing so quickly—we need to do another check in in a couple of months. This was great, Derek. Thank you so much everybody for listening in. Thank you, Derek, for taking the time to be with us. We will talk to you next week. We've got Vann Newkirk coming in, he's an *Atlantic* staff writer and he's going to be

talking about health care. We will talk to you then. Bye everybody.

Derek Thompson: Bye guys.