

PRINCETON UNIVERSITY PRESS
Princeton and Oxford



THE DAILY ME

In 1995, MIT technology specialist Nicholas Negroponte prophesied the emergence of "the Daily Me." With the Daily Me, he suggested, you would not rely on the local newspaper to curate what you saw, and you could bypass the television networks. Instead, you could design a communications package just for you, with each component fully chosen in advance.¹

If you want to focus only on basketball, you could do exactly that. If your taste runs to William Shakespeare, your Daily Me could be all Shakespeare, all the time. If you like to read about romances—perhaps involving your favorite celebrities—your newspaper could focus on the latest love affairs, or who's breaking up with whom. Or suppose that you have a distinctive point of view. Maybe your views are left of center, and you want to read stories fitting with what you think about climate change, equality, immigration, and the rights of labor unions. Or maybe you lean to the right, and you want to see conservative perspectives on those issues, or maybe on just one or two, and on how to cut taxes and regulation, or reduce immigration.

Perhaps what matters most to you are your religious convictions, and you want to read and see material with a religious slant (your own). Perhaps you want to speak to and hear from your friends, who mostly think as you do; you might hope that all of you will share the same material. What matters is that with the Daily Me, everyone could enjoy an *architecture of control*. Each of us would be fully in charge of what we see and hear.

In countless domains, human beings show "homophily": a strong tendency to connect and bond with people who are like them. The tendency to homophily is dampened if people live within social architectures that expose them to diverse types of people—in terms of perspectives, interests, and convictions. But with an architecture of control, birds of a feather can easily flock together.

In the 1990s, the idea of a Daily Me seemed more than a little absurd. But it's looking astoundingly good. If anything, Negroponte understated what was coming, what has now arrived, and what is on the horizon. Is that a promise or a threat? I think it's both—and that the threatening part is what needs to be emphasized, not least because so many people see it as pure promise.

True, there's no Daily Me, at least not quite yet. But we're getting there. Most Americans now receive much of their news from social media, and all over the world, Facebook has become central to people's experience of the world. It used to be said that the "Revolution Will Not Be Televised"; maybe or maybe not, but you can be pretty sure that the revolution will be tweeted (#Revolution). In 2016, for example, the military attempted a coup in Turkey. It succeeded in seizing the nation's major television network. But it failed to take over social media, which the government and its supporters successfully used to call the public to the streets and, in short order, to stabilize the situation. Coup attempts often stand or fall on public perceptions of whether they are succeeding, and social media played a major role in combating the perception that the government was falling.

When people use Facebook to see exactly what they want to see, their understanding of the world can be greatly affected. Your Facebook friends might provide a big chunk of the news on which you focus, and if they have a distinctive point of view, that's the point of view that you'll see most. I worked in the Obama administration, and so did a number of my Facebook friends, and what I see on my Facebook page often fits the interests and views of the kind of people who worked in the Obama administration. Is that an unalloyed good? Probably not. And I have conservative friends whose Facebook pages look radically different from mine, and in ways that fit with their political convictions. We are living in

different political universes—something like science fiction's parallel worlds. A lot of the supposed news is fake.

Your Twitter feed might well reflect your preferred topics and convictions, and it might provide much of what you see about politics—taxes, immigration, civil rights, and war and peace. What comes in your feed is your choice, not anyone else's. You might well choose to include topics that interest you, and points of view that you find congenial. In fact that seems quite natural. Why would you want topics that bore you and perspectives that you despise?

ALGORITHMS AND HASHTAGS

As it turns out, you do not need to create a Daily Me. Others are creating it for you right now (and you may have no idea that they're doing it). Facebook itself does some curating, and so does Google. We live in the age of the algorithm, and the algorithm knows a lot.² With the rise of artificial intelligence, algorithms are bound to improve immeasurably. They will learn a great deal about you, and they will know what you want or will like, before you do, and better than you do. They will even know your emotions, again before and better than you do, and they will be able to mimic emotions on their own.

Even now, an algorithm that learns a little bit about you can discover and tell you what "people like you" tend to like. It can create something close to a Daily Me, just for you, in a matter of seconds. In fact that's happening every day. If the algorithm knows that you like certain kinds of music, it might know, with a high probability, what kinds of movies and books you like, and what political candidates will appeal to you. And if it knows what websites you visit, it might well know what products you're likely to buy, and what you think about climate change and immigration.

A small example: Facebook probably knows your political convictions, and it can inform others, including candidates for public office, of what it knows. It categorizes its users as very conservative, conservative, moderate, liberal, and very liberal. It does so

by seeing what pages you like. If you like certain opinions but not others, it is easy to put together a political profile. If you mention certain candidates favorably or unfavorably, categorization is easier still. By the way, Facebook doesn't hide what it is doing. On the Ad Preferences page on Facebook, you can look under "Interests," and then under "More," and then under "Lifestyle and culture," and finally under "US Politics," and the categorization will come right up.

Machine learning can be used (and probably is being used) to produce fine-grained distinctions. It is easy to imagine a great deal of sorting—not just from the political right to the political left, but also with specifics about the issues that you care most about, and your likely views on those issues (immigration, national security, equality, and the environment). To say the least, this information can be useful to others—campaign managers, advertisers, fundraisers and liars, including political extremists.

Or consider the hashtag. With #Ireland, #SouthAfrica, #DemocratsAreCommunists, or #ClimateChangeIsAHoax, you can find in an instant a large number of items that interest you, or that fit with or even fortify your convictions. The whole idea of the hashtag is to enable people to find tweets and information that interests them. It's a simple and fast sorting mechanism. You can create not merely a Daily Me but rather a MeThisHour or a MeNow. (#MeNow? I thought I just made that up, but of course it's in common use.) Many people act as hashtag entrepreneurs; they create or spread hashtags as a way of promoting ideas, perspectives, products, persons, supposed facts, and eventually actions.

Many of us are applauding these developments, which can obviously increase fun, convenience, learning, and entertainment. Almost no one wants to see advertisements for products that don't interest them. If they're bored by stories about France's economy, why should they have to see such stories on their computer screen or their phone?

It is a fair question, but the architecture of control has a serious downside, raising fundamental questions about freedom,

democracy, and self-government. What are the social preconditions for a well-functioning system of democratic deliberation or individual liberty itself? Might serendipity be important, even if people do not want it? Might a perfectly controlled communications universe—a personalized feed—be its own kind of dystopia? How might social media, the explosion of communications options, machine learning, and artificial intelligence alter the capacity of citizens to govern themselves?

As we will see, these questions are closely related. My largest plea here, in fact, is for an *architecture of serendipity*—for the sake of individual lives, group behavior, innovation, and democracy itself. To the extent that social media allow us to create our very own feeds, and essentially live in them, they create serious problems. And to the extent that providers are able to create something like personalized experiences or gated communities for each of us, or our favorite topics and preferred groups, we should be wary. Self-insulation and personalization are solutions to some genuine problems, but they also spread falsehoods, and promote polarization and fragmentation. An architecture of serendipity counteracts homophily, and promotes both self-government and individual liberty.

There is an important clarification. These are claims about the nature of freedom, personal and political, and the kind of communications system that best serves a democratic order. These are not claims about what all or most people are doing. As we will see, many people do like echo chambers, and they very much want to live in them. Many other people dislike echo chambers; they are curious, even intensely so, and they want to learn about all sorts of topics and many points of view. Many people simply gravitate, by default, to the most well-known or popular sites, which do not have a clear ideological orientation. Empirical work confirms these claims, showing that many members of the public are keenly interested in seeing perspectives that diverge from their own, and also that with online browsing, most people spend their time on mainstream sites lacking identifiable political convictions. Many people are open-minded, and their views shift on the basis of what they

learn. Such people have an identifiable civic virtue; they are not too sure that they are right, and they want to discover the truth.

Many other people much prefer to hear opinions that are consistent with their own, but they are also perfectly willing to hear opinions that challenge them; they do not love the idea of an echo chamber, and they do not create one for themselves. In due course, I will have a fair bit to say about how people are actually using websites and social media, and the extent to which people are moving toward an architecture of control. But my central claims are not empirical; they are about individual and social ideals. They are about the kind of culture that is best suited to a well-functioning democracy.

TWO REQUIREMENTS

What I will be emphasizing, then, is people's growing power to filter what they see, and also providers' growing power to filter for each of us, based on what they know about us. In the process of discussing these powers, I will attempt to provide a better understanding of the meaning of freedom of speech in a self-governing society. A large part of my aim is to explore what makes for a well-functioning system of free expression. Above all, I urge that in a diverse society, such a system requires far more than restraints on government censorship and respect for individual choices. For the last several decades, this has been the preoccupation of American law and politics, and in fact the law and politics of many other nations as well, including, for example, Germany, France, England, Italy, South Africa, and Israel. Censorship is indeed the largest threat to democracy and freedom. But an exclusive focus on government censorship produces serious blind spots. In particular, a well-functioning system of free expression must meet two distinctive requirements.

First, people should be exposed to materials that they would not have chosen in advance. Unplanned, unanticipated encounters are central to democracy itself. Such encounters often involve topics and points of view that people have not sought out and perhaps find

quite irritating—but that might nevertheless change their lives in fundamental ways. They are important to ensure against fragmentation, polarization, and extremism, which are predictable outcomes of any situation in which like-minded people speak only with themselves. In any case, truth matters.

I do not suggest that government should force people to see things that they wish to avoid. But I do contend that in a democracy deserving the name, lives—including digital ones—should be structured so that people frequently come across views and topics that they have not specifically selected. That kind of structuring is, in fact, a form of *choice architecture* from which individuals and groups greatly benefit. Here, then, is my plea for serendipity.

Second, many or most citizens should have a wide range of common experiences. Without shared experiences, a heterogeneous society will have a much more difficult time addressing social problems. People may even find it hard to understand one another. Common experiences, emphatically including the common experiences made possible by social media, provide a form of social glue. A national holiday is a shared experience. So is a major sports event (the Olympics or the World Cup), or a movie that transcends individual and group differences (Star Wars is a candidate). So is a celebration of some discovery or achievement. Societies need such things. A system of communications that radically diminishes the number of such experiences will create a range of problems, not least because of the increase in social fragmentation.

As preconditions for a well-functioning democracy, these requirements—chance encounters and shared experiences—hold in any large country. They are especially important in a heterogeneous nation—one that faces an occasional danger of fragmentation. They have even more importance as many nations become increasingly connected with others (Brexit or no Brexit) and each citizen, to a greater or lesser degree, becomes a "citizen of the world." That is a controversial idea, but consider, for example, the risks of terrorism, climate change, and infectious diseases. A sensible perspective on these risks and others like them is impossible to

obtain if people sort themselves into echo chambers of their own design. And at a national level, gated communications communities make it extremely difficult to address even the most mundane problems.

An insistence on chance encounters and shared experiences should not be rooted in nostalgia for some supposedly idyllic past. With respect to communications, the past was hardly idyllic. Compared to any other period in human history, we are in the midst of many extraordinary gains, not least from the standpoint of democracy itself. For us, nostalgia is not only unproductive but also senseless. Things are getting better, not worse.

Nor should anything here be taken as a reason for "optimism" or "pessimism"—two potential obstacles to clear thinking about new technological developments. If we must choose between them, by all means let us choose optimism.4 But in view of the many potential gains and losses inevitably associated with massive technological change, any attitude of optimism or pessimism is far too general to be helpful. Automobiles are great, but in the United States alone, many thousands of people die every year in car crashes. Plastics are a huge advance, but they have created a serious waste disposal problem. What I mean to provide is not a basis for pessimism but instead a lens through which we might understand, a bit better than before, what makes a system of freedom of expression successful in the first place, and what a well-functioning democracy requires. That improved understanding will equip us to understand a free nation's own aspirations, and thus help us to evaluate continuing changes in the system of communications. It will also point the way toward a clearer understanding of the nature of citizenship and its cultural prerequisites.

As we will see, it is much too simple to say that any system of communications is desirable if and because it allows individuals to see and hear what they choose. Increased options are certainly good, and the rise of countless niches has many advantages. But unanticipated, unchosen exposures and shared experiences are important too.

WHY THIS MATTERS: VIOLENCE, PARTYISM, AND FREEDOM

Do echo chambers matter? Exactly why? Some people might not love it if their fellow citizens are living in information cocoons, but in the abstract, that is up to each of us, a reflection of our freedom to choose. If people like to spend their time with Mozart, football, climate change deniers, or *Star Wars*, so what? Why worry?

The most obvious answer is also the narrowest: violent extremism. If like-minded people stir one another to greater levels of anger, the consequences can be literally dangerous. Terrorism is, in large part, a problem of hearts and minds, and violent extremists are entirely aware of that fact. They use social media to recruit people, hoping to increase their numbers or inspire "lone wolves" to engage in murderous acts. They use social media to promote their own view of the world, hoping to expand their reach. The phenomena to be discussed here are contributors to many of the most serious threats we face in the world today.

More broadly, echo chambers create far greater problems for actual governance, even if they do not produce anything like violence or criminality. Most important, they can lead to terrible policies or a dramatically decreased ability to converge on good ones. Suppose (as I believe) that the United States should enact reasonable controls on gun purchases-saying, for example, that those on terrorist watch lists should not be allowed to buy guns, unless they can show that they present no danger. Or suppose (as I also believe) that some kind of legislation controlling greenhouse gas emissions would be a good idea. (Perhaps you disagree with these illustrations; if so, choose your own.) In the United States, political polarization on such issues is aggravated by voters' self-segregation into groups of like-minded people, which can make it far more difficult to produce sensible solutions. Even if the self-segregation involves only a small part of the electorate, they can be highly influential, not least because of the intensity of their beliefs. Public officials are accountable to the electorate, and even if they would much like to reach some sort of agreement, they might find that if they do so, they will put their electoral future on the line. Social media certainly did not cause the problem, but in #Republic, things are worse than they would otherwise be.

I have worked in various capacities with the federal government and met on many occasions with members of Congress. With respect to important issues, Republicans have said to me, "Of course we would like to vote with the Democrats on that one, but if we did, we would lose our jobs." There is no question that behind closed doors, Democrats would on occasion say the same thing about working with Republicans. Both sides are worried about the effects of echo chambers—about an outburst of noisy negativity from segments of constituents, potentially producing serious electoral retribution. Social media increase the volume of that noise, and to that extent, they heighten polarization.

Over the last generation, the United States has seen an explosion in "partyism"-a kind of visceral, automatic dislike of people of the opposing political party. Partyism certainly isn't as horrible as racism; no one is enslaved or turned into a lower caste. But according to some measures, partyism now exceeds racism. In 1960, just 5 percent of Republicans and 4 percent of Democrats said that they would feel "displeased" if their child married outside their political party.5 By 2010, those numbers had reached 49 and 33 percent, respectively-far higher than the percentage of people who would be "displeased" if their child married someone with a different skin color.6 In hiring decisions, political party matters: many Democrats do not want to hire Republicans, and vice versa, to such an extent that they would favor an inferior candidate of their preferred political party.7 Here as elsewhere, we should be cautious before claiming causation; it would be reckless to say that social media and the Internet more generally are responsible for the remarkable increase in partyism. But there is little doubt that a fragmented media market is a significant contributing factor.

By itself, partyism is not the most serious threat to democratic self-government. But if it decreases government's ability to solve serious problems, then it has concrete and potentially catastrophic consequences for people's lives. I have offered the examples of gun control and climate change; consider also immigration reform and even infrastructure—issues on which the United States has been unable to make progress in recent years, in part because of the role of echo chambers. To be sure, the system of checks and balances is designed to promote deliberation and circumspection in government, and prevent insufficiently considered movement. But paralysis was hardly the point—and a fragmented communications system helps to produce paralysis.

There is another problem. Echo chambers can lead people to believe in falsehoods, and it may be difficult or impossible to correct them. Falsehoods take a toll. One illustration is the belief that President Barack Obama was not born in the United States. As falsehoods go, this one is not the most damaging, but it both reflected and contributed to a politics of suspicion, distrust, and sometimes hatred. A more harmful example is the set of falsehoods that helped produce the vote in favor of "Brexit" (the exodus of the United Kingdom from the European Union) in 2016. Even if Brexit was a good idea (and it wasn't), the vote in its favor was made possible, in part, by uses of social media that badly misled the people of the United Kingdom. In the 2016 presidential campaign in the United States, falsehoods spread like wildfire on Facebook. Fake news is everywhere. To date, social media have not helped produce a civil war, but that day will probably come. They have already helped prevent a coup (in Turkey in 2016).

These are points about governance, but, as I have suggested, there is an issue about individual freedom as well. When people have multiple options and the liberty to select among them, they have freedom of choice, and that is exceedingly important. As Milton Friedman emphasized, people should be "free to choose." But freedom requires far more than that. It requires certain background conditions, enabling people to expand their own horizons and to learn what is true. It entails not merely satisfaction of whatever preferences and values people happen to have but also circumstances that are conducive to the free formation of preferences and values.

The most obvious way to curtail those circumstances is censorship and authoritarianism—the boot on the face, captured by George Orwell's *Nineteen Eighty-Four*: "If you want a vision of the future, imagine a boot stamping on a human face—forever." A world of limitless choices is incalculably better than that. But if people are sorting themselves into communities of like-minded types, their own freedom is at risk. They are living in a prison of their own design.

DEATH AND LIFE

Let me now disclose a central inspiration for this book, one that might seem far afield: *The Death and Life of Great American Cities* by Jane Jacobs. Among many other things, Jacobs offers an elaborate tribute to the sheer diversity of cities—to public spaces in which visitors encounter a range of people and practices that they could have barely imagined, and that they could not possibly have chosen in advance. As Jacobs describes great cities, they teem and pulsate with life:

It is possible to be on excellent sidewalk terms with people who are very different from oneself and even, as time passes, on familiar public terms with them. Such relationships can, and do, endure for many years, for decades.... The tolerance, the room for great differences among neighbors—differences that often go far deeper than differences in color—which are possible and normal in intensely urban life... are possible and normal only when streets of great cities have built-in equipment allowing strangers to dwell in peace together.... Lowly, unpurposeful and random as they may appear, sidewalk contacts are the small change from which a city's wealth of public life may grow. 9

Jacobs's book is about architecture, not communications. But with extraordinary vividness, Jacobs helps show, through an examination of city architecture, why we should be concerned about a situation in which people are able to create communications universes of their own liking. Her "sidewalk contacts" need not occur only on sidewalks. The idea of "architecture" should be taken broadly rather than narrowly. Websites have architectures, and so do Facebook, Twitter, YouTube, and Reddit. And acknowledging the benefits that Jacobs finds on sidewalks, we might seek to discover those benefits in many other places. At its best, I believe, a system of communications can be for many of us a close cousin or counterpart to a great urban center (while also being a lot safer, more convenient, and quieter). For a healthy democracy, shared public spaces, online or not, are a lot better than echo chambers.

In a system with robust public forums, such as streets and parks, and general-interest intermediaries, such as daily newspapers and network television, self-insulation is more difficult; echo chambers are much harder to create; and people will frequently come across views and materials that they would not have chosen in advance. For diverse citizens, this provides something like a common framework for social experience. "Real-world interactions often force us to deal with diversity, whereas the virtual world may be more homogeneous, not in demographic terms, but in terms of interest and outlook. Place-based communities may be supplanted by interest-based communities." Consider here the finding that communities that believed the apocalypse was near, and thought the attacks on September 11, 2001, were a clear sign to that effect, used the Internet so as "to insulate" themselves "from the necessarily divergent ideas that might generate more constructive public discussion."

To be sure, we do not yet know whether anything can or should be done about fragmentation and excessive self-insulation. I will take up that topic in due course. For purposes of obtaining understanding, few things are more important than to separate the question of whether there is a problem from the question of whether anything should be done about it. Dangers that cannot be alleviated continue to be dangers. They do not go away if or because we cannot, now or ever, think of decent solutions. It is much easier to think clearly when we appreciate that fact.