Unit 1: Proliferation of Technology

Stimulus Packet

**Context**: There are few aspects of American life that are not impacted by technology. Technological applications fuel our work, our entertainment, and increasingly, our social lives. Technology breeds optimism, offering the potential to solve our most pressing problems, yet it also creates fear, as society seeks to anticipate, and compensate for, the unforeseen consequences that sometimes accompany the ever- increasing fusion of technology and life.

This packet provides a variety of sources, representing diverse topics, perspectives and lenses, to prompt **QUESTIONING, EXPLORATION, UNDERSTANDING** and **ANALYSIS** about this important topic. As you **EVALUATE THE MULTIPLE PERSPECTIVES** in the following documents, consider the following paradoxes surrounding the proliferation of technology:

* How does technology unite people? How does technology isolate people?
* What technological applications inspire optimism for the future? Which applications are cause for concern?
* How does technology inspire an educated, productive populace? How does technology contribute to misinformation and stagnant thought?

**Source 1**

**Genre:** Op Ed

**Lens:** Political

Dear President Trump: Video Games Are So Much More Than 'Violent'

By Greg Miller

*Greg Miller is the award-winning host of Kinda Funny Games Daily, a deep dive into video game news. You can find the show every weekday on youtube.com/kindafunnygames and podcast services.*

On Monday, President Donald Trump did what he does best: He ignored science, lied to the American people and tried to shift blame so his fervent base had something to attack while ignoring the real problem. In the wake of two mass shootings in Texas and Ohio, Trump didn't talk about serious gun reform or why anyone would need an assault rifle in 2019. No, he pointed the finger at video games.

I'm only 36, but I'm exhausted from a lifetime of having this argument with people who don't know what they're talking about.

"We must stop the glorification of violence in our society," Trump said from the White House. "This includes the gruesome and grisly video games that are now commonplace. It is too easy today for troubled youth to surround themselves with a culture that celebrates violence."

I could sit here and refute what Trump is saying, but it's honestly not worth my time or yours. He's wrong. Study after study has proved there is no link between violent video games and violent people. Video games are popular the world over, but only America sees these horrific mass shootings again and again. More than 166 million adults in the United States play games, according to the Entertainment Software Association, and there isn't anarchy in the streets.

Trump's attack on video games is a distraction, a shell game to keep us focused on the latest scapegoat rather than attacking the root of the problem. He doesn't want us to have a serious conversation about firearms in our nation.

However, with video games thrust onto the national stage and with so many new eyes on them, there is a conversation to be had that starts with House Minority Leader Kevin McCarthy's comments from Sunday on Fox News.

"But the idea of these video games that dehumanize individuals to have a game of shooting individuals and others—I've always felt that is a problem for future generations and others," he said. "We've watched from studies shown before of what it does to individuals."

Again, the studies show the exact opposite of what McCarthy is saying, but I want to talk about McCarthy saying that video games "dehumanize" people. In a week where I've listened to a lot of people be wrong, this is the biggest lie I've heard.

When it comes to connecting us as people, video games are the most powerful medium there is.

In the same way that not every movie is a horror movie, not every video game is a first-person shooter. Video games are enjoying a renaissance as an artform. Talented creators from around the world are creating amazing experiences to help us understand one another in ways unimaginable before.

No matter the mood you're in, there's a game for you. Some look as real as a film, some rival Pixar in the animation department, and some are so abstract that you and I would find completely different meanings in them. All of them are works of art that people felt they had to make.

Celeste looks and controls like Super Mario Bros. but challenges players to learn about and deal with anxiety and depression. In Gone Home, players find handwritten notes while exploring an empty house and unravel the story of their sister's coming out and her first relationship. That Dragon, Cancer takes us on a family's autobiographical journey through the life of their terminally ill son.

These games—and the hundreds of games like them—help players be better humans. Maybe it's understanding an experience they've never had, or maybe it's just seeing that they are not alone. In the end, they've learned something, whether they laughed or cried.

And yes, that applies to violent video games.

Spec Ops: The Line was a military shooter critically acclaimed for actually making players question if they—as a U.S. operative—were on the right side of the conflict. Sci-fi game Dead Space saw protagonist and everyman Isaac Clarke have to battle all manner of monster, and its sequel opened with him in a mental hospital due to the ordeal. Even this fall's Call of Duty: Modern Warfare is ditching the bombastic blockbuster luster for a more grounded story, where players are rewarded for correctly identifying threats and not shooting everything that moves.

I haven't even touched on how games like Fortnite give players a community to hang out with online, how more than 80,000 video game fans will gather in Seattle at the end of the month for a convention called PAX West, or how technological advances like the Xbox Adaptive Controller make it so many disabled people can play.

Video games aren't making killers. Video games are making better people. Perhaps Trump and McCarthy should try one.

Citation:

Miller, Greg. “Dear President Trump: Video Games Are So Much More Than Violent.”

Newsweek, 17 Aug. 2019.

**Source 2**

**Genre: Feature Article**

**Lens: Scientific (Medical)**

**Why Are More American Teenagers Than Ever Suffering From Severe Anxiety?**

**By Benoit Denizet-Lewis**

*Benoit Denizet-Lewis is a contributing writer and an assistant professor at Emerson College. His last feature for the magazine was about transgender activists.*

The disintegration of Jake’s life took him by surprise. It happened early in his junior year of high school, while he was taking three Advanced Placement classes, running on his school’s cross-country team and traveling to Model United Nations conferences. It was a lot to handle, but Jake — the likable, hard-working oldest sibling in a suburban North Carolina family — was the kind of teenager who handled things. Though he was not prone to boastfulness, the fact was he had never really failed at anything.

Not coincidentally, failure was one of Jake’s biggest fears. He worried about it privately; maybe he couldn’t keep up with his peers, maybe he wouldn’t succeed in life. The relentless drive to avoid such a fate seemed to come from deep inside him. He considered it a strength.

Jake’s parents knew he could be high-strung; in middle school, they sent him to a therapist when he was too scared to sleep in his own room. But nothing prepared them for the day two years ago when Jake, then 17, seemingly “ran 150 miles per hour into a brick wall,” his mother said. He refused to go to school and curled up in the fetal position on the floor. “I just can’t take it!” he screamed. “You just don’t understand!”

Jake was right — his parents didn’t understand. Jake didn’t really understand, either. But he also wasn’t good at verbalizing what he thought he knew: that going to school suddenly felt impossible, that people were undoubtedly judging him, that nothing he did felt good enough. “All of a sudden I couldn’t do anything,” he said. “I was so afraid.” His tall, lanky frame succumbed, too. His stomach hurt. He had migraines. “You know how a normal person might have their stomach lurch if they walk into a classroom and there’s a pop quiz?” he told me. “Well, I basically started having that feeling all the time.”

Alarmed, Jake’s parents sent him to his primary-care physician, who prescribed Prozac, an antidepressant often given to anxious teenagers. It was the first of many medications that Jake, who asked that his last name not be used, would try over the next year. But none seemed to work — and some made a bad situation worse. An increase in dosage made Jake “much more excited, acting strangely and almost manic,” his father wrote in a journal in the fall of 2015. A few weeks later, Jake locked himself in a bathroom at home and tried to drown himself in the bathtub.

He was hospitalized for four days, but soon after he returned home, he started hiding out in his room again. He cried, slept, argued with his parents about going to school and mindlessly surfed the internet on his phone. The more school he missed, the more anxious he felt about missing school. And the more anxious he felt, the more hopeless and depressed he became. He had long wanted to go to the University of North Carolina at Chapel Hill, but now that felt like wishful thinking.

Not every day was bad. During spring break in 2016, Jake’s father wrote: “Jake was relaxed and his old sarcastic, personable, witty self.” A week later, though, Jake couldn’t get through a school day without texting his mother to pick him up or hiding out in the nurse’s office. At home, Jake threatened suicide again. His younger siblings were terrified. “It was the depth of hell,” his mother told me.

That summer, after two more hospitalizations, Jake’s desperate parents sent him to Mountain Valley in New Hampshire, a residential treatment facility and one of a growing number of programs for acutely anxious teenagers. Over the last decade, anxiety has overtaken depression as the most common reason college students seek counseling services. In its annual survey of students, the American College Health Association found a significant increase — to 62 percent in 2016 from 50 percent in 2011 — of undergraduates reporting “overwhelming anxiety” in the previous year. Surveys that look at symptoms related to anxiety are also telling. In 1985, the Higher Education Research Institute at U.C.L.A. began asking incoming college freshmen if they “felt overwhelmed by all I had to do” during the previous year. In 1985, 18 percent said they did. By 2010, that number had increased to 29 percent. Last year, it surged to 41 percent.

Those numbers — combined with a doubling of hospital admissions for suicidal teenagers over the last 10 years, with the highest rates occurring soon after they return to school each fall — come as little surprise to high school administrators across the country, who increasingly report a glut of anxious, overwhelmed students. While it’s difficult to tease apart how much of the apparent spike in anxiety is related to an increase in awareness and diagnosis of the disorder, many of those who work with young people suspect that what they’re seeing can’t easily be explained away. “We’ve always had kids who didn’t want to come in the door or who were worried about things,” says Laurie Farkas, who was until recently director of student services for the Northampton public schools in Massachusetts. “But there’s just been a steady increase of severely anxious students.”

For the teenagers who arrive at Mountain Valley, a nonprofit program that costs $910 a day and offers some need-based assistance, the center is usually a last resort after conventional therapy and medications fail. The young people I met there suffered from a range of anxiety disorders, including social anxiety, separation anxiety, post-traumatic stress disorder and obsessive-compulsive disorder. (Though OCD and PTSD are considered anxiety disorders at Mountain Valley and other treatment centers, they were moved into separate categories in the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders.)

Mountain Valley teenagers spend a lot of time analyzing — and learning to talk back to — their anxious thoughts. During one group session in the summer of 2016 in a sunlit renovated barn with couches, a therapist named Sharon McCallie-Steller instructed everyone to write down three negative beliefs about themselves. That’s an easy exercise for anxious young people (“Only three?” one girl quipped), but McCallie-Steller complicated the assignment by requiring the teenagers to come up with a “strong and powerful response” to each negative thought.

She asked for volunteers. First, residents would share their negative beliefs and rebuttals with the group. Then others would act those out, culminating in a kind of public performance of private teenage insecurity.

Jake raised his hand. By then, he was in his third month at Mountain Valley, and he looked considerably less anxious than several of the newcomers, including one who sat slumped on a couch with his head in his hands. “I’m free to play the part of terrible, evil thoughts for anyone who needs them,” Jake said with a smile. He had already spent weeks challenging his own thinking, which often persuaded him that if he failed a single quiz at school, “then I’ll get a bad grade in the class, I won’t get into the college I want, I won’t get a good job and I’ll be a total failure.”

At Mountain Valley, Jake learned mindfulness techniques, took part in art therapy and equine therapy and, most important, engaged in exposure therapy, a treatment that incrementally exposes people to what they fear. The therapists had quickly figured out that Jake was afraid of failure above all else, so they devised a number of exercises to help him learn to tolerate distress and imperfection. On a group outing to nearby Dartmouth College, for example, Jake’s therapist suggested he strike up conversations with strangers and tell them he didn’t have the grades to get into the school. The college application process was a source of particular anxiety for Jake, and the hope was that he would learn that he could talk about college without shutting down — and that his value as a person didn’t depend on where he went to school.

Though two months in rural New Hampshire hadn’t cured Jake of anxiety, he had made significant progress, and the therapy team was optimistic about his return home for his senior year. Until then, Jake wanted to help other Mountain Valley teenagers face their fears.

Among them was Jillian, a 16-year-old who, when she wasn’t overwhelmed with anxiety, came across as remarkably poised and adultlike, the kind of teenager you find yourself talking to as if she were a graduate student in psychology. Jillian, who also asked that her last name not be used, came to Mountain Valley after two years of only intermittently going to school. She suffered from social anxiety (made worse by cyberbullying from classmates) and emetophobia, a fear of vomit that can be so debilitating that people will sometimes restrict what they eat and refuse to leave the house, lest they encounter someone with a stomach flu.

Jillian listened as Jake and other peers — who, in reality, liked her very much — voiced her insecurities: “I can’t believe how insignificant Jillian is.” “I mean, for the first three weeks, I thought her name was Susan.” “If she left tomorrow, maybe we wouldn’t even miss her.”

At the last one, Jillian’s shoulders caved, and her eyes watered. “I don’t want to do this,” she said, looking meekly at McCallie-Steller.

“If it’s too much, you can stop,” the therapist said, but Jillian considered the offer only long enough to reject it. She straightened her back. “No, I feel like I need to do this,” she announced. “I have a week and a half left. If I can’t get through something like this here ...”

Her voice trailed off, but the implication was clear: The real world would be much more anxiety producing — and much less forgiving.

Anxiety is the most common mental-health disorder in the United States, affecting nearly one-third of both adolescents and adults, according to the National Institute of Mental Health. But unlike depression, with which it routinely occurs, anxiety is often seen as a less serious problem.

“Anxiety is easy to dismiss or overlook, partially because everyone has it to some degree,” explained Philip Kendall, director of the Child and Adolescent Anxiety Disorders Clinic at Temple University in Philadelphia. It has an evolutionary purpose, after all; it helps us detect and avoid potentially dangerous situations. Highly anxious people, though, have an overactive fight-or-flight response that perceives threats where there often are none.

But sometimes there are good reasons to feel anxious. For many young people, particularly those raised in abusive families or who live in neighborhoods besieged by poverty or violence, anxiety is a rational reaction to unstable, dangerous circumstances. At the Youth Anxiety Center’s clinic in the Washington Heights neighborhood of Manhattan, which serves mostly poor and working-class Hispanic youth, teenagers would object to the definition of anxiety I heard often at Mountain Valley: “The overestimation of danger and the underestimation of our ability to cope.”

“The fears can be very real for our kids,” explained Carolina Zerrate, the clinic’s medical director. “Oftentimes their neighborhoods are not safe, their streets are not safe and their families can feel unsafe if there’s a history of trauma and abuse.” The contemporary political climate can also feel “incredibly unsafe for the community of kids we serve,” Zerrate adds, explaining that many have undocumented family members.

And yet addressing anxiety is low on the priority list in many economically disadvantaged communities. Kids who “act out” are often labeled defiant or aggressive, while those who keep to themselves — anxiety specialists call them “silent sufferers” — are overlooked or mistaken for being shy. “If you go to a public school in a struggling urban area, teachers will talk about drugs, crime, teen pregnancy, violence,” Kendall says. “When you start to talk about anxiety, they’re like, ‘Oh, those are the kids we like!’ ”

Teenagers raised in more affluent communities might seemingly have less to feel anxious about. But Suniya Luthar, a professor of psychology at Arizona State University who has studied distress and resilience in both well-off and disadvantaged teenagers, has found that privileged youths are among the most emotionally distressed young people in America. “These kids are incredibly anxious and perfectionistic,” she says, but there’s “contempt and scorn for the idea that kids who have it all might be hurting.”

For many of these young people, the biggest single stressor is that they “never get to the point where they can say, ‘I’ve done enough, and now I can stop,’ ” Luthar says. “There’s always one more activity, one more A.P. class, one more thing to do in order to get into a top college. Kids have a sense that they’re not measuring up. The pressure is relentless and getting worse.”

It’s tempting to blame helicopter parents with their own anxiety issues for that pressure (and therapists who work with teenagers sometimes do), but several anxiety experts pointed to an important shift in the last few years. “Teenagers used to tell me, ‘I just need to get my parents off my back,’ ” recalls Madeline Levine, a founder of Challenge Success, a Stanford University-affiliated nonprofit that works on school reform and student well-being. “Now so many students have internalized the anxiety. The kids at this point are driving themselves crazy.”

Though there are cultural differences in how this kind of anguish manifests, there’s considerable overlap among teenagers from different backgrounds. Many are anxious about school and how friends or teachers perceive them. Some obsess about family conflicts. Teenagers with OCD tend to worry excessively about what foods they should eat, diseases they might contract or whatever happens to be in the news that week. Stephanie Eken, a psychiatrist and the regional medical director for Rogers Behavioral Health, which runs several teenage-anxiety outpatient programs across the country and an inpatient program in Wisconsin, told me that in the last few years she has heard more kids than ever worry about terrorism. “They wonder about whether it’s safe to go to a movie theater,” she said.

When I asked Eken about other common sources of worry among highly anxious kids, she didn’t hesitate: social media. Anxious teenagers from all backgrounds are relentlessly comparing themselves with their peers, she said, and the results are almost uniformly distressing.

Anxious kids certainly existed before Instagram, but many of the parents I spoke to worried that their kids’ digital habits — round-the-clock responding to texts, posting to social media, obsessively following the filtered exploits of peers — were partly to blame for their children’s struggles. To my surprise, anxious teenagers tended to agree. At Mountain Valley, I listened as a college student went on a philosophical rant about his generation’s relationship to social media. “I don’t think we realize how much it’s affecting our moods and personalities,” he said. “Social media is a tool, but it’s become this thing that we can’t live without but that’s making us crazy.”

In his case, he had little doubt that social media made him more self-conscious. “In high school, I’d constantly be judging my self-worth online,” he told me, recalling his tortured relationship with Facebook. “I would think, Oh, people don’t want to see me on their timeline.”

While smartphones can provoke anxiety, they can also serve as a handy avoidance strategy. At the height of his struggles, Jake spent hours at a time on his phone at home or at school. “It was a way for me not to think about classes and college, not to have to talk to people,” he said. Jake’s parents became so alarmed that they spoke to his psychiatrist about it and took his phone away a few hours each night.

At a workshop for parents last fall at the NW Anxiety Institute in Portland, Ore., Kevin Ashworth, the clinical director, warned them of the “illusion of control and certainty” that smartphones offer anxious young people desperate to manage their environments. “Teens will go places if they feel like they know everything that will happen, if they know everyone who will be there, if they can see who’s checked in online,” Ashworth told the parents. “But life doesn’t always come with that kind of certainty, and they’re never practicing the skill of rolling with the punches, of walking into an unknown or awkward social situation and learning that they can survive it.”

Jean Twenge, a professor of psychology at San Diego State University who researches adolescent mental health and psychological differences among generations, used to be skeptical of those who sounded an alarm about teenage internet use. “It seemed like too easy an explanation for negative mental-health outcomes in teens, and there wasn’t much evidence for it,” she told me. She searched for other possible explanations, including economic ones. But the timing of the spike in anxious and depressed teenagers since 2011, which she called one of the sharpest and most significant she has seen, is “all wrong,” she said. “The economy was improving by the time the increase started.”

The more she looked for explanations, the more she kept returning to two seemingly unrelated trend lines — depression in teenagers and smartphone adoption. (There is significantly more data about depression than anxiety.) Since 2011, the trend lines increased at essentially the same rate. In her recent book “iGen,” and in an article in The Atlantic, Twenge highlights a number of studies exploring the connection between social media and unhappiness. “The use of social media and smartphones look culpable for the increase in teen mental-health issues,” she told me. “It’s enough for an arrest — and as we get more data, it might be enough for a conviction.”

Last fall, at a high school near the New Hampshire-Vermont border, I watched Lynn Lyons, a psychotherapist and author, deliver bad news to a packed auditorium of teachers and counselors. “We’re not getting the job done,” she said, pacing the stage at Fall Mountain Regional High School, where she had been asked to lead a professional-development training session about anxiety.

More than a decade ago, the school would have been unlikely to invite her to speak. Anxiety was barely on the radar of most educators back then, according to Denise Pope, another founder of Challenge Success, the Stanford-affiliated nonprofit. Pope remembers facing skepticism when she sounded the alarm about growing anxiety among teenagers. “We don’t have to convince them anymore,” she told me. “Schools are coming to us, eager for help.”

A gregarious speaker, Lyons kept her audience entertained by calling anxiety “the cult leader” — for its ability to convince people of falsehoods about themselves — and telling funny stories about overinvolved parents. But her main point was clear: In a seemingly well-meaning effort to help kids avoid what makes them anxious, administrators actually make anxiety worse. “Anxiety is all about the avoidance of uncertainty and discomfort,” Lyons explained. “When we play along, we don’t help kids learn to cope or problem-solve in the face of unexpected events.”

She pointed to the increasing use of “504 plans,” a popular educational tool that allows for academic accommodations for students with physical or mental disabilities. Though 504 plans for anxiety vary by student, a typical one might allow a teenager to take more time on homework and tests, enter the school through a back door — to avoid the chaos of the main entrance — and leave a classroom when feeling anxious.

Lyons believes in the necessity of 504 plans, and she is in agreement with many of the recommendations of Challenge Success, including later school start times, less homework and more project-based learning. But Lyons worries that too many 504 plans are “avoidance-based and teach zero skills.” She gave the example of a plan that allows a student to leave a classroom anytime he feels overwhelmed. Often, a teenager “can go wherever he wants and stay there for as long as he thinks he needs,” she said. Instead, she argued, a school should have a policy in place for the student to seek out a guidance counselor or nurse and do some role-playing that helps the student “externalize his worry,” similar to how Mountain Valley teenagers are taught to observe their thinking and talk back to it. Then the student should return to his regular classroom as soon as possible, Lyons said.

“If anxiety could talk, it would say, ‘You know, let’s just get out of here. We don’t have to do this!’ ” Lyons said from the stage. “But in order to retrain the brain, in order to create that message that says that even though I’m uncomfortable I can do this, we need to stop treating these anxious kids like they’re so frail, like they can’t handle things.”

Lyons sees a connection between how some schools deal with anxious students and what she worries is a generation of young people increasingly insistent on safe spaces — and who believe their feelings should be protected at all costs. “Kids are being given some really dangerous messages these days about the fact that they can’t handle being triggered, that they shouldn’t have to bear witness to anything that makes them uncomfortable and that their external environments should bend to and accommodate their needs,” she told me.

Among many teachers and administrators I spoke to, one word — “resiliency” — kept coming up. More and more students struggle to recover from minor setbacks and aren’t “equipped to problem-solve or advocate for themselves effectively,” a school counselor in suburban Oregon told me. In the last few years, the counselor said, she has watched in astonishment as more students struggle with anxiety — and as more of those “stop coming to school, because they just can’t.”

Some schools have taken drastic measures to accommodate what one administrator called “our more fragile students.” At Roxbury High School in Roxbury Township, N.J., there are two dedicated classrooms for anxious teenagers, including one next to a mural of Edvard Munch’s painting “The Scream.” These students typically avoid the mammoth school cafeteria in favor of eating lunch in one of the classrooms, as they did on the day of my visit last May. They had just finished gym class, an anxiety-producing event for some even as the school did all it could to reimagine the concept. Music blasted throughout the gym as the teenagers halfheartedly played something vaguely approximating a game of volleyball. The ball was allowed to bounce once before being struck — not that anyone was keeping score.

I couldn’t help wondering what Lyons, and other therapists I spoke to who worry that schools inadvertently worsen anxiety, would think of this approach. Some of the programs’ teenagers hoped to go to college, where no special classrooms would await them. How was this preparing them for that?

“Some will say that this feeds the monster,” concedes Patricia Hovey, director of special services at Roxbury High. “But you’ve got to start where the kids are, not where you are or where you want them to be. We’ve got to get them in the building. Many of our students simply don’t come to school if they have to spend all day in” general-education classes. Once the students are in school, Hovey explained, staff members can help them build the confidence and skills to eventually transition to Roxbury’s regular classes — and stand a chance at navigating college or a job once they graduate.

Even with the promise of a special classroom, getting anxious kids to Roxbury High each morning demands a herculean effort from the program’s teachers and therapists. During my visit, I watched them text and call several no-show students in an effort to coax them out of bed. They also regularly communicate with parents, talking them through what to say to a teenager who refuses to leave his room. Paul Critelli, one of the program’s teachers, told me that many parents feel overwhelmed trying to get two or three kids ready for school each morning, and that their instinct is often to “sacrifice the anxious kid” in order to avoid morning hysterics and keep the family train running on time.

Mostly, though, Critelli wants to talk to the anxious students. “What’s the issue today?” I heard him ask during a phone call with a sophomore boy, who had missed his scheduled bus and was presumably speaking to Critelli from underneath his sheets. The call was a “Hail Mary,” as Critelli put it, because while he suspects that the boy sleeps with the phone “right next to his face,” he rarely responds when he’s feeling anxious. “I appreciate you picking up — you don’t normally do that,” Critelli told him, mixing in positive affirmation with a call to action. The school would be sending another bus, and Critelli expected him to be on it.

Critelli looked for any opportunity to push students out of their comfort zones. During an informal study period after lunch, I watched him confiscate cellphones he said the teenagers were using to “hide from, control and avoid” their feelings; scoff at a student who claimed to be too anxious to return a book to the school library; and challenge a particularly reserved boy who said he had nothing to work on.

Critelli looked at him incredulously. “Dude, you’re failing physics,” Critelli said. “What do you mean you don’t have anything to do?”

“There’s nothing I can do — I’m going to fail,” the student mumbled.

“So you’re just accepting that you’re going to fail?” The boy looked at his hands. “Here’s an idea,” Critelli continued. “You can email your teacher and say, ‘What can I do to improve my grade? What extra work can I do?’ ”

Critelli surveyed his classroom of anxious teenagers. “I’d love to see you advocate for yourselves!”

Jake is a remarkably minimalist emailer and texter, eschewing exclamation points and emojis in favor of an almost old-fashioned formality. It can be challenging to gauge his moods that way, so I checked in with him regularly by phone in the months after he left Mountain Valley. He usually sounded content when we spoke, an impression confirmed by his parents, who were relieved by the changes they saw in him. In the fall of his senior year, Jake was regularly attending school — on some days he “even enjoyed it,” he told me with a laugh.

While he was careful not to overschedule himself, anxiety still sometimes overtook him. One weekend, he had to leave a Model United Nations conference after he became anxious and his stomach started cramping. “That was really disheartening, but when I struggle now it doesn’t last long, and I can usually get myself out of it pretty quickly,” he said, by talking back to his negative thoughts.

Jake also confessed to some worry about his application to attend U.N.C. He had decided to be transparent with the school about his anxiety disorder, partly because it helped explain his junior-year absences and grades and partly because the months he had spent challenging his beliefs and ideas at Mountain Valley perfectly fit the application essay prompt: Reflect on a time when you challenged a belief or idea.

In 650 thoughtful and sometimes uncharacteristically dramatic words, Jake explained that in middle school he had “aced the tests and seemed to many as the bright future of the American ideal.” But then came high school and fear of failure, the debilitating worry that he might not be good enough. He explained that going to treatment helped him change his perspective on learning and life. “Just being able to type this very essay would have been impossible months ago due to my fear of judgment,” he wrote. “College is the next step in my journey to find a true sense of self, both academically and personally. The future has reopened its doors.”

The doors had not reopened quite as wide for Jillian, whom I visited on an oppressively humid spring afternoon in Florida. It was a school day, but Jillian wasn’t at school. Instead, she was on the screened-in back patio of the townhouse where she lives with her mother, Allison. A talented artist, Jillian loves theater and special-effects makeup design, and she was hard at work on an outfit for a “Walking Dead” costume contest at a local car dealership.

While she painted her costume to make it appear blood-soaked, we half-watched an episode of the Netflix series “13 Reasons Why” on her laptop. Jillian told me she could relate to many of the series’s themes, including cyberbullying. In middle school, she made a profile page on ASKfm, a social-networking site favored at the time by mean girls and their unsuspecting prey. Jillian was quickly targeted. “I’d get 30 mean questions or messages a day,” she said. “Most of them were like, ‘Just kill yourself.’ ”

Nothing like that happened at the small private high school Jillian attended after leaving Mountain Valley. Though the school is known for its flexibility and willingness to work with nontraditional students, Jillian still struggled to feel comfortable there. She didn’t want to open up and be known as “the anxious girl.” There were other students at school who had severe anxiety and depression — “It’s like the flu broke out here with anxious kids this year,” the headmaster told me — but Jillian didn’t feel comfortable hanging out with them, either. Several had yet to go to treatment, and “I don’t want to go backward,” she told me. But the end result, unsurprisingly, was that most students never got to know Jillian.

Her longtime pattern of missing school began again. She had the tools to challenge her anxious thoughts, but using them every day proved exhausting. “There’s feeling a weight on your chest, and there’s the feeling of 16 people sitting on top of each other on your chest,” she said. “As soon as I’d wake up, it was absolute dread.”

Needing to get to her job 40 minutes away each morning, Allison, who had sold her previous house in order to afford Mountain Valley, had little time to coax Jillian out of bed. They argued constantly. Jillian thought her mother — who was severely depressed during a year when Jillian was younger and especially needed support — could be insensitive. Allison struggled with when (and how hard) to push her daughter. She knew Jillian had a serious disorder, but she also knew it wouldn’t get better by letting her hide out in her room. Allison also couldn’t be sure when Jillian was genuinely paralyzed by anxiety and when she was “manipulating me to get out of doing whatever she didn’t feel like doing,” she said.

“The million-dollar question of raising an anxious child is: When is pushing her going to help because she has to face her fears, and when is it going to make the situation worse and she’s going to have a panic attack?” Allison told me. “I feel like I made the wrong decision many times, and it destroyed my confidence as a mother.”

Allison sometimes wondered how her own anxiety issues might have genetically predisposed her daughter to anxiety. Allison had done enough Google searches to know that anxious teenagers tend to come from anxious parents. Research points to hereditary genes that predispose children to an anxiety disorder, and studies have found that an overbearing or anxious parenting style can induce anxiety and risk-aversion in kids. In the parents’ workshop I attended in Oregon, Ashworth, the therapist, spent a lot of time urging family members to work on their own anxiety issues.

He also cautioned parents not to accommodate their children’s avoidance strategies. Families of children with OCD will routinely open doors for them, cook only the two or three specific foods they’ve agreed to eat and avoid saying certain words or sounds. Families of socially anxious kids will let them stay in the car while they go shopping, order for them at restaurants and communicate with a teacher because they’re afraid to. “So many teens have lost the ability to tolerate distress and uncertainty, and a big reason for that is the way we parent them,” Ashworth said.

While Ashworth can be blunt, he is also disarming and funny, with a self-deprecating sense of humor that appeals to both parents and their cynical children. Like many therapists who work with anxious teenagers, he tries to model a “let’s not take life — and ourselves — too seriously” approach. He also has an almost endless empathy for the challenges that these teenagers and their families face. He knows, for example, that raising a severely anxious child can feel counterintuitive. How, for example, do you set and enforce limits with an anxious teenager? If you send him to his room, “you’ve just made his day,” Ashworth told the parents in his workshop, who nodded knowingly.

Though Jillian had returned from Mountain Valley a more confident person with a nuanced understanding of her issues (and with her emetophobia largely under control), treatment didn’t solve her school struggles. As she fell further behind, her morning battles with her mother became increasingly untenable. In consultation with the school, Allison agreed to let Jillian drop out and study for the G.E.D. But Allison wasn’t happy about it; she considered it a momentary concession. “We basically said, ‘O.K., anxiety, you win.’ ”

Jillian was relieved never to have to set foot in another high school. “I’m just a lot more relaxed now,” she told me in her messy bedroom, where the walls were adorned with “Star Wars” posters and the bookshelf overflowed with young-adult fiction and sci-fi, as well as a worn copy of “Chicken Soup for the Teenage Soul.” Near her bed were two prescription bottles — one for Prozac and another for Klonopin, a benzodiazepine tranquilizer. Jillian had been prescribed a number of drug combinations over the years, and while none were panaceas, she believed she would be “a lot worse if I wasn’t taking them.”

Though she spoke to a therapist once or twice a week online, Jillian otherwise ignored the structured daily schedule — including yoga, studying and cleaning her room — that she had agreed to with her mother. Jillian told me she often felt lonely at home, and she spent much of her days texting friends from around the country, some of whom she met at “Star Wars” conventions or on social media.

At the same time, Jillian was trying to make new friends. I watched her joke with fellow contestants at the costume contest (where she walked away with a $250 prize), and she was practically a social butterfly at a film event she attended with her mother. Bored with our company after the screening, Jillian spotted two teenagers talking to each other in a corner.

“O.K., I’m going to go mingle,” she announced.

On a busy weekday morning last May, a new crop of Mountain Valley residents were discovering that a key component of their treatment would involve repeatedly making fools of themselves. On the Dartmouth College campus, eight teenagers wore hand-painted white T-shirts that read “Ask Me About My Anxiety” and “I Have OCD.” They were encouraged by the therapy team to come up with scenarios that would make them uncomfortable. One teenager considered approaching random guys on campus and saying, “You must be a Dartmouth football player.” Later that afternoon, a second group of teenagers arrived. One feigned a panic attack at Starbucks. Another ordered nonsensically at a restaurant.

“What do we need to do to make your anxiety higher?” McCallie-Steller, the therapist, asked several teenagers as they prepared for their morning of exposure therapy. First developed in the 1950s, the technique is an essential component of cognitive-behavioral therapy (CBT) for anxiety, which a vast majority of researchers and clinicians believe is the most effective treatment for a range of anxiety disorders. In a large 2008 study of anxious youth published in The New England Journal of Medicine, more improved using CBT (60 percent) than the antidepressant Zoloft (55 percent), though the most effective therapy (81 percent) was a combination of the two.

But while exposure therapy has been proved highly effective, few teenagers receive it. “We’re much more likely to medicate kids than to give them therapy,” says Stephen Whiteside, director of the Child and Adolescent Anxiety Disorders Program at the Mayo Clinic. “And when we do give them therapy, it’s unlikely to be exposure. With a few exceptions, we’re not treating people with what actually works best.”

Part of the reason is that exposure work is hard. Anxious people aren’t typically eager to feel more anxious. “It’s also uncomfortable for many therapists,” Whiteside told me. “Most people go into therapy or psychology to help people, but with exposure therapy you’re actually helping them feel uncomfortable. It’s not much fun for anybody. It’s much easier to sit in a therapist’s office and talk about feelings.”

Researchers are trying to better understand how exposure works in the brain and to fine-tune its application for anxiety treatment. At U.C.L.A., scientists at the school’s Anxiety and Depression Research Center discovered that the more anxious a person feels going into an exposure exercise, and the more surprised he or she is by the result, the more effective it is at competing with an original negative association or traumatic memory. (That’s why McCallie-Steller did her best to ramp up the teenagers’ anxiety before they began their exposure work.) Other researchers are focused on virtual-reality-aided exposure therapy, which allows people to encounter the sources of their anxiety in a therapist’s office.

For two Mountain Valley 14-year-olds on the main quad at Dartmouth, the sources of their distress were numerous. One, a brown-haired boy who embarrassed easily, suffered from a dispiriting combination of social anxiety, OCD, binge-eating and depression. It was a lot to work on in three months, and he was often overwhelmed by the magnitude of the project. On this day, he had agreed to tackle his social anxiety by sitting next to a stranger on a park bench and striking up a conversation.

Earlier, another Mountain Valley teenager took part in a similar exercise, during which the stranger opened up about his own struggles with anxiety. The teenagers were sometimes surprised that others could relate to their issues. As one girl handed out fliers about anxiety on campus, she sometimes asked people, “Can I tell you about anxiety?” More than a few students — including one who looked as if he might actually be a Dartmouth football player — responded with some version of “Trust me, I know all about it.”

The brown-haired boy was highly anxious about his exposure. He bombarded the therapist, Bryan Randolph, with questions in a seeming attempt to run out the clock until they had to return to Mountain Valley. “Can I just sit on the bench for a minute?” he asked Randolph. “And can I sit down and then start talking? I mean, do I need to ask, ‘Do you mind if I sit there?’ It’s weird to just sit there, have a conversation, then get up and come running back to a group of people.”

“Even better — let’s make it weird,” Randolph told him.

The boy shook his head. “Maybe the guy’s on break and doesn’t want to be bothered.”

“Maybe,” Randolph said. “He might hate you. He might get real mad at you.”

“That’s terrifying,” the teenager confessed. “And what if we’re so close on the bench that we’re touching?”

“That would be awkward,” Randolph said with a half-smile.

The boy craned his neck to get a better look at the man. “Is he sitting in the middle of the bench?”

“I don’t know — he might be,” Randolph told him. “But are you going to ‘what if’ this to death, or are you going to do it?”

He eventually shuffled off toward the stranger, allowing Randolph to turn his attention to the other 14-year-old, Thomas, who stood sheepishly on a nearby corner holding his sign: “I’ve Been Bullied. Ask Me.” The “Ask Me” was hard to make out, because Thomas had also included many of the insults peers have hurled at him over the years, including “B\*tch,” “F\*ggot,” “Ur Fat” and “Kill Yourself.” Holding the sign on a busy corner had been Thomas’s idea; he thought it might ratchet up his anxiety and force him to interact with strangers, while having the potential added benefit of educating people about bullying.

Randolph and I watched dozens of students walk by, some giving Thomas’s sign a glance but most never slowing their stride. He had been bullied for years, and now he was being ignored. I felt anxious just looking at him.

Eventually, an attractive couple in their mid-20s stopped to read the sign. They smiled, Thomas beamed and after a minute or two of conversation they all hugged. “Oh, my God, that was the greatest,” Thomas announced upon his return.

I asked him what they’d talked about. “The muscular dude said he’s been bullied, too, in middle school, and that bullies get nowhere in life,” Thomas told us. “Then the girl said, ‘You’re really brave. Can I give you a hug?’ ”

“That’s not what you were expecting, huh?” Randolph said. “Instead of being mean to you, people actually treated you with compassion.”

“Yeah, it was awesome,” he said. “I feel so good!”

The brown-haired boy, meanwhile, returned from his brief visit to the bench: “It was sooooo awkward,” he reported. “The guy just kept texting. He was probably like, Why is this kid asking me questions?”

“And what if he was?” Randolph asked him. “You’re not responsible for what he’s thinking.”

The boy appeared to consider Randolph’s point as they made their way back to the van that would return them to Mountain Valley. Sometimes, Randolph told the boys, “exactly what you think will happen happens. Other times, the exact opposite of what you think will happen happens. Either way, it’s all manageable.”

The subject line of Jake’s email to me last winter read simply, “College Results.” I opened it: “Hey Benoit, I just wanted to tell you that I was accepted to U.N.C. Chapel Hill. Jake.” I emailed back to say that he could stand to sound a little bit more excited, to which he replied, “Trust me, I’m pretty excited!”

Last month, I visited him during his fourth week of college classes. It was a Sunday, and Jake met me outside his dorm wearing khaki shorts and a Carolina Panthers jersey. He looked happier than I’d ever seen him. “Let’s walk,” he said, leading me on a tour of campus and nearby Chapel Hill, where he went record shopping (he left with a Parquet Courts album) and played touch football with a few of his friends.

Since leaving Mountain Valley, Jake had prioritized his social life. “The health of my relationships with people is just as important as academics,” he told me on a bench overlooking the main quad. He had said something similar at Mountain Valley, but back then it sounded theoretical, aspirational. It felt true now. He had made new friends on campus and was keeping up with old ones from home — and some of his peers from Mountain Valley — via text and Snapchat, the only social-media platform he regularly uses these days. “My junior year, when things got really bad, I told myself that I didn’t need to hang out with my friends a lot, that all that really mattered was how well I did at school,” he said. “I don’t think like that anymore.”

That’s not to say that Jake doesn’t study. He does — usually days before he needs to.

“Procrastination isn’t a good idea for me,” he said. But he was actually enjoying several of his college classes, especially Intro to Ethics, for which he was reading Plato’s “Republic.”

Jake had experienced only one intense bout of anxiety at U.N.C. For his info sciences course, he turned in an assignment online but realized days later that there had been a technical glitch and it hadn’t gone through. He said he felt “a sudden burst of anxiety” — his chest tightened, and adrenaline coursed through his body. What had he done? He sent a panicked email to his professor and told a friend who also has anxiety issues that he was “freaking out.” Then he took a nap, which had long been one of his coping strategies. When he awoke, the professor had emailed saying it wasn’t a big deal. “That ended that crisis,” Jake told me.

For the most part, Jake felt he was managing his anxiety. Over the summer, he met twice with Jonathan Abramowitz, a psychology professor who leads the university’s anxiety and stress lab, but Jake had put off finding a regular therapist for the school year. His parents kept bugging him about it. “I just haven’t felt like I need it here,” Jake told me. But then, a few beats later, he added: “I know I need to stop making excuses and just do it.”

I was curious how much of Jake’s newfound contentment had to do with being at U.N.C., with getting into his dream school. After all, a major component of his treatment at Mountain Valley was learning to accept that his value didn’t depend solely on academic achievement. How would he have reacted if his application was one of the 74 percent that U.N.C. rejected last year?

It was clear that Jake had thought about the question. “I would have been disappointed, but I really think I would have been O.K.,” he told me. “There are other schools in the world where I would have been happy. I definitely wouldn’t have believed that a couple years ago, but a lot’s changed.”

Before walking back to his dorm, where Jake’s friends were waiting for him, we stopped at the Old Well, a campus landmark where legend has it that students who drink from it on the first day of classes will get straight A’s that semester. The old Jake might have been first in line. But the new Jake? He hadn’t bothered to show up.

**Citation:**

Denizet-Lewis, Benoit. “Why Are More American Teenagers Than Ever Suffering From Severe

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**Source 3**

**Genre: Essay**

**Lens: Cultural/Social**

My Zombie, Myself: Why Modern Life Feels Rather Undead by Chuck Klosterman

By Chuck Klosterman

*Chuck Klosterman was born in Minnesota in 1972 and grew up in North Dakota. He has written for numerous magazines including GQ, The New York Times Magazine, Washington Post and GQ. He is also a consulting editor for Grantland.com, A Web Site for long form writing on sports and popular culture. He is the author of several essay collections as well as several novels. The following essay appeared in The New York Times in 2010.*

ZOMBIES are a value stock. They are wordless and oozing and brain dead, but they're an ever-expanding market with no glass ceiling. Zombies are a target-rich environment, literally and figuratively. The more you fill them with bullets, the more interesting they become. Roughly 5.3 million people watched the first episode of ''The Walking Dead'' on AMC, a stunning 83 percent more than the 2.9 million who watched the Season 4 premiere of ''Mad Men.'' This means there are at least 2.4 million cable-ready Americans who might prefer watching Christina Hendricks if she were an animated corpse.

Statistically and aesthetically that dissonance seems perverse. But it probably shouldn't. Mainstream interest in zombies has steadily risen over the past 40 years. Zombies are a commodity that has advanced slowly and without major evolution, much like the staggering creatures George Romero popularized in the 1968 film ''Night of the Living Dead.'' What makes that measured amplification curious is the inherent limitations of the zombie itself: You can't add much depth to a creature who can't talk, doesn't think and whose only motive is the consumption of flesh. You can't humanize a zombie, unless you make it less zombie-esque. There are slow zombies, and there are fast zombies-- that's pretty much the spectrum of zombie diversity. It's not that zombies are changing to fit the world's condition; it's that the condition of the world seems more like a zombie offensive. Something about zombies is becoming more intriguing to us. And I think I know what that something is.

Zombies are just so easy to kill.

When we think critically about monsters, we tend to classify them as personifications of what we fear. Frankenstein's monster illustrated our trepidation about untethered science; Godzilla was spawned from the fear of the atomic age; werewolves feed into an instinctual panic over predation and man's detachment from nature. Vampires and zombies share an imbedded anxiety about disease. It's easy to project a symbolic relationship between zombies and rabies (or zombies and the pitfalls of consumerism), just as it's easy to project a symbolic relationship between vampirism and AIDS (or vampirism and the loss of purity). From a creative standpoint these fear projections are narrative linchpins; they turn creatures into ideas, and that's the point.

But what if the audience infers an entirely different metaphor?

What if contemporary people are less interested in seeing depictions of their unconscious fears and more attracted to allegories of how their day-to-day existence feels? That would explain why so many people watched that first episode of ''The Walking Dead'': They knew they would be able to relate to it.

A lot of modern life is exactly like slaughtering zombies.

IF THERE'S ONE THING we all understand about zombie killing, it's that the act is uncomplicated: you blast one in the brain from point-blank range (preferably with a shotgun). That's Step 1. Step 2 is doing the same thing to the next zombie that takes its place. Step 3 is identical to Step 2, and Step 4 isn't any different from Step 3. Repeat this process until (a) you perish, or (b) you run out of zombies. That's really the only viable strategy.

Every zombie war is a war of attrition. It's always a numbers game. And it's more repetitive than complex. In other words, zombie killing is philosophically similar to reading and deleting 400 work e-mails on a Monday morning or filling out paperwork that only generates more paperwork, or following Twitter gossip out of obligation, or performing tedious tasks in which the only true risk is being consumed by the avalanche. The principal downside to any zombie attack is that the zombies will never stop coming; the principal downside to life is that you will be never be finished with whatever it is you do.

The Internet reminds of us this every day.

Here's a passage from a youngish writer named Alice Gregory, taken from a recent essay on Gary Shteyngart's dystopic novel ''Super Sad True Love Story'' in the literary journal n+1: ''It's hard not to think 'death drive' every time I go on the Internet,'' she writes. ''Opening Safari is an actively destructive decision. I am asking that consciousness be taken away from me.''

Ms. Gregory's self-directed fear is thematically similar to how the zombie brain is described by Max Brooks, author of the fictional oral history ''World War Z'' and its accompanying self-help manual, ''The Zombie Survival Guide'': ''Imagine a computer programmed to execute one function. This function cannot be paused, modified or erased. No new data can be stored. No new commands can be installed. This computer will perform that one function, over and over, until its power source eventually shuts down.''

This is our collective fear projection: that we will be consumed. Zombies are like the Internet and the media and every conversation we don't want to have. All of it comes at us endlessly (and thoughtlessly), and -- if we surrender -- we will be overtaken and absorbed. Yet this war is manageable, if not necessarily winnable. As long we keep deleting whatever's directly in front of us, we survive. We live to eliminate the zombies of tomorrow. We are able to remain human, at least for the time being. Our enemy is relentless and colossal, but also uncreative and stupid.

Battling zombies is like battling anything ... or everything.

BECAUSE OF THE 'TWILIGHT' series it's easy to manufacture an argument in which zombies are merely replacing vampires as the monster of the moment, a designation that is supposed to matter for metaphorical, nonmonstrous reasons. But that kind of thinking is deceptive. The recent five-year spike in vampire interest is only about the multiplatform success of ''Twilight,'' a brand that isn't about vampirism anyway. It's mostly about nostalgia for teenage chastity, the attractiveness of its film cast and the fact that contemporary fiction consumers tend to prefer long serialized novels that can be read rapidly. But this has still created a domino effect. The 2008 Swedish vampire film ''Let the Right One In'' was fantastic, but it probably wouldn't have been remade in the United States if ''Twilight'' had never existed. ''The Gates'' was an overt attempt by ABC to tap into the housebound, preteen ''Twilight'' audience; HBO's ''True Blood'' is a camp reaction to Robert Pattinson's flat earnestness.

The difference with zombies, of course, is that it's possible to like a specific vampire temporarily, which isn't really an option with the undead. Characters like Mr. Pattinson's Edward Cullen in ''Twilight'' and Anne Rice's Lestat de Lioncourt, and even boring old Count Dracula can be multidimensional and erotic; it's possible to learn who they are and who they once were. Vampire love can be singular. Zombie love, however, is always communal. If you dig zombies, you dig the entire zombie concept. It's never personal. You're interested in what zombies signify, you like the way they move, and you understand what's required to stop them. And this is a reassuring attraction, because those aspects don't really shift. They've become shared archetypal knowledge.

A few days before Halloween I was in upstate New York with three other people, and we somehow ended up at the Barn of Terror, outside a town call Lake Katrine. Entering the barn was mildly disturbing, although probably not as scary as going into an actual abandoned barn that didn't charge $20 and doesn't own its own domain name. Regardless, the best part was when we exited the terror barn and were promptly herded onto a school bus, which took us to a cornfield about a quarter of a mile away. The field was filled with amateur actors, some playing military personnel and others what they called the infected. We were told to run through the moonlit corn maze if we wanted to live; as we ran, armed soldiers yelled contradictory instructions while hissing zombies emerged from the corny darkness. It was designed to be fun, and it was. But just before we immersed ourselves in the corn, one of my companions sardonically critiqued the reality of our predicament.

''I know this is supposed to be scary,'' he said. ''But I'm pretty confident about my ability to deal with a zombie apocalypse. I feel strangely informed about what to do in this kind of scenario.''

I could not disagree. At this point who isn't? We all know how this goes: If you awake from a coma, and you don't immediately see a member of the hospital staff, assume a zombie takeover has transpired during your incapacitation. Don't travel at night and keep your drapes closed. Don't let zombies spit on you. If you knock a zombie down, direct a second bullet into its brain stem. But above all, do not assume that the war is over, because it never is. The zombies you kill today will merely be replaced by the zombies of tomorrow. But you can do this, my friend. It's disenchanting, but it's not difficult. Keep your finger on the trigger. Continue the termination. Don't stop believing. Don't stop deleting. Return your voice mails and nod your agreements. This is the zombies' world, and we just live in it. But we can live better.

**Citation:**

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Source 4

Genre: Scholarly Article

Lens: Philosophical

**THE CREEPING ETHICAL CHALLENGES OF ARTIFICIAL INTELLIGENCE:**

**Technology is already bending our perceptions of the world around us**

By  John W. Miller

Like paper, print, steel and the wheel, computer-generated artificial intelligence is a revolutionary technology that can bend how we work, play and love. It is already doing so in ways we can and cannot perceive.

As Facebook, Apple and Google pour billions into A.I. development, there is a fledgling branch of academic ethical study--influenced by Catholic social leaching and encompassing thinkers like the Jesuit scientist Pierre Teilhard de Chardin--that aims to study its moral consequences, contain the harm it might do and push tech firms to integrate social goods like privacy and fairness into their business plans.

"There are a lot of people suddenly interested in A.I. ethics because they realize they're playing with fire," says Brian Green, an A.I. ethicist at Santa Clara University. "And this is the biggest thing since lire."

The field of A.I. ethics includes two broad categories. One is the philosophical and sometimes theological questioning about how artificial intelligence changes our destiny and role as humans in the universe; the other is a set of nuts-and-bolts questions about the impact of powerful A.I. consumer products, like smartphones, drones and social media algorithms.

The first is concerned with what is termed artificial general intelligence. A.G.I, describes the kind of powerful artificial intelligence that not only simulates human reasoning but surpasses it by combining computational might with human qualities like learning from mistakes, self-doubt and curiosity about mysteries within and without.

A popular word--singularity--has been coined to describe the moment when machines become smarter, and maybe more powerful, than humans. That moment, which would represent a clear break from traditional religious narratives about creation, has philosophical and theological implications that can make your head spin.

But before going all the way there--because it is not all that clear that this is ever going to happen--let us talk about the branch of A.I. ethics more concerned with practical problems, like if it is O.K. that your phone knows when to sell you a pizza.

"For now, the singularity is science fiction," Shannon Vallor, a philosophy professor who also teaches at Santa Clara, tells me. "There are enough ethical concerns in the short term.

**The 'Black Mirror' Factor**

While we ponder A.G.I., artificial narrow intelligence is already here: Google Maps suggesting the road less traveled, voice-activated programs like Siri answering trivia questions, Cambridge Analytica crunching private data to help swing an election, and military drones choosing how to kill people on the ground. A.N.I. is what animates the androids in the HBO series "Westworld"--that is, until they develop A.G.I. and start making decisions on their own and posing human questions about existence, love and death.

Even without the singular, and unlikely, appearance of robot overlords, the possible outcomes of artificial narrow intelligence gone awry include plenty of apocalyptic scenarios, akin to the plots of the TV series "Black Mirror." A temperature control system, for example, could kill all humans because that would be a rational way to cool down the planet, or a network of energy-efficient computers could take over nuclear plants so it will have enough power to operate on its own.

The more programmers push their machines to make smart decisions that surprise and delight us, the more they risk triggering something unexpected and awful.

The invention of the internet took most philosophers by surprise. This time, A.I. ethicists view it as their job to keep up. "There's a lack of awareness in Silicon Valley of moral questions, and churches and government don't know enough about the technology to contribute much for now," says Tae Wan Kim, an A.I. ethicist at Carnegie Mellon University in Pittsburgh. "We're trying to bridge that gap."

A.I. ethicists consult with schools, businesses and governments. They train tech entrepreneurs to think about questions like the following. Should tech companies that collect and analyze DNA data be allowed to sell that data to pharmaceutical firms in order to save lives? Is it possible to write code that offers guidance on whether to approve life insurance or loan applications in an ethical way? Should the government ban realistic sex robots that could tempt vulnerable people into thinking they are in the equivalent of a human relationship? How much should we invest in technology that throws millions of people out of work?

Tech companies themselves are steering more resources into ethics, and tech leaders are thinking seriously about the impact of their inventions. A recent survey of Silicon Valley parents found that many had prohibited their own children from using smartphones.

Mr. Kim frames his work as that of a public intellectual, reacting to the latest efforts by corporations to show they are taking A.I. ethics seriously.

In June, for example, Google, seeking to reassure the public and regulators, published a list of seven principles for guiding its A.I. applications. It said that A.I. should be socially beneficial, avoid creating or reinforcing unfair bias, be built and tested for safety, be accountable to people, incorporate privacy design principles, uphold high standards of scientific excellence, and be made available to uses that accord with these principles.

In response, Mr. Kim published a critical commentary on his blog. The problem with promising social benefits, for example, is that "Google can take advantage of local norms," he wrote. "If China allows, legally, Google to use AI in a way that violates human rights, Google will go for it." (At press time, Google had not responded to multiple requests for comment on this criticism.)

The biggest headache for A.I. ethicists is that a global internet makes it harder to enforce any universal principle like freedom of speech. The corporations are, for the most part, in charge. That is especially true when it comes to deciding how much work we should let machines do.

An argument familiar to anybody who has ever studied economics is that new technologies create as many jobs as they destroy. Thus the invention of the cotton gin in the 19th century called for industries dedicated to producing the necessary parts of wood and iron. When horses were replaced as a primary form of transportation, stable hands found jobs as auto mechanics. And so on.

A.I. ethicists say the current technological revolution is different because it is the first to replicate intellectual tasks. This kind of automation could create a permanently underemployed class of people, says Mr. Kim.

A purely economic response to unemployment might be a universal basic income, or distribution of cash to every citizen, but Mr. Kim says A.I. ethicists cannot help returning to the realization that lives without purposeful activity, like a job, are usually miserable. "Catholic social teaching is an important influence for A.I. ethicists, because it addresses how important work is to human dignity and happiness," he explains.

"Money alone doesn't give your life happiness and meaning," he says. "You get so many other things out of work, like community, character development, intellectual stimulation and dignity." When his dad retired from his job running a noodle factory in South Korea, "he got money, but he lost community and self-respect," says Mr. Kim.

That is a strong argument for valuing a job well done by human hands; but as long as we stick with capitalism, the capacity of robots to work fast and cheap is going to make them attractive, say A.I. ethicists.

"Maybe religious leaders need to work on redefining what work is," says Mr. Kim. "Some people have proposed virtual reality work," he says, referring to simulated jobs within computer games. "That doesn't sound satisfying, but maybe work is not just gainful employment."

There is also a chance that the impact of automation might not be as bad as feared. A company in Pittsburgh called Legal Sifter offers a service that uses an algorithm to read contracts and detect loopholes, mistakes and omissions. This technology is possible because legal language is more formulaic than most writing. "We've increased our productivity seven- or eightfold without having to hire any new people," says Kevin Miller, the company's chief executive. "We're making legal services more affordable to more people."

But he says lawyers will not disappear: "As long as you have human juries, you're going to have human lawyers and judges.... The future isn't lawyer versus robot, it's lawyer plus robot versus lawyer plus robot."

**Autonomous Cars and the Trolley Problem**

The most common jobs for American men are behind the wheel. Now self-driving vehicles threaten to throw millions of taxi and truck drivers out of work.

We are still at least a decade away from the day when self-driving cars occupy major stretches of our highways, but the automobile is so important in modern life that any change in how it works would greatly transform society.

Autonomous automobiles raise dozens of issues for A.I. ethicists. The most famous is a variant of the so-called trolley problem, a concept popularized by philosopher Philippa Foot in the 1960s. A current version describes the dilemma a machine might face if a crowded bus is in its fast-moving path. Should it change direction and try to kill fewer people? What if changing direction threatens a child? The baby-or-bus bind one of those instantaneous, tricky and messy decisions that humans accept as part of life, even if we know we do not always make them perfectly. It is the kind of choice for which we know there might never be an algorithm, especially if one starts trying to calculate the relative worth of injuries. Imagine, for example, telling a bicyclist that taking his or her life is worth it to keep a busful of people out of wheelchairs.

Technology experts say that the trolley problem is still theoretical because machines presently have a hard time making distinctions between people and things like plastic bags and shopping carts, leading to unpredictable scenarios. This is largely because neuroscientists still have an incomplete grasp of how vision works.

"But there are many ethical or moral situations that are likely to happen, and they're the ones that matter," says

Mike Ramsey, an automotive analyst for Gartner Research.

The biggest problem "is programming a robot to break the law on purpose," he says. "Is it morally correct to tell the computer to drive the speed limit when everybody else is driving 20 miles an hour over?"

Humans break rules in reasonable ways all the time. For example, letting somebody out of a car outside of a crosswalk is almost always safe, if not always technically legal. Making that distinction is still almost impossible for a machine.

And as programmers try to make this type of reasoning possible for machines, invariably they base their algorithms on data derived from human behavior. In a fallen world, that's a problem.

"There's a risk of A.I. systems being used in ways that amplify unjust social biases," says Ms. Vallor, the philosopher at Santa Clara University. "If there's a pattern, A.I. will amplify that pattern."

Loan, mortgage or insurance applications could be denied at higher rates for marginalized social groups if, for example, the algorithm looks at whether there is a history of homeownership in the family. A.I. ethicists do not necessarily advocate programming to carry out affirmative action, but they say the risk is that A.I. systems will not correct for previous patterns of discrimination.

Ethicists are also concerned that relying on A.I. to make life-altering decisions cedes even more influence than they already have to corporations that collect, buy and sell private data, as well as to governments that regulate how the data can be used. In one dystopian scenario, a government could deny health care or other public benefits to people deemed to engage in "bad" behavior, based on the data recorded by social media companies and gadgets like Fitbit.

Every artificial intelligence program is based on how a particular human views the world, says Mr. Green, the ethicist at Santa Clara. "You can imitate so many aspects of humanity," he says, "but what quality of people are you going to copy?"

"Copying people" is the aim of a separate branch of A. I. that simulates human connection. A.I. robots and pets can offer the simulation of friendship, family, therapy and even romance.

One study found that autistic children trying to learn language and basic social interaction responded more favorably to an A.I. robot than to an actual person. But the philosopher Alexis Elder argues that this constitutes a moral hazard. "The hazard involves these robots' potential to present the appearance of friendship to a population" who cannot tell the difference between real and fake friends, she writes in the essay collection Robot Ethics 2.0: From Autonomous Cars to Artificial Intelligence. "Aristotle cautioned that deceiving others with false appearances is of the same kind as counterfeiting currency."

Another form of counterfeit relationship A.I. technology proposes is, not surprisingly, romance. Makers of new lines of artificial intelligence dolls costing over $10,000 each claim, as one ad says, to "deliver the most enjoyable conversation and interaction you can have with a machine."

Already, some people say they are in "relationships" with robots, creating strange new ethical questions. If somebody destroys your robot, is that murder? Should the government make laws protecting your right to take a robot partner to a ballgame or on an airplane trip, or to take bereavement leave if it breaks?

Even Dan Savage, the most famous sex columnist in the United States, sounds a cautionary note. "Sex robots are coming whether we like it or not," he tells me. "But we will have to take a look at the real impact they're having on people's lives."

Inevitably, etbicists tackling A.N.I, run into the deeper philosophical questions posed by those who study A.G.I. One example of how narrow intelligence can appear to turn into a more general form came when a computer program beat Lee Sedol, a human champion of the strategic game Go, in 2016. Early in the game, the machine, Alpha Go, played a move that did not make sense to its human onlookers until the very end. That mysterious creativity is an intensely human quality, and a harbinger of what A.G.I. might look like.

A.G.I, theorists pose their own set of questions. They debate whether tech firms and governments should develop A.G.I, as quickly as possible to work out all the kinks, or block its development in order to forestall machines' taking over the planet. They wonder what it would be like to implant a chip in our brain that would make us 200 times smarter, or immortal or turn us into God. Might that be a human right? Some even speculate that A.G.I. is itself a new god to be worshipped.

But the singularity, if it happens, poses a definite problem for thinkers of almost every religious bent, because it would be such a clear break from traditional narratives.

"Christians are facing a real crisis, because our theology is based on how God made us autonomous," says Mr. Kim, who is a Presbyterian deacon. "But now you have machines that are autonomous, too, so what is it that makes us special as humans?"

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Interestingly, the A.I. debate provokes theological questioning by people who usually do not talk all that much about God.

Juan Ortiz Freuler, a policy fellow at the Washington-based World Wide Web Foundation, which Mr. Berners-Lee started to protect human rights, says he hears people in the tech industry "argue that a system so complex we can't understand it is like a god." But it is not a god, says Mr. Freuler. "It's a company wearing the mask of a god. And we don't always know what their values are."

You do not have to worship technology as a god to realize that our choices, and lives, are increasingly influenced by decision-making software. But as every A.I. ethicist I talked to told me, we should not be confused about who is responsible for making the important decisions.

"We still have our freedom," says Sister Delio. "We can still make choices."

**Citation:**

Miller, John W. "THE CREEPING ETHICAL CHALLENGES OF ARTIFICIAL INTELLIGENCE:

Technology is already bending our perceptions of the world around us." *America*, 12 Nov. 2018, p. 20+. *Gale One File Religion and Philosophy,* <https://link.gale.com/apps/doc/A565200790/PPRP?u=mlin_s_weyhs&sid=PPRP&xid=15d24f04>. Accessed 17 Aug. 2019.

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Genre: Article

Lens: Environmental

**SPACE RESEARCH: THE SOLUTIONS TO CLIMATE CHANGE LIE FAR, FAR AWAY**

**Author: Greg Autry**

*GREG AUTRY (@GregWAutry) is the director of the Southern California Commercial Spaceflight Initiative at the University of Southern California, vice president at the National Space Society, and chair of the International Space Development Conference.*

THE FIRST GLIMPSE HUMANITY GOT OF THE WORLD FROM ABOVE Was transformative. In 1968, the U.S. astronaut William Anders returned from circling the moon in Apollo 8 with a photograph. It was a simple snapshot of the Earth, the whole Earth, rising above the desolate lunar surface. But it was also momentous, representing the very first time anyone had gotten far enough away to view how fragile the world was. The contrast between the lone blue-and-green marble and the cold emptiness of space was beautiful and shocking. As Anders later remarked, "We came all this way to explore the moon, and the most important thing is that we discovered the Earth."

Anders's Earthrise photo provided conservationists with the iconic illustration they needed. On April 22,1970,20 million people turned out for the largest civic event in U.S. history: Earth Day.

Today conservationists and other critics are more likely to see space programs as militaristic splurges that squander billions of dollars better applied to solving problems on Earth. These well-meaning complaints are misguided, however. Earth's problems--most urgently, climate change--can be solved only from space. That's where the tools and data already being used to tackle these issues were forged and where the solutions of the future will be too.

Space research has already been critical in averting one major environmental disaster. It was NASA satellite data that revealed a frightening and growing hole in the ozone layer over the South Pole, galvanizing public concern that, in 1987, produced the Montreal Protocol: the first international agreement addressing a global environmental problem. Since then, thanks to worldwide restrictions on damaging chiorofiuorocarbons, the ozone situation has stabilized, and a full planetary recovery is expected. As this case showed, space can provide the vital information needed to understand a problem--and a surprising range of ways to solve it.

Climate change is a poster child for the critical role of space data. Trekking across the globe to measure ice sheets with drills and gauge sea temperatures from the sides of ships is an expensive, slow, and insufficient way to assay the state of the planet. Satellites operated by NASA, the U.S. National Oceanic and Atmospheric Administration, and an increasing number of commercial firms provide a plethora of multispectral imaging and radar measurements of developments such as coral reef degradation, harmful plankton blooms, and polar bears negotiating thinning ice. Much of the technology involved in observing the Earth today was initially developed for probes sent to explore other planets in our solar system.

Indeed, understanding the evolution of other planets' climates is essential for modeling possible outcomes on Earth. NASA probes revealed how, roughly 4 billion years ago, a runaway greenhouse gas syndrome turned Venus into a hot, hellish, and uninhabitable planet of acid rain. Orbiters, landers, and rovers continue to unravel the processes that transformed a once warm and wet Mars into a frigid, dry dust ball--and scientists even to conceive of future scenarios that might terra-form it back into a livable planet. Discovering other worlds' history and imagining their future offers important visions for climate change mitigation strategies on Earth, such as mining helium from the moon itself for future clean energy.

Spinoff technologies from space research, from GPS to semiconductor solar cells, are already helping to reduce emissions; the efficiency gains of GPS-guided navigation shrink fuel expenditures on sea, land, and air by between 15 and 21 percent--a greater reduction than better engines or fuel changes have so far provided. Modern solar photovoltaic power also owes its existence to space. The first real customer for solar energy was the U.S. space program; applications such as the giant solar wings that power the International Space Station have continually driven improvements in solar cell performance, and NASA first demonstrated the value of the sun for powering communities on Earth by using solar in its own facilities.

Promisingly, space-based solar power stations could overcome the inconvenient truth that wind and solar will never get us anywhere near zero emissions because their output is inherently intermittent and there is, so far, no environmentally acceptable way to store their power at a global scale, even for one night. Orbital solar power stations, on the other hand, would continually face the sun, beaming clean power back through targeted radiation to Earth day or night, regardless of weather. They would also be free from clouds and atmospheric interference and therefore operate with many times the efficiency of current solar technology. Moving solar power generation away from Earth--already possible but held back by the current steep costs of lifting the materials into space--would preserve land and cultural resources from the blight of huge panel farms and save landfills from the growing problem of discarded old solar panels.

Sustainable energy advocates in the U.S. military and the Chinese government are actively pursuing space-based solar power, but just making solar cells damages the environment due to the caustic chemicals employed. Space technology offers the possibility of freeing the Earth's fragile biosphere and culturally important sites from the otherwise unavoidable damage caused by manufacturing and mining.

The U.S. start-up Made in Space is currently taking the first steps toward manufacturing in orbit. The company's fiber-optic cable, produced by machinery on the International Space Station, is orders of magnitude more efficient than anything made on Earth, where the heavy gravity creates tiny flaws in the material. Made in Space and others are eventually planning to build large structures, such as solar power stations, in space. As these technologies develop, they will augment each other, bringing costs down dramatically; space manufacturing, for instance, slashes the cost of solar installations in space.

Eventually, firms will be able to supply endeavors in space with materials from the moon and asteroids, avoiding the cost and environmental impact of lifting them into orbit. Mining the solar system comes with its own potential impacts, but extracting resources from distant and lifeless worlds is clearly preferable to the continued degradation of the Earth.

Perhaps the most powerful role space can play is as inspiration. Space tourism might seem like a frivolity for the rich, but it can be so much more. I've spent some time with astronauts, and they all report that seeing the Earth without borders and observing its fragile atmosphere shook them to their core, inspiring in them a powerful sense of connection and respect for the environment. As Andrew Newberg, a neuroscientist and physician who has studied this "overview effect," put it, "You can often tell when you're with someone who has flown in space. It's palpable." Subjecting thousands of the world's wealthiest and most powerful individuals to a transcendent experience couldn't hurt--especially if less wealthy Earthlings soon get a chance to follow them.

The leaders of the biggest space firms are already thinking way beyond tourism. Tory Bruno, the CEO of United Launch Alliance, envisions a future in which a thousand or more people work in Earth and moon orbits. These people would build stations, conduct research, and produce goods for use in space and on Earth. The Amazon mogul Jeff Bezos imagines a spacefaring civilization that keeps our home planet pristine and protected, as a sort of national park, while dirty extractive and manufacturing processes take place in orbital facilities. SpaceX's Elon Musk wants to transform Mars back into the healthy world it once was and then fill it with life-forms from Earth--including a significant human population. Some experts have mocked this idea. But experts also lampooned Musk's plans for reusing rocket boosters and building a high-performance electric car for the masses.

The fact is that while some of the plans described by Musk, Bezos, and others might seem Utopian or hubristic, given the realities of climate change, humanity needs hope. A future that concentrates only on managing apocalypse, without offering the potential for something better, is no future at all. In the worst scenario, our precious blue-and-green marble will end up looking like its neighbors Venus or Mars simply because we chose not to learn from them.

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| Source: 8  Genre: Counterpoint Arguments  Lens: Futuristic | |
| Driverless Cars Could Eliminate Road Rage  By Gini Graham Scott  *Gini Graham Scott holds a PhD and has published thirty books and produced more than fifty short videos through her companies Changemakers Publishing and Writing and Changemakers Productions.* | Driverless Cars Will Not Solve the Problem of Road Rage  Editor: Amy Francis  *From Digital Trends, a web-based technology news publication that reviews products and provides articles about the ways in which technology is changing our lives.* |
| The idea of driverless cars may seem like a sci-fi fantasy now, but they are already being tested and driven. And they work, so it's already a matter of time before they begin appearing on our roads. The first of these cars are being tested by Google, as Megan McArdle describes in a Daily Beast article: "Are Driverless Cars Really in Our Near Future?"—and in a series of articles on Forbes.com, Chunka Mui, who helps companies design and stress-test their innovation strategies, reflects on the implications of these cars. Among other things, he suggests that Google's driverless car will be worth $2 trillion a year or more in revenues, and it would save millions from reducing traffic accidents, wasted commute time and energy, and the number of cars on the road by 90%. He suggests that driverless cars will dramatically reduce human error, the number one cause of accidents, and people can spend their time in cars enjoying all kinds of entertainment provided by electronics companies and app makers. Plus now the manufacturers will become responsible in the case of accidents, since the liability will depend on "the driving skills of the car" rather than the owner.  But what about road rage? None of the articles I read about driverless cars said anything about that, and I began to wonder how the advent of these cars might affect the growing phenomena of road rage by furious drivers—not only affected by accidents but by the driver's behavior in another car. So far there have been so many of these incidents—about 1,500 people a year are seriously injured or killed in these traffic disputes, and many thousands if not millions more have these confrontations with someone who is raging, that the American Psychiatric [Association] has even coined its own diagnosis. It's known as Intermittent Explosive Disorder and, according to the National Safety Commission, it is characterized by "a degree of aggressiveness that is grossly out of proportion to any influencing events." It is even considered a form of temporary insanity in which the enraged person wants to hurt other people or destroy property, and it's mostly found in young men.  So what happens when a driverless car is involved in an incident that might provoke road rage? Sure, if two driverless cars are in an accident, it's mainly a question for the manufacturers to decide—whose software was at fault, and then the guilty car-maker pays. So no road rage, because no one's driving the car—though perhaps if there's a back-up driver or people enjoying themselves in the back of the car—maybe they could still get mad and jump out of the car to confront any one who happens to be in the other car, and if not, perhaps they might still take it out on the poor defenseless driverless car. Likewise, if one driverless car cuts off another on the road, it's just following the directives from its software, and the other driverless car isn't going to get mad. Its software will just register the passing car.  But what about in the long period of transition, when a car with a real driver encounters a driverless car in an accident or gets angry when such a car cuts it off in traffic or maneuvers more quickly into a parking space on a crowded city street or parking lot? What happens to the feelings of anger that might normally turn into road rage when one infuriated driver is sufficiently riled up to strike out at another? But if no one is driving a driverless car, there might be no other person to blame, just the car's faulty software. So the enraged driver might just calm down, though perhaps in some cases, take aim at the car with a good kick, bat, gun, or other object.  Thus, at least actual injuries and deaths due to road rage are likely to go down, since these encounters will involve two driverless cars who can't attack anyone—just record whatever happened on their onboard cams. Or if the encounter pits someone driving a real car against a driverless car, the angry individual will have no person at fault—just a car with no one at a wheel—which might be the end of the incident, since it can be hard to get or stay mad at a car, or at most the person might beat up on the car, which can't fight back, though the risk is having every [act] recorded on video. Or then again, maybe attacked cars might be programmed to respond back if attacked, say by having folded up knives and pincers like the cars of the future in sci-fi films do. So if anyone dares to attack—watch out, the car might zap you back, which might discourage road rage, too.  In any case, it would seem on balance there's likely to be much [less] road rage as more and more driverless cars hit the road. But the likely alternative is a bonanza for lawyers who can now sue the manufacturers with lots of money for any errors in the software in these new driverless cars—which is likely to be much more than anything obtained due to limits on insurance or drivers who have less money. In turn, this might trigger a new kind of rage. Call it "driverless liability disorder" or DLD, and maybe the American Psychiatric Association may come up with an official diagnosis for that, too.  **Citation**  Scott, Gini Graham. "Driverless Cars Could Eliminate Road  Rage." Road Rage, edited by Amy Francis, Greenhaven  Press, 2014. At Issue. Gale In Context: Opposing  Viewpoints. Accessed 17 Aug. 2019. | Driving errors will not be eliminated by driverless cars. At a 2013 technology conference in Las Vegas, researchers demonstrated how the computers in driverless cars could be hacked to make them drive erratically and dangerously. Although the new technology may eliminate driver error, it won't likely make the roads any safer. As some states are already legalizing automated cars, the future of these machines still remains uncertain at best.  If I've said it once, I've said it a million times: Real cars died the day we stopped installing carburetors and started packing the things full of as many computer modules as possible. And now, just like clockwork, our Frankenstein monsters are coming back for their revenge.  **Hacking Car Computers**  Signs of the trembling undead showed up last month, when Twitter security researcher Charlie Miller—who, you might be interested to know, is also a former NSA [National Security Agency] hacker—and IOActive's director of security intelligence Chris Valasek revealed that they had successfully weaseled their way into the computer systems of Ford's Escape and Toyota's Prius.  As Miller and Valasek explained at DefCon [annual hacker convention] on Friday [August 2, 2013], by burrowing down into the cars' array of electronic gizmos, the pair has figured out a way to successfully take control of the brakes, steering, acceleration, and even the seat belts of these cars. And they aren't talking about the kind of helpful control that allows my neighbor George to drive despite not having any arms.  "I think this is where we almost died, right there," joked Valasek, as he showed off a video of Miller nearly losing control of his hijacked Prius to DefCon. The crowd, of course, just laughed and laughed.  Next on stage, a renowned Australian hacker known as Zoz summed up the situation: "I'm a huge fan of unmanned vehicles. I love robots, I think they're the future.... But, like everything else humans have ever made, these systems are going to get hacked."  Every single one of these systems can malfunction—or, worse, be tricked into doing something deadly.  According to Zoz, who spends much of his time fiddling around with our future overlords, society is hurtling toward a future in which robots, from military drones to civilian unmanned aerial vehicles to Google's driverless cars, do much of our transportation for us. "Look at all the advantages," he cheers. Zoz even had the gall to create a robot pizza delivery bot—because what America needs right now is more contraptions stealing our jobs.  "The revolution is coming," says Zoz. "You can't stop it, even if you want to."  After his talk, I've never wanted to stop the robot revolution more—especially when it comes to driverless cars.  See, autonomous vehicles use a dizzying array of sensors, maps, GPS, and other clues to avoid flying off a cliff or driving in through your front door. And you might think all that high-tech whizz-bang trumps some jackass hurtling down the road at 60 while texting pictures of his junk. Thing is, says Zoz, every single one of these systems can malfunction—or, worse, be tricked into doing something deadly.  GPS can be jammed or spoofed. Laser range finders can be rendered worthless by tossing a bit of dust or smoke in their path. Millimeter wave radar can't even handle reflective puddles or even shiny "new asphalt," says Zoz, without promptly slamming on the brakes, or driving the vehicle straight through whatever it thinks isn't there. Maps can be remotely manipulated by crafty hackers. And cameras are damn near useless.  Zoz showed off a slew of examples of unmanned vehicles malfunctioning in frightening ways: Driverless cars flying off roadways and catching on fire. Driverless vans driving straight over Jersey barriers. Driverless SUVs plowing into buses full of blind orphans. Okay, that last one didn't happen—but give it time. Such carnage is inevitable with these four-wheeled terminators.  Then, as if on cue, Zoz busts out with perhaps the most disconcerting fact of them all: "Here's the key thing," he says. "When designers watch the robot in action, they don't necessarily know, even though they programmed the whole thing, why it's doing what it's doing."  Everyone likes to say that driverless cars are the future. That they'll be safer because they remove the possibility of human error. Turns out, these contraptions will have human error baked right into their soulless hearts.  **Citation**  "Driverless Cars Will Not Solve the Problem of Road Rage." Road  Rage, edited by Amy Francis, Greenhaven Press, 2014. At Issue.  Gale In Context: Opposing Viewpoints, Accessed 17 Aug. 2019**.** |

Source 9

Genre: Speech

Lens: Economic

Innovating to Zero

By Bill Gates

At TED2010, Bill Gates unveils his vision for the world's energy future, describing the economic challenges need for "miracles" to avoid planetary catastrophe and explaining why he's backing a dramatically different type of nuclear reactor. The necessary goal? Zero carbon emissions globally by 2050. This speech was presented at an official TED conference, and can be viewed at

<https://conferences.ted.com/TED2010/program/>

**Citation:**

Gates, Bill. “Innovating to Zero!” TED2010. TED2010: What The World Needs

Now, 12 Feb. 2010, Palm Springs.

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| Sources 10 and 11  Genre: Poems  Lens: Literary | |
| Book and Screen  BY MARIANNE BORUCH | **Lingering Grief**  **A haiku by Jacquie Pearce**  *The following haiku won the League of Canadian Poets’ 2018 National Haiku Contest . Judge Terry Ann Carter offered the following praise for the the poem: “[It] expresses a contemporary sadness by pointing to the continuing pollution damage from the fall out of the recent Fukishima nuclear accident. It is a global concern. Haiku are usually not known for their ‘messages’ but this poem is simply (and profoundly) stating a truth; an understanding in the moment, that deeply affects us all”.*  lingering grief . . .  a trace of Fukushima  in the salmon  **Citation:**  Pearce, Jacquie. “Lingering Grief .” League of  Canadian Poets, Canada Council for the Arts.  <http://poets.ca/2018/02/12/2018-national-> haiku-  contest- winner-jacquie-pearce/ |
| It’s mostly someone  long dead who gets curious  all over again, who once told  a book, the book  picked clean to glow  on a website now, an address  with double slashes in it.  Suddenly I love  one detail: the way they harnessed  horses or hammered  copper, what seed — cardamom, rye —  kept its small heart aloft  for a millennium.  Voices in that  dark ago when I open  to room light, lamp  or window on book — old friend —  or the new computer screen.  It’s not technology, either way.  It’s something  in the brain first, an inkling. *Not yet*  *yours to know.* Behind that  little hallways in  sleep. The walking,  every door.  **Citation:**  Boruch, Marianne. “Book and Screen.” Poetry  Foundation, Poetry, Feb. 2015. |

Source 12

Genre: Photographs

Lens: Artistic

**Removed**

**A Series of Photographs by Eric Pickersgill**

*Are you reading this on a handheld device? There’s a good chance you are. Now imagine how’d you look if that device suddenly disappeared. Lonely? Slightly crazy? Perhaps standing next to a person being ignored?*

*As we’re sucked in ever more by the screens we carry around, even in the company of friends and family, the hunched pose of the phone-absorbed seems increasingly normal. So the American photographer Eric Pickersgill created “Removed,” a*[*series of photos*](http://www.removed.social/)*that remind viewers how strange that pose actually is.*

*In each portrait, electronic devices have been edited out so that people stare at their hands, or the empty space between their hands, often ignoring beautiful surroundings or opportunities for human connection. The results are a bit sad and eerie—and a reminder, perhaps, to put our phones away*. - ***ed.*** [***STEVE MOLLMAN***](https://www.theatlantic.com/author/steve-mollman/)[***QUARTZ***](https://www.theatlantic.com/author/quartz/)



ERIC PICKERSGILL



Citation:

Pickersgill, Eric. “Removed.” *The Atlantic*, 2015.