

An aerial photograph of a long, narrow hallway with a light-colored floor. The hallway is divided into vertical sections by darker grey walls. Several people are sitting on yellow chairs, some with laptops, representing a timeline of events. The text 'The Timeline of Next' is overlaid on the left side of the image.

# The Timeline of Next

Cognizant



“The world is before you, and you need not take  
it or leave it as it was when you came in.”

JAMES BALDWIN, novelist, poet, activist

In the decade to come, the world will be a much different place, with some surprising new additions. Call it “the perpetually new normal” — always changing in reaction to whatever came just before.

To prepare for what’s ahead, we must consider not just the changes we see now but also the new realities these changes will spawn further out into the future. How will working from home recast the restaurant industry? Real estate? Transportation? The design of cities? How will a year of homeschooling reshape the feelings of this generation and the next about red-throated capitalism?

To formulate answers to these and many larger, more existential questions, we need to think broadly, deeply and linearly and begin building hypotheses about our future. This timeline is one way to do that.

In the midst of the global pandemic, we brought together a group of thought leaders from Cognizant and our partners to extrapolate a vision of the world of tomorrow. In this exercise, we explore the impact of “now” on the future of education, work, economies and life itself.

Page forward and glimpse both *what’s* next and *when’s* next. We cite cutting-edge research, invoke hard lessons from the past and envision a reality in which new solutions to big problems will thrive.

While each essay is intriguing on its own, when seen together they convey a visually moving and accurate pictorial of how our world is continuously morphing and progressing over time. By thinking ahead and visualizing what’s in store, we’re looking forward — literally and metaphorically — to what comes next in our personal and professional lives.



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[ *A 'meet cute' with technology.* ]

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“Sometimes I’ve believed as many  
as six impossible things before breakfast.”

*Through the Looking Glass*  
LEWIS CARROLL, novelist

An aerial photograph of a city street grid, viewed from a high angle. The image is split diagonally from the top-left to the bottom-right. The upper-left portion is tinted with a cool blue color, while the lower-right portion is tinted with a warm orange color. The streets are dark, and the buildings are light-colored, creating a complex pattern of lines and shapes. A large, circular plaza or roundabout is visible in the lower-middle section of the image.

“Living well is the best revenge. If opportunity  
doesn’t knock, build a door.”

*The Sense of Humor*

MAX EASTMAN, writer, poet, activist



# Living

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Home is where the heart is, where the couch is, where — the screen is? As many of us have clocked more time at home in the past year-plus than ever before in our lives, we've also grown more reliant on our devices.

In the coming years, our lives will be defined by what we say to our devices — and what they say back. Our health will be determined by the data we transmit to our caretakers and the guidance streamed back to our apps and virtual assistants. In our dotage, we'll be grateful for the unflagging support of robots that tend to our every physical and psychological need. As at-home life intensifies, we'll look beyond the concept of the family unit, to pods, tribes and kinships.

Most importantly, we'll take stock of our newly intimate relationship with our devices and take steps to right imbalances. Our collective psyche depends on it.



Soon, the voices won't be just in our heads –  
they'll surround us in every piece of tech we use.

## HAL, Samantha and the

There's a scene in the 2013 sci-fi romantic comedy *Her* that captures where artificial intelligence-powered virtual assistants (VA) are heading. Set just over the horizon in futuristic Los Angeles, the film chronicles the lonely life of techno-nerd Theodore Twombly, who makes a living writing personal letters for people unable to effectively express themselves.

Twombly acquires a new AI operating system designed to act as his VA. Depressed and reeling from the breakup of his marriage, Twombly immediately falls head over heels for his VA, Samantha. "I can't believe I am having a conversation with my computer," he reveals to Samantha during their initial rendezvous. To

which she responds: "You're not, you're talking to me."

In a click or two, Apple and Amazon and Google (and every other tech vendor worth its salt) will have Samantha-like capabilities embedded as their UX, and *digits* will be well on their way to becoming superfluous in a *digital* age.

Clearly, it will take enormous algorithmic smarts to imbue VAs with anthropomorphic fidelity. But that's the arms race of 2020-2025.

# Anthropomorphic Sound of the Future

## What the future sounds like

A world of Samanthas and Siris and Alexas (and every other old-fashioned Victorian name you care to resurrect from the pages of Dickens and Hardy — “Hey, Charity Picksniff — order my usual pizza, will you?”) may seem unsettling at first, but by mid-decade, they will be as normal as ATMs, contactless payments and in-car head-up displays.

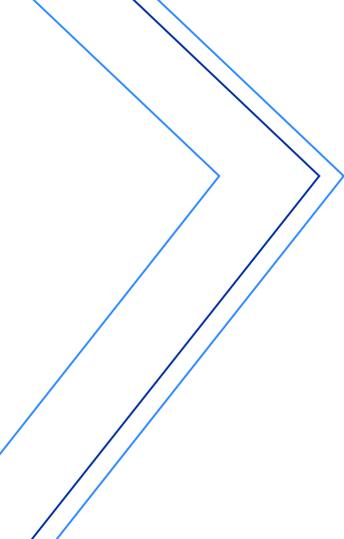
In another click or two, Samantha (or Charity) will change on-the-fly depending on our mood, circumstance and, of course, need. Women could opt for male voices, if desired. Men could keep their female VAs with the lilting intonation that rises at the close of each statement that Siri made famous. Or you’ll talk to a George (Clooney) in the morning and a Nicole (Kidman) in the

evening — celebrities will, of course, monetize their velvet tones with digital rights management deals.

And then, in a further click or three, VAs will truly read our minds — not only finishing our sentences but also proactively anticipating our every need, want and desire (hopefully, within reason), even overruling us, where necessary — or at least where human intelligence falls short of the mark.

As HAL, the seemingly omniscient supercomputer from the sci-fi thriller *2001: A Space Odyssey* warned us when his cognition differed from his human companion: “I’m sorry, Dave. I’m afraid I can’t do that.” With more precise algorithmic thinking, VAs that can countermand are not too far away. With a smile or a scowl, or a countenance that augments their purpose and conveys understanding that transcends the spoken word, e.g., in an entirely anthropomorphic way, their voices will fill our minds, and our future.

*Alan Alper is Vice President of Cognizant’s Global Thought Leadership Programs*



# Exploding the Nuclear Family

For 160 years, from the mid-1800s until about 2011, the average number of people in the average American and European household steadily shrunk, whittled down by industrialization, falling birth rates and a cultural shift toward autonomy and individualism. In the wake of the Great Financial Recession, however, [the trend began reversing](#), with household size growing 50% faster than overall population growth. The economically insecure (the young, the unemployed or underemployed, retirees) sought refuge in family groupings that provided shelter from the storm.

Fast-forward to 2020, and in the midst of another storm, the number of kids moving back in with their parents or parents moving in with their kids went off the charts. Among the most tangible things the coronavirus revealed was how fragile family support systems were for so many people in the day-to-day juggling of work, parenting, play and learning. With the on-again/off-again nature of schooling, [more than one billion children globally](#) fell behind their expected development timetable, and the mental health of parents and caregivers [began to deteriorate](#). Even those with the luxury of working remotely grappled with the sudden difficulty — and moral quandary — of outsourcing childcare, cleaning and cooking.

With an eerie foreshadowing, David Brooks [wrote an article](#) in the March 2020 edition of *The Atlantic* called, “The Nuclear Family Was A Mistake.” In it, he noted that our modern domestic arrangements have “no shock absorbers” when something goes wrong. Of course, in 2020 something did go terribly wrong.

## The dysfunction of families

The concept of the self-reliant, detached nuclear family is, of course, a relatively modern invention, really only becoming mainstream after World War II with the development of “suburbs” around the leafy edges of cities. Between 1950 and 1970, for example, [83% of all population growth](#) in the US occurred in the suburbs.

This was great for the economy: Every new household purchased its own furniture, appliances, pots and pans, and a car (or two, and eventually four or five) to motor into the city center. The explosion of households helped create a more dynamic and mobile society — even as critical, invisible and unpaid labor within the household limited career opportunities for many women.

But now, that invisible labor is very visible indeed. The choice between working and parenting is stark, [especially for mothers](#). Many parents now find themselves assuming dual roles of parent and teacher — and often not performing well in either role.

The calculus of a single, detached nuclear family unit doesn’t compute anymore. And out of necessity, comes invention.



Perhaps it does take a village after all.

### Who's in your tribe?

In the near future, an abundance of new family configurations will become mainstream — from familiar variations like the multigenerational households common in Asia and Africa, to new types of forged households built on what anthropologist Marshall Sahlins calls “[kinships](#),” groupings formed around shared culture rather than biology. The pandemic-inspired concept of “bubbles” created by families of school-aged children represent a conceptual foundation for household configurations, even after the pandemic recedes.

At heart, the family unit will always adapt to economic and social change. But no family is an island, and it does perhaps take a village after all to raise new generations ready and able to withstand the existential shocks of the future. It's not enough for households to cobble together an ecosystem of on-demand, borrowed or outsourced support — we need a pack we can rely on. The pandemic gives us the opportunity to redefine what that looks like.

*Irene Sandler is a Vice President of Global Marketing at Cognizant*



# It's All in the Mind

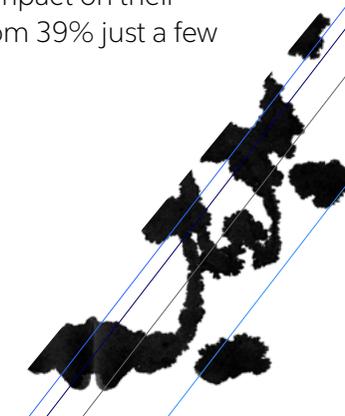
To keep ahead of artificial intelligence,  
we need to optimize our real intelligence.

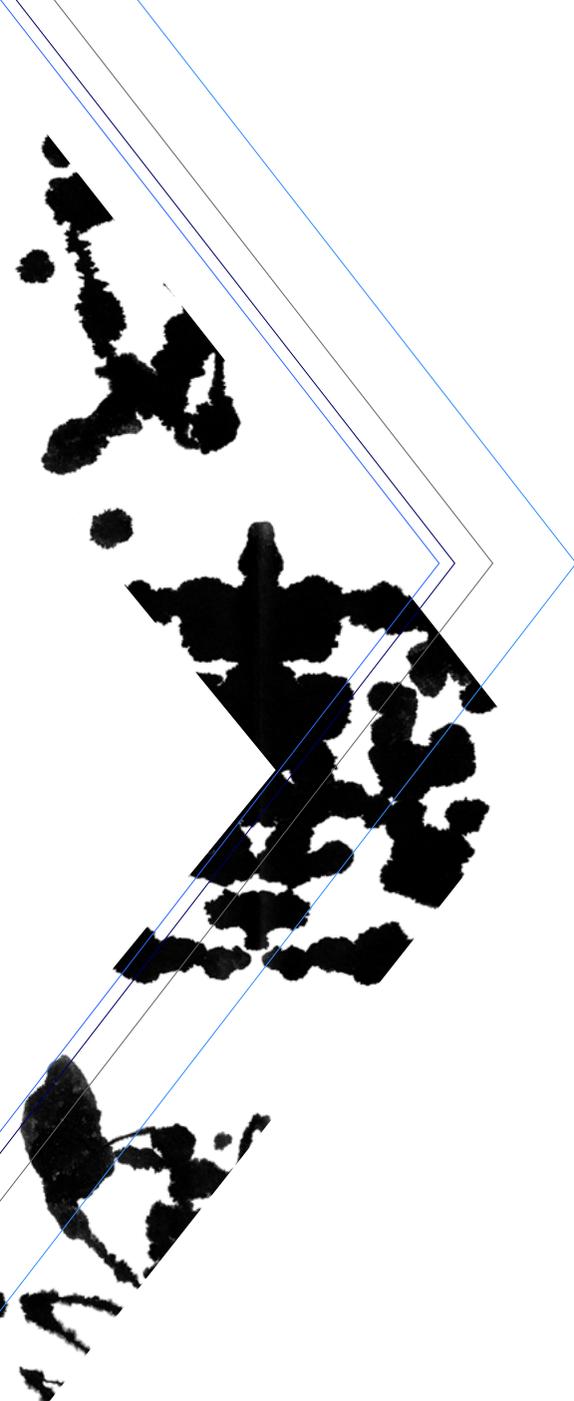


Every day for 10 weeks, professional basketball player Paul George awoke at 7:00 AM for a daily COVID screening. This was part of the National Basketball Association's much lauded "bubble" approach to conducting business-as-usual in the midst of very unusual times. The organization's approach is the best we've seen thus far for keeping a workforce physically safeguarded from the perils of the pandemic. But what about their mental health?

While few of us will know the pressures of performing at the highest level of our profession for a global audience of millions of viewers, we can all relate to the burnout he expressed. The prevalence of such feelings have risen so sharply among young people that some refer to millennials as the "Burnout Generation." But it's not just limited to this demographic. According to an October 2020 Kaiser Family Foundation survey, [a majority of US adults](#) 18 and older (53%) said that worry and stress related to coronavirus has had a negative impact on their mental health, up from 39% just a few months earlier.

By week seven, [George admitted](#) the toll that such a regimented life had taken on him. He began to suffer from anxiety and depression under such restrictive living conditions. It was affecting his mental wellness and his performance on the court.





Economic anxiety, climate anxiety and device addiction are all combining in various forms to the detriment of our collective psyches. As our understanding of mental health continues to evolve, businesses will increasingly agree that ignoring it only exacerbates the problem. Turning from physical labor to knowledge work places even more importance on the mental wellness of the workforce.

### **Wellness for mind and body**

Companies like UPS have engaged in physical therapy routines and programming for years to alleviate the physical toll that their workers experience on the job. What is the equivalent for workers' mental fatigue? Microsoft **has announced new features** for its collaboration platform Teams that aim to improve users' work/life

balance in the work-from-home world, including a "virtual commute" feature to create mental bookends for the remote workday. It's also partnering with meditation app Headspace to add a new "emotional check-in" feature.

Culligan Water **has implemented well-being calls** and provides stress management resources to help employees improve resiliency. Virgin Trains in the UK **advises managers** on how to support colleagues in need and developed an app to provide individualized mental health resources. And Johnson & Johnson provides free therapy visits for employees. In the future, such offerings will be necessary and expected across all industries.

With the combination of cultural shifts around the subject, resource allocation and technological advancement, the future of mental health services will be more accessible and effective than ever before. From Chief Purpose Planners defining the employee experience to AI-Assisted Healthcare Technicians using real-time biometric data from wearables, organizations will design the jobs of the future with a thought toward safeguarding and strengthening their most valued assets: the minds of their employees.

*Desmond Dickerson is a senior manager at Cognizant's Center for the Future of Work*

# Escaping the Matrix

Online all the time? Wired? Detox ...

COVID-19 pushed us deeper into our digital addictions. Internet use [rose 70%](#), and social media traffic surged, [in some cases by 50%](#), compared with pre-lockdown levels. Zooming came from nowhere to be [the word of 2020](#). Is there any turning back? Are we all just part of [the Matrix](#) now?

Businesses think so; according to [a recent study](#) we conducted, 60% of businesses will accelerate digital transformation over the next one to two years, 44% will shift physical jobs to digital ones, and 32% will have more of their staff work from home.

## The virtual is real

Digital acceleration will be good not just for business but also for the world. It will drive corporate productivity and profits, along with jobs and economic growth. If harnessed correctly, it will promote sustainability and lead to medical breakthroughs.

But for companies that neglect to protect their staff from digital overload, it will lead to anxiety, depression and poor performance. And for those individuals who undergo a digital overdose? Well, there's no such thing as digital methadone.



## Rebalancing act

Here are four digital fail-safes that that will become commonplace as we emerge from the pandemic and enter the next normal:

- 1. Modify the workweek.** Organizations have already started to experiment with a shortened workweek to allow employees to unplug from technology. The four-day workweek has been tested by companies like [Microsoft Japan](#), which reported an increase in productivity of 40% when it gave employees Fridays off for a month. Having employees work fewer days also reduces company costs, employee travel and carbon footprints. Even politicians are getting into the act. The Spanish Más País party, for example, is lobbying for the government to [give grants to companies](#) that shorten the workweek. Some companies are going further, replacing expectations of time spent at work with measurements of work delivered.
- 2. Encourage employees to disconnect.** More companies are helping workers to unplug. Front App, a San Francisco-based startup, [launched a program](#) to award \$200 to any employee who limits their screen time to less than 14 hours a month. Daimler allows its employees to [auto-delete messages while on vacation](#). More companies are [prohibiting emails and texts](#) after or before work hours. Regulations, such as the “[right to disconnect](#)” in France, are reinforcing the unplugging movement. Italy and Spain have already created [their own laws](#), and other countries, such as the Netherlands, Belgium, Canada and India, are looking to follow suit.

- 3. Equip offices with recharge rooms and wellness spaces.** During the first wave of the virus, New York’s Mount Sinai Hospital converted a 3,000-square-foot lab into [a series of recharge rooms](#) to help front-line healthcare workers decompress. These rooms use plants, sunlight, multisensory experiences and other biophilic approaches to recreate natural settings. Companies will follow this example by rethinking the full-office design to let outside air and nature in, and disease out, while providing greater flexibility for new ways of working.
- 4. Improve digital hygiene at the workplace.** Companies will need to put more of their workers on “digital diets,” helping employees avoid excess digital consumption while boosting collaboration and idea-sharing. Measures will include “no-tech” meetings and electronics-free rooms where workers leave their devices at the door; apps that enable workers to track their digital use; regular work breaks away from screens; resources to help staff deal with techno-complexity; buddy systems that allow workers to support each other when detoxing; and workplace yoga and other activities to build “mindfulness.”

The digital genie isn’t going back in the bottle anytime soon. But rebalancing the online and offline is the hard work of the future — without some non-digital downtime, minds and futures will be fried.

*Lou Celi is founder and CEO of ESI ThoughtLab*

# Patient, Heal Thyself —

**E**ntering your local medical facility is like stepping back in time. You may have gotten there in an Uber (ordered with a couple of screen taps) after having a lunch delivered by DoorDash (with a couple of taps) after having been on a Zoom all morning (after a couple of clicks). But walk through the door of your doctor's reception or ER, and you're back in 1975, or 1950, or 1910, or 1850 ....

"Please can you fill out this form."

"In triplicate."

"Can I see your insurance card again?"

"Please sign here, here and here."

"Oh, and here."

"We'll call you when the doctor's ready ...."

When, 35 minutes later, you're finally admitted to see the doctor, the process starts again ....

"So, what seems to be the problem?"

"Er, I just filled in a form with all the details."

"Well, why don't you tell me again."

"OK ..."

Starting soon (not a moment too soon), healthcare will be in the middle of a metamorphosis that by decade's end will make it as automatic and frictionless as our taxi rides and food services and video calls. Unified virtual and physical health experiences will be the hallmark of **future care anywhere**, with data, gathered virtually, available in the physical world (and vice versa). Two or three personal healthcare apps supported by on-demand healthcare platforms will dominate the market, competing on experience: the warmth of their artificial intelligence (AI) personal health assistants and how easily they help us make informed health decisions.

In-home monitoring devices, wearables and even tiny implants will be sophisticated and commonplace, streaming data to the apps so they

# Digitally

The healthcare industry is far from healthy. The cure: a bracing dose of next-gen tech.

continually draw individualized portraits of our health data. Many of the streaming devices will incorporate passive sensor technology and 5G connectivity; once we choose to install a device, it will operate in the background, and we'll hardly know it's there. In doing so, we won't need to build and sustain habits to benefit from the technology.

## As healthy as your data lets you be

AI agents within the app's platform will monitor our data and immediately flag and analyze results outside our personal norms, including our sequenced personal genome. The virtual agent will text — or simply speak aloud — a personalized recommendation, such as making a specific dietary change based on how we metabolize food.

Or the agent may prompt us to contact a physician or testing facility for follow-up. These will be as close as our nearest pharmacy or grocery store clinic so we can fit the appointment into a regular shopping trip vs. making it a special event.

We will own our personal health data regardless of where it originates. Apps will generate blockchain-based codes that represent our permission to share our clinical data and track who sees it and how they use it. The codes will be as easy to use as debit and credit card personal identification numbers (PINs). Recommendations from the AI agent will guide test selection and results interpretation, which will upload to our chosen app and platform.

If the same results indicate a problem is brewing — say, early detection of colon

cancer or trace amounts of antibodies indicating an immune system disorder — treatment can begin immediately. With the digitization of technology, we will receive much of the care in our homes or at the pharmacy. **In-home dialysis** is already available today, and major medical centers are experimenting with in-home delivery of complex, high-acuity care. In five years, minimally invasive surgeries will take place at home.

## Shopping for health

Whether in-home or in-hospital care is required, AI-driven apps will enable consumers to compare services, facilities and physicians, and select the ones that meet their price and quality parameters. Digitization and on-demand care anywhere, especially in lower cost settings, will drive down healthcare prices.

More care will follow standardized “**McHealth**” procedures that are affordable without insurance, just as we pay for repairing wear-and-tear on our homes and autos. Health coverage will be designed for catastrophic events and care. In short, consumers will have much of their care when and where they want it, with the physical and virtual experiences seamlessly intertwined, and the data from each readily available.

In 2019, a time traveler from 1919 would have been entirely familiar with the process and experience of going to her local medical professional. By 2029, that familiarity will be fading, and by 2039, gone. The healthcare industry will be a modernized undertaking — fit, nay, healthy for the rest of the 21<sup>st</sup> century.

*Trish Birch is SVP & Global Practice Leader, Healthcare Consulting, at Cognizant*



# Machines of Loving Grace

As life expectancy continues to rise, so do the challenges associated with our growing older population. In the next 30 years, the percent of the global population over 60 **is set to double**. If they're lucky, these two billion people will remain capable and independent. If they're less lucky — and more typical — they will come to rely on the kindness of their family, or strangers.

In the US, almost 1.5 million people **live in nursing homes** — some of which are dreams, and some nightmares. The difference lies in the quality of care — which itself rests largely on the number of staff employed. In the best-case scenarios, nursing staff have time to sit and chat with a resident and listen to an anecdote for the 17<sup>th</sup> time. In the worst, a

meal tray is slapped down a couple of times a day, and a senior is left alone to wander through the windmills of their mind.

As in *Robot & Frank*, every senior could do with an intelligent personal companion. In the eponymous 2012 movie, Frank, a retired thief, is given a birthday gift by his son — a robot companion to look after him. Initially suspicious, Frank warms up to his new pal when he realizes that Robot (never anthropomorphized with a name) is happy to help him carry out one last assignment from his former career. Together they commit a burglary, and in the process, a bromance blossoms.

As we age, nothing is more important than being in good hands. Increasingly, these human hands will be supported by artificial ones.

### A BFF for the elderly

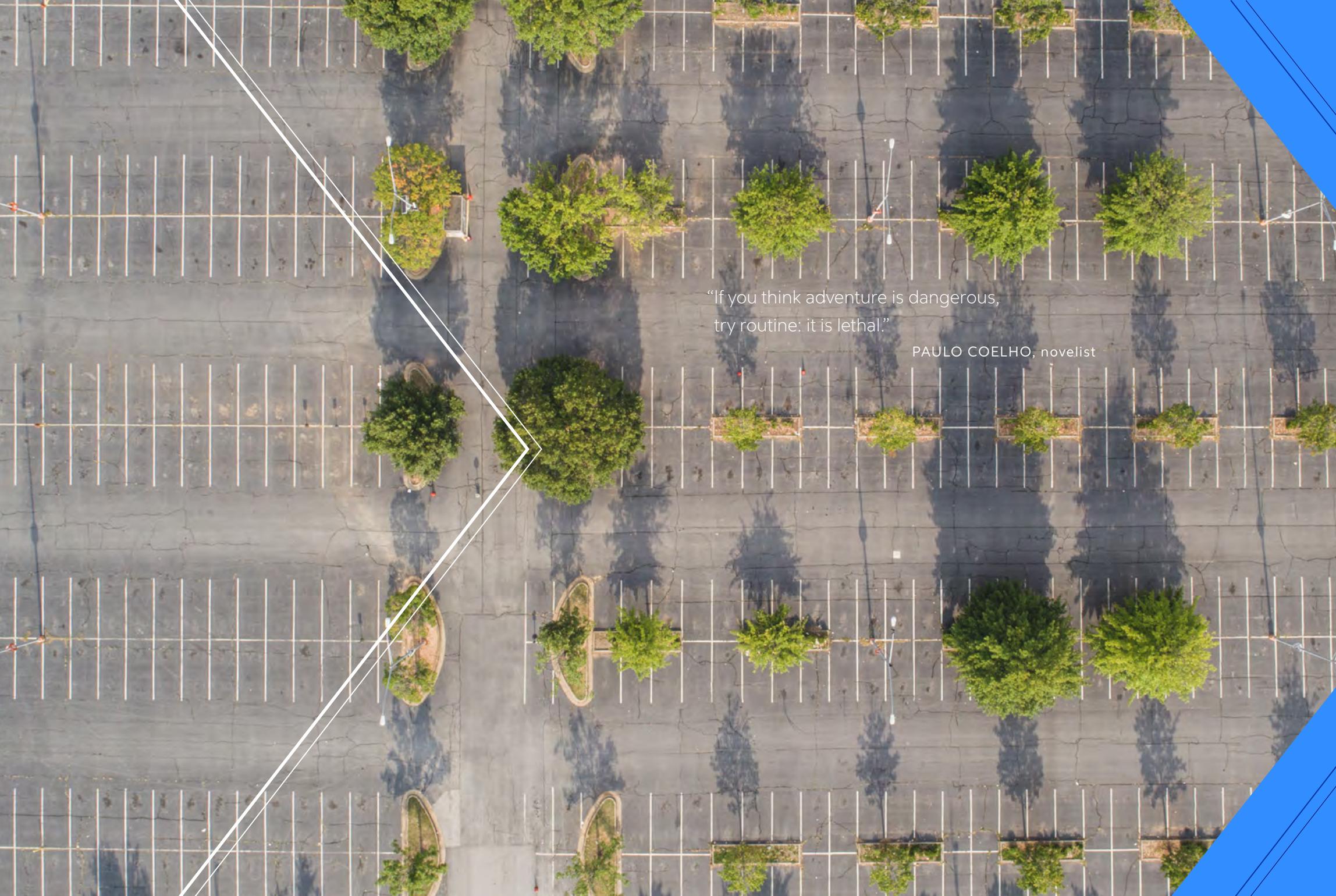
The residents of the Shin-tomi nursing home in Tokyo aren't looking to rob anyone (they want to remain residents, not inmates), but **they're very happy with the robots** that roam the corridors of their building, bringing food and laundry and doing the dusting, all allowing the human helpers to spend more time bedside hearing that anecdote for the 18<sup>th</sup> time.

Roughly **90% of nursing home patients** who are able to walk need assistance or supervision. At 0.001 miles per hour, helping an old-timer to the bathroom can occupy a caregiver for half an hour. Let Atlas help! Once you can **dance this well**, it would be a breeze to shuffle along with Mrs. Bennet or Tanaka-san to do the necessary.

Of course, it's not just robots that have a big role to play in aging — with machine-learning-based software, nurses, medical staff and other personnel will have accurate and real-time information via “companion” apps. Next-gen software will analyze facial expressions and subtle patient movements to better understand their needs, and provide healthcare professionals with timely information exactly when it's needed. With smart software and hardware, AI will provide huge benefits when it comes to better understanding nursing home residents — improving their mental and physical well-being, providing more accurate treatments and, ultimately, making the golden years more golden.

Surrounded by **machines of loving grace**, seniors will rest in hands not quite human but more human than no hands at all.

*Andres Angelani is the CEO of Cognizant Softvision*

An aerial photograph of a parking lot with a grid of white lines. The asphalt is dark and cracked. Several trees of various sizes are planted in the lot, some in individual planters and others in larger landscaped areas. Long shadows are cast across the pavement. A white geometric graphic, consisting of two parallel lines forming a large 'V' shape, is overlaid on the left side of the image. The top and bottom corners of the image are partially obscured by blue geometric shapes.

“If you think adventure is dangerous,  
try routine: it is lethal.”

PAULO COELHO, novelist



Learning /

Living /

# Working

Economies /

Once we ditched our commutes and uncomfortable clothes, there was no going back. Now that our workplace isn't confined by a particular place, the idea of work is boundaryless.

Our appearance will be defined by our digital avatars. Our output will be revealed at our augmented-reality-driven meetings through 3D graphics and advanced analytics. When we do head into the office, it won't be a cubicle farm with a dingy breakroom but a multifunctional space fit for innovating, hosting guests and partying with colleagues.

What we've learned is that work isn't just about work — it's about collaborating and being collegial, and not just virtually. So even as we slough off the workplace, we'll also say hello to entirely new spaces that offer the comforts of home, the social interactions of work, the immediacy of nature and a sense of purpose, wellness and belonging.

Zoom is for amateurs — Oculus Quest 5 is for professionals.

# Virtual Sales Call: Real Results

I just slipped on my new virtual reality headset and beamed into my 2:00 VR-Zoom meeting with my sales team. Today's meeting is really important given our third-quarter performance. I need to motivate them to make a big push for fourth-quarter revenue, so I'm wearing my most professional avatar. My clothing is fresh and pressed, and I make myself 10% taller just to show some authority. I decide to use a cool King Arthur-style roundtable setting for this discussion so we all feel equal responsibility to improve our business. I think this is going to be a great meeting for our business.

As people join the VR-Zoom meeting, I note the avatars they each chose. Avatars say a lot about a team member's attitude toward their job and this specific meeting. As I scan the room, a bubble pops up above each avatar, sharing the individual's latest sales results, projections and any actions they owe me. I'm very surprised to see Bob here. His status shows he's on vacation, and he's already ahead of target. But his projected revenue is even higher, and from his really sharp-looking avatar, I can tell he wants to send a message to everyone that he's committed and overachieving. I send a private message to Bob to thank him for his dedication.

## **A multitude of media**

As the meeting starts, I share the business performance with the team through a 3D animation in the center of the roundtable. Our latest sales results per region are shown colorfully on a map that hovers in front of everyone. I then overlay the team's revenue projections on that, and my AI assistant highlights them with a pulsing ring of color indicating confidence levels in achieving the projections. We have too many red regions, and even the Northeast region, highlighted in green, is a concern because the confidence level is shown as low. Carol, who owns the Northeast, has been making high projections for a while now, but this is concerning.

Instead of having everyone present their status and plans, I turn to our AI assistant and ask, “Which region needs the most focus?” Sure enough, it identifies Carol’s region and presents all the factors that indicate why there is low confidence for meeting the projection. It also suggests that to fix this, we should raise prices 5%, dedicate more time to clients and launch a promotion tied to a major event happening in three weeks to boost sales further. After Carol takes these actions, the confidence level immediately increases. If the confidence level slips or has other issues, the AI assistant will notify Carol and me immediately.

As we wrap up the meeting, I remind the team what success will look like for them. Before we leave, Bob switches over to his real image and location on a beach just to make us all smile. After we end, my AI assistant publishes the actions and new projections to the entire team so we can track our progress and ensure success continuously.

*Bret Greenstein is Senior Vice President and Global Head at Cognizant’s Data Practice*





# Living at Work

Work's not a place; it's a verb.

Spurred by policy changes and public health guidance, telehealth suddenly became “a thing” in March 2020, [soaring 154%](#) above 2019 levels. Even with widespread vaccinations, doctors' offices may never be as busy as they once were. Going to the doctor's workplace won't make sense when a doctor's work is simply a verb.

And what's true for doctors will also be true for most other bourgeois, non-place-reliant work.

Writ large, this acceleration into an untethered future of work will see the phrase “working from home” seem increasingly antiquated — language from the before times. Soon, work will be work, place will be place, and the two will be increasingly independent of the other.

Pre-pandemic, we already saw “digital nomads” comfortably working in cafes in Bali, a WeWork in Lima or on a plane, with 5G, Starlink and WiFi 6 networks in hand, and Zoom, Teams, Webex, GoToMeeting, Skype (actually, whatever happened to Skype?) all fired up, no slacking allowed, even in a world of Slack. Some even started prepping with a TV-quality filming studio in the basement.

Attitudes have not evolved quite as rapidly, though. While “managing by walking around” worked well in the past, now, managing by outcomes is far more effective. Not only does this call for trusting managers and self-driven workers; it also means eliminating location bias. “Workers at home” have long been considered “shirkers at home” — now, that’s dinosaur talk.

### **Not the ‘where’ but the ‘what’**

So will WFH stay **as high as 70%**, as some companies are reporting, or go down to under 10%? The answer will vary by industry, by country, by company, by role. Some employees have to be in the warehouse or on delivery routes. Others have home situations where WFH is miserable. Some are nervous about crowds. Still others love that they have traded the commute for family time.

We’re already diversifying employees on so many other attributes — we can add a location attribute. Besides, we’ve learned to work differently during the pandemic. How many software proposals in the future will include multiple people demoing at a prospect’s office?

Regardless, we do need to plan for major investments in home infrastructure: faster laptops and bandwidth, more VPN and Zoom licenses, ergonomic furniture. CIOs will have to face up to privacy, security and endpoints in insecure locations around the world. All of this will add a level of complexity we’ve never faced before.

Sci-fi writer William Gibson famously said, “The future is already here — it’s just not evenly distributed.” Unevenly distributed was a good description of remote work 25 years ago. Now, hundreds of millions of workers and managers have had a taste. It took unbelievable acrobatics to get there in a couple of weeks. Many are still getting used to it. So, take it from this 25-year WFH veteran: living at work is not a bad place to verb.

*Vinnie Mirchandani is an advisor, author and blogger covering IT innovation*

# A Heads-Up on the New Office

Hint: When you do need to go there, you'll actually want to.

COVID-19 has shown that “heads-down work” can be done anywhere — typing, coding, form-filling, et al. This has been obvious to “future of” folks for years — many of whom (namely me and you dear reader) have been working out of our homes for decades. For the majority of workers, the forces of custom, inertia, conservatism and presenteeism has kept them stuck in their office cubicle.

But now, the penny's dropped, and employees and employers alike have realized en masse that much bourgeois white-collar work can get done from anywhere, and the idea that it must be done in a cubicle in an office block an hour away from home is not strictly true.

At the same time, though, our current COVID-19 interregnum has shown that “heads-up work” is still best done face-to-face. While we've all coped with endless video calls and the explosion in email and instant messaging, we can all sense that there is still no substitute for being “in the room” when we want to create, collaborate and close.

Given these new facts, the question arises — assuming the vaccines are effective and we can leave our homes again one day (*inshallah*): What's an office for, and what should we do in it when we're there? (If the vaccines aren't effective, and the virus further mutates, and we're locked down forever, then all bets are off ....)

## Not just a place to work

In the future — maybe even the summer of 2021 — an office will play three roles: a showroom, an R&D lab and a party space.

The showroom will be a prestige place to impress clients, prospects, media and analysts — “check us, we're playas.” The R&D lab will be where the secret sauce is cooked — think Apple's [infamous design lab](#), formerly overseen by Sir Jony Ive, where watches and phones and brain implants are dreamed of and designed. The party space will be, well, where the party's at — monthly local social/collaborative shindigs (rather than the global/regional annual ones that many large multinationals traditionally hold) to develop the “culture,” network and bond.

For some organizations, these three functions of the new office will be contained within one space, say in [Hudson Yards](#) or [Canary Wharf](#) for those who can (or want to) afford it. For others, (the majority) they will be distributed among different spaces — a single (fancy) floor of a townhouse in [Mayfair](#) as showroom, a bare-floored brick building in [Shoreditch](#) as lab, and the [Porter Tun at the Brewery](#) rented for the monthly get-together.

In the near future, an office that sub-optimizes these three functions in one “composite” space — a pretty ordinary small boardroom for the clients/prospects, a beaten-up old sofa next to the coin-operated drinks machine for R&D time, and a cubicle-filled open floor with a DJ stuck in the corner for the knees-up (i.e., 90% of current office spaces around the world) — will be



regarded as a relic from the before-times. Hardly fit for purpose for our brave new work.

The office is not dead, nor is the city, but the daily suburban commute to a cubicle will go the way of the Dodo in the next 24 months, and only dodos and dodo companies will maintain that model.

The new office, pioneered by WeWork before it blew itself up through avarice and greed, will be a better place to do the heads-up work that needs to be done there. But it's no place at all to do the heads-down work that doesn't.

*Ben Pring co-founded and leads Cognizant's Center for the Future of Work*



# 15-Minute Spaces

The commute is dead. Good riddance.

Fighting your way through rush-hour traffic to get to the office on-time is a feature of the past of work in pre-virus times. We don't have to trudge between train platforms and bus stations, or slowly edge our way forward in bumper-to-bumper traffic anymore. We move from bed to shower to kitchen for a caffeine hit, sit down with our laptop or phone, and BANG!, we're at work.

But ...

Our bodies may be thanking us for the long overdue break from the misery of the commute, but our brains aren't, now that we can work from anywhere/anytime — now that we have to work anywhere/anytime/all the time.

Working from home, despite all the benefits, is proving incredibly challenging for some. It's difficult to avoid distractions – children, chores, pets — at home. It's easy to overwork, stretching your hours to finish a project with no one around you to turn off the lights or lock the building. Isolation and loneliness are creeping in, without anyone to chat with in communal spaces, or to share a coffee with on breaks.

## Just down the road

As working from home becomes embedded deeply into our lives, and remote office space takes over our home space, where can we find our own space? We're going to need somewhere new — a third space outside of the home and the traditional office, where people can work and socialize, prioritize well-being, and be part of the community without upping our risk of contracting the virus. We need these spaces to be within a 15-minute walk or bicycle ride/drive. Many people will use these new spaces to replace the social networks previously built around the office. These spaces will work as refueling centers for our minds and bodies as we tackle our workloads.

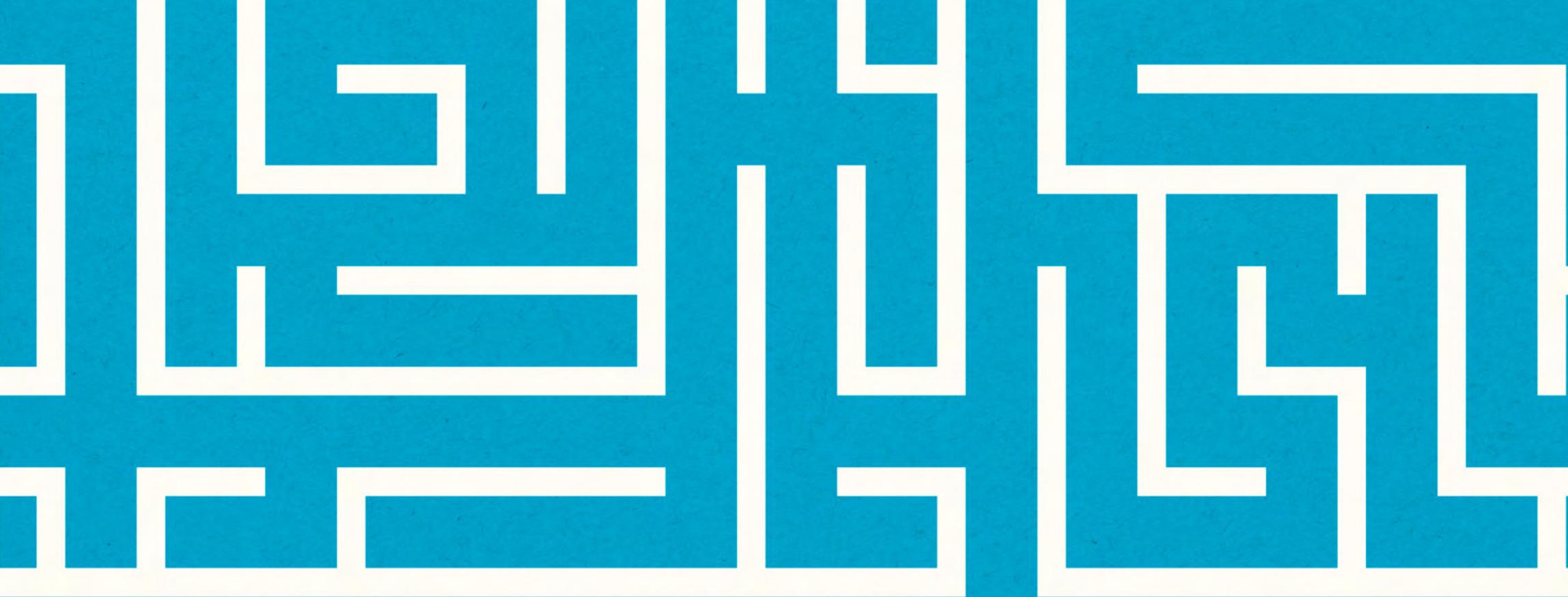
These not-quite-work, not-quite-home spaces could entail a hotel, a restaurant, a local watering hole, an art exhibition,

a yoga studio and just about anything else you can think of. They're already becoming a reality. US startup **Reef** is on a mission to build cities where everything people need can be found within a short walk or bicycle ride. To this end, Reef is transforming its real estate network of more than 4,500 parking lots and garages into neighborhood hubs. It's partnering with other players for micro-fulfillment, e-bikes, pop-up clinics and urban farming.

In Saudi Arabia, **the LINE** is designed as a 106-mile belt of communities connected without the need for cars or roads. The plan is for residents to have access to nature and all their daily needs within a walking distance of five minutes. An ultra-high-speed transit system ensures no journey will take longer than 20 minutes.

As our working lives become more isolated, these new spaces will become increasingly important in creating a company culture. Instead of encouraging employees to sit alone behind screens, the new 15-minute spaces will provide a welcoming environment that promotes social interaction and breeds a sense of belonging. Even as employees move from full work-from-home status in the years and months ahead, we're seeing the foundation for a new space revolution being built now. The question is, which 15-minute space will you be working in before the decade is out?

*Manish Bahl is a Cognizant Associate Vice President who leads the company's Center for the Future of Work in Asia-Pacific*



“A rat in a maze is free to go anywhere,  
as long as it stays inside the maze.”

*The Handmaid's Tale*  
MARGARET ATWOOD, novelist

# Learning

Living /

Working /

Economies /

Long ago, societies decided that learning took place within four walls. We agreed that curricula should be based on age-old tenets, and that teaching models should be one-way and instructor-led. Somewhere along the way, we bought into the idea of (really expensive) four-year degrees that released highly indebted young talent into the world.

All these models are breaking in the face of today's realities. As learning has become less classroom- and campus-based, our concept of it has changed. Sources of funding will shift from endowments and federal loans, to Big Tech. Yellow highlighters will give way to video game-like lessons and AI-driven personalized support. Output will be skills, not degrees. Learning will become more fluid, democratized and flexible, better aligned with a complex and fast-changing world.

As learning itself becomes more about engagement, collaboration, resourcefulness and problem solving, the "classroom" will be life, itself.



# ‘Dear Noah, Welcome to the University of Google’

In the wake of the pandemic and the pivot to remote learning, many colleges are finding themselves in deep doo-doo. With cash-strapped students (and their parents) shelling out first-class fare for cattle-class pedagogy, university provosts and presidents are fighting back the outraged howls of their “consumers” with gritted teeth, knowing only too well (as they admit to themselves in the wee, wee hours) that the cash-cows of the past are no longer sacred and are in peril.

Spurred on by the iconoclastic, so-tough-you-gotta-love-it tough love of professional pontificators (and part-time professors) like [NYU’s Scott Galloway](#), many universities and colleges will use technology to get with the post-pandemic program and tear down their walls.

The goal? To democratize learning. The how? By partnering and co-branding with some of the biggest players in tech, and using state-of-the-art digital tools.

*Welcome to the University of Google (or Amazon, Facebook, Apple ... TikTok, etc., etc.).*

Similar to land grants that launched American institutional flagships like the University of California at Berkeley, a “digital grant” will ensue (sourced by a 1% digital sales tax), underwriting access to the highest quality distance-credentialing. As this new educational model becomes mainstream, it will result in more affordable and faster credentials, tightly aligned with fluid employment markets and fine-tuned across a career(s). In time, *skills* will become the vernacular of the quad, not the anachronism of a *degree*.



## Today's 'hedge funds with classrooms attached' will be replaced by skills factories.

### Getting out of the dorm room

The coronavirus is galvanizing this change. The best colleges and universities will empower lecturers to engage in scaled experiments with online media. Rote classroom activities will give way to a fusion of lesson plans with videogame-like distance learning, all led by instructors with captivating online personalities that foster far better student engagement than physical classrooms alone ever did.

At the same time, the change won't mean turning the beautiful, venerable college campuses of yesteryear into an educational "Rust Belt." On the contrary, with a vastly broadened basis of scaled funding, it will allow those that cross over, post-COVID, to thrive. For those students who want a full on-campus experience, it will still be available (still at a price). But for the vast

majority of students, gaining access to a credentialed skill or skills will be the thing – similar to a latter-day GI Bill enjoyed by their great-grandfathers and grandmothers before them.

By making the onramp to higher-ed more fair and far more accessible through deep-pocketed alignment with tech, we'll be better able to grapple with a world awash with change (technological, societal, political, ecological) and more complex and more intense than ever before. In doing so, we'll open 10X new opportunities for personal education and levels of employment for billions, and harness the collective genius in place to solve the greatest issues of our time.

**"Go UG! Go UG! Go UG!"**

*Rob Brown is Vice President of Cognizant's Center for the Future of Work*



# You Say You Want A Revolution? Class Dismissed

Ah, 2020, when one of the few things people agreed on was that [teachers don't make enough money](#).

While we magically discovered our appreciation for teachers and the role of education, many families used the global pandemic to try something new, such as embracing homeschooling or bringing back tribal education in the form of [podding](#) or teaming up with other families to share childcare, education and socialization duties.

As we focus more than ever on the tools and skills that kids will actually need for what lies ahead — skills like flexibility, grit, empathy, resourcefulness, resilience and collaborative problem solving — we're also rethinking exactly what school is and where learning should take place.

In much the same way that work has been forever altered, compliments of COVID-19, so too has our perspective on education. In the coming decade, our views on classic education will be seriously challenged, as will the concept of the physical school building as a place of learning.

In the near future, learning experiences won't be limited to an 8-to-3 school day, in-person classrooms and the occasional museum field trip. Instead, a student's time and place of learning will include [remote destinations](#) — even [living abroad](#) or visits with relatives, wherever they reside.

In addition to the bigger changes of nomadic families and shifting friendship circles, other more subtle changes will center around a new and improved hybrid schooling model, informed by our learnings from the post-pandemic era.

The hybrid schooling model will typically split the weekly learning cycle into three days at home and two days in school or will evenly divide students' time between home and school each day. This model could help fulfill parental demands that existed even before COVID-19, such as smaller class sizes, the opportunity to incorporate special-interest coursework centered on religious or cultural preferences, a more focused learning environment, less time wasted during the school day and more individualized attention for students.

## Education is no longer by the book.

Rather than retreating entirely to homeschooling environments, hybrid schools will combine the benefits of parent-driven instruction with those delivered through traditional schooling environments. Students will be able to socialize with their peers on a regular basis, as well as access expanded curriculum options. With fewer objections and more diverse funding streams, additional families will truly curate and personalize their children's education.

Perhaps most important, the model will enable us to prioritize the development of students' emotional intelligence to contend with the challenges of learning. Whether it's self-awareness, mindfulness or mastering connections with others, the attributes that hybrid schooling educators can inculcate will form the basis of how we assess their

performance, as well as their ability to shape young people into positive and contributing members of society with social intelligence and creative thinking as a chief focus.

### **An active learning model**

To excel in this new learning model, students will need to co-create the curriculum and the learning experience. With a project-based approach — in which learning happens in real and relevant settings — a common purpose can be achieved when teachers and students learn together. To get there, the learning environment must be designed to foster rich and deep emotional connections — with lots of room for experimentation, celebration and sharing.

Education visionary and technologist **Seymour Papert** once defined the goal of education: “that each individual will come out with a sense of personal self-respect, empowerment and love for yourself, because from that grows all the other loves: for people, for knowledge, for the society in which you live.”

This lesson will be the new hybrid schooling mandate: The best learning takes place when the learner takes charge and achieves a sense of personal control. By reimagining the place and time for education, and seeing education in broader terms, hybrid schooling will prepare tomorrow's leaders to rule tomorrow's world.

*Fausta Ballesteros is Vice President of Communications and Marketing and Head of New York Studio, Cognizant Softvision*

“Life can only be understood backwards;  
but it must be lived forwards.”

SOREN KIERKEGAARD, philosopher, poet, theologian



Learning /

Living /

Working /

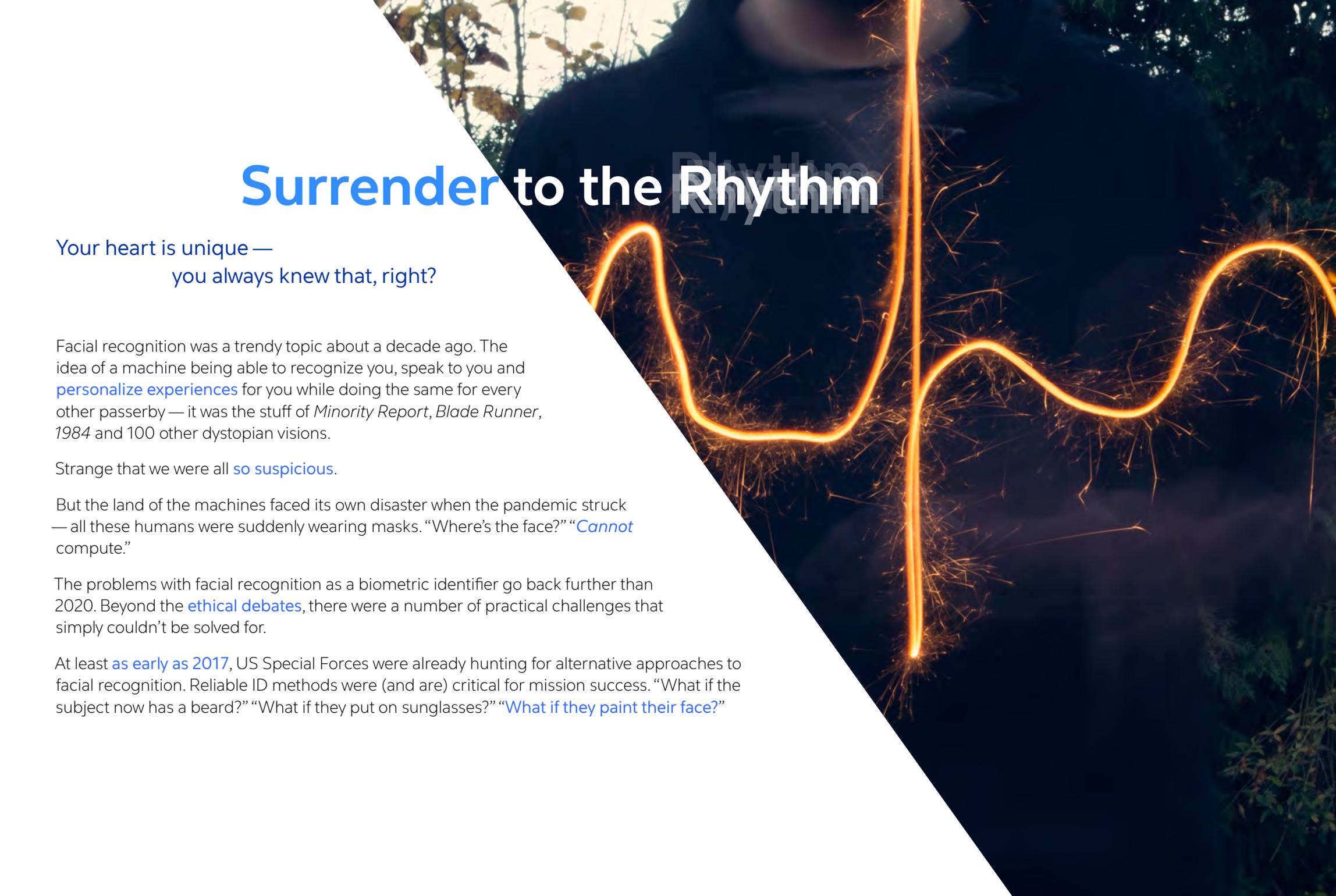
# Economies

Through crisis and calamity, one truism remains:  
Money still makes the world go around. It's just that the way it's done will soon look  
a lot different.

In the face of growing inequity and mounting debt, capitalism will remain intact but will incorporate mechanisms from other economic systems and labor constructs that address the financial distress of the pandemic and take the pressure off future generations to pay for it. Hard-hit industries like restaurants will adopt new business models that redefine their value proposition and recover lost income. Businesses will find even more ways to turn consumers' personal data — even their heart rhythms — into profits. And societies will devise entirely new and fungible sources of value, like carbon allowances or personal data exchanges.

As always, there will be money to be made. The systems for making and exchanging it, though, will never be the same.

# Surrender to the Rhythm



Your heart is unique —  
you always knew that, right?

Facial recognition was a trendy topic about a decade ago. The idea of a machine being able to recognize you, speak to you and [personalize experiences](#) for you while doing the same for every other passerby — it was the stuff of *Minority Report*, *Blade Runner*, *1984* and 100 other dystopian visions.

Strange that we were all [so suspicious](#).

But the land of the machines faced its own disaster when the pandemic struck — all these humans were suddenly wearing masks. “Where’s the face?” “[Cannot](#) compute.”

The problems with facial recognition as a biometric identifier go back further than 2020. Beyond the [ethical debates](#), there were a number of practical challenges that simply couldn’t be solved for.

At least [as early as 2017](#), US Special Forces were already hunting for alternative approaches to facial recognition. Reliable ID methods were (and are) critical for mission success. “What if the subject now has a beard?” “What if they put on sunglasses?” “[What if they paint their face?](#)”



### Answer: Project Jetson

What if we could point a laser at a person — turned sideways, sitting down, in a jacket — and simply recognize them? What if their body itself was like a fingerprint — captured once, identifiable forever?

Consider that every person in the world has a **unique heart rhythm**. Combine infrared lasers with a vibrometer, a database and an algorithm built to identify that rhythm, and you have **Jetson**, a device that can detect an individual's unique cardiac signature with an infrared laser, brought to you by the Pentagon.

The thing about lasers is, distance doesn't really matter — no Zooming required; masks optional. Biometric, perfectly accurate personal identification based on heartbeat — just **another**

**military product** that quickly gained non-military uses.

### Going invisible

Already, infrared lasers are everywhere. During the pandemic, you may have had your temperature checked from a tablet when walking into a building. When boarding a flight or entering a hotel, an attendant might have scanned your forehead with a **thermometer gun**. Both show infrared lasers at work.

Even the iPhone is a **Class 1 Laser Product** — it has **used infrared lasers** for years, mostly for facial recognition. When the iPhone 12 Pro came out in 2020, LIDAR was included, and your phone could suddenly scan the surface of Mars ... or your bedroom. Either way.

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We've become more and more accustomed to those boring, quiet lenses projecting invisible light onto our world, onto us. As the contactless movement continues, more uses of that light will be explored.

Even in 2020, heartbeat identification had already been in use for a few years by major manufacturing and research facilities, though the technology had [early challenges](#). Here, security was critical, and constant authentication — [made possible by wearables](#) — was valued.

For the consumer world, though, wearables aren't an option. Companies need to recognize people walking in the door, know their preferences, confirm their identity and associate all of that with a bank account. [Nobody](#) would put on a bracelet to make this easier.

Thankfully, NASA has [made innovation here a bit simpler](#), with its HeartBeatID patent. Startups and the enterprise alike can easily license this technology and build solutions.

So where will that get us?

## Hello, **CardioID**

In the near future, you'll be able to visit a store with infrared systems in place, be automatically logged in and begin having experiences that just feel more [relevant](#). Let's call it CardioID. Your signature wouldn't be referenced against a name or any personally identifiable information — it's more like you'd been [cookied](#).

Applications will extend beyond retail. It could be used as a secure password system, or marketers could gain another metric on returning customers — a win for the business that consumers would never notice.

Consumers might be wary that such a system could threaten their anonymity; however, in time, the security and privacy implications could be covered by extending regulations such as the [GDPR](#) — “by entering this establishment, you agree to ....”

In the near future, you'll be able to visit a store with infrared systems in place, be automatically logged in and begin having experiences that just feel more relevant.

Here's the thing with biometrics: They're forever, immutable. This means CardioID would be a highly secure mechanism for seamlessly identifying yourself. Couple CardioID with facial recognition, and you've got true two-factor authentication for walking into a store, grabbing what you want and leaving, with payment automated through a connection with your bank account.

For all intents and purposes, CardioID will take our unique heart rhythms and turn them into something between a password and a personalizer — truly a future with heart.

*Clayton Griffith is the Director of Product Marketing at Cognizant Softvision*



# Intergenerational War – What Is It Good For?\*

The young will pay for the errors of their elders. Or will they?

In the midst of the COVID-19 pandemic, anyone who questions the economic costs of the lockdown is seen as a nutter or an irritant. But the question of who will pick up the tab for shattered economies will only become more pressing as the bug recedes and survivors re-emerge from their cribs. Governments have eased trillions of dollars into the system to keep people safe and economies afloat, but as sure as night follows day, the ensuing recession will need trillions more. In the not too far-off future, the debt looks to grow so huge that it doesn't bear thinking about.

What to do? What policymakers usually do – kick the can down the road and expect the next generation to pick up the tab. But, now, not so fast. “Nice try, Boomer. Your mess — you fix it. Not our problem.”

Imagining the young would pay the price for COVID is increasingly unimaginable. Those born after 1980 already face the scariest financial future of any generation since the Great Depression. Debt levels are bound to soar, while homeownership, decent pensions and “careers” will all become totems from a bygone era, out of reach for vast swaths of the working population.

Our Western “system” only works (it will become more and more obvious) when people feel they have a stake in its future. The ideas that have hardened into modern capitalist economies — growth, accumulation, investment — imply that tomorrow will be better than today. While pre-capitalist societies looked to the past — to the [Dreamtime](#), paganism and old religions – capitalist societies look to the future — to new inventions, broader horizons and greater abundance for everyone. But with rising inequality, imminent climate crisis *and* a pandemic, the system is rife for another [Bretton Woods](#) moment: a new rules-based order that establishes a fair, equitable and resilient system fit for young and old in the modern age.

## Thinking of tomorrow, today

In the next decade, a world will emerge in which every citizen receives a monthly bitcoin deposit in their digital wallet funded by a digital [Tobin tax](#). Stress and health levels will drop as [Universal Basic Income](#) payments cover basic food and subsistence costs. People will focus on the work that *really matters* — perhaps building a social enterprise, using seed money channeled down from the world's first global automation tax, expressly designed to kickstart the international cooperative movement.



Need another income source? Perhaps you'll be able to trade your annual flight allowance on the carbon offset exchange with someone with less time left on the planet (and who will gladly pay you for yours). Need more? Trade your personal data with brands eager to understand more about their customers and invest the proceeds into the newly established sustainable futures market.

The bottom line is that capitalism is still the worst economic system we have — except for all the others. No other system has created and spread wealth around the world as well as it has. But it doesn't work if tomorrow is sacrificed for today.

Boomers had a good run, but they won't be able to run away from their bills as they come due. The Roaring Twenties will be the time to remake our system before a generation feels entirely locked out — a generation that the future is in its counting house, counting on.

*Euan Davis is a Cognizant Associate Vice President who leads the company's Center for the Future of Work in EMEA*

**\*(Absolutely nothing)**



# Capitalism 2.0

Building back better means building back differently.

The pandemic has brought attention to many of society's great divides. On the moneyed Back Bay side of one of Boston's (and the world's) [premier hospitals](#), residents have [a life expectancy of 89 years](#). On the less affluent Roxbury side? 59.

Even before the crisis, it was easy to spot wide-scale dissatisfaction with the status quo. From the *gilet-jaunes* to the Brexiters to the Trump Rump to the students of Hong Kong, faith and belief and trust in the modern world was crumbling, with the majority of people feeling left behind. Fear has supplanted hope, with [only 47% of people globally](#) feeling that they and their families will be better off five years from now.

In its ascendancy since the fall of the Berlin Wall, capitalism's very legitimacy at the heart of our modern world was, and is, under an unforgiving spotlight, as its critics and opponents challenge its role and relevancy for the future.

Capitalism's high priests offer a defense but a muted one, and concede there is much to be done. [Jamie Dimon](#), among the highest of the high, released a statement in early 2020 as Chairman of the Business Roundtable, committing its members to "leading their companies for the benefit of *all* stakeholders," not just the corporation's shareholders. The "[Statement on the Purpose of a Corporation](#)" was signed by 181 CEOs (including the CEO of Cognizant).

Cynics sneered. Capitalism's cheerleaders pointed out that no less an ardent capitalist than Henry Ford raised wages on the principle that his workers should be able to afford the products they build. The silent majority continued to worry about the end of the month, not the end of the system.

As the virus recedes and we peek out of our bunkers to see what is left standing, the great opportunity ahead is to craft economic models that harness the engine of capitalism with the brakes of broadly distributed fairness.

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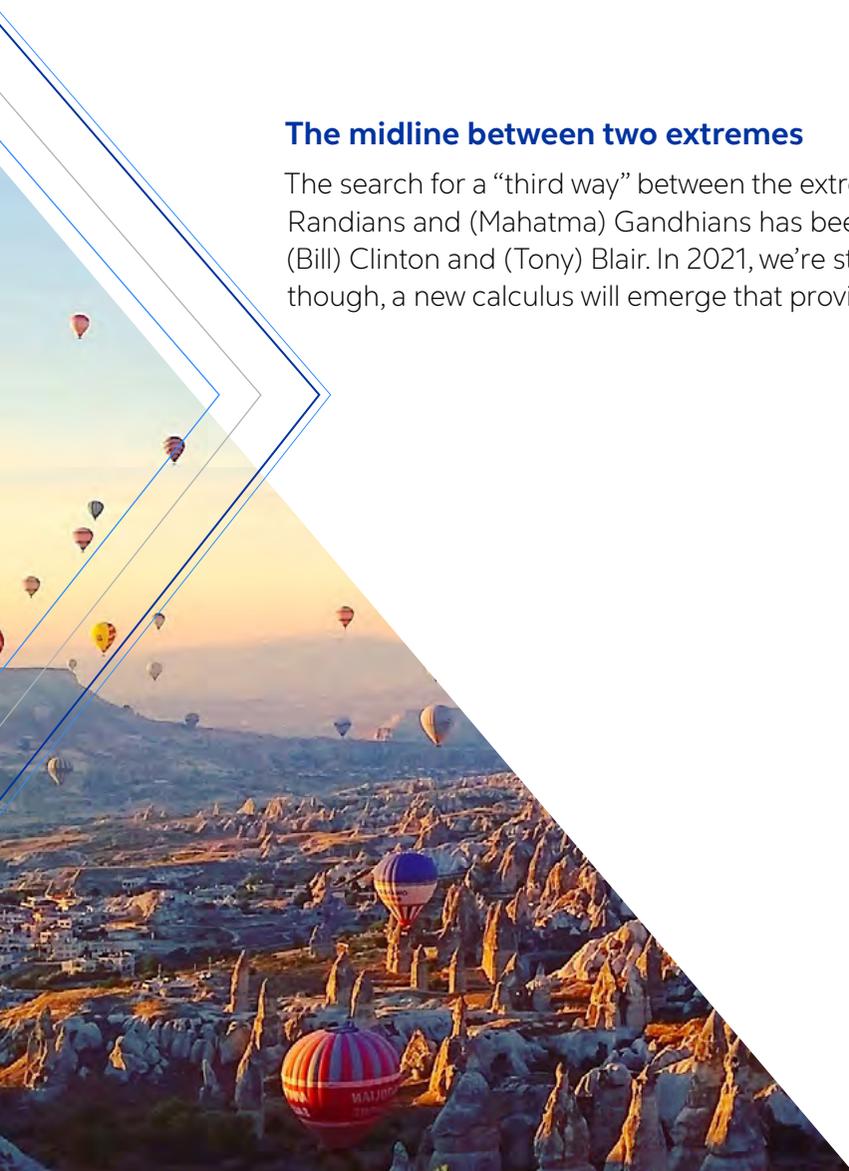
# Capitalism, at its core a Darwinian process of finding out what works, needs to once again adapt to thrive.

## The midline between two extremes

The search for a “third way” between the extremes of the (Ayn) Randians and (Mahatma) Gandhians has been a Holy Grail since (Bill) Clinton and (Tony) Blair. In 2021, we’re still looking. By 2025, though, a new calculus will emerge that provides a path forward:

**Legislation.** Governments will again enact laws that balance the playing field between capital and labor. In the early 20<sup>th</sup> century, President Roosevelt led the charge against US trusts, which in turn created the conditions for what is now widely seen as a golden age of American expansion and widespread prosperity. In 1945, UK Prime Minister Attlee introduced an inheritance tax that defenestrated the British aristocracy, releasing an explosion of middle-class energy that generated the Swinging Sixties and Cool Britannia. Governments can — and will — bend the arc of the moral universe.

**Unions.** Many socioeconomic commentators (including [Thomas Piketty](#)) date the start of the latest era of wealth concentration to the collapse of unions at the hands of US President Ronald Reagan and UK Prime Minister Margaret Thatcher. The notion of unionization remains deeply unfashionable among white-collar workers (although professional organizations for doctors and lawyers that, in effect, work as unions are perfectly acceptable). But in a Newtonian world (where for every force there is an opposite and equal reaction), it’s obvious that “Labor” will once again organize to take on “Capital.” Unions are starting to show up again at [Google](#) and [Facebook](#) and other stars in the capitalist firmament, as we write.



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**Withdrawal of custom.** In our present-day market economy, the ultimate power is the power of the market. As political comedian [Stephen Colbert](#) put it, “Global warming is real because [Al Gore’s movie](#) made money — the market has spoken.”

If you don’t like the way the world is going, and don’t like what companies are doing replacing people with software and machines, don’t buy from them. Buy from companies that are “people first,” not “AI-first.” Some people don’t buy from Walmart because Walmart’s low prices knock out local independent competition that can’t compete on price. Shortly, a new generation of people will remember this truth or learn it for the first time, using their purchasing power to be the change they want to see. Some will take it to another level and move to a town like Portland that has an artisanal culture of man, not The Man, made.

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**Establish a “people-first” business.** Others will start up a company that does not use AI, robotics, automation-based software or other labor-saving devices but, rather, favors employing people, and then win in the race against the machine, in the market.

None of these ideas are new or weird or utopian or fantastical. They are all tried and tested approaches that have worked in the past, in countries around the world and for considerable periods of time. Soon they will work again.

While the future is unwritten, we can say with reasonable confidence that what worked yesterday won’t work tomorrow. Capitalism, at its core a Darwinian process of finding out what works, needs to once again adapt to thrive. A future that works is at stake.

*Thornton May is a futurist, author, educator and anthropologist*





# Not Pie in the Sky

Software's eating the world – including eating ...

We all have to eat.

The pandemic has forced each of us to carefully consider whom we spend time with, where we go and what activities we engage in. Low interaction and slowing down for the public good — generally speaking, this is our way.

But we all have to eat.

So, amid the shutting of doors and laying low, eat we have done — although the changes in how and where we access food in the crisis will permanently inform our consumption habits into the future.

As curbside pickup, delivery and fast-food intake exploded, for big tech, an opportunity knocked. If the theme of 2020 for restaurants was survival, the theme post-pandemic will be pick-your-model.

## You're not eating; you're experiencing

With the prospect of more pre-made meals at the grocery store, more delivery-only brands, and more healthy fast food, why would we go out? Well, for starters, the experience.

Dining is more than eating. You don't eat bytes, you don't drink virtual coffee, and the always-online "new normal" is devoid of life's spice. Restaurants. The arts. Socializing with strangers. These things **defined urban nightlife** before the pandemic, so of course they will again. We learned that about ourselves — we like being around one another because it makes us more human. Those restaurants that remain will compete on an experience level.

**Experiential dining** was trendy pre-pandemic — soon, it will be everything. The restaurants, bars and mixed-use establishments that offer a heightened dining experience will win.

## From ghosts to clouds

A fast lunch in Pompeii, **79AD**. Cold noodle delivery in Korea, **1768**. Late-night pizza for the queen in Naples, **1889**. Meals on Wheels modernizing delivery during the Blitz of World War II, **1941**.

From making food to purchasing it, humans have been innovating how they eat throughout history. By insight or accident, we seemingly find new ways to eat all the time.

But it's by *necessity* that the cloud markets will arrive.

Way back in the late 2010s, "**ghost kitchens**" were gaining popularity. As a simple way for wannabe restaurateurs and seasoned vets alike to try out new concepts, these shared, rentable kitchen spaces, complete with on-staff delivery drivers, quickly became the talk of the industry. There was no need to maintain a storefront or dining room — just make food, build a brand and send it to people who order.

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## In the near future, ‘cloud markets’ will own the majority of their menus and dominate urban centers.

Uber founder [Travis Kalanick](#) famously launched early in this space. Google Ventures is backing its biggest [competitor](#). Deliveroo aggressively [grew](#) its footprint, funded by Amazon. And when 2020 hit, and virtually every brick-and-mortar restaurant had to shut its doors, delivery was a lifeline. The same people behind these ghost kitchens provided [the tools to make it all work](#) when it had to. Great timing.

But they were learning something, too ...

Using algorithms and analytics, they could monitor demand: What’s proven? What’s selling? Which restaurants (or menus) may work over there because they work here? How much will people pay for an order of tikka masala? Can we license the recipe from the chef? And will people in Austin buy it? (Yes.)

From their origins as a rentable kitchen, basic ordering software and on-staff drivers, ghost kitchens will grow into something much more. In the near future, “cloud markets” will own the majority of their menus and dominate urban centers. They’ll [trial new menu items](#) in early-adopter markets, license the best menu items and recipes from successful chefs and syndicate broadly. They’ll be not only a source of fresh, authentic and often healthy food — they’ll serve as [cultural diplomats](#), making local flavors accessible, through delivery, to non-local audiences.

Cloud markets will one day be like a shopping district of vetted and delicious mix-and-match meals from less and less familiar brands — all from an app with a 30-minute delivery guarantee ([or it’s yours free](#)).

Health will improve through cloud-market partnerships with health apps, and wellness will become more holistic. More so than the old fast-food model, cloud markets will offer a better option when you need a quick dinner for the family. Oh, and don’t forget to use your loyalty card.

In this newer normal, people will demand a mix of experience, convenience and variety in dining, guided by both high-tech analytics and no-tech, in-person ambience. So, while eating will always be a matter of survival, the ways and means of how that gets done — as well as where food fits into our culture and influences who we are — will continue evolving as much as we do.

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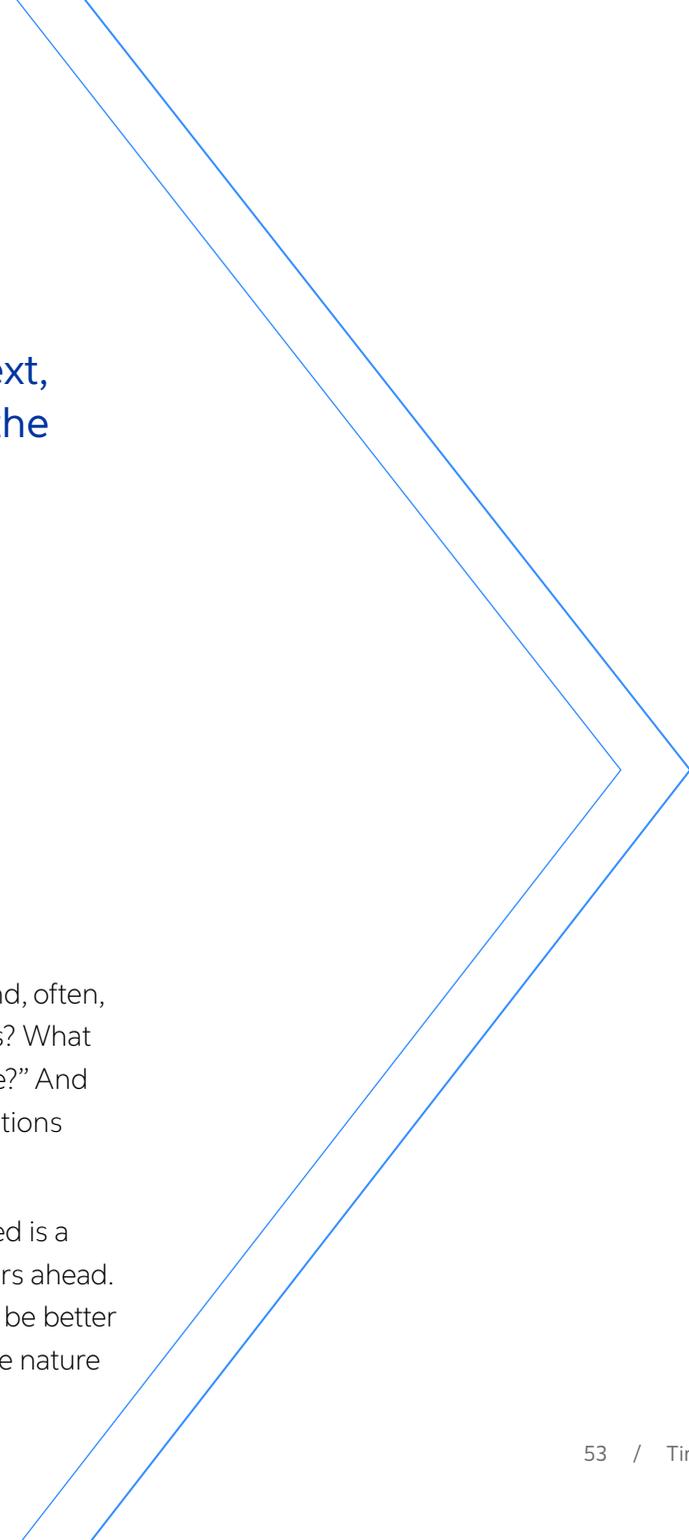




# Time Continues

“The past, the present and the future are really one: They are today.”

HARRIET BEECHER STOWE, abolitionist, author



## We're not feckless subjects to the timeline of next, helplessly accelerating into tomorrow. Instead, the future is ours to chart — ours to own.

Sure, the exact nature and timing of COVID-19 wasn't exactly predictable, but unprecedented and difficult-to-manage events will certainly strike again. But, for the most part, what happens next will be patently defined by what we do today, and then again tomorrow.

This collection of essays lays out a studied vision for tomorrow, based on what we see happening, all around us, today. We've presented a hopeful outlook for personal wellness, new models for using the spaces around us and feasible projections for things like identity tracking and society's safety nets. By pulling the threads of now, we've proposed what's next.

There's so much more we could cover — the possibilities are infinite and, often, exciting. So, ask yourself: "If this is our new normal, where is it taking us? What can we draw on from the past that proposes a valid vision for the future?" And perhaps most importantly, if we don't like where we're headed, what actions should we take — now — to change course?

In the end, all futures are fluid, all trajectories are navigable. What we need is a clear-eyed view of how the changes in the present will ripple into the years ahead. While we can't predict earth-shattering events that may happen, we can be better prepared for their impacts by always keeping an eye toward the probable nature of our future based on our reactions to the vast changes of today.

# About the authors



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Manish Bahl is a Cognizant Associate Vice President who leads the company's Center for the Future of Work in Asia-Pacific and the Middle East. A respected speaker and thinker, Manish has guided many Fortune 500 companies into the future of their business with his thought-provoking research and advisory skills. Within Cognizant's Center for the Future of Work, he helps ensure that the unit's original

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Clay Griffith is a key leader in the messaging, sales enablement and go-to-market strategy for Cognizant Softvision's software product engineering (SPE) offerings. Working with a global team of designers, channel strategists and content producers, Clay helps bring Cognizant's software product engineering capabilities to life for clients and recruits.

With over a decade in marketing and sales enablement leadership, and with roles in both B2B and B2C environments — from startups to enterprise — Clay brings an important breadth of experience to Cognizant SPE. He's a man of many hats and passionate about finding new solutions to old problems. Clay has a bachelor's degree in English literature and a minor in business from the University of Texas at Austin.

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“The Timeline of Next” was conceived and produced by Clay Griffith and Manish Bahl, who worked with leading thinkers at Cognizant and beyond to create a vision of the post-pandemic world.



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**Center for  
The Future of Work**

**Cognizant**

### About the Center for the Future of Work

Cognizant's Center for the Future of Work™ is chartered to examine how work is changing, and will change, in response to the emergence of new technologies, new business practices and new workers. The Center provides original research and analysis of work trends and dynamics, and collaborates with a wide range of business, technology and academic thinkers about what the future of work will look like as technology changes so many aspects of our working lives. For more information, visit [Cognizant.com/futureofwork](https://www.cognizant.com/futureofwork) or email [CenterforFutureofWork@cognizant.com](mailto:CenterforFutureofWork@cognizant.com).

### About Cognizant

Cognizant (Nasdaq-100: CTSI) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the US, Cognizant is ranked 194 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at [www.cognizant.com](https://www.cognizant.com) or follow us [@Cognizant](https://twitter.com/Cognizant).

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