INSIDE FACEBOOK'S PLAN TO WIRE THE WORLD

MARK ZUCKERBERG'S CRUSADE TO PUT EVERY SINGLE HUMAN BEING ONLINE

BY LEV GROSSMAN

PHOTOGRAPHS BY IAN ALLEN FOR TIME

C handauli is a tiny town in rural India about a four-hour drive southwest of New Delhi. India's a big country, and there are several Chandaulis. This is the one that's not on Google Maps.

It's a dusty town, and the roads are narrow and unpaved. A third of the people here live below the poverty line, and the homes are mostly concrete blockhouses. Afternoons are hot and silent. There are goats. It is not ordinarily the focus of global media attention, but it is today, because today the 14th wealthiest man in the world, Mark Zuckerberg, has come to Chandauli.

Ostensibly, Zuckerberg is here to look at a new computer center and to have other people, like me, look at him looking at it. But he's also here in search of something less easily definable.

I've interviewed Zuckerberg before—I wrote about him in 2010, when he was TIME's Person of the Year—and as far as I can tell, he is not a man much given to quiet reflection. But this year he reached a point in his life when even someone as un-introspective as he is might reasonably pause and reflect. Facebook, the company of which he is chairman, CEO and co-founder, turned 10 this year. Zuckerberg himself turned 30. (If you're wondering, he didn't have a party. For his 30th birthday, on May 14, Zuckerberg flew back east to watch his younger sister defend her Ph.D. in classics at Princeton.) For years, Facebook has been the quintessential Silicon Valley startup, helmed by the global icon of brash, youthful success. But Facebook isn't a startup anymore, and Zuckerberg is no longer especially youthful. He's just brash and successful.

The story of Facebook's first decade was one of relentless, rapacious growth, from a dorm-room side project to a global service with 8,000 employees and 1.35 billion users, on whose unprotesting backs Zuckerberg has built an advertising engine that generated $7.87 billion last year, a billion and a half of it profit. Lately, Zuckerberg has been thinking about what the story of Facebook's second decade should be and what most becomes the leader of a social entity that, if it were a country, would be the second most populous in the world, only slightly smaller than China.

At 30, Zuckerberg still comes off as young for his age. He says "like" and "awesome" a lot. (The other word he overuses is *folks*.) He dresses like an undergraduate: he's in a plain gray T-shirt today, presumably because it's too hot in Chandauli for a hoodie. When he speaks in public, he still has the air of an enthusiastic high school kid delivering an oral report. In social situations his gaze darts around erratically, only occasionally coming to rest on the face of the person he's talking to.

But he's not the angry, lonely introvert of *The Social Network*. That character may have been useful for dramatic purposes, but he never actually existed. In person, one-on-one, Zuckerberg is a warm presence, not a cold one. He hasn't been lonely for a long time: he met Priscilla Chan, the woman who would become his wife, in his sophomore year at Harvard. In October he stunned an audience in Beijing when he gave an interview in halting but still credible Mandarin. Watch the video: he's grinning his face off. He's having a blast. He's like that most of the time.

Zuckerberg can be extremely awkward in conversation, but that's not because he's nervous or insecure; nervous, insecure people rarely become the 14th richest person in the world. Zuckerberg is in fact supremely confident, almost to the point of being aggressive. But casual conversation is supposed to be playful, and he doesn't do playfulness well. He gets impatient with the slowness, the low bandwidth of ordinary speech, hence the darting gaze. He has too much the engineer's approach to conversation: it's less about social interaction than about swapping information as rapidly as possible. "Mark is one of the best listeners I've ever met," says Sheryl Sandberg, Facebook's COO. "When you talk to Mark, he doesn't just listen to what you say. He listens to what you didn't say, what you emphasized. He digests the information, he comes back to you and asks five follow-up questions. He's incredibly inquisitive."

I have found this to be true—sometimes he gives the impression of having thought through what I'm saying better than I have—with the caveat that listening to me (unlike, I imagine, listening to Sandberg, or for that matter speaking Chinese) doesn't consume enough of his bandwidth to keep his attention from wandering off in search of more data. Probably it's not an accident that he invented an entirely new way to socialize: efficiently, remotely, in bulk.

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PERCENTAGE OF HUMANS WHO LIVE WITHIN RANGE OF A CELL TOWER

Zuckerberg has been thinking about Facebook's long-term future at least since the site exceeded a billion users in 2012. "This was something that had been this rallying cry inside the company," he says. "And it was like, O.K., wow, so what do we do now?" (It's tempting to clean up Zuckerberg's quotes to give them more gravitas, but that's how he talks.) One answer was to put down bets on emerging platforms and distribution channels, in the form of some big-ticket acquisitions: the photo-sharing app Instagram for $1 billion (a head snapper at the time, but in hindsight a steal); the virtual-reality startup Oculus Rift for $2 billion; the messaging service Whats App for $22 billion (still a head snapper). But what about the bigger picture—the even bigger picture? "We were thinking about the first decade of the company, and what were the next set of big

things that we wanted to take on, and we came to this realization that connecting a billion people is an awesome milestone, but there's nothing magical about the number 1 billion. If your mission is to connect the world, then a billion might just be bigger than any other service that had been built. But that doesn't mean that you're anywhere near fulfilling the actual mission."

Fulfilling the actual mission, connecting the entire world, wouldn't actually, literally be possible unless everybody in the world were on the Internet. So Zuckerberg has decided to make sure everybody is. This sounds like the kind of thing you say you're going to do but never actually do, but Zuckerberg is doing it. He is in Chandauli today on a campaign to make sure that actually, literally every single human being on earth has an Internet connection. As Sandberg puts it (she's better at sound bites than Zuckerberg): "If the first decade was starting the process of connecting the world, the next decade is helping connect the people who are not yet connected and watching what happens."

Photograph by Ian Allen for TIME

The Ambassador Zuckerberg spoke at an Internet.org conference in Delhi in October; later he met with the Indian Prime Minister

Part of Zuckerberg's problem-solving methodology appears to be to start from the position that all problems are solvable, and moreover solvable by him. As a first step, he crunched some numbers. They were big numbers, but he's comfortable with those: if he does nothing else, Zuckerberg scales. The population of the earth is currently about 7.2 billion. There are about 2.9 billion people on the Internet, give or take a hundred million. That leaves roughly 4.3 billion people who are offline and need to be put online. "What we figured out was that in order to get everyone in the world to have basic access to the Internet, that's a problem that's probably billions of dollars," he says. "Or maybe low tens of billions. With the right innovation, that's actually within the range of affordability."

Zuckerberg made some calls, and the result was the formation last year of a coalition of technology companies that includes Ericsson, Qualcomm, Nokia and Samsung. The name of this group is Internet.org, and it describes itself as "a global partnership between technology leaders, nonprofits, local communities and experts who are working together to bring the Internet to the two-thirds of the world's population that doesn't have it."

Based on that, you might think that -Internet.org will be setting up free wi-fi in the Sahara and things like that, but as it turns out, the insight that makes the whole thing feasible is that it's not about building new infrastructure. Using maps and data from Ericsson and NASA—-including a fascinating data set called the Gridded Population of the World, which maps the geographical distribution of the human species—plus information mined from Facebook's colossal user base, the -Internet.org team at Facebook figured out that most of their work was already done.

Most humans, or about 85% of them, already have Internet access, at least in the minimal sense that they live within range of a cell tower with at least a 2G data network. They're just not using it.

Facebook has a plan for the other 15%, a blue-sky wi-fi-in-the-Sahara-type scheme involving drones and satellites and lasers, which we'll get to later, but that's a long-term project. The subset of that 85% of people who could be online but aren't: they're the low-hanging fruit.

But why aren't they online already? To not be on the Internet when you could be: from the vantage point of Silicon Valley, that is an alien state of being. The issues aren't just technical; they're also social and economic and cultural. Maybe these are people who don't have the money for a phone and data plan. Maybe they don't know enough about the Internet. Or maybe they do know enough about it and just don't care, because it's totally irrelevant to their day-to-day lives.

(*Interactive: How Much Time Have You Wasted on Facebook?*)

You'd think Zuckerberg the arch-hacker wouldn't sully his hands with this kind of soft-science stuff, but in fact he doesn't blink at it. He attacks social/economic/cultural problems the same way he attacks technical ones; in fact it's not clear that he makes much of a distinction between them. Human nature is just more code to hack—never forget that before he dropped out, Zuckerberg was a psych major. "If you grew up and you never had a computer," he says, "and you've never had access to the Internet, and somebody asked you if you wanted a data plan, your answer would probably be, 'What's a data plan?' Right? Or, 'Why would I want that?' So the problems are different from what people think, but they actually end up being very tractable."

Zuckerberg is a great one for breaking down messy, wonky problems into manageable chunks, and when you break this one down it falls into three buckets. Business: making the data cheap enough that people in developing countries can pay for it. Technology: simplifying the content and/or services on offer so that they work in ultra-low-bandwidth situations and on a gallimaufry of old, low-end hardware. And content: coming up with content and/or services compelling enough to somebody in the third world that they would go through the trouble of going online to get them. Basically the challenge is to imagine what it would be like to be a poor person—the kind of person who lives somewhere like Chandauli.

Engineering Empathy

The Facebook campus in Menlo Park, Calif., isn't especially conducive to this. It's about as far from Chandauli, geographically, aesthetically and socioeconomically, as you can get on this planet. When you walk into Facebook's headquarters for the first time, the overwhelming impression you get is of raw, unbridled plenitude. There are bowls overflowing with free candy and fridges crammed with free Diet Coke and bins full of free Kind bars. They don't have horns with fruits and vegetables spilling out of them, but they might as well.

The campus is built around a sun-drenched courtyard crisscrossed by well-groomed employees strolling and laughing and wheeling bikes. Those Facebookies who aren't strolling and laughing and wheeling are bent over desks in open-plan office areas, looking ungodly busy with some exciting, impossibly hard task that they're probably being paid a ton of money to perform. Arranged around the courtyard (where the word hack appears in giant letters, clearly readable on Google Earth if not from actual outer space) are -restaurants—Lightning Bolt's Smoke Shack, Teddy's Nacho Royale, Big Tony's Pizzeria—that seem like normal restaurants right up until you try to pay, when you realize they don't accept money. Neither does the barbershop or the dry cleaner or the ice cream shop. It's all free.

You're not even in the first world anymore, you're beyond that. This is like the zeroth world. And it's just the shadow of things to come: a brand-new campus, designed by Frank Gehry, natch, is under construction across the expressway. It's slated to open next year.

(Because of the limits of space and time, a lot of Silicon Valley companies don't build new headquarters; they just take over the discarded offices of older firms, like hermit crabs. Facebook's headquarters used to belong to Sun Microsystems, a onetime power-house of innovation that collapsed and was acquired by Oracle in 2009. When Facebook moved in, Zuckerberg made over the whole place, but he didn't change the sign out front, he just turned it around and put Facebook on the other side. The old sign remains as a reminder of what happens when you take your eye off the ball.)

As Zuckerberg himself puts it, when you work at a place like Facebook, "it's easy to not have empathy for what the experience is for the majority of people in the world." To avoid any possible empathy shortfall, Facebook is engineering empathy artificially. "We re-created with the Ericsson network guys the network conditions that you have in rural India," says Javier Olivan, Facebook's head of growth. "Then we brought in some phones, like very low-end Android, and we invited guys from the Valley here—the eBay guys, the Apple guys. It's like, Hey, come and test your applications in these conditions! Nothing worked." It was a revelation: for most of humanity, the Internet is broken. "I force a lot of the guys to use low-end phones now," Olivan says. "You need to feel the pain."

To facilitate the pain-feeling, Facebook is building an entire permanent lab dedicated to the study of suboptimal computing conditions. "You actually retool the company to start to measure, What does the experience look like for the majority of the world?" says Chris Daniels, who heads Facebook's -Internet.org team. Developers began testing apps not just on the current version of Android but on all Androids ever: 2012, 2011, 2010 and so on. They maintain a carefully curated collection of crappy old flip phones. They even modified their vocabulary. "A lot of times people call it low-end— this is a low-end Android phone, or this is a low-end network," Zuckerberg says. "But it's actually not. It's a *typical* Android phone and a typical network. So internally we are not allowed to call it low-end. You have to refer to it as *typical*."

'WHEN YOU TALK TO MARK, HE DOESN'T JUST LISTEN TO WHAT YOU SAY. HE LISTENS TO WHAT YOU DIDN'T SAY.'

—SHERYL SANDBERG
COO, FACEBOOK

Needless to say, in all the time I spent at Facebook, I never heard anybody call it that. They just called it low-end. But his point stands.

Internet 911

Not to keep you in suspense, but Facebook figured out the answer to how to get all of humanity online. It's an app.

Here's the idea. First, you look at a particular geographical region that's underserved, Internet-wise, and figure out what content might be compelling enough to lure its inhabitants online. Then you gather that content up, make sure it's in the right language and wrap it up in a slick app. Then you go to the local cell-phone providers and convince as many of them as possible that they should offer the content in your app for free, with no data charges. There you go: anybody who has a data-capable phone has Internet access—or at least access to a curated, walled sliver of the Internet—for free.

This isn't hypothetical: Internet.org released this app in Zambia in July. It launched in Tanzania in October. In Zambia, the app's content offerings include AccuWeather, Wikipedia, Google Search, the Mobile Alliance for Maternal Action— there's a special emphasis on women's rights and women's health—and a few job-listing sites. And Facebook. A company called Airtel (the local subsidiary of an Indian telco) agreed to offer access for nothing. "I think about it like 911 in the U.S.," Zuckerberg says. "You don't have to have a phone plan, but if there's an emergency, if there's a fire or you're getting robbed, you can always call and get access to those kinds of basic services. And I kind of think there should be that for the Internet too."

This makes it sound simpler than it is. For Facebook to simply reach out from

Silicon Valley and blanket a country like Zambia with content requires exactly the kind of nuance and sensitivity that Facebook is not famous for. Just figuring out what language the content should be in is a challenge. The official language in Zambia is English, but the CIA's *World Factbook* lists 17 languages spoken there. And Zambia is cake compared with India, which has no national language but officially recognizes 22 of them; unofficially, according to a 2011 census, India's 1.2 billion inhabitants speak a total of 1,635 languages. It is, in the words of one Facebook executive, "brutally localized."

But the hardest part is persuading the cell-phone companies to offer the content for free. The idea is that they should make the app available as a loss leader, and once customers see it (inside Facebook they talk about people being "exposed to data"), they'll want more and be willing to pay for it. In other words, data is addictive, so you make the first taste free.

This part is crucial. It's not enough for the app to work—the scheme has to replicate itself virally, driven by cell-phone companies acting in their own self-interest. It's a business hack as much as it is a technical one. Before Zambia, Facebook tried a limited run in the Philippines with a service provider called Globe, which reported nearly doubling its registered mobile data-service users over three months. There's your proof of concept.

The more test cases Facebook can show off, the easier it will be to persuade telcos to sign on. The more telcos that sign on, the more data Facebook compiles and the stronger its case gets. Eventually the model begins to spread by itself, region by region, country by country, and as it replicates it draws more and more people online. "Each time we do the integration, we tune different things with the operator and it gets better and better and better," Zuckerberg says. "The thing that we haven't proven definitely yet is that it's valuable for them to offer those basic services for free indefinitely, rather than just as a trial. Once we have that, we feel like we'll be ready to go around to all the other operators in the world and say, This is definitely a good model for you. You should do this." (There's a quiet arrogance to it, as there is to a lot of what Facebook does. Facebook is basically saying, Hey, third-world cell-phone operators, by the way, your business model? Let us optimize it for you.)

Although when you make a plan in Menlo Park and try to execute it in rural India, not everything is going to go as planned. That was amply demonstrated by Zuckerberg's visit to Chandauli. It was meant to be a quiet, discreet affair, but Zuckerberg's schedule got tight, so instead of driving down from New Delhi he had to be flown in by helicopter. Before you land a helicopter in India, you have to check in with the local police. The local police tipped off the local media, which meant that when Zuckerberg arrived he was enveloped in a hot, dusty scrum
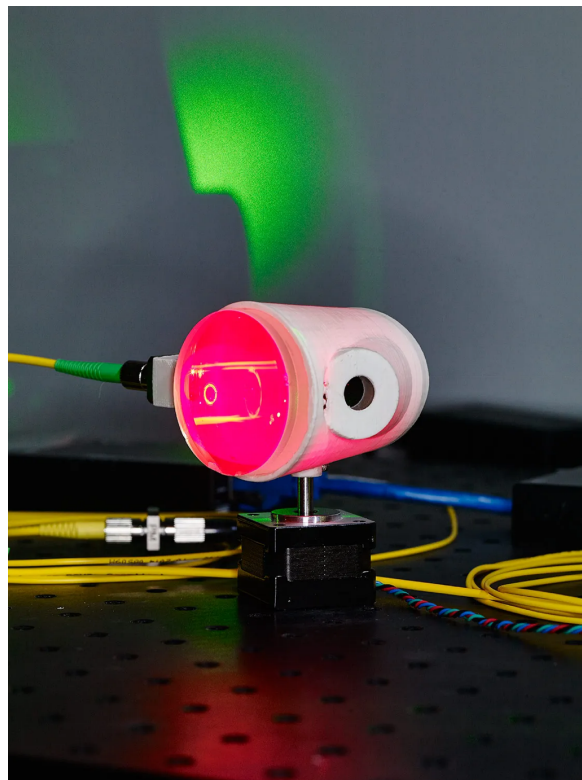
Photograph by Ian Allen for TIME

The Last Mile Facebook is developing exotic tech nologies, including drones, satellites and lasers like this one, above, for the most remote regions

of journalists,
police, village elders, curious onlookers, private security and kids in school uniforms who thought the whole thing was hilarious.

Education is one of Zuckerberg's interests as a philanthropist—earlier this year he and his wife donated $120 million to Bay Area schools—and he ducked into a local school to see a classroom. "There were, like, 40 students sitting on the floor, and then the guy running it was saying that there were 1.4 million schools and this was one of the better ones," he said later—he can never resist a statistic. "There was no power. There are no toilets in the whole village!" Eventually, Zuckerberg's handlers got him into the computer center, a single spacious, airy room with a laser printer, a copy machine and a couple dozen laptops, each one with a student at it. It was then ascertained that the power was out in Chandauli, as it often is, so even though Zuckerberg had come 7,500 miles to see a display of Internet connectivity, the Internet was down.

Since he was there, Zuckerberg had a few heavily stage-managed conversations with the kids, which showcased in equal measure his genuine good humor and heart-stopping social awkwardness. This was followed by an apparently spontaneous but still kind of amazing musical performance by a guy with a one-stringed instrument called a *bhapang*. Then the world's 14th richest man was photographed in the school courtyard, whisked back to his SUV, convoyed back to the heli-pad and choppered back to New Delhi in a huge orange helicopter in time for a meeting with the Prime Minister of India, Narendra Modi. I'm told he changed into a suit for the occasion.

On the way, I asked Zuckerberg if his life ever seemed surreal to him. His answer: "Yes." But I'm not sure he meant it.

Colonialism 2.0

There's another way to look at what Facebook is doing here, which is that however much the company spins it as altruistic, this campaign is really an act of self–serving techno-colonialism. Facebook's membership is already almost half the size of the Internet. Facebook, like soylent green, is made of people, and it always needs more of them. Over the long term, if Facebook is going to keep growing, it's going to have to make sure it's got a bigger Internet to grow in.

Hence Internet.org. And if that Internet is seeded by people who initially have limited options online, of which Facebook (and no other social network) is one, all the better. Facebook started up a similar program in 2010 called Facebook Zero, targeted at developing markets, which made a streamlined mobile version of Facebook available for free, with no data charges. At the time this was not considered altruism; it was just good, aggressive marketing (it's actually illegal in Chile because it violates Chilean Net-neutrality laws). Facebook Zero bears a strong family resemblance to Internet.org.

There's something distasteful about the whole business: a global campaign by a bunch of Silicon Valley jillionaires to convert literally everybody into data consumers, to make sure no eyeballs anywhere go unexposed to their ads. Everybody must be integrated into the vast cultural homogeneity that is the Internet. It's like a zombie plague: World War Z(uckerberg). After all, it's not as though anybody asked two-thirds of humanity whether they wanted to be put online. It makes one want to say, There are still people here on God's green earth who can conduct their social lives without being marketed to. Can't we for God's sake leave them alone?

(*Interactive: Who Are Your Happiest Friends on Facebook?*)

I aired this point of view to a few Facebook executives. Predictably, I didn't get a lot of traction. Zuckerberg's (unruffled) response was that Internet.org isn't about growing Facebook for the simple reason that there isn't any money in showing ads to the people that use the app, because they don't have any. "When most people ask about a business growing, what they really mean is growing revenue, not just growing the number of people using a service," he says. "Traditional businesses would view people using your service that you don't make money from as a cost."

The most he'll cop to is that it might pan out as a business in the very, very long term. "There are good examples of -companies—Coca-Cola is one—that invested before there was a huge market in countries, and I think that ended up playing out to their benefit for decades to come. I do think something like that is likely to be true here. So even though there's no clear path that we can see to where this is going to be a very profitable thing for us, I generally think if you do good things for people in the world, that that comes back and you benefit from it over time."

Sandberg says something similar: "When we've been accused of doing this for our own profit, the joke we have is, God, if we were trying to maximize profits, we have a long list of ad products to build! We'd have to work our way pretty far down that list before we got to this."

The other way of looking at Internet.org is the way Internet.org wants to be looked at: it's spreading Internet access because the Internet makes people's lives better. It improves the economy and enhances education and leads to better health outcomes. In February, Deloitte published a study —-admittedly commissioned by Facebook—that found that in India alone, extending Internet access from its current level, 15%, to a level comparable with that of more developed countries, say, 75%, would create 65 million jobs, cut cases of extreme poverty by 28% and reduce infant mortality by 85,000 deaths a year. Bottom line, this isn't about money; it's about creating wealth and saving lives.

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PERCENTAGE
OF THE OFFLINE
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The issue of public health is especially important, because one of the knocks on -Internet.org is that the need for connectivity is trivial compared with more fundamental needs like food and water and medicine. A few months after Zuckerberg announced Internet.org, Bill Gates appeared to take that line in an interview with the *Financial Times*. "Hmm, which is more important, connectivity or malaria vaccine?" Gates said. "If you think connectivity is the key thing, that's great. I don't." And more succinctly: "As a priority? It's a joke." Zuckerberg brought this up himself. "I talked to him after that," he says. "I called him up and I was like, 'What's up, dude?' But he was misquoted, and he even corrected it afterward. He was like, 'No, I fully believe that this is critical.'" The *Financial Times* never ran a correction—but the Deloitte study does make a convincing case that connectivity and health care are not unrelated.

As for the encroaching cultural homogeneity that comes with the Internet, there's more than one point of view there too. I talked about it with Mary Good, a cultural anthropologist at Wake Forest who's done fieldwork on the impact of Facebook in the Polynesian archipelago of Tonga. "I have found that the introduction of Facebook does not become a Western technology behemoth ruthlessly steamrolling across a passive new territory of eager users," she wrote in an email. "Instead, adopting new digital media and incorporating it into their lives is a process, and sometimes facilitates the maintenance of more long-standing traditions."

Ultimately, these points of view don't exclude each other. Zuckerberg can be both enriching himself and other people, both expanding and consolidating Facebook's dominance and saving lives, all at the same time. He's both empowering people (by giving them Internet access) and disempowering them (by making them into consumers and marketing targets). Thinking about the kids in the computer center in Chandauli, I realized I would have had a hard time delivering my speech about the evils of techno-colonialism to them. The kids at those laptops didn't look like zombies; they looked focused and determined. They looked as serious as a heart attack. Osama Manzar co-founded the Digital Empowerment Foundation, the NGO responsible for setting up that center in Chandauli. I asked him what Internet access means to those kids. "You feel you are at par with the rest of the world," he says. "It psychologically empowers them so much. They think that they have arrived." In Chandauli, Manzar is as big a celebrity as Zuckerberg is.

The thought bubbles over those students' heads seemed to read: The global knowledge economy is leaving the station, and we want to get on board, and you're

sitting there wringing your hands because we have to look at a few ads? Come on, man. That's some zeroth-world bull, right there.

The 15% Solution

Regardless of whether he is or is not a global cyberimperialist, Zuckerberg is an ace problem solver, and it's always instructive to watch him at work. Compare Facebook's approach to extending Internet connectivity with, say, Google's. Although it is not part of Internet.org, Google too has expressed concern over this issue, and its response is something called Project Loon, a network of high-altitude helium balloons that will, some day, in theory, continuously circle the globe, beaming wi-fi down to remote areas. It sounds loopy and romantic, but then again so did self-driving cars. When last sighted, Project Loon was well into practical trials in a remote part of Brazil, working on adding LTE and on getting its balloons to stay up longer.

This is a 15% solution, focused on areas that have no Internet access whatsoever. Facebook is looking at these areas too. In March it bought a company called Ascenta that makes solar-powered drones and folded it into an internal group called the Connectivity Lab, headed by Yael Maguire, a highly regarded director of engineering at Facebook. In broad outline, the plan is to put up a fleet of drones, each one the size of a 747 but ultralight, which will cruise at 60,000-plus feet, geosynchronously. In conjunction with a network of satellites and a new laser communications technology, the drones will beam the Internet to places that conventional infrastructure can't reach. "Our hypothesis is that you need some unusual technologies," Maguire says. "We have a bunch of long-term, very high-risk programs that we believe are going to dramatically change the way in which we provide access economically."

Google also has a drone program—in April it bought one of Ascenta's competitors, Titan Aerospace—but what's notable about its approach so far is that it has been almost purely technological and unilateral: we want people to have the Internet, so we're going to beam it at them from a balloon. Whereas Facebook's solution is a blended one. It has technological pieces but also a business piece (making money for the cell-phone companies) and a sociocultural one (luring people online with carefully curated content). The app is just one part of a human ecosystem where every-body is incentivized to keep it going and spread it around. "Certainly, one big difference is that we tend to look at the culture around things," Zuckerberg says. "That's just a core part of building any social project." The subtext being, all projects are social.

(*Interactive: Facebook Knows Your Perfect Wedding Date*)

Ello Goodbye

I asked Zuckerberg, in the spirit of midlife reflectiveness, what he thought of the various popular critiques of Facebook: that it's addictive, that it promotes narcissism, that it interferes with face-to-face contact between loved ones. In 2012, Sherry Turkle, a psychologist and MIT professor, wrote a blistering op-ed in the New York *Times* about the way social media like Facebook reinforce but also impoverish people's relationships, stripping out essential elements of human contact. As Turkle put it, "We have sacrificed conversation for mere connection."

Once again, zero traction. "I actually don't read most of the coverage about Facebook," Zuckerberg says. "I try to learn from getting input from people who use our services directly more than from pundits. But yeah, I've heard the general critique. Whenever any technology or innovation comes along and it changes the nature of something, there are always people who lament the change and wish to go back to the previous time. But, I mean, I think that it's so clearly positive for people in terms of their ability to stay connected to folks."

I asked him about Ello, an upstart for-pay social network built on the premise that it doesn't show you ads and doesn't harvest your personal information. When a social network does those things, Ello's manifesto argues, "You're the product that's being bought and sold." Zuckerberg's take was, as usual, practical: whatever ethical merits it might have, the business model won't scale. "Our mission is to connect every

Learning curve Elementary-school students in Chandauli attend class in a building without electricity or running water

person in the world. You don't do that by having a service people pay for." I suggest that Facebook's users are paying, just with their attention and their personal information instead of with cash. A publicist changes the subject.

But before that happens Zuckerberg also notes—and it was the only time I saw him display irritation—that Apple CEO Tim Cook wrote something similar in September in a statement spelling out Apple's privacy policy: "When an online service is free, you're not the customer. You're the product." The shot was probably meant for Google, but Facebook was definitely in the blast radius. "A frustration I have is that a lot of people increasingly seem to equate an advertising business model with somehow being out of alignment with your customers," Zuckerberg says. "I think it's the most ridiculous concept. What, you think because you're paying Apple that you're somehow in alignment with them? If you were in alignment with them, then they'd make their products a lot cheaper!"

People sometimes ask me if I think that Zuckerberg is a little bit "on the spectrum," as the saying goes. My answer is no. In fact, I sometimes wonder if he might be one of the most mentally healthy people I've ever met. He's extremely smart, but he doesn't have any of the neurotic self-consciousness or self-doubt that often accompany high intelligence. His psyche, like his boyish face, is unlined. His drives are unconfused: when he wants something, he sics his hugely powerful and rapacious intellect on it, and usually it comes trotting back with the prey held gently in its jaws, even if the prey gets a little bruised along the way. He's concerned with nuance and subtle shades of meaning only to the extent that they're of practical use to him, which means not at all. His faith in himself and what he's doing is total. He may be wrong, but he's not cynical; he's wholly ingenuous.

One might argue that somebody who shapes the social lives of a billion people and counting ought to have a more finely wrought sense of human nature, a deeper appreciation for what is lost when a new technology becomes part of our lives as well as what is gained. That would certainly be nice, but like the nervous and insecure, people with finely wrought sensibilities rarely build companies like Facebook. And maybe it doesn't matter. Over the past decade, humanity hasn't just adopted Facebook; we've fallen on it like starving people who have been waiting for it our entire lives, as if it were the last missing piece of our social infrastructure as a species. Pundits are free to wring their hands and mumble their nuances on Ello. Judging by their behavior, most people

$3.2

FACEBOOK'S REVENUE IN THE THIRD QUARTER OF 2014, IN BILLIONS

don't care.

Universal Internet access has, like Facebook, some of the feel of manifest destiny. The tipping point is already past, digital threads are woven too deeply into human life. We can't go back, only forward. And if someone's going to make it happen, it might as well be Zuckerberg. Talking to him, you have an eerie sense that as crude as his methods sometimes are, he is among those who will win the future—he is among the technologists who have replaced poets as, in Shelley's phrase, the unacknowledged legislators of the world. "We feel like this is just an important thing for the world," Zuckerberg says, "and there are no steps that are clear steps to make this an awesome business or to have it fully rolled out across the world, but I'm pretty confident we can do it. I'm pretty confident it's going to be a good thing."

The real difference between Facebook's first decade and its second may be that when Zuckerberg started out, he genuinely seems not to have realized how big Facebook was going to get, and how much power he had. "If you asked me in the beginning what would happen in our first decade," he says, "I would have been pretty off." He under-estimated himself. It was a rare mistake. He's unlikely to make it again.

This story originally appeared in the Dec. 15 issue of TIME.

Clarification: The Financial Times says it was never asked to make a correction and disputes that Gates was misquoted.