When we travel, we meet with people to learn what they need to live a healthy, productive life (Mapinga, Tanzania, 2011).
Forty years ago, Bill and his childhood friend Paul Allen bet that software and personal computers would change the way people around the world worked and played. This bet wasn’t exactly a wager. It was an opportunity to make computers personal and empower people through the magic of software. Some people thought they were nuts. But the bet turned out well.

Fifteen years ago, the two of us made a similar bet. We started our foundation in 2000 with the idea that by backing innovative work in health and education, we could help dramatically reduce inequity. The progress we’ve seen so far is very exciting—so exciting that we are doubling down on the bet we made 15 years ago, and picking ambitious goals for what’s possible 15 years from now.

We see an opportunity and we want to make the most of it. We’re putting our credibility, time, and money behind this bet—and asking others to join us—because we think there has never been a better time to accelerate progress and have a big impact around the world.

Some will say we’re irrational to make this bet too. A skeptic would look at the world’s problems and conclude that things are only getting worse. And we shouldn’t lose sight of the fact that a handful of the worst-off countries will continue to struggle.

But we think the next 15 years will see major breakthroughs for most people in poor countries. They will be living longer and in better health. They will have unprecedented opportunities to get an education, eat nutritious food, and benefit from mobile banking. These breakthroughs will be driven by innovation in technology—ranging from new vaccines and hardier crops to much cheaper smartphones and tablets—and by innovations that help deliver those things to more people.

The rich world will keep getting exciting new advances too, but the improvements in the lives of the poor will be far more fundamental—the basics of a healthy, productive life. It’s great that more people in rich countries will be able to watch movies on super high-resolution screens. It’s even better that more parents in poor countries will know their children aren’t going to die.

It is fair to ask whether the progress we’re predicting will be stifled by climate change. The most dramatic problems caused by climate change are more than 15 years away, but the long-term threat is so serious that the world needs to move much more aggressively—right now—to develop energy sources that are cheaper, can deliver on demand, and emit zero carbon dioxide. The next 15 years are a pivotal time when these energy sources need to be developed so they’ll be ready to deploy before the effects of climate change become severe. Bill is investing time in this work personally (not through our foundation) and will continue to speak out about it.

We’re excited to see how much better the world will be in 15 years. Here are some of the breakthroughs we see coming.
THE BREAKTHROUGHS
CHILD DEATHS WILL GO DOWN BY HALF, AND MORE DISEASES WILL BE ERADICATED THAN EVER BEFORE

AFRICA WILL BE ABLE TO FEED ITSELF

MOBILE BANKING WILL HELP THE POOR RADICALLY TRANSFORM THEIR LIVES

BETTER SOFTWARE WILL REVOLUTIONIZE LEARNING
CHILD DEATHS WILL GO DOWN BY HALF, AND MORE DISEASES WILL BE ERADICATED THAN EVER BEFORE
Until recently, the world was split in two.

In one half, virtually all children were vaccinated, had sufficient nutrition, and received proper treatment for common illnesses like diarrhea and pneumonia. The number of children in this half who died before they reached the age of 5 was well under 1 percent.

Then there was the other half.

Here, vaccination coverage was spotty at best, children tended to be malnourished, and standard childhood illnesses went untreated. About 15 percent of these children died before they turned 5; in some countries that percentage was much higher.

When we started our foundation, we were looking for the most strategic ways to help equalize the two halves of the world. We thought that if the world put a little more innovation behind saving the lives of poor children—for example, close to the same amount of innovation that goes into making computers faster and smaller—we could make a lot of progress.

When we look at the progress the world has made in the past generation, since 1990, we believe global health equity is an achievable goal. Increased investment in health care has led to better coverage with the vaccines and treatments that were already available, and intensified R&D has led to the development of new vaccines and treatments. The percentage of children who die before age 5 has been cut in half.

We predict that the next 15 years will see the pace of these developments increase even faster. The world is going to make unprecedented progress in global health.

Here are some achievements that are within the grasp of the “other” half of the world.

**Cutting the number of children who die before age 5 in half again.**

In 1990, one in 10 children in the world died before age 5. Today, it’s one in 20. By 2030, that number will be one in 40. Almost all countries will include vaccines for diarrhea and pneumonia, two of the biggest killers of children, in their immunization programs.

Better sanitation—through simple actions like handwashing as well as innovations like new toilets designed especially for poor places—will cut the spread of disease dramatically. And we’re learning how to help more mothers adopt practices like proper breastfeeding and skin-to-skin contact with their babies that prevent newborns from dying in the first month after they’re born. (Newborn deaths have gone down at a slower rate than deaths of older children and now account for almost half of all child deaths.) Many poor countries have built strong health care systems in the past 25 years, and in the next 15 years other countries will pick up on their ideas and provide more care—and higher quality care—for newborns and young children. Ultimately, this will mean millions of people alive and thriving who would have died.
Reducing the number of women who die in childbirth by two thirds.

In countries around the world, more and more mothers are giving birth in health care facilities instead of at home. Since 2005, for example, the proportion of mothers delivering at facilities in Rwanda has gone from 31 percent to 72 percent. In Cambodia, it has shot up from 20 percent to 57 percent. By continuing to make sure that the caregivers at those facilities are well-supplied and well-trained, we can take advantage of this global trend and make childbirth much safer for women around the world. In addition, maternal mortality will drop as more women get access to contraceptives and information about spacing their pregnancies safely. As that number goes up, the number of mothers dying will go down.

Polio vaccination campaigns like this one in Mashakeri village have helped rid Africa almost entirely of the disease (Kebbi state, Nigeria, 2011).
Wiping polio and three other diseases off the face of the earth.

Destroying a disease utterly is a very difficult thing to do—so difficult, in fact, that it’s happened only once in history, when smallpox was eradicated in 1980. But if we keep working hard, we can eradicate four diseases by 2030. We can get polio out of Africa this year and out of every country in the world in the next several years. Guinea worm, an incredibly painful disease whose sufferers spend months incapacitated while worms that can be several feet long burst out of their legs, will also be gone soon, thanks in large part to the leadership of President Jimmy Carter and the Carter Center. We’ll also see the last of diseases like elephantiasis, river blindness, and blinding trachoma, which disable tens of millions of people in poor countries. The drugs that can stop these scourges are now being donated in huge numbers by pharmaceutical companies, and they’re being used more strategically thanks to advances in digital maps that show where diseases are most prevalent. Last year these free medicines were distributed to 800 million people.

MORE CHILDREN ARE THRIVING

CHILD DEATHS FROM THESE LEADING INFECTIOUS DISEASES HAVE DECLINED SINCE 2000

Finding the secret to the destruction of malaria.

We won’t be able to completely eradicate malaria by 2030, but we will have all the tools we need to do so. These will include a vaccine that prevents people with malaria from spreading it to the mosquitoes that bite them, a single-dose cure that clears the parasite completely out of people’s bodies, and a diagnostic test that can reveal right away whether a person is infected. Early versions of all these tools are in development now. In 15 years, we’ll be poised to send malaria the way of smallpox and polio.

Forcing HIV to a tipping point.

As we make progress toward a vaccine or a cure, the number of people beginning treatment in sub-Saharan Africa will finally outstrip the number of people newly infected. When we reach that point in the region with the most dense HIV transmission in the world, cases will start going down everywhere around the globe for the first time since the disease was discovered more than 30 years ago.

This [partial] list of breakthroughs gives a phenomenal picture of how much progress can be made in just 15 years. Life will get better, faster, because the number of innovations reaching the poor will be greater than ever before.
Mothers bring their children to health posts like Laura’s Maternity Home & Clinic for vaccinations and health checks (Accra, Ghana, 2014).

Malaria screening programs and village malaria workers—in this case, Phnom Dambang village chief Long Vuthy—help patients like Hen Sros receive lifesaving treatment (Pailin, Cambodia, 2014).
AFRICA WILL BE ABLE TO FEED ITSELF
Every second Joyce Sandiya isn’t tending her crops, she’s volunteering at church, so when Melinda visited Tanzania in 2012, Joyce spoke to her with the zeal of a preacher giving a sermon. That year, for the first time, Joyce had planted a new kind of maize seed, bred to tolerate drought. When drought came, most of her crops withered and died, but her maize was more productive than ever. She sold the surplus to buy beans and vegetables and other nutritious food for her family, and had money left over to pay her children’s school fees. “That seed,” she said, “made the difference between hunger and prosperity.”

Joyce’s story, multiplied by hundreds of millions of African farmers like her, is the reason innovation in agriculture is so important.

Seven out of ten people living in sub-Saharan Africa are farmers. (Compare that to the United States, where the ratio is two out of a hundred.) And yet Africa has to rely on imports and food aid to feed itself. Though it’s the poorest continent in the world, it spends about $50 billion a year buying food from rich countries.

This is in part because African farmers get just a fraction of the yields that American farmers get. For example, the average maize yield in Africa is about 30 bushels an acre. In the United States, it’s more than five times that.

There’s a related problem, which is that the food most Africans eat isn’t nutritious or varied enough to make up a healthy diet. For example, many Africans consume starchy staples—maize, rice, or cassava—almost exclusively. As a result, malnutrition runs rampant across a continent of farmers, affecting children’s cognitive and physical development and therefore everything from child mortality to how much they can learn in school to the productivity of laborers in the cities.

In the next 15 years, however, innovations in farming will erase these brutal ironies. The world has already developed better fertilizer, and crops that are more productive, nutritious, and drought- and disease-resistant; with access to these and other existing technologies, African farmers could theoretically double their yields. With greater productivity, farmers will also grow a greater variety of food, and they’ll be able to sell their surpluses to supplement their family’s diet with vegetables, eggs, milk, and meat.

With the right investments, we can deliver innovation and information to enough farmers in Africa to increase productivity by 50 percent for the continent overall.
Agricultural extension, the process by which farmers get information—what seeds to plant, how to rotate crops to protect their soil, how to get the best prices at market—is complicated and expensive. Traditionally, it requires highly trained agricultural experts who know the local language and local crops in every region of vast countries. Agricultural extension also tends to be geared toward male farmers (for example, it may focus on the crops that men tend to grow), even though women do at least half of the farm labor in Africa. This is one reason women farmers are kept from being as productive as men, even when they have equal access to seeds and fertilizer.

Investing in extension so that it helps more farmers in more places—women as well as men, smallholders as well as more commercial farmers—is the only way to reap the full benefit of innovation. One promising trend is that, as more farmers have access to mobile phones, they are able to receive all sorts of information—from weather reports to current market prices—via text messages.

We need to reach as many farmers as possible, because the challenges farmers face are growing more difficult. Population growth in Africa means they’ll have 200 million more people to feed. And over time, climate change will make farming more difficult, with more droughts and more floods. Bigger variations in the weather will mean both more bumper crops and more poor harvests—which makes raising productivity and improving food storage crucial. If farmers can grow and store more food, they’ll be in a better position to ride out the lean years.
There are other limitations besides productivity that keep Africa from feeding itself. The lack of infrastructure across the continent, for example, means that it’s almost impossible to move food to the places it needs to go. (The most extreme case: The Democratic Republic of the Congo is the size of Western Europe, with a population of more than 60 million, but it has fewer than 2,000 miles of paved roads—the same amount as any middle-sized Western European town.) Trading within the region can be so difficult that it’s often easier to fly food in from other continents than to drive it a couple hundred miles.

Agricultural extension services received via mobile phone help women farmers like Adasa John get larger yields of nutritious food (Morogoro, Tanzania, 2014).
But countries are building better roads. Ghana has recently cut travel time through its interior by two thirds, simply by widening the highway that connects its agricultural heartland to the airport and seaports. Countries like Senegal are removing the frequent checkpoints that make overland transportation so burdensome.

By growing more varied and nutritious food and getting it to the people who need it at the right time, Africa can achieve food security by 2030. It will still import food when it makes sense to do so, but it will also export much more, eventually achieving a net positive trade balance. Famine will strike less often—and when it does, it will be African countries that take care of the response.

One of the current memes in development is “Africa Rising.” Improving agriculture, the backbone of the African economy, can drive massive poverty reduction and improve life across the continent.

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**AFRICAN VS. U.S. MAIZE YIELD**

**AMERICAN FARMERS GET FIVE TIMES AS MUCH MAIZE FROM THEIR LAND AS AFRICAN FARMERS DO**

Source: Food and Agriculture Organization of the United Nations (FAO)
School feeding programs, like this one at the Dome Experimental Primary School, source local food to give children the nutrition they need to stay healthy and focused while they learn (Accra, Ghana, 2009).
MOBILE BANKING WILL HELP THE POOR RADICALLY TRANSFORM THEIR LIVES
The financial lives of the poor are very complicated. The Kenya Financial Diaries, a fascinating project documenting the financial lives of hundreds of Kenyans over the course of a year, tells countless stories of people who had to forgo medical care or take their children out of school for want of a few dollars.

The reason poor people face these agonizing choices is not just that they don’t have enough assets. They also don’t have access to a bank to help them use their assets effectively. If their savings are in the form of jewelry or livestock, for example, they can’t very well chip off tiny pieces to cover routine daily expenses.

Instead, the poor use financial services that are extremely inefficient. They save by hiding cash around the house or buying commodities that lose value over time. When they send money to friends and relatives to help them through tough times, they either take a day off and deliver the cash themselves or trust someone else to do it for them. If they need to borrow money for an emergency, they have to pay usurious interest rates to a moneylender. Not having access to a range of cheap and easy financial services makes it much more difficult to be poor.

But in the next 15 years, digital banking will give the poor more control over their assets and help them transform their lives. The key to this will be mobile phones. Already, in the developing countries with the right regulatory framework, people are storing money digitally on their phones and using them to make purchases, as if they were debit cards. By 2030, 2 billion people who don’t have a bank account today will be storing money and making payments with their phones. And by then, mobile money providers will be

By 2030, 2 billion people who don’t have a bank account today will be storing money and making payments with their phones.
offering the full range of financial services, from interest-bearing savings accounts to credit to insurance.

Traditional banks cannot afford to serve the poor because of their costs. That’s why 2.5 billion adults don’t currently have a bank account. In villages where people borrow or save in tiny denominations, building and maintaining a bank branch just doesn’t make sense. And when most people think about financial services specifically for the poor, they think of microcredit, such as small loans to businesswomen in poor countries. Indeed, small loans have helped millions of people, but loans are only one of the financial services the poor need, interest rates are relatively high, and these services have reached only a small fraction of the poorest.

The companies pioneering mobile banking find it profitable to serve the poor because the marginal cost of processing a digital transaction is near zero. And because so many people in developing countries have mobile phones—more than 70 percent of adults in many countries are subscribers now—the volume of transactions can be very high. By making small commissions on millions and millions of transactions, mobile money providers can make a profit serving poor customers, just as brick-and-mortar banks do serving the wealthy. Once these services get going, there will be competitive innovation in offerings like special savings or credit plans related to farming or education.

In Bangladesh, the fastest-growing financial services company is a mobile money provider called bKash. Less than four years after launching, it processes roughly 2 million transactions per day, with a total value of nearly $1 billion each month.
This vision of the future isn’t going to materialize by itself. There are barriers that people in the field are working hard to solve. Mobile phone access, for example, still isn’t equal; only 46 percent of Bangladeshi women own a phone, compared to 76 percent of Bangladeshi men, which means women lack access to services like bKash and the opportunities that the digital economy is bringing to Bangladeshi society.

There is a lot of work ahead to get regulators in developing countries to update their financial regulations. If the regulations limit digital banking, as is still the case in most countries, innovators can’t enter.

Another key factor to getting the use of digital money to critical mass is making sure there are enough locations where people can convert digital money into cash and cash into digital money. Without this as an enabling factor, the digital economy can’t get started. Making sure that enough retail stores in every community provide this service allows the digital economy to bootstrap into the mainstream.

One interesting feature of digital financial innovation is that some of it is happening in poor countries first. If we waited a few decades, banks in developed countries would invent digital banking tools, and they would trickle down eventually to developing countries. But because there is strong demand for banking among the poor, and because the poor can in fact be a profitable customer base, entrepreneurs in developing countries are doing exciting work—some of which will “trickle up” to developed countries over time.
BETTER SOFTWARE WILL REVOLUTIONIZE LEARNING
Last fall, Bill met a number of students in Arizona who are getting their college degrees through online schools. One of them, Shawn Lee, is a former construction worker who went back to college so he could build a better life for his young son. Shawn told Bill how he had struggled in a traditional school—and how learning online made it much easier to balance school and work.

Yet if we went to a poor country and asked a street vendor about taking online classes, she would just laugh. The idea would seem ridiculous.

It shouldn’t. And one day, it won’t.

Our foundation gives more money to education than to any other cause in the United States because it’s the best lever we’ve seen for giving every child in America a chance to make the most of their lives. Some of the work we fund is focused solely on U.S. students and teachers. But a core piece of it—online courses—will be a global asset, available to anyone with a smartphone or tablet.

As high-speed cell networks grow and smartphones become as cheap as today’s voice-only phones, online education will flourish. For people in rich countries, it will be an important step forward. For the rest of the world, especially in places where growth is creating demand for educated workers, it will be a revolution.

Think back 15 years, to when online education was first gaining traction. It amounted to little more than pointing a camera at a university lecturer and hitting the “record” button. Students couldn’t take online quizzes or connect with each other. It wasn’t interactive at all.
The technology has already come a long way, as you can see at sites like Khan Academy, and it will advance even more in the next 15 years. Before a child even starts primary school, she will be able to use her mom’s smartphone to learn her numbers and letters, giving her a big head start. Software will be able to see when she’s having trouble with the material and adjust for her pace. She will collaborate with teachers and other students in a much richer way. If she is learning a language, she’ll be able to speak out loud and the software will give her feedback on her pronunciation. (Some sites do this today, but the technology will improve a lot.)

Many of today’s online classes are disconnected from career paths, but that will change too. Suppose you want to be a health worker; you’ll be able to find out what level of math, chemistry, and other subjects you need to meet the requirements, and you’ll be able to do much of the work online. Some content will need to be localized for different places and languages. Yet the basic ideas don’t change; algebra works the same way everywhere.

There is one thing software will never do: replace teachers. Even the most self-motivated student needs guidance and support. But software can play a crucial role, for example by connecting teachers to each other. They will be able to upload videos of themselves and get advice from their peers, watch the best teachers in the world at work, and get real-time feedback from their students. These advances will be important in the

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**CLOSING THE GLOBAL LITERACY GAP**

**EQUAL ACCESS TO EDUCATION AND TECHNOLOGY WILL EMPOWER MORE WOMEN AND GIRLS TO BUILD BETTER LIVES**

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Source: The World Bank
Melinda and our daughter Jennifer spent several days with a farming family and learned about the challenges girls face getting an education (Tanzania, 2014).

There is one thing software will never do: replace teachers. Even the most self-motivated student needs guidance and support.

United States, and they’ll have an even bigger impact on teachers in developing countries where enrollment is high but achievement is not.

To make the most of these innovations, we need to close the gender gap. In Africa, women are 24 percent less likely than men to own a cell phone; in South Asia, it’s 37 percent. And as Melinda has seen vividly in her travels, the gap is not just about technology. Last year she and our daughter Jennifer stayed with a family on their farm in Tanzania. Their 13-year-old daughter, Grace, couldn’t start her homework until 10:30 at night—she was too busy chopping wood, carrying water, doing the laundry, cooking dinner, and washing dishes. Her twin brother, who had plenty of time to study, had already passed the exams needed to keep going in school.

As Melinda and Jennifer were leaving, Grace asked, “Can I have your flashlight?” She wanted to use it for studying at night.

Education is a great leveler. But if the factors that hold girls back are not addressed, and if access to education isn’t equal, then education will become another cause of inequity, rather than a cure for it.

This is especially important because when a young woman gets an education, it has a powerful ripple effect. As an adult, she’ll earn more money. If she has children, they will be twice as likely to live past the age of 5. Her daughters will be twice as likely to go to school themselves. There’s no way to get around the fact that more girls need to be in good schools, and for longer. But online education will open up new opportunities for girls with the means and motivation to take advantage of it.

As the cost goes down and incomes go up, more people will have the means, and we’ll be well on our way to providing high-quality education for everyone.
A CALL FOR GLOBAL CITIZENS
So what will it take to make sure this bet pays off—that the lives of people in poor countries really do improve faster in the next 15 years than ever before? As we said earlier, it will take innovation in technology and in ways to deliver it to the people who need it most, which is what our foundation works on.

There’s another crucial factor: informed, passionate individuals working together to form effective movements for change. People who care about helping those in the world’s poorest places improve their lives. We call them global citizens. And with this letter, we’re helping to kick-start an effort to recruit tens of millions more of them.

Becoming a global citizen doesn’t mean you have to dedicate your life to helping the poor. It does mean you follow an issue of global importance—whether it’s one we wrote about in this letter, or another, like human rights or governance. You take a few minutes once in a while to learn about the lives of people who are worse off than you are. (In fact, if you’re still reading this far into our letter, you are probably a global citizen.) You’re willing to act on your compassion, whether it’s raising awareness, volunteering your time, or giving a little money.

There is overwhelming evidence that people care about others who are suffering—when they can see the suffering. Just think of the global outpouring of support whenever a devastating tsunami or earthquake makes the news. The problem is that ongoing tragedies like deadly diseases and poverty don’t make the news. They’re invisible to many of us. And so the caring of millions of people goes untapped.

We hope to help change that. With the effort we’re helping launch, we want to raise the visibility of these problems. We want to give global citizens a way to lend their voice, urging governments, companies, and nonprofits to make these issues a priority.

It is called Global Citizen, and you can sign up at GlobalCitizen.org. You will be able to get updates on how you can help, share what you’re learning, and connect with other people and organizations who care about similar issues. But being a global citizen is not just about being part of one organization; it’s about being part of a movement made up of many effective organizations including global groups like CIVICUS, Save the Children, the ONE Campaign, ActionAid, Oxfam, and Greenpeace, as well as smaller national organizations from Sri Lanka to South Africa. We hope this effort will help these groups grow, building the movement of global citizens. Their millions of members are also global citizens, working on different global problems.

Global citizens have an especially important role to play this year. In September, the United Nations will agree on a set of goals about what should be done for the poor over the next 15 years. The UN did this once before, in 2000, and it was one of the best ideas for development either of us has ever seen. It focused the world on key measures of how many people get the basics of a productive life: good health and a chance to get an education and make the most of economic opportunities.

We hope the goals adopted this year continue that work. Nearly 1,000 organizations in 130 countries have come together to launch a campaign called action/2015 to make sure they do. But we need even more voices—and by joining Global Citizen, you can add yours. Along with other groups, Global Citizen will be asking their members to hold their leaders accountable for the goals they sign up for in September, particularly those relating to the health of women and children.

The more global citizens there are, and the more active and effective they are, the more progress the world will make. We hope you will show your support by signing up, because we believe that people can and must work together more to make the world a more equitable place. In fact, we’re betting on it.
SLEEVE
Woman selling locust beans at a local market (Osun state, Nigeria, 2009).

COVER
(from top to bottom)
Boy eating an orange-fleshed sweet potato (Mwasonge, Tanzania, 2009).
A polio vaccination team at work in the Kamla Nehru Nagar slum (Bihar, India, 2010).
Farmers tending their rice fields (Kirehe District, Rwanda, 2011).
Students using computers at the Centro Tecnológico Comunitario to access interactive, digital schoolwork (Boca Chica, Dominican Republic, 2012).
Young girl holding her little brother (Hainan, China, 2008).