

November 3, 2014

It was the best of times it was the worst of times, Today we celebrate the best of our species and then we pull back the curtain on some of the worst. First, what makes us human? Nautilus says it is our willingness to cooperate. Given the item that runs second today, you might want to immerse yourself in this piece.

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But what happens next is a quintessential story of who we are as human beings.

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Suddenly other arms were there: Personal trainer Dennis Codrington Jr. and his friend Matt Foley had also jumped down to help. "We grabbed him, one by the legs, one by the shoulders, one by the chest," O'Hanlon says. They got the man to the edge of the platform, where a dozen or more people muscled him up and over. More hands seized the rescuers' arms and shoulders, helping them up to safety as well.

In the aftermath of the rescue, O'Hanlon says he has been surprised that so many people have asked him why he did it. "I get stunned by the question," he says. In his view, anybody else would've done the same thing. "I feel like it's a normal reaction," he says. "To me that's just what people do."

More precisely, it is something only people do, according to developmental psychologist Michael Tomasello, codirector of the Max Planck Institute for Evolutionary Anthropology. ...

... There are no fossils of ancient hominid brains or other physical evidence that might tell us when and how our ancestors first put their minds together to collaborate. Without such clues, the question of why we alone became a collaborative species is difficult to answer, says Hare, who is now a professor at the Center for Cognitive Neuroscience at Duke University. "Figuring out what makes us unique is hard as hell," he says. "But it's much easier than the next question, which is the real issue, the Higgs boson of evolutionary anthropology: How did we get that way?"

In the absence of physical evidence, Tomasello proposes one possible scenario. During the Pleistocene, about 1.5 million years ago, the climate became very bumpy, with frequent temperature swings that forced our ancestors to work together to access new sources of food.

Perhaps we became scavengers, joining forces to ward off bigger, tougher meat-eating competitors. Under these circumstances, any genetic variation that made it easier to collaborate—maybe by more accurately reading someone else’s intentions, seeing the whites of their [eyes](#), or simply being more relaxed about sharing food—presumably would have helped those individuals survive, and would have spread through the population.

Hints as to how this might have happened emerge from a surprising place: a fox-breeding farm in Siberia. In the 1950s the Russian biologist Dmitri Belyaev was interested in how dogs might first have been domesticated. He paired the most docile, friendly foxes he could find, then chose the gentlest from each litter and bred them. In a mere 10 generations, the young foxes acted like puppy dogs. The first time they met a human, they wagged their tails and tried to leap into people’s arms to lick their faces. ...

... Ultimately, Tomasello’s research on human nature arrives at a paradox: our minds are the product of competitive intelligence and cooperative wisdom, our behavior a blend of brotherly love and hostility toward out-groups. Confronted by this paradox, the ugly side—the fact that humans compete, fight, and kill each other in wars—dismays most people, Tomasello says. And he agrees that our tendency to distrust outsiders—lending itself to prejudice, violence, and hate—should not be discounted or underestimated. But he says he is optimistic. In the end, what stands out more is our exceptional capacity for generosity and mutual trust, those moments in which we act like no species that has ever come before us.

Now, a look at our seamier side from [Wired](#).

The campuses of the tech industry are famous for their lavish cafeterias, cushy shuttles, and on-site laundry services. But on a muggy February afternoon, some of these companies’ most important work is being done 7,000 miles away, on the second floor of a former elementary school at the end of a row of auto mechanics’ stalls in Bacoor, a gritty Filipino town 13 miles southwest of Manila. When I climb the building’s narrow stairwell, I need to press against the wall to slide by workers heading down for a smoke break. Up one flight, a drowsy security guard staffs what passes for a front desk: a wooden table in a dark hallway overflowing with file folders.

Past the guard, in a large room packed with workers manning PCs on long tables, I meet Michael Baybayan, an enthusiastic 21-year-old with a jaunty pouf of reddish-brown hair. If the space does not resemble a typical startup’s office, the image on Baybayan’s screen does not resemble typical startup work: It appears to show a super-close-up photo of a two-pronged dildo wedged in a vagina. I say appears because I can barely begin to make sense of the image, a baseball-card-sized abstraction of flesh and translucent pink plastic, before he disappears it with a casual flick of his mouse.

Baybayan is part of a massive labor force that handles “content moderation”—the removal of offensive material—for US social-networking sites. As social media connects more people more intimately than ever before, companies have been confronted with the Grandma Problem: Now that grandparents routinely use services like Facebook to connect with their kids and grandkids, they are potentially exposed to the Internet’s panoply of jerks, racists, creeps, criminals, and bullies. They won’t continue to log on if they find their family photos sandwiched between a gruesome Russian highway accident and a hardcore porn video. Social media’s growth into a

multibillion-dollar industry, and its lasting mainstream appeal, has depended in large part on companies' ability to police the borders of their user-generated content—to ensure that Grandma never has to see images like the one Baybayan just nuked. ...

... This work is increasingly done in the Philippines. A former US colony, the Philippines has maintained close cultural ties to the United States, which content moderation companies say helps Filipinos determine what Americans find offensive. And moderators in the Philippines can be hired for a fraction of American wages. Ryan Cardeno, a former contractor for Microsoft in the Philippines, told me that he made \$500 per month by the end of his three-and-a-half-year tenure with outsourcing firm Sykes. Last year, Cardeno was offered \$312 per month by another firm to moderate content for Facebook, paltry even by industry standards.

Here in the former elementary school, Baybayan and his coworkers are screening content for Whisper, an LA-based mobile startup—recently valued at \$200 million by its VCs—that lets users post photos and share secrets anonymously. They work for a US-based outsourcing firm called TaskUs. ...

*... **Given that content** moderators might very well comprise as much as half the total workforce for social media sites, it's worth pondering just what the long-term psychological toll of this work can be. Jane Stevenson was head of the occupational health and welfare department for Britain's National Crime Squad—the UK equivalent of the FBI—in the early 2000s, when the first wave of international anti-child-pornography operations was launched. She saw investigators become overwhelmed by the images; even after she left her post, agencies and private organizations continued to ask for her help dealing with the fallout, so she started an occupational health consultancy, Workplace Wellbeing, focused on high-pressure industries. She has since advised social media companies in the UK and found that the challenges facing their content moderators echo those of child-pornography and anti-terrorism investigators in law enforcement.*

“From the moment you see the first image, you will change for good,” Stevenson says. But where law enforcement has developed specialized programs and hires experienced mental health professionals, Stevenson says that many technology companies have yet to grasp the seriousness of the problem. ...

For needed comic relief, here's [Andrew Malcolm](#) with late night humor.

Conan: President Obama said he hugged and kissed some of the nurses who treated Ebola patients. Man, that guy will do anything to get out of that job right now.

Fallon: The CDC is trying to calm people saying you can't get Ebola sitting next to someone. But you could give it to someone sitting next to you. So, don't worry. But, you know, worry.

Conan: NFL teams got a league newsletter informing them of the dangers of Ebola. Meanwhile, Ebola has received a letter about the dangers of the NFL.

Nautilus

Cooperation Is What Makes Us Human

Where we part ways with our ape cousins.

by Kat McGowan

Tales about the origins of our species always start off like this: A small band of hunter-gatherers roams the savannah, loving, warring, and struggling for survival under the African sun. They do not start like this: A fat guy falls off a New York City subway platform onto the tracks.

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More precisely, it is something *only* people do, according to developmental psychologist Michael Tomasello, codirector of the Max Planck Institute for Evolutionary Anthropology.

For decades Tomasello has explored what makes humans distinctive. His conclusion? We cooperate. Many species, from ants to orcas to our primate cousins, cooperate in the wild. But Tomasello has identified a special form of cooperation. In his view, humans alone are capable of shared intentionality—they intuitively grasp what another person is thinking and act toward a common goal, as the subway rescuers did. This supremely human cognitive ability, Tomasello says, launched our species on its extraordinary trajectory. It forged language, tools, and cultures—stepping-stones to our colonization of every corner of the planet.

In his most recent research, Tomasello has begun to look at the dark side of cooperation. "We are primates, and primates compete with one another," Tomasello says. He explains cooperation evolved on top of a deep-seated competitive drive. "In many ways, this is the human dilemma," he says.

In conversation, Tomasello, 63, is both passionate and circumspect. Even as he overturns entrenched views in primatology and anthropology he treads carefully, backing up his theories by citing his experiments in human and primate behavior. He is aware of criticism from primatologists such as [Frans de Waal](#), director of Living Links, a division of the Yerkes National Primate Research Center at Emory University in Atlanta, who has said Tomasello underestimates the minds of chimps and overestimates the uniqueness of human cooperation.

Nonetheless, Tomasello's fellow scientists credit him with brave experiments and ingenious insights. Carol Dweck, a professor of psychology at Stanford University, who has done seminal research in child psychology and intelligence, has called Tomasello "a pioneer." Herbert Gintis, an economist and behavioral scientist at the Santa Fe Institute, an interdisciplinary science research institution, agrees. "His work is fabulous," Gintis says. "It has made clear certain things about what it means to be human."

Every Chimp for Himself

Tomasello calls his theory of cooperation the Vygotskian Intelligence Hypothesis. It is named for Russian psychologist Lev Vygotsky, who argued in the 1920s that children's minds do not automatically acquire skills, but develop full human intelligence only through cooperative teaching and social interactions. Tomasello applies this idea to the evolution of our species. He proposes that as many as 2 million years ago, as climate swings altered the availability and competition for food, our ancestors were forced to put their heads together to survive.

Tomasello began his research career at Emory University, working with apes at the Yerkes primate center. He acknowledges that chimpanzees, like humans, manage complex social lives, solve problems flexibly, and create and deploy tools. Nonetheless, "I take it as given that something is different," he says. "Humans are doing something on a different level."

As Tomasello began to study the cognition of chimpanzees and other great apes, he was influenced by pioneering child psychologist Jean Piaget, who recognized that children see the world differently. "He looked at children as if they were another species," Tomasello says. "That's the guiding image I started with."

At the Yerkes primate center, Tomasello adopted an experimental method that he would develop throughout his career: systematically comparing the cognition of great apes and young children in head-to-head tests. Since the use of language is an obvious difference between humans and chimps, he began by looking at the precursors of speech. Great apes often communicate with gestures. Babies point before they talk. Presumably our hominid ancestors also gesticulated before they developed language. So Tomasello focused on pointing, devising dozens of studies to explore how and when chimps and children point.

He found a major difference between the two species. By the time a baby begins to point, at about nine months of age, she has already made several sophisticated cognitive leaps. When she points at a puppy and looks at you, she knows that her perspective may be different from yours (you haven't noticed the pup), and she wants to share her information—doggie!—with you.

"We naturally inform people of things that are interesting or useful to them," Tomasello says. "That's unusual. Other animals don't do that." Pointing is an attempt to change your mental state. It is also a request for a joint experience: She wants you to look at the dog with her.

Chimps, by contrast, do not point things out to each other. Captive chimps will point for humans, but it's to make a demand rather than to share information: I want that! Open the door! They do not understand informational human pointing, because they do not expect anyone to share information with them. In one of Tomasello's experiments, food is hidden in one of two buckets. Even if the experimenter points to where it is, the chimp still chooses randomly. "It's absolutely surprising," Tomasello says. "They just don't seem to get it."

In parallel experiments, children as young as 12 months have no trouble understanding an adult pointing a finger at a hidden reward. To understand pointing, Tomasello posits, you must form a "we intention," a shared goal that both of you will pay attention to the same thing. Chimps don't [point](#) because they don't think in terms of "we." They think in terms of "me." "Cooperatively informing them of the location of food does not compute," he says. The chimpanzee world is egocentric: Every chimp for himself.

The idea that chimps don't work together appeared at first to contradict what some biologists had observed in the wild. Chimps take turns grooming one another, for example. They also form group hunting parties to encircle and kill red colobus monkeys, a favorite food. But these behaviors don't require the kind of we intention that Tomasello was finding in even the youngest humans. Grooming is a tit-for-tat activity that merely requires two animals to alternate: Literally, I scratch your back, you scratch mine. There's no need to jointly focus attention.

Chimps can also hunt together without deliberately coordinating, Tomasello reasons. If, during the chase, each chimp simply maximizes his own chances of catching the prey, each will position himself where he thinks the monkey will try to break out of the circle of predators. "This kind of hunting event is clearly a group activity of some complexity," Tomasello writes in his book *Why We Cooperate*. "But wolves and lions do something very similar, and most researchers do not attribute to them any kind of joint goals or plans. The apes are engaged in a group activity in 'I' mode, not in 'we' mode."

Alone Together

Still, it was hard to tell exactly what was going on from watching wild animals. Lab experiments, where multiple animals can be tested in controlled situations and their responses measured and quantified, could clarify whether chimps even have a collaborative mode. Since collaboration requires that you understand what someone else wants and thinks, Tomasello explored whether chimps have what psychologists call "theory of mind," or insight into what another individual might be thinking.

The consensus was that apes did not have this mental ability, but Tomasello and his team, including then undergraduate student Brian Hare, began devising ape-centric experiments to test whether that was truly the case. Rather than using psychology tests developed for human beings, as many ape researchers did, they invented new tests that were more relevant to the chimpanzee world.

Chimps are hierarchical with an alpha chimp getting priority in feeding. One experiment set a high-ranking chimp against a low-ranking one to compete for food. The researchers hid snacks in such a way that only the subordinate animal could see all the hiding places. When both animals were freed to go after the food, the subordinate dove for the snacks that had been hidden out of the high-ranking chimp's line of sight. (Control experiments showed that if both animals saw where the food was hidden, the subordinate animal didn't bother to approach the food.) The reasonable

explanation was that the low-ranking chimp modeled his rival's thought process in order to exploit his blind spots. He had a concept of what the other chimp saw and believed—the basic definition of theory of mind.

This study and others like it in 2000 and 2001 led the group to conclude that chimps do actually have insight into other individuals' thoughts. But they don't use this ability to cooperate, as humans often do. They use it to win.

"If you try to do something cooperative with a chimp—point out something, show them where some food is—their attention wanders all over the place," says Tomasello. "But if you compete with them over food, they are zeroed in like a laser. All their cognitive skills are *on*." (If chimps had a self-help bestseller, it would be titled, *How to Outwit Rivals and Get More Fruit*.)

It's not that chimpanzees are incapable of helping. De Waal describes one instance in which chimps boosted an arthritic elderly troupe mate up to a joint perch and used their own mouths to carry water to her so that she could drink. De Waal says this is one of many examples of animal cooperation. He predicts the claim that humans are unique because they collaborate to solve problems "will drop by the wayside."

Tomasello agrees that chimps sometimes assist each other and help each other get food, under specific conditions that eliminate all possibility of competition. In one of his experiments, conducted with wild-born chimps in a Ugandan sanctuary, two chimps entered separate cages, with fruit placed in a third. The first chimp knew from previous experience that he could not open his own cage door to get to the food, but he could help the other animal by pulling a chain that opened the door of the other cage. Here, with nothing to gain and nothing to lose, eight out of nine animals pulled the chain so that the other animal could get the fruit.

"It was a huge surprise to me," Tomasello says. "My initial reaction was: Damn. That doesn't fit very well." But the more he thought about it, the more he realized that chimps, again, are acting individually, not in cooperation with each other. "To help, you just need to know what the goal is, and then if you're motivated, you can help," he says. "It's not cognitively very complicated." Human cooperation, meanwhile, requires two or more people to have insight into each other's intentions, formulate a joint goal, assume specific roles, and then coordinate their efforts. It demands cognitive capacities that even the most helpful chimpanzees don't possess.

In this case, the term "helpful" may be a little generous. Alicia Melis, a former postdoc in Tomasello's lab, explains that chimps work together only grudgingly when it comes to obtaining food. In one of her experiments, a board laden with food is placed beyond the reach of two chimps; they can get the food only if each grabs one end of a rope attached to the board and they jointly pull it. In her experiment, the animals worked together only if the food was already evenly divided so that they did not have to compete over the spoils. It also helped if they already got along.

"The motivation does not seem to be, 'Let's do this together,' " says Melis, now an assistant professor of behavioral science at Warwick Business School in the U.K. "It's, 'Let me try to do this alone, and if I can't, we'll do it together.' "

Tomasello has discovered that young children, by contrast, find that working together can be a reward all its own. When adults deliberately drop objects in his experiments, babies of 14 months will crawl over to pick them up and hand them back. Toddlers open doors for experimenters whose hands are full. They do it without being asked and without being rewarded. Once they get the idea that they are partnering, they commit to joint intentionality. If a partner is having trouble, they stop

and help. They share the spoils equally. “They really understand that we’re doing this together, and we have to divide it together,” Tomasello says.

Evolution of Collaboration

There are no fossils of ancient hominid brains or other physical evidence that might tell us when and how our ancestors first put their minds together to collaborate. Without such clues, the question of why we alone became a collaborative species is difficult to answer, says Hare, who is now a professor at the Center for Cognitive Neuroscience at Duke University. “Figuring out what makes us unique is hard as hell,” he says. “But it’s much easier than the next question, which is the real issue, the Higgs boson of evolutionary anthropology: How did we get that way?”

In the absence of physical evidence, Tomasello proposes one possible scenario. During the Pleistocene, about 1.5 million years ago, the climate became very bumpy, with frequent temperature swings that forced our ancestors to work together to access new sources of food. Perhaps we became scavengers, joining forces to ward off bigger, tougher meat-eating competitors. Under these circumstances, any genetic variation that made it easier to collaborate—maybe by more accurately reading someone else’s intentions, seeing the whites of their [eyes](#), or simply being more relaxed about sharing food—presumably would have helped those individuals survive, and would have spread through the population.

Hints as to how this might have happened emerge from a surprising place: a fox-breeding farm in Siberia. In the 1950s the Russian biologist Dmitri Belyaev was interested in how dogs might first have been domesticated. He paired the most docile, friendly foxes he could find, then chose the gentlest from each litter and bred them. In a mere 10 generations, the young foxes acted like puppy dogs. The first time they met a human, they wagged their tails and tried to leap into people’s arms to lick their faces.

The descendants of those foxes still live in a facility in Siberia, where Hare, Tomasello’s former student, traveled in 2003 to test their cognition. He found that fox kits that had spent less than 20 minutes total around a person already understood human gestures, such as following a pointing finger to find food. They did not have to be taught. “That blew me away,” Hare says. His experiments suggested that as the foxes lost their fear of humans, they became able to repurpose their cognitive abilities to a new human-focused agenda: relating to us.

The foxes’ ability to read human social cues was now under strong artificial evolutionary pressure, since only the friendliest animals got the chance to breed. With Belyaev calling the shots, the foxes were competing against each other to be more socially perceptive. The outcome, a few dozen generations later, is a fox that understands human pointing. The small change in temperament permitted a big advance in social intelligence.

Hare and Tomasello suspect our ancestors went through a similar process. Basically, we domesticated ourselves. When collaborating to find food became essential because of changes in the climate or changes in the competition, we became less aggressive and more willing to share. Aggressive individuals, unwilling to cooperate, would starve and die out. Now that our temperaments allowed us to put our minds together, we were able to develop communal inventions like language and [culture](#), and sustain these innovations by teaching and imitating one another. The ability to crystallize knowledge in inventions and traditions, Tomasello says, is what turned the ordinary primate mind into an extraordinary human one.

“Through our collaborative efforts, we have built our cultural worlds, and we are constantly adapting to them,” he writes in *Why We Cooperate*.

Us and Them

Today Tomasello is also looking through the prism of collaboration and beginning to explain some of the uniquely dark and nasty things that humans do. Maintaining a collaborative social structure encourages us to shun outsiders and discipline nonconformists. It fosters groupthink—the urge to stifle dissenting opinions in the interest of harmony and loyalty. Here, his research connects with that of anthropologists and economists who study social norms and other psychological underpinnings of group behavior.

Game theory models, which forecast how people behave when their interests are in conflict, suggest that cooperation can only be sustained in large groups if members punish anybody who freeloads or behaves selfishly. This prediction was borne out in 2005 by an anthropological study of 15 societies, mostly traditional small-scale communities, scattered around the globe.

But our tendency to enforce standards goes beyond simply ensuring justice. The impulse to formulate social rules and punish rule breakers applies to all kinds of situations, from whom we marry to how we [dress](#). One possible benefit of these social norms is that they help us quickly identify who is part of our in-group and who is not; they also make it easier to collaborate more effectively. (If you hunt the same way I do, it’s going to be easier for us to work together, and it’s also a sign that you are a member of my group, someone I can presumably rely upon.)

The downside is that we also tend to blindly adopt arbitrary social conventions. Unlike other great apes, we are fundamentally conformists, Tomasello says. We form groups in which everybody dresses and talks the same way, “and anybody who intentionally doesn’t conform, we wonder: What’s wrong with them—do they not want to be one of us?” From this perspective, laws, morals, and religious rules are simply larger and more institutional versions of the impulse to police social norms, he says: “Human societies are just one layer of cooperation, or incentives for cooperation, on top of another.”

The open question is whether being natural-born collaborators also condemns us to be small-minded conformists who fear and distrust outsiders. Tomasello is now exploring how children understand group membership, testing how they act while wearing uniforms or being asked to work together. Kids absorb social norms quickly, he has found, and they enforce them enthusiastically. They can be little martinets. In one recent experiment, 3-year-olds are shown a game of pretend in which a pen is supposed to be used as an imaginary toothbrush. A puppet held by a researcher then asks to join the game, but draws with the pen instead. One child is outraged, barking, No! You *must brush* the *teeth*! The child’s reaction demonstrates the basic urge to impose social rules even when they are meaningless.

Ultimately, Tomasello’s research on human nature arrives at a paradox: our minds are the product of competitive intelligence and cooperative wisdom, our behavior a blend of brotherly love and hostility toward out-groups. Confronted by this paradox, the ugly side—the fact that humans compete, fight, and kill each other in wars—dismays most people, Tomasello says. And he agrees that our tendency to distrust outsiders—lending itself to prejudice, violence, and hate—should not be discounted or underestimated. But he says he is optimistic. In the end, what stands out more is our exceptional capacity for generosity and mutual trust, those moments in which we act like no species that has ever come before u

Kat McGowan is a contributing editor at Discover magazine and independent journalist based in Berkeley, Calif., and New York City. She writes about neuroscience, genetics, and other science that affects how we understand ourselves.

Wired

[The Laborers Who Keep Dick Pics and Beheadings Out of Your Facebook Feed](#)

By Adrian Chen

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A contractor at the Manila office of TaskUs, a firm that provides content moderation services to U.S. tech companies.

“EVERYBODY HITS THE WALL. YOU JUST THINK, ‘HOLY SHIT, WHAT AM I SPENDING MY DAY DOING?’”

So companies like Facebook and Twitter rely on an army of workers employed to soak up the worst of humanity in order to protect the rest of us. And there are legions of them—a vast, invisible pool of human labor. Hemanshu Nigam, the former chief security officer of MySpace who now runs online safety consultancy SSP Blue, estimates that the number of content moderators scrubbing the world’s social media sites, mobile apps, and cloud storage services runs to “well over 100,000”—that is, about twice the total head count of Google and nearly 14 times that of Facebook.

This work is increasingly done in the Philippines. A former US colony, the Philippines has maintained close cultural ties to the United States, which content moderation companies say helps Filipinos determine what Americans find offensive. And moderators in the Philippines can be hired for a fraction of American wages. Ryan Cardeno, a former contractor for Microsoft in the Philippines, told me that he made \$500 per month by the end of his three-and-a-half-year tenure with outsourcing firm Sykes. Last year, Cardeno was offered \$312 per month by another firm to moderate content for Facebook, paltry even by industry standards.

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post photos and share secrets anonymously. They work for a US-based outsourcing firm called TaskUs. It's something of a surprise that Whisper would let a reporter in to see this process. When I asked Microsoft, Google, and Facebook for information about how they moderate their services, they offered vague statements about protecting users but declined to discuss specifics. Many tech companies make their moderators sign strict nondisclosure agreements, barring them from talking even to other employees of the same outsourcing firm about their work.

"I think if there's not an explicit campaign to hide it, there's certainly a tacit one," says Sarah Roberts, a media studies scholar at the University of Western Ontario and one of the few academics who study commercial content moderation. Companies would prefer not to acknowledge the hands-on effort required to curate our social media experiences, Roberts says. "It goes to our misunderstandings about the Internet and our view of technology as being somehow magically not human."

I was given a look at the Whisper moderation process because Michael Heyward, Whisper's CEO, sees moderation as an integral feature and a key selling point of his app. Whisper practices "active moderation," an especially labor-intensive process in which every single post is screened in real time; many other companies moderate content only if it's been flagged as objectionable by users, which is known as reactive moderating. "The type of space we're trying to create with anonymity is one where we're asking users to put themselves out there and feel vulnerable," he tells me. "Once the toothpaste is out of the tube, it's tough to put it back in."

Watching Baybayan's work makes terrifyingly clear the amount of labor that goes into keeping Whisper's toothpaste in the tube. (After my visit, Baybayan left his job and the Bacoor office of TaskUs was raided by the Philippine version of the FBI for allegedly using pirated software on its computers. The company has since moved its content moderation operations to a new facility in Manila.) He begins with a grid of posts, each of which is a rectangular photo, many with bold text overlays—the same rough format as old-school Internet memes. In its freewheeling anonymity, Whisper functions for its users as a sort of externalized id, an outlet for confessions, rants, and secret desires that might be too sensitive (or too boring) for Facebook or Twitter. Moderators here view a raw feed of Whisper posts in real time. Shorn from context, the posts read like the collected tics of a Tourette's sufferer. *Any bisexual women in NYC wanna chat? Or: I hate Irish accents! Or: I fucked my stepdad then blackmailed him into buying me a car.*

A list of categories, scrawled on a whiteboard, reminds the workers of what they're hunting for: pornography, gore, minors, sexual solicitation, sexual body parts/images, racism. When Baybayan sees a potential violation, he drills in on it to confirm, then sends it away—erasing it from the user's account and the service altogether—and moves back to the grid. Within 25 minutes, Baybayan has eliminated an impressive variety of dick pics, thong shots, exotic objects inserted into bodies, hateful taunts, and requests for oral sex.

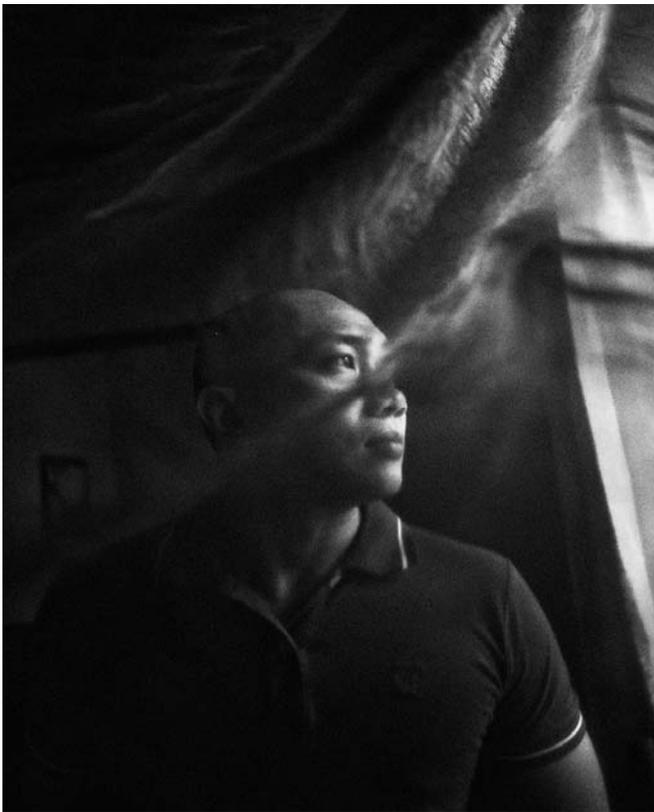
More difficult is a post that features a stock image of a man's chiseled torso, overlaid with the text "I want to have a gay experience, M18 here." Is this the confession of a hidden desire (allowed) or a hookup request (forbidden)? Baybayan—who, like most employees of TaskUs, has a college degree—spoke thoughtfully about how to judge this distinction.

"What is the intention?" Baybayan says. "You have to determine the difference between thought and solicitation." He has only a few seconds to decide. New posts are appearing constantly at the top of the screen, pushing the others down. He judges the post to be sexual solicitation and deletes it; somewhere, a horny teen's hopes are dashed. Baybayan scrolls back to the top of the screen and begins scanning again.

Eight years after the fact, Jake Swearingen can still recall the video that made him quit. He was 24 years old and between jobs in the Bay Area when he got a gig as a moderator for a then-new startup called VideoEgg. Three days in, a video of an apparent beheading came across his queue.

“Oh fuck! I’ve got a beheading!” he blurted out. A slightly older colleague in a black hoodie casually turned around in his chair. “Oh,” he said, “which one?” At that moment Swearingen decided he did not want to become a connoisseur of beheading videos. “I didn’t want to look back and say I became so blasé to watching people have these really horrible things happen to them that I’m ironic or jokey about it,” says Swearingen, now the social media editor at Atlantic Media. (Swearingen was also an intern at WIRED in 2007.)

While a large amount of content moderation takes place overseas, much is still done in the US, often by young college graduates like Swearingen was. Many companies employ a two-tiered moderation system, where the most basic moderation is outsourced abroad while more complex screening, which requires greater cultural familiarity, is done domestically. US-based moderators are much better compensated than their overseas counterparts: A brand-new American moderator for a large tech company in the US can make more in an hour than a veteran Filipino moderator makes in a day. But then a career in the outsourcing industry is something many young Filipinos aspire to, whereas American moderators often fall into the job as a last resort, and burnout is common.



Ryan Cadeno says he made \$500 a month as a contractor for Microsoft.

“Everybody hits the wall, generally between three and five months,” says a former YouTube content moderator I’ll call Rob. “You just think, ‘Holy shit, what am I spending my day doing? This is awful.’”

Rob became a content moderator in 2010. He'd graduated from college and followed his girlfriend to the Bay Area, where he found his history degree had approximately the same effect on employers as a face tattoo. Months went by, and Rob grew increasingly desperate. Then came the cold call from CDI, a contracting firm. The recruiter wanted him to interview for a position with Google, moderating videos on YouTube. *Google!* Sure, he would just be a contractor, but he was told there was a chance of turning the job into a real career there. The pay, at roughly \$20 an hour, was far superior to a fast-food salary. He interviewed and was given a one-year contract. "I was pretty stoked," Rob said. "It paid well, and I figured YouTube would look good on a résumé."

For the first few months, Rob didn't mind his job moderating videos at YouTube's headquarters in San Bruno. His coworkers were mostly new graduates like himself, many of them liberal arts majors just happy to have found employment that didn't require a hairnet. His supervisor was great, and there were even a few perks, like free lunch at the cafeteria. During his eight-hour shifts, Rob sat at a desk in YouTube's open office with two monitors. On one he flicked through batches of 10 videos at a time. On the other monitor, he could do whatever he wanted. He watched the entire *Battlestar Galactica* series with one eye while nuking torture videos and hate speech with the other. He also got a fascinating glimpse into the inner workings of YouTube. For instance, in late 2010, Google's legal team gave moderators the urgent task of deleting the violent sermons of American radical Islamist preacher Anwar al-Awlaki, after a British woman said she was inspired by them to stab a politician.

But as months dragged on, the rough stuff began to take a toll. The worst was the gore: brutal street fights, animal torture, suicide bombings, decapitations, and horrific traffic accidents. The Arab Spring was in full swing, and activists were using YouTube to show the world the government crackdowns that resulted. Moderators were instructed to leave such "newsworthy" videos up with a warning, even if they violated the content guidelines. But the close-ups of protesters' corpses and street battles were tough for Rob and his coworkers to handle. So were the videos that documented misery just for the sick thrill of it.

"If someone was uploading animal abuse, a lot of the time it was the person who did it. He was *proud* of that," Rob says. "And seeing it from the eyes of someone who was proud to *do* the fucked-up thing, rather than news reporting on the fucked-up thing—it just hurts you so much harder, for some reason. It just gives you a much darker view of humanity."

Rob began to dwell on the videos outside of work. He became withdrawn and testy. YouTube employs counselors whom moderators can theoretically talk to, but Rob had no idea how to access them. He didn't know anyone who had. Instead, he self-medicated. He began drinking more and gained weight.

It became clear to Rob that he would likely never become a real Google employee. A few months into his contract, he applied for a job with Google but says he was turned down for an interview because his GPA didn't meet the requirement. (Google denies that GPA alone would be a deciding factor in its hiring.) Even if it had, Rob says, he's heard of only a few contractors who ended up with staff positions at Google.

A couple of months before the end of his contract, he found another job and quit. When Rob's last shift ended at 7 pm, he left feeling elated. He jumped into his car, drove to his parents' house in Orange County, and slept for three days straight.

Given that content moderators might very well comprise as much as half the total workforce for social media sites, it's worth pondering just what the long-term psychological toll of this work can be. Jane Stevenson was head of the occupational health and welfare department for Britain's

National Crime Squad—the UK equivalent of the FBI—in the early 2000s, when the first wave of international anti-child-pornography operations was launched. She saw investigators become overwhelmed by the images; even after she left her post, agencies and private organizations continued to ask for her help dealing with the fallout, so she started an occupational health consultancy, Workplace Wellbeing, focused on high-pressure industries. She has since advised social media companies in the UK and found that the challenges facing their content moderators echo those of child-pornography and anti-terrorism investigators in law enforcement.

“From the moment you see the first image, you will change for good,” Stevenson says. But where law enforcement has developed specialized programs and hires experienced mental health professionals, Stevenson says that many technology companies have yet to grasp the seriousness of the problem.

“There’s the thought that it’s just the same as bereavement, or bullying at work, and the same people can deal with it,” Stevenson says. “All of us will go through a bereavement, almost all of us will be distressed by somebody saying something we don’t like. All of these things are normal things. But is having sex with a 2-year-old normal? Is cutting somebody’s head off—quite slowly, mind you; I don’t mean to traumatize you but beheadings don’t happen quickly—is that normal behavior? Is that something you expect?”

In Manila, I meet Denise (not her real name), a psychologist who consults for two content-moderation firms in the Philippines. “It’s like PTSD,” she tells me as we sit in her office above one of the city’s perpetually snarled freeways. “There is a memory trace in their mind.” Denise and her team set up extensive monitoring systems for their clients. Employees are given a battery of psychological tests to determine their mental baseline, then interviewed and counseled regularly to minimize the effect of disturbing images. But even with the best counseling, staring into the heart of human darkness exacts a toll. Workers quit because they feel desensitized by the hours of pornography they watch each day and no longer want to be intimate with their spouses. Others report a supercharged sex drive. “How would you feel watching pornography for eight hours a day, every day?” Denise says. “How long can you take that?”

Nearby, in a shopping mall, I meet a young woman who I’ll call Maria. She’s on her lunch break from an outsourcing firm, where she works on a team that moderates photos and videos for the cloud storage service of a major US technology company. Maria is a quality-assurance representative, which means her duties include double-checking the work of the dozens of agents on her team to make sure they catch everything. This requires her to view many videos that have been flagged by moderators.

“I get really affected by bestiality with children,” she says. “I have to stop. I have to stop for a moment and loosen up, maybe go to Starbucks and have a coffee.” She laughs at the absurd juxtaposition of a horrific sex crime and an overpriced latte.

Constant exposure to videos like this has turned some of Maria’s coworkers intensely paranoid. Every day they see proof of the infinite variety of human depravity. They begin to suspect the worst of people they meet in real life, wondering what secrets their hard drives might hold. Two of Maria’s female coworkers have become so suspicious that they no longer leave their children with babysitters. They sometimes miss work because they can’t find someone they trust to take care of their kids.

Maria is especially haunted by one video that came across her queue soon after she started the job. “There’s this lady,” she says, dropping her voice. “Probably in the age of 15 to 18, I don’t

know. She looks like a minor. There's this bald guy putting his head to the lady's vagina. The lady is blindfolded, handcuffed, screaming and crying."

The video was more than a half hour long. After watching just over a minute, Maria began to tremble with sadness and rage. Who would do something so cruel to another person? She examined the man on the screen. He was bald and appeared to be of Middle Eastern descent but was otherwise completely unremarkable. The face of evil was someone you might pass by in the mall without a second glance.

After two and a half years on the cloud storage moderation team, Maria plans to quit later this year and go to medical school. But she expects that video of the blindfolded girl to stick with her long after she's gone. "I don't know if I can forget it," she says. "I watched that a long time ago, but it's like I just watched it yesterday."

IBD

Late Night Humor

by Andrew Malcolm

Conan: President Obama said he hugged and kissed some of the nurses who treated Ebola patients. Man, that guy will do anything to get out of that job right now.

Fallon: The CDC is trying to calm people saying you can't get Ebola sitting next to someone. But you could give it to someone sitting next to you. So, don't worry. But, you know, worry.

Conan: NFL teams got a league newsletter informing them of the dangers of Ebola. Meanwhile, Ebola has received a letter about the dangers of the NFL.

Conan: The New York Giants were briefed about Ebola before their recent trip to play the Cowboys in Dallas. Though the way the team has been playing in recent weeks, I wouldn't worry about the Giants catching anything.

Conan: The LA mayor says he expects the city to get an NFL team within a year. If you think there are a lot of police chases in LA now, wait til we get an NFL team.

Meyers: Kim Jong Un resurfaced the other day after more than a month out of the public eye. U.S. officials think the reason no one saw him for so long is that he was starring in an NBC sitcom.

Meyers: The Obama Administration has selected 140 people for its White House internship program. And unlike the White House itself, the internship program is very hard to get into.

Conan: LA officials quarantined a bus after a passenger yelled "I have Ebola!" To isolate him, they put him on the Los Angeles subway.

Conan: Remember that quarantined female NBC reporter who was criticized because she went out to a restaurant? In fairness, it was the restaurant's "Infected Ladies' Night." Infected ladies drink free.

Conan: A new Ebola vaccine is being tested in Canada. Apparently Canadians can stop Ebola, but they can't stop the spread of Justin Bieber.

Conan: The head of the Transportation Security Administration is retiring. Employees toasted him with less than three ounces of champagne. They also gave him a gold watch, which he had to take off.

Fallon: The head of the TSA is stepping down. So, whoever takes his place is going to have some pretty big shoes to take off.

Conan: CBS will soon offer a paid subscription service. It means you can continue to watch CBS free or you can pay for it— it's your call.

Fallon: Netflix will stream all 236 "Friends" episodes next year. People can't wait because it will be a nice break from seeing them 24 hours a day on TBS.

Fallon: Whole Foods is introducing a new system that will label its produce "good, better, and best" depending on their supplier's farming practices. Good means "no pesticides." Better means "environmentally friendly," and "Best" means "Still not worth 5 bucks for an apple."

Conan: Miami politicians have passed a resolution to split Florida into two states. The two states would be known as "Geezerville" and "Methylvania."

Conan: A media report says the Dr. Oz diet pill was based on bogus research. People were shocked that you can't trust a TV doctor named after a lying wizard. His name is Oz, folks.

Conan: The CDC says anyone arriving from Ebola countries will be monitored for three weeks. In LA, monitoring a sick person for three weeks is known as "a reality show."

Conan: Last week, investor Warren Buffett lost \$2 billion. Luckily, Buffett found it the next morning under a pile of \$8 billion.

Conan: Musician Kenny G tweeted his support for the Hong Kong democracy protestors. Now, China's government is threatening to pull Kenny G's music from all its elevators.

Conan: Mark Zuckerberg went on a trip around Asia. At one stop he held an entire Q&A in Chinese. There was an awkward moment when a student told him in English, "You're in the Philippines."

Conan: Yet another White House fence jumper. On the bright side, at least Michelle Obama's finally getting more Americans to exercise.

Meyers: A new poll says 17% of Italians have had sex at the airport. Wow! At the airport, I can't even find a place to plug in my phone.

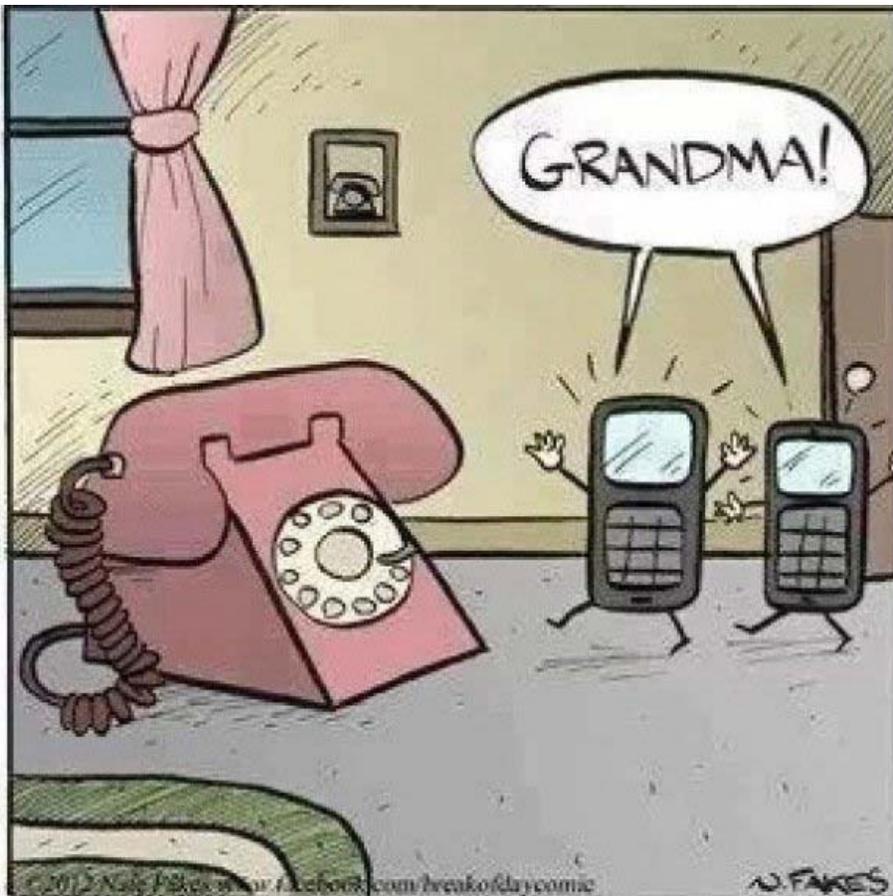
Conan: A new report on government waste cites \$350,000 to study rabbit massages. You guessed it, every single rabbit massage comes with a "Hoppy Ending."

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