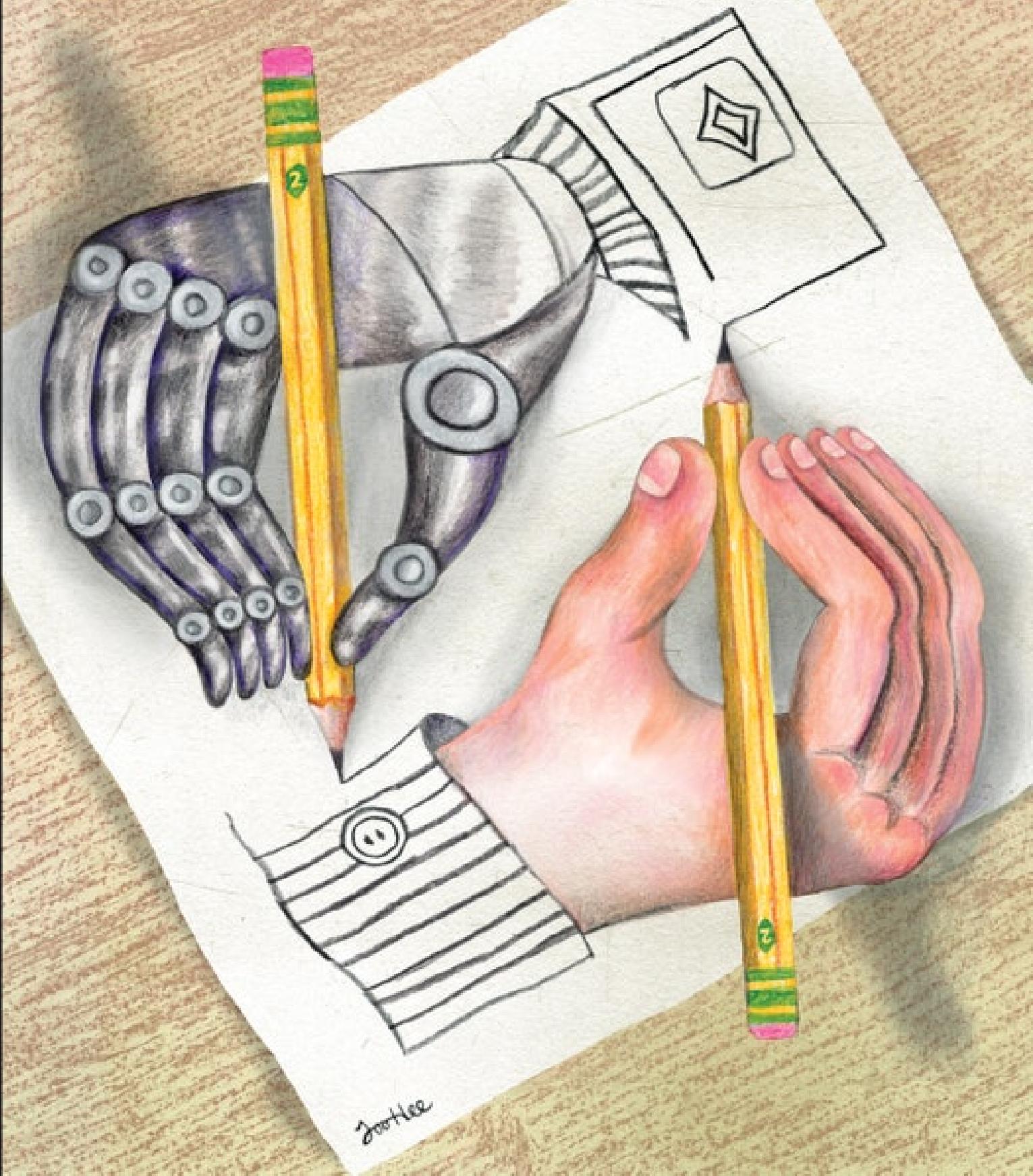


PRICE \$8.99

THE APRIL 24 & MAY 1, 2023

THE NEW YORKER



- [A Reporter at Large](#)
- [Annals of Gastronomy](#)
- [Art](#)
- [At the Museums](#)
- [Books](#)
- [Brave New World Dept.](#)
- [Comment](#)
- [Crossword](#)
- [Fiction](#)
- [Onward and Upward with Technology](#)
- [Poems](#)
- [Shouts & Murmurs](#)
- [Sketchbook](#)
- [Sketchpad](#)
- [Tables for Two](#)
- [The Current Cinema](#)
- [The Pictures](#)
- [The Theatre](#)
- [Time Travel Dept.](#)

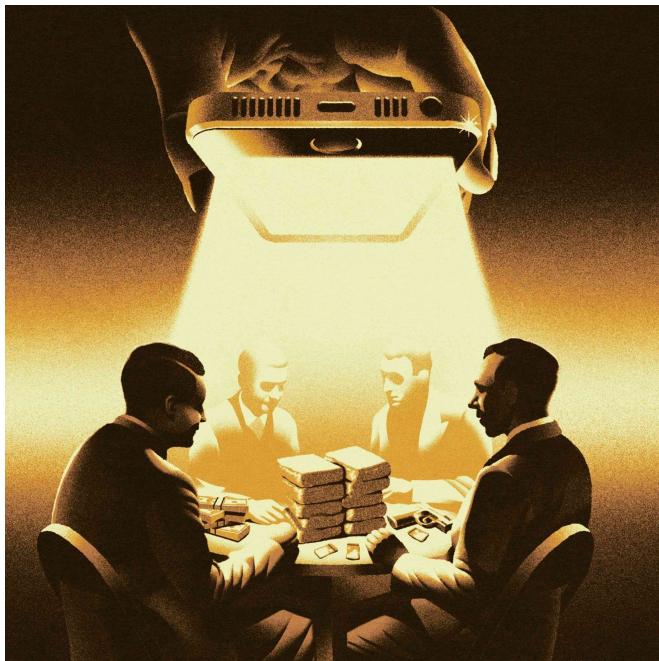
A Reporter at Large

- [Crooks' Mistaken Bet on Encrypted Phones](#)

Crooks' Mistaken Bet on Encrypted Phones

Drug syndicates and other criminal groups bought into the idea that a new kind of phone network couldn't be infiltrated by cops. They were wrong—big time.

By [Ed Caesar](#)



In 1895, a police officer in Manhattan who had once worked for a telephone company, and whose name has been lost to history, suggested adding a hidden circuit to lines used by known criminals: a wiretap. The city's mayor, William L. Strong, approved the technique, and for two decades wiretapping secretly flourished at the N.Y.P.D. In 1916, news of the practice leaked, resulting in an outcry and a public inquiry—not least because the police had been tapping the calls of priests. New York's police commissioner, Arthur Woods, defended his officers' methods, saying, "You can't always do detective work in a high hat and kid gloves."

Crooks have always wanted to talk without being heard, and cops have always wanted to listen without being seen. Since the exposure of the wiretap, criminals have tried to stay one step ahead of eavesdroppers. Some

underworld figures have avoided phones altogether. Bernardo Provenzano, the Sicilian Mafia don, communicated through *pizzini*—messages written on tiny pieces of paper—using a variant of the Caesar cipher, an elementary mode of encryption in which each letter is shifted three places in the alphabet.

High-level commands can be conveyed using *pizzini*, but the method is too slow for the hour-to-hour operations of a drug empire. In the nineties, Mexican cartels adopted encryption to scramble their phone calls. In 1998, Louis Freeh, then the director of the F.B.I., complained to Bill Gates that encryption software, including Microsoft's, had rendered the wiretap obsolete. According to Freeh, he got no apology: “You've got to get bigger computers,” Gates said.

In 2013, [Edward Snowden](#) revealed that U.S. government agencies were monitoring citizens' communications on a vast scale. Privacy-minded developers soon began releasing even more robust encryption technology. Phil Zimmermann—who, in 1991, had published the pioneering e-mail-encryption software known as Pretty Good Privacy—launched the Blackphone, which offered watertight phone calls and texts. The device became popular with all kinds of security-conscious people, from activists in repressive states to government agents.

Since the launch of the Blackphone, a variety of encrypted phones have become coveted items in Europe. These devices are not for regular people. You can't post on Instagram, play Wordle, or Shazam a song on them. Typically, they are Android or BlackBerry devices that have been “hardened”—reconfigured so that the user can access just a single messaging app. You can communicate only with other people on a network to which you've subscribed. Such networks have their own servers, in the manner of Signal or WhatsApp. Hardened phones often have no working camera, and geolocation and tracking services are disabled. A “wipe” feature instantly deletes all messages. More sophisticated services offer a “dual-boot” mode, so that the device can—at the touch of a button—look like a normal smartphone. Hardened devices cost about fifteen hundred dollars, and six months of service on a network costs about a thousand dollars.

Marketing materials have emphasized the impregnability of the devices. Sky Global, which was founded in Canada and which offered the popular Sky E.C.C. encrypted-phone service, promised a five-million-dollar reward to anyone who could crack its code. Another network, EncroChat, boasted that its devices offered “worry free communications” and “the electronic equivalent of a regular conversation between two people in an empty room.” A promotion for a service called M.P.C. featured a moody photograph of Edward Snowden.

But there are only so many Snowdens; the obvious customer for such gadgets was less idealistic. Organized criminals in Europe scooped up hardened phones. (The North American criminal fraternity was slightly slower to adopt the technology.) Some of these networks were founded by seemingly legitimate businessmen. The Canadian C.E.O. of Sky Global, Jean-François Eap, was [described by the Guardian](#) as “a tech startup nerd who has never even smoked a cigarette.” Other networks were created by known gangsters. M.P.C., which folded three and a half years ago, was owned by the notorious Glaswegian brothers James and Barry Gillespie, who ran a drug empire. They fled Europe for South America after warrants were issued for their arrest, in 2019, and have since disappeared. The police suspect that they were murdered by a gang in Brazil.

Hardened phones were ingenious, but these networks had some inherent security flaws: the clustering of a criminal clientele made them a tempting target for police officers in many countries. It was as if all the villains had holed up in a castle with twenty-foot-thick walls and dared invaders to attack with catapults and battering rams. No European police force had better siege engines, or more reason to use them, than the Dutch. In the Netherlands, so many criminals used encrypted devices that they became known as *boeeventelefoons*: “crook phones.”

In 2016, the Dutch National High-Tech Crime Unit targeted Ennetcom, a network used by some nineteen thousand people, most of them based in the Netherlands. After discovering that Ennetcom’s servers were housed in Canada, the crime unit requested that Canadian law enforcement obtain a search warrant to copy the data. The network, owned by a Dutchman named Danny Manupassa, had made a spectacular bungle: it had stored the private keys for the system on the same server as the network’s messages. Analysts

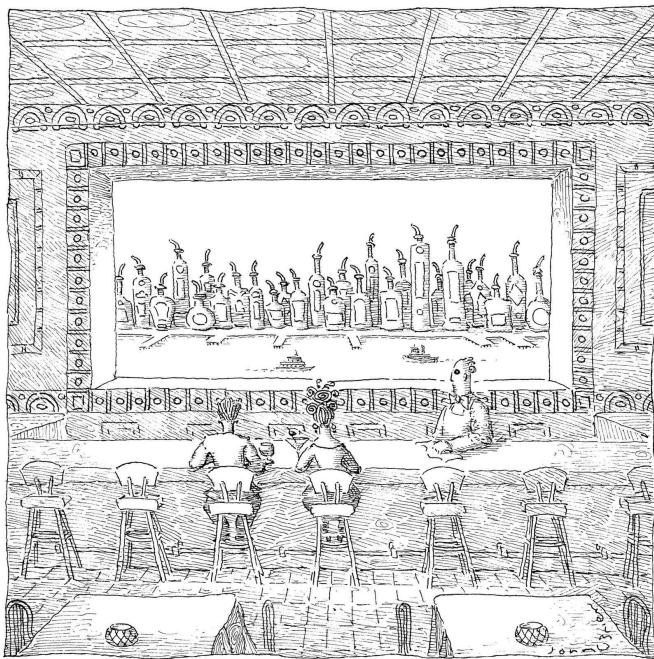
in the Netherlands obtained the private keys and then used them to decrypt Ennetcom texts. Manupassa was arrested for “purposefully facilitating crime,” as were many of his customers—including Naoufal (the Belly) Fassih, a notorious Moroccan Dutch hit man and drug trafficker, who was later convicted of attempted murder.

The failure of Ennetcom should have alerted security-conscious criminals to treat encrypted phones with caution. In 2020, Erik Van De Sandt, a member of the Dutch National High-Tech Crime Unit, told students at Cambridge University that the central weakness of private networks was that their encryption protocols were developed in secret, often by cryptographers who were not as good as their promises. “You have to look at the anthropology,” Van De Sandt told the students. Because encrypted-service providers focus “on an exclusively criminal community,” he explained, “they apply confidentiality over their own business process. . . . You can never really test that security until it’s too late.” He continued, “That’s a real problem for all criminals. . . . You end up with a really bad product because there’s no transparency. Lucky us!”

Despite the networks’ shortcomings, they continued to find customers. The police in the Netherlands and in other countries started looking for weaknesses in the Continent’s two most popular networks: EncroChat and Sky E.C.C. In advertisements, EncroChat claimed that it housed its servers in secure locations “offshore.” This wasn’t true: they were in a regular data center in Roubaix, an industrial city in northeastern France. The French National Gendarmerie, having realized that all EncroChat communications appeared to route through Roubaix, investigated. In January, 2019, in the early stages of a joint French-Dutch operation, the Gendarmerie executed a warrant to secretly copy EncroChat’s servers. Analysts then began hunting for a flaw in the system that they could exploit.

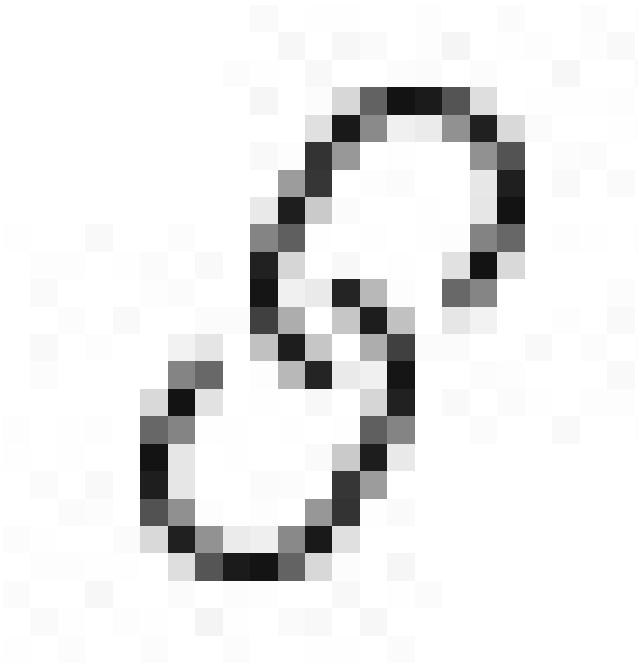
They soon found one. According to one expert, the French had copied EncroChat’s development server, where new code is created and tested. Engineers were able to create a piece of malware and then ship it, disguised as an update, onto all EncroChat phones. The operation, which began in April, 2020, worked in two phases. First, it sent the police copies of all texts and images stored on EncroChat phones. (EncroChat normally deleted messages after seven days, but even just a week’s worth of texts provided

rich insights about customer identities and behaviors.) In the second phase, which lasted about two months, the police figured out how to read messages in real time. Jannine van den Berg, a chief constable of the Dutch police, [told reporters](#), “It was as if we were sitting at the table where criminals were chatting.” EncroChat was shut down in July, 2020. The investigation has had a particularly seismic effect in Britain, where the network had some ten thousand users. More than twenty-eight hundred arrests have been made in the U.K., and the British court system is still loaded up with EncroChat cases.



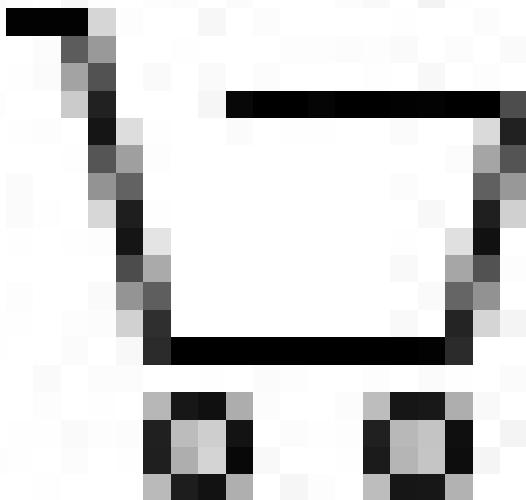
Cartoon by John O'Brien

[Copy link to cartoon](#)



Link copied

Shop



The operation against Sky E.C.C. followed a similar pattern. Somewhat unbelievably, Sky's servers were also situated in Roubaix. They, too, were copied by the French police. Sky's messages ran on a different system than EncroChat's, and it was more difficult to infect the network with bulk

malware. Instead, someone with knowledge of the investigation told me, analysts seem to have launched a “protocol attack” that deceived handsets into revealing their private keys.

Sky E.C.C. suffered the same fate as EncroChat—including what Europol, the European Union’s law-enforcement agency, describes as a “live phase” of three weeks, when all messages could be secretly read in real time. In March, 2021, police chiefs in several countries gleefully announced Sky’s downfall. The company’s founder, Eap, was indicted in the United States for racketeering and for facilitating “the transnational importation and distribution of narcotics through the sale and service of encrypted communications devices.” (Eap has denied the charges, and Sky Global has written a motion claiming that its assets were unfairly targeted; a lawyer for the firm has asserted that only a “small fraction” of its customers were involved in illegal activities.)

Three months after Sky’s demise, the F.B.I. and the Australian Federal Police announced the shutdown of *an0m*—a network with many fewer users than Sky or EncroChat, and with a strikingly different origin. American and Australian agents had created *an0m* themselves, to ensnare criminals. A confidential source who had once worked for an encrypted phone network had helped the agencies to develop an app and to introduce *an0m* phones to major organized-crime figures—among them the Australian drug kingpin Hakan Ayik, who has been on the run in Turkey. The F.B.I. and the Australian Federal Police didn’t need to decrypt *an0m* messages. By design, every text sent on the network was blind-copied to a server in Europe and read by police investigators in America.

Andrew Young, a former federal prosecutor in the Southern District of California, led the *an0m* operations, and he told me that one of the goals of the sting was to “dismantle the business model” of encrypted phones as a tool of organized crime. Young explained, “My argument was always, If we do this, then they’re back to whispering, covering their mouths, outside of storefronts. Because how could you ever have confidence in whatever comes next?”

It’s not yet clear whether the encrypted-phone paradigm has truly been broken. Criminals still need to talk to one another. Moreover, the

prosecutorial value of messages garnered in encrypted-phone stings has been called into question. Although many criminals have been convicted as a result of the stings—more than four hundred in the U.K. alone—lawyers defending people arrested on this basis have objected to the messages’ being used as evidence, arguing that the wholesale collection of private communications violates the privacy or wiretap laws of a particular country, or that the messages alone fail to prove involvement in crime.

Whatever the outcome of such legal wrangles, the Great Decrypt has unquestionably provided a bounty of intelligence. It has never before been possible to see so vividly how many thousands of criminals talk to one another when they think nobody is listening. Europol, which coordinated joint international investigations, has become a hub for analyzing decrypted phone intelligence. The agency’s trove is vast; it has examined about a billion messages from Sky E.C.C. alone. Officers working on these operations say the decrypted messages have reshaped their views of how organized crime works: its scale, its cunning, its ruthlessness.

In October, the two most senior Europol officers working on serious and organized crime met with me at the agency’s headquarters, a forbidding office building in a quiet neighborhood of The Hague. Jean-Philippe Lecouffe, a Frenchman, and Jari Liukku, a Finn, have more than seventy years’ worth of policing experience between them. Neither could remember another breakthrough in which they had learned so much so quickly. For one thing, Liukku said, the phone busts had apprised them of important figures in organized crime who had been “completely unknown” to them and who must have felt “untouchable.” Now these men—it was almost always men—were active targets.

Lecouffe told me that, before the encrypted-phone stings, police forces were “a bit in the dark” about how organized crime functioned from day to day, even if the occasional successful investigation provided faint illumination on a group or an activity. Suddenly, it was if somebody had switched on thousands of klieg lights, and “we could not only take a picture but a *movie*.”

Some of the most shocking phone intelligence, investigators say, comes from Montenegro. In the nineteen-nineties and two-thousands, the most lucrative racket for Montenegrin gangs was smuggling cigarettes into

Europe, primarily through the Adriatic port of Bar. Such trade continues, but tobacco now has a serious competitor: cocaine. The country's two most effective criminal groups, the Kavač and the Škaljari, are named for neighboring areas in the harbor city of Kotor. These gangs have networked with the Balkan diaspora to forge connections with South American drug producers and European financiers, and they now move narcotics in vast quantities. The two groups are also committed to exterminating each other: some fifty members of the gangs have been killed by rivals in recent years.

In Montenegro, organized crime is a frequent but dangerous topic of conversation. Since the population is only six hundred and twenty thousand, and since smuggling is a high-turnover business in a small economy, and, furthermore, since the trade cannot continue without some complicity from state officials, when you talk of crime in Montenegro you are often talking about politics. In 2003, anti-Mafia prosecutors in Italy accused the Montenegrin Prime Minister, Milo Đukanović, of being the linchpin of a cigarette-smuggling racket. He was also accused of conspiring with senior figures in the Camorra crime family. For twenty months, Italian investigators wiretapped Đukanović (the old-fashioned way). He had, they later wrote, “promoted, set up, directed and, in any case, participated in a Mafia-type association” that had turned Montenegro “into a paradise for illicit trafficking.” Đukanović, who denied the charges, had diplomatic immunity and never faced trial in Italy; the case against him was dropped in 2009. For a long time, the scandal didn’t harm him politically. He and his party, the D.P.S., remained in power until 2020, and Đukanović held the largely ceremonial role of President until this year. (He was defeated in a runoff by Jakov Milatović, a young pro-E.U. candidate.)

A handful of campaigning journalists have been reporting on the nexus of crime and governmental corruption in Montenegro. On a trip to the country this past January and February, I met with two of the most daring of them: Olivera Lakić, of the news portal Libertas, and Jelena Jovanović, of the newspaper *Vijesti*. Death threats against both women have been common, and security guards protect them twenty-four hours a day. In 2018, Lakić was shot in the leg, in broad daylight. The same year, Jovanović was interviewing a source at a café when the man was murdered in front of her. None of the bullets that the gunman fired hit Jovanović, but she sees the killer’s “orange eyes” in her nightmares.

After Sky E.C.C. was infiltrated, the balance of power suddenly swung toward reporters in Montenegro, where the network had been popular. Europol analyzed the billion messages that it had harvested from the bust using software, developed by the agency, that scoured texts for key words and phrases. The word “liquidate,” in several languages, prompted an alert; so did “sleep” and “crack”—code words for murder. In mid-2021, Europol sent the first of many intelligence packages to Montenegrin prosecutors detailing major crimes and graft that implicated top officials in state institutions. The contents of the packages were secret, but at least one source in Montenegro, worried that the intelligence might be buried by corrupt prosecutors, leaked the documents to journalists. This fear was justified: a special prosecutor, Saša Čađjenović, was arrested this past December for having failed to act on Europol intelligence packages that were damning both to senior figures in the Kavač gang and to police officers covering up the gang’s activities. (Čađjenović is in jail awaiting trial.)

In April, 2022, Olivera Lakić wrote an astonishing report for [Libertas](#) based on the Europol intelligence. It detailed how Milos Medenica, the son of Vesna Medenica, one of Montenegro’s most senior judges, appeared to have plotted with a corrupt police officer to import cigarettes and cocaine through Bar’s port. In one text, Milos told the policeman, “Right now I’m working on cigarettes. You know 100% I left for Bar from 11p.m. on Thursday.” Moreover, intercepted messages sent by Milos suggested that his mother was protecting the illegal enterprise. Vesna, he said, had the power to influence judges in criminal cases, and even to initiate multimillion-dollar embezzlement cases against her son’s enemies. “I went to her,” Milos texted one correspondent, according to [a later story](#), in *Vijesti*. “Everything is going as it should, preparations are being made who will handle the case.”

The reports spurred prosecutors into action. Vesna was arrested before she could board a flight to Belgrade, and Milos subsequently surrendered. The trial of the Medenicas and several alleged co-conspirators is scheduled to begin in May in the capital, Podgorica. At a preliminary hearing that I attended, the courtroom wasn’t big enough, and some defendants were sitting among lawyers and reporters. Vesna, wearing a black ensemble and spiked heels, sat two rows in front of journalists from *Libertas*, whose reporting had helped precipitate her downfall. It’s a small country.

Even before the encrypted-phone stings, Transparency International had ranked Montenegro as one of the most corrupt nations in Europe. Nevertheless, the scale of the graft revealed by the Sky E.C.C. bust was even bigger than expected. During my visit, a fresh Europol intelligence package arrived, based on Sky E.C.C. messages. Several government ministers and law-enforcement figures told me that it detailed the activities of a dozen Montenegrin police officers who had communicated with criminals on the network. In fact, Europol’s intelligence about the police force was worse than I had been led to believe. According to a March report in *Libertas*, élite officers had used Sky E.C.C. to send photographs of themselves torturing suspects to friends within the Kavač gang; in the wake of the report, the director of police was fired, and twelve more police officers were arrested.

Dritan Abazović, Montenegro’s young and charismatic Prime Minister, has campaigned against organized crime and its facilitators. This stance, among others, has decreased his popularity—he lost a vote of confidence in August and now leads a lame-duck Parliament—but he still seems committed to the fight. I visited his office in January and asked him about the impact of the Sky E.C.C. sting. “It was like an atomic bomb had come to Montenegro,” he said. “High-level policemen, the head of the judiciary! After all of our suspicions . . . finally, we can say, ‘This is really something that is happening.’” He continued, “The opening of the Sky application was the most powerful weapon in the history of our fight against organized criminal groups.”

The phone intelligence underscores how central cocaine has become to organized crime in Europe. In the past two decades, the cocaine business on the Continent has far outpaced the heroin and synthetic-drug markets. A [comprehensive 2021 investigation](#) by the think tank InSight Crime revealed that Colombian cocaine cartels had shifted their focus to Europe after losing control of American distribution to Mexican groups. As a result, the cocaine business is now primarily a shipping business.

Decrypted texts have helped authorities map this modern Silk Road. Sky E.C.C. had about seventy thousand active users, nearly a quarter of them clustered around the two busiest seaports in Europe: Rotterdam, in the Netherlands, and Antwerp, in Belgium. Customs officers now believe that about half of Europe’s cocaine arrives at these ports. In January, I visited

both places. The scale of a major seaport is difficult to comprehend. Driving from one end of Rotterdam’s port to the other took forty minutes. Mountains of multicolored containers were piled up like giant Legos, among steepling cranes.

Last year, more than twenty million containers were handled in Rotterdam or Antwerp. Customs officials inspected fewer than two per cent of them. They likely missed a lot of contraband. Nevertheless, through a synthesis of the phone intelligence and on-the-ground policing, they discerned several current patterns of trafficking. The most popular method of shipping cocaine into these ports is called Rip On/Rip Off. A Rip On gang in a port in South or Central America loads cocaine into a shipping container and then relays its location to a Rip Off gang in Europe, which enters the destination port, finds the container, and spirits the product out in a truck. Europol analyzed many messages containing the serial numbers of target containers, consignment sizes, and other instructions.

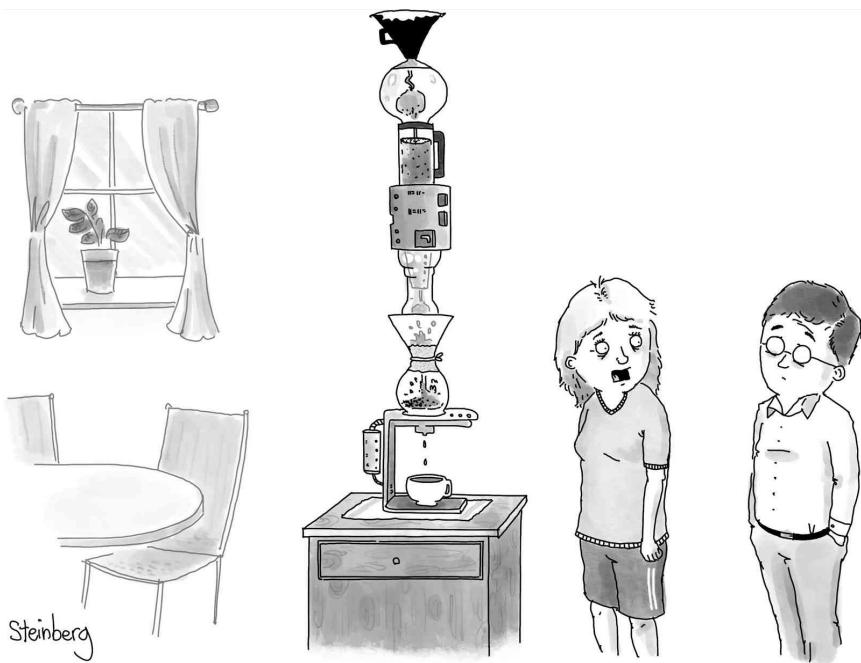
The head of Belgian customs, Kristian Vanderwaeren—a droll man of fifty-eight with white hair and bushy black eyebrows—told me that, in 2022, his officers had enjoyed a record year, seizing a hundred and ten tons of cocaine in Antwerp alone. Cocaine, which typically costs about fifty dollars a gram in Europe, is often cut with substances such as lidocaine and baking powder. If the cocaine arriving in Antwerp had a purity of eighty per cent and was sold at sixty per cent—the current standard—the bounty was worth nearly eight billion dollars.

Seized coke is burned. In December, bonfires at the port of Antwerp were so enormous that the event was dubbed White Christmas by local newspapers. However, police and traffickers work on the assumption that only ten to fifteen per cent of cocaine entering major seaports will be seized. Vanderwaeren’s teams can X-ray entire containers, and they assiduously target freight arriving from the producer nations of Latin America. Nonetheless, officers will never be able to inspect all containers from such ships. A load of fresh fruit can be held up for only so long. It’s likely that, even with the help of the phone intelligence, customs officials in Antwerp missed some six hundred tons of cocaine last year.

Criminal groups work hard to minimize losses in the ports. Vanderwaeren pointed to a few particularly clever strategies for off-loading drugs. Sometimes, he explained, crooks circumvent targeted scanning using a technique called the Rip Off Switch, in which they mask the provenance of incoming cargo by, say, transferring it to a container from a “safe” country while the ship is at an intermediary European port. Recently, Vanderwaeren has witnessed a new method, known as the Trojan Horse, in which a Rip Off gang enters the port of Antwerp or Rotterdam from another European port while living *within* a container. By arriving in the seaport at the same time as a consignment of drugs, they can off-load the product before a customs officer has the chance to inspect the container. During a heat wave in the summer of 2019, a pair of traffickers locked inside a container in Antwerp called Belgian police on regular phones asking to be rescued. After a two-hour search, the two, who were stripped to the waist and badly dehydrated, were found and then arrested.

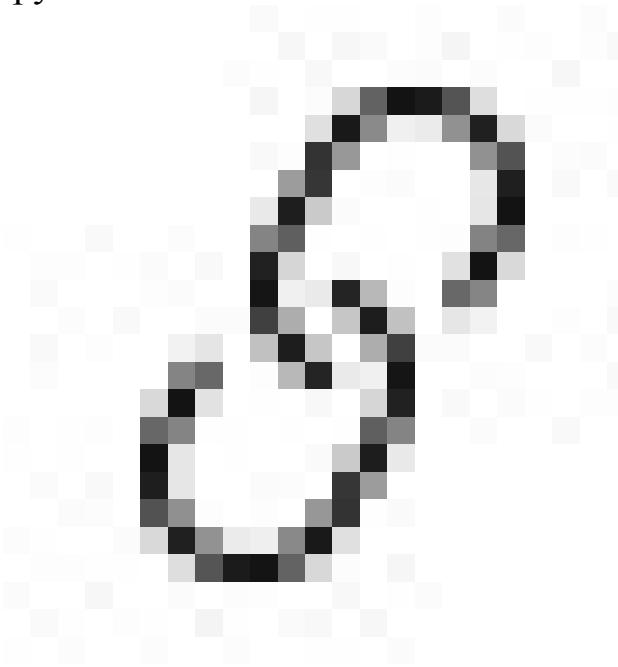
In 2021, the Belgian and Dutch police made some five hundred arrests within a month of the Sky E.C.C. bust, but Vanderwaeren was busier than ever in 2022. “I had thought that the Sky operation would break the criminal organization fundamentally,” he told me. “But we didn’t stop the tsunami.”

The phone intelligence has helped Europol understand why the cocaine trade is not so easily defeated. Its systems are more flexible, less hierarchical, and less fragile than previously thought. Antwerp and Rotterdam may be the most important seaports for the cocaine business, but—if Vanderwaeren and his officers become too adept at their jobs—there are alternatives. Not long ago, port inspectors at Le Havre, in France, detected the Trojan Horse smuggling method for the first time.



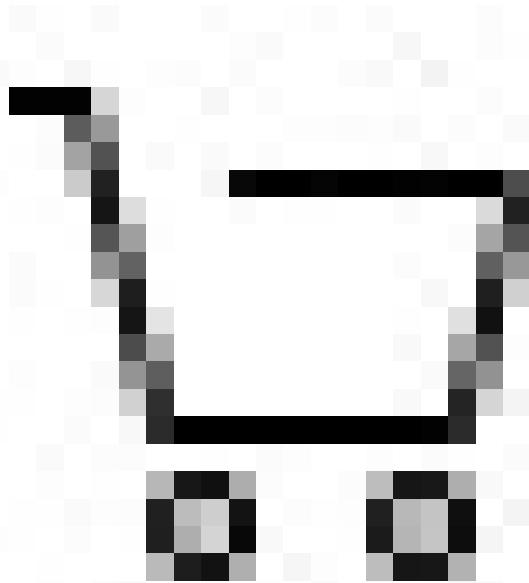
"I started making my own coffee to save money and to waste time."
Cartoon by Avi Steinberg

Copy link to cartoon



Link copied

Shop



Just as border agents conduct risk analysis on ships from South America, criminals conduct their own assessments of European ports. When Europol officials sifted through criminals' messages, they learned that many ports they had considered to be less important for cocaine trafficking were becoming major hubs: Livorno, Italy; Sines, Portugal; Vlissingen, the Netherlands. South American traffickers, meanwhile, were shipping drugs from new locations, hoping that these *rutas frías*—"cold routes"—would elude police detection. Paraguay, a formerly low-risk point of origin, was shipping cocaine with more frequency. Within the headquarters of Europol, in The Hague, officers began speaking of a "waterbed effect," in which police pressure on one geographic area pushed volume into another.

Hitching a ride on commercial ships is, of course, only one method of moving drugs. The phone intelligence exposed various ways that private craft are used in trafficking. In one conversation, captured on *an0m*, a group of traffickers in Australia and Southeast Asia, including Hakan Ayik—the kingpin who became an early adopter of the network—discussed using a yacht to sail five hundred kilograms of cocaine from Barranquilla, Colombia, to a spot a hundred miles off the coast of "Lor." This was shorthand for "Lord of the Rings," meaning New Zealand. (The police investigators also noted that the texts referred to Australia as "Order," suggesting a mischievous play on words: "Lor and Order.") According to the

plan, once the yacht reached the right location, the drugs would be attached to a buoy and dropped into the ocean; the G.P.S. coördinates of the cargo would be transmitted to a New Zealand-based “catch crew,” which would collect the load by trawler.

Many other such plots have come to light. In August, 2021, British border agents seized two tons of cocaine from the luxury yacht Kahu in the English Channel. Prosecutors have presented phone evidence showing that the yacht had rendezvoused off the coast of Barbados with another boat, out of Suriname, before crossing the Atlantic with its cargo. An Englishman, Andrew Cole, was in charge of delivering the cocaine to a shore crew in England led by a man code-named Viking. The police arrested Cole before he had the chance. His final text to his boss in South America: “We are getting boarded.”

Cocaine is a multinational business, but, before the encrypted-phone busts, organized criminals were thought to work most readily with their own countrymen, or with people of the same ethnic background. Certainly, criminal groups bound by national or ethnic identity exist, but the decrypted conversations showed how often major criminals form international associations that defy expected political alignments. Albanians and Serbs, for instance, can apparently put aside their historical differences to make money together. At Europol, officers now talk less often of organized criminal groups and more often of criminal *networks*. Lecouffe, the French officer, told me of his surprise at finding how often western Balkan languages were being spoken in decrypted conversations picked up in Central and South America. He laughed, and said, “What are *they* doing *here*? ”

In June, 2019, in the port of Philadelphia, officers from the U.S. Customs and Border Protection agency boarded the container ship M.S.C. Gayane, which had recently sailed from Chile, via Panama and the Bahamas, and was bound for Rotterdam. The agents found some twenty tons of cocaine, which they estimated to be worth more than a billion dollars. The agency has never made a bigger seizure of drugs. A group of Montenegrin sailors was arrested. They had been recruited as smugglers by a Balkan group: some for as little as fifty thousand dollars each, but the chief mate had been promised more than a million. American prosecutors believe that, while the Gayane

was at sea, several consignments of cocaine were transported to it by speedboat at night; the sailors hoisted sacks of coke on board using the ship's crane and stored the drugs in shipping containers, taking care to replace the seals. During the voyage, the Montenegrins recruited two Samoan members of the crew to join their scheme. Somehow, Customs and Border Protection got wind of the enterprise. The Montenegrin sailors were using what the prosecution called "narco phones" provided by their superiors. No American law-enforcement agency has admitted to harnessing messages from phones in the Gayane operation.

Montenegrin is not the only western Balkan language to feature prominently in the encrypted chats. On Sky E.C.C., Albanian was one of the most-used languages, after English. Zoran Brdjanin, the former director of Montenegro's police force, told me phone intelligence had revealed that his countrymen were now increasingly embedded in countries all along cocaine routes. Whereas Montenegrins were once only couriers, now they were deeply involved in transportation and distribution. This was the same path forged by the Mexican cartels, which originally served as mules for drugs entering America, then took control of that entire supply chain. (Brdjanin was fired from his post in March, after revelations of corruption and violence in the Montenegrin police force; Prime Minister Abazović said that he did not "question Brdjanin's professional capacity" but added that a police director needed "to know about criminals in his units.")

Although many gangsters on encrypted networks were low-level figures, these conversations have helped law-enforcement officials build detailed cases against "high value targets." Daniel Kinahan is a forty-five-year-old Irishman who leads an organization that, according to the U.S. Treasury, "smuggles deadly narcotics, including cocaine, to Europe, and is a threat to the entire licit economy through its role in international money laundering." Sports fans may also know Kinahan as the former owner of MTK Global, a boxing management company, and as the man whom Tyson Fury, the World Boxing Council heavyweight champion of the world, publicly thanked for arranging two title bouts against Anthony Joshua. (After Fury's acknowledgment sparked outrage, he distanced himself from Kinahan.)

In 2017, Kinahan got married at the "seven-star" Burj Al Arab hotel, in Dubai. The guest list for the wedding was soon pinned to the walls of

national police agencies. It included Ridouan Taghi, a Moroccan Dutch man currently on trial in the Netherlands for several murders and attempted murders; Edin (Tito) Gačanin, a Bosnian whom the D.E.A. describes as one of the world's top traffickers; Richard Eduardo Riquelme (El Rico) Vega, a Chilean Dutch man, who was convicted in the Netherlands two years ago of laundering drug money and of leading an assassination ring; and Raffaele Imperiale, a senior figure in the Camorra family. (Imperiale has become a state's witness.)

According to a Europol officer, at the time of the wedding these high-level criminals were considered to be working in their own fiefdoms. But Sky E.C.C. intelligence, coupled with testimony from a Dutch witness who can be known only as Nabil B., showed that the wedding had doubled as a business meeting for a giant Irish-Bosnian-Chilean-Dutch-Moroccan-Italian crime consortium. This group became known to law enforcement as the Super Cartel. The Sky E.C.C. intelligence indicates that the group, among other trafficking activities, established an investment fund for shipments of cocaine. Irish investigators believe that the M.S.C. Gayane shipment was financed by the Super Cartel. Jari Liukku, at Europol, noted that criminal networks “are making deals among themselves to lower the risks when it comes to the detection and loss of financial assets, when it comes to multi-ton cocaine shipments.” In other words, “they are acting like normal businessmen.”

In March, 2020, a British man named Ryan James Hale, who is associated with the Kinahan cartel, texted a Bulgarian contact on Sky E.C.C. about a huge shipment of cocaine headed for the Mediterranean coast of Spain: “We are going to load 700 kilos today. . . . Your part is 30% of the charge.” Six hundred and ninety-eight kilos of cocaine were soon seized in Valencia. One of Hale’s alleged conspirators, Anthony Alfredo Martínez Meza, a Panamanian who appears to have organized the loading of the shipment, texted his frustration when the consignment was seized: “I shit on my fucking life.”

This past November, Operation Desert Light—a joint operation of the Dutch, Emirati, French, Spanish, Belgian, and American police forces—arrested forty-nine people suspected of being linked to the Super Cartel, including Hale and Martínez Meza. Europol jubilantly announced that a

major blow had been struck against a network responsible for importing some thirty per cent of Europe's cocaine. Daniel Kinahan, his brother, and his father are the only top members of the Super Cartel who have not been arrested. There is a five-million-dollar reward for information leading to each man's capture.

If you're involved in a large narcotics operation, logistics is only half the battle. Laundering the money is equally complex. Thanks in part to phone-chat surveillance, investigators learned that the Kinahan gang often dealt with a glut of cash by relying on a technique that once prospered along the original Silk Road: the *hawala* system of money transfer. In this system, cash doesn't move across borders. Rather, trusted informal bankers, known as *hawaladars*, hold large pools of money and pay out to clients upon receipt of a token. This informal banking system, which remains popular in the Arab world and in South Asia, has legitimate uses, but it is also seductive to organized criminals. When Hezbollah expanded its drugs and gunrunning businesses, it made use of *hawala*. Law-enforcement agencies now refer to a *hawala* or *hawala*-like arrangement as an "informal value-transfer system."

Robert McAllen, a money-laundering investigator from Northern Ireland, studies such systems. He explained to me that they rely on a "controller network," which effectively operates as a trading exchange, with billions of dollars of liquidity and with representatives scattered around the world. Each controller network moves value in a similar way: somebody in Dublin, for instance, wants to transfer half a million euros to a bank account in Dubai without using the mainstream financial system. For a commission of about nine per cent, an agent of the controller recognizes that the money exists in Dublin, and sends out instructions to collectors in Dubai to recognize the value there. The settlement within the network is then completed over a period of years.

When informal value-transfer systems were discussed on encrypted networks, the preferred token, McAllen told me, was the serial number of a low-denomination bill: five dollars, or dirhams, or euros. The sender and the recipient in the exchange shared the bill's serial number, and the exchange was completed. The EncroChat bust, in particular, illuminated how popular such informal systems had become. In the messages, there were myriad

references to a “tkn”—a token. Photographs of serial numbers were often sent in return.

McAllen said such transactions were so dizzying that he inverted the traditional investigator’s credo. “You *can’t* follow the money,” he explained. “You’ll go blind.” Instead, he attempted to identify particular patterns of behavior—“typology and methodology”—and acted on the assumption that anybody engaging in those patterns must be attempting to move dirty money. He told me of cases in which the value transfers were so numerous and roundabout that it would be impossible, on the basis of any single trade, to determine the money’s ultimate destination. The only reason that he had been able to figure out how such exchanges worked, he said, was “because they’ve talked about it so much on EncroChat.”

Conversations on Sky E.C.C. proved similarly enlightening. In September, 2022, Johnny Morrissey, an Irishman who formerly worked as a night-club doorman in Manchester, was arrested in Spain on suspicion of laundering hundreds of millions of euros for the Kinahan gang, using *hawala*. During the investigation into Morrissey, which lasted eighteen months, agents in Ireland, the U.S., and Spain surmised from his texts and other evidence that he had been washing some three hundred and fifty thousand euros a day. “He was the Kinahans’ C.F.O.,” Roy McComb, a former senior investigating officer for Britain’s National Crime Agency, who has knowledge of the Kinahan group, explained to me. But Morrissey, McComb emphasized, was no financial innovator: “All he did was use a trusted and essentially off-the-grid system to move money. He wasn’t Barclays Bank. He was a *customer* of Barclays Bank.” Morrissey is currently awaiting trial in Spain.

Violence courses through the decrypted texts. In 2020, EncroChat messages revealed the existence of a torture site in a disused shipping container in Wouwse Plantage, south of the port of Rotterdam. Another six containers had been designed as cells to hold prisoners. When officers raided the torture container, they found a dentist’s chair with restraints for arms and legs, in addition to finger clamps, scalpels, hammers, pliers, gas burners, and duct tape. One area had been reserved for waterboarding. The room was soundproofed.

According to EncroChat conversations, a man called Roger P. by the Netherlands' court system, who was widely known in the underworld as Piet Costa, appears to have set up the site. Costa, who is thought to have worked for a Colombian cartel, was recently sentenced to fifteen years' imprisonment for his role in a shipment of cocaine exceeding eight thousand pounds. Before his arrest, he sent a text about a few prisoners held by his group, adding, "I hope I get the chance to torture them."

Costa's opportunity never arose, because the construction of the torture site happened at the same time as the live phase of the EncroChat investigation. The police were duty bound to intercede whenever they became aware of an imminent threat to someone's life, even at the risk of the operation, but the torture chamber was raided before it was used. Across Europe, officers intervened in such cases with alarming frequency. British police alone acted to thwart some two hundred "threats to life" that had been discussed on EncroChat conversations. (Courts are now racing to keep pace with these interventions: a London gangster who asked on EncroChat for "2 savages" to avenge an attack on his mother, and spoke of his "James Bond ting"—a Walther PPK handgun—was recently convicted at the Old Bailey for conspiracy to murder.) At Europol, Lecouffe has explained that, although he was of course unsurprised to find that criminals used violence, he was shocked at "*the level of violence*" in Europe.

In the Netherlands and Belgium, murder rates remain low, but the atmosphere has changed as underworld activity has spilled into everyday life. In 2019, Derk Wiersum, the lawyer for Nabil B., the star witness in the Dutch government's murder case against Ridouan Taghi and sixteen other suspects, was shot dead outside his home, in Amsterdam. Two years later, Peter de Vries, the Netherlands' most famous crime reporter, was murdered. De Vries had been a confidant of Nabil B.'s. Nine men have been arrested for their involvement in the crime. One suspect was intercepted on a call telling his girlfriend that de Vries was "always sticking his nose in where it doesn't belong," and "that's why they shot him."

In January, while I was visiting Antwerp, an eleven-year-old girl in the city was shot and killed in her home. The victim was the niece of an alleged trafficker, Othman El Ballouti, who grew up near the port and who was reportedly running much of the city's cocaine business; he is now thought to

live in Dubai. The bullet that killed the girl was apparently meant for another family member. I visited the murder scene, which was on a quiet street in a district called Merksem. Several years ago, a gangland killing in such a place would have been unthinkable.

Violence is endemic to the drug trade, but in much of northern Europe it has been possible to imagine that drug-related brutality is a problem that occurs elsewhere: in Mexico, in America, in southern Europe. The phone intelligence, along with a slew of grisly headlines, has dispelled that myth. In June, 2022, after a wave of shootings, the mayors of Amsterdam and Rotterdam wrote to the Dutch Parliament, warning of “a criminal culture of violence that is acquiring Italian features.” The mayors added, “It’s not just about conflicts erupting over control of the drugs trade, but we are also seeing violence as a display of power and with the intention of weakening our democratic legal system.”

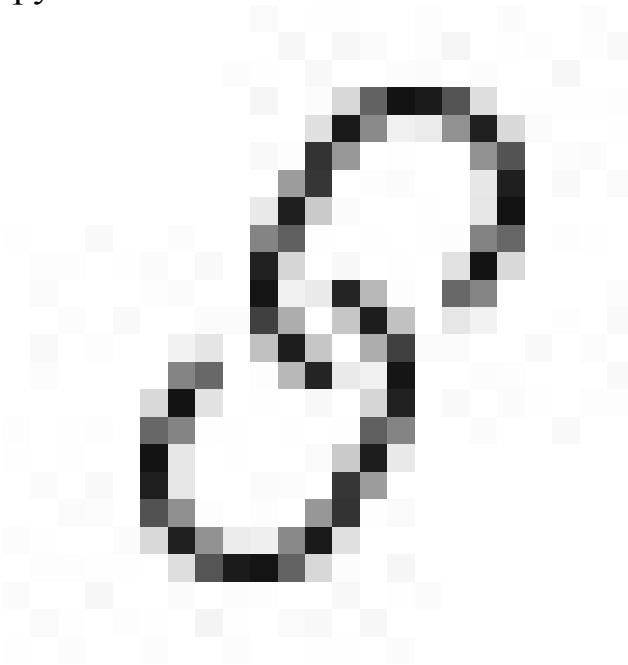
In September, 2022, as if to prove the mayors’ point, the Belgian justice minister, Vincent Van Quickenborne, was placed under heightened security when law enforcement learned of a kidnapping plot against him. A car containing multiple weapons was discovered on the street where he lived with his family, and four Dutchmen connected to the drug trade were soon arrested. Belgian media reported that the plot was intended to force a prisoner exchange: Van Quickenborne for a high-profile trafficker. It was the kind of move that cartels in Latin American countries have been making for years.

Phone intelligence has also revealed that the nations at the center of the European cocaine trade are becoming infected with corruption. Vanderwaeren, the Belgian customs chief, told me that gangs cannot expect to move drugs through the port of Antwerp without at least the tacit assistance of port workers. “The criminal organization must have somebody in the terminal infrastructure who knows the container where the drugs are stored, and how they are stored,” he told me. Sometimes port workers are bribed; sometimes they are threatened; sometimes it is a combination of both.



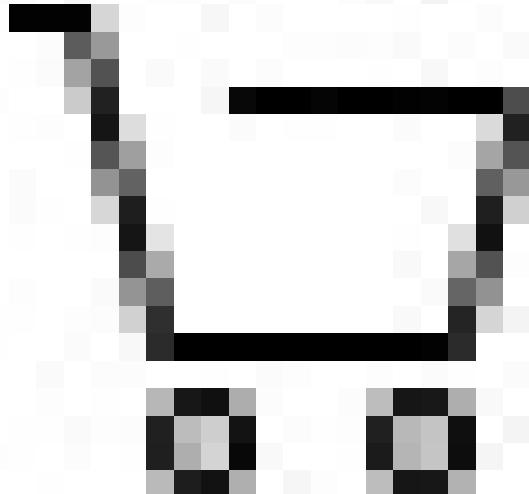
"Don't be so hard on yourself. For starters, you're the best-hydrated guy I know."
Cartoon by Guy Richards Smit

[Copy link to cartoon](#)



Link copied

[Shop](#)



In May, 2021, after the Sky E.C.C. bust, ten people working at the port in Antwerp were arrested for colluding with gangs. This past December, a thirty-year-old clerk for a company at the port was jailed for six years for aiding and abetting a drug trafficker. She had used the Sky E.C.C. network to provide the trafficker with arrival times for cargo shipments, serial numbers of containers, and PIN codes to access them.

Decrypting criminal messages sometimes made it possible to see how much it cost, in bribes, to move cocaine. For one shipment to Barcelona, crane drivers, dock workers, and port managers were collectively paid about four hundred and forty thousand euros to ease the passage of the consignment. In some messages, correspondents pondered whether they should delay the arrival of the cocaine while a dockworker in the gang's pay recovered from illness.

Andrew Young, the prosecutor in the *an0m* case, was taken aback by the intersection of graft and crime that he saw in the messages: “You think of organized crime and public corruption as different, but they’re really not. Both have the same goal, which is they’re trying to take over legitimate institutions for their own ends. And they use each other to do it.” He continued, “When you get to a community, whether it’s in Antwerp, New York, or Tijuana, where government officials are the actual criminals—not

working for the criminals, but the actual criminals themselves—it's just so difficult to get rid of."

In February, a Montenegrin trafficker agreed to discuss how the bust of Sky E.C.C. had affected the criminal fraternity in Montenegro. (The conditions of our interview were that I could not name him or quote him.) We met a little later than we had planned. A drug dealer had been shot outside a restaurant in Podgorica that day. The trafficker knew the victim and had been at the hospital.

We met in the back office of an auto-body shop, along with my translator and a well-connected man who had helped set up the encounter. The trafficker chain-smoked Parliaments, and he had a giant frame, elephant-gray skin, and dark circles under his eyes. He wore a T-shirt emblazoned with the face of [Vladimir Putin](#), of whom he was a fan. By contrast, he hated the E.U., Americans, and gay people—groups that he freely lumped together. Occasionally, his son arrived to empty the ashtray.

Soon after we sat down to talk, the trafficker told my translator that there'd be no interview after all: he wasn't a snitch, and never would be. Nevertheless, he continued to speak, and I continued to listen. The trafficker said that he had thrown his Sky E.C.C. phone into the sea two weeks before the entire network was suspended, having received a warning of some kind about the police infiltration. I wasn't sure whether to believe this, but it was possible: Montenegrin police had acted on "threat to life" information from Europol before the Sky network was dismantled, and had foiled murders based on the intelligence. A corrupt police officer involved in one of those operations may have offered favored clients a tipoff.

In any event, the trafficker did not seem worried about being arrested merely on the basis of his texts. He *was* worried, however, about a new spirit of law enforcement in his country. The Prime Minister, Abazović, had appeared on television two nights earlier to name and shame citizens believed to be involved in organized crime and corruption. The trafficker told me that he was grudgingly impressed with the Prime Minister: every single detail of the television speech was correct. He also complained that, since the phone surveillance had begun, security in the port of Bar had improved. A task force of British border agents now worked there to help stop the flow of

contraband into Europe, and appeared to be doing an effective job. Large-scale cigarette smuggling, the trafficker conceded dolefully, was not viable for the moment.

What about cocaine? Was trade still brisk? The trafficker turned away from me and said, in so many words, that he was going to beat me up and leave me in a ditch somewhere. Then he turned to me again, and, since he threatened to break my bones, I feel no guilt about quoting him. “You shouldn’t ask such fucking questions,” the trafficker said, in Serbian. “In Montenegro, it’s bad for your health.”

The trafficker may not have wanted to answer the question, but the statistics speak for themselves: the cocaine business is still booming. The record seizures at Antwerp last year were celebrated as a victory by customs officials, but they may simply indicate a higher volume of drugs being trafficked at the port. It is impossible to measure what one cannot see. There are other ways to gauge the health of the trade. The price of cocaine in Europe has remained steady, and is perhaps even falling in places. The average purity of cocaine in Europe, meanwhile, is up. These trends do not indicate a commodity under stress. Wastewater analyses also suggest that as many Europeans as ever are using the drug.

Across the Atlantic, in Colombia, Peru, and Bolivia, which cultivate ninety-nine per cent of the world’s coca plants, farming techniques are improving. Toby Muse, the journalist who wrote “[Kilo](#),” a harrowing investigation into the cocaine trade in Colombia, told me that in recent years growers had been planting many new and especially fecund varieties of the coca bush, and had become increasingly skilled at using herbicides. “There’s never been more cocaine produced than there is now,” Muse told me.

European politicians whose job it is to counter the trade are left in a muddle. In Antwerp’s port, I met Vincent Van Peteghem, the Deputy Prime Minister of Belgium and its Minister of Finance. Since his ministry encompasses the customs office, cocaine is his problem. He told me that, although there were measures a government could take to combat organized crime—better scanners, more customs officers, improved collaboration between national police forces—the flow of drugs would stop only if there was a change in attitude among Europeans. “Drugs are being normalized in our society,” he

said. “Users need to look themselves in the mirror. They are putting our security in danger. I hope they are wise enough to understand that, without demand, there is no supply.”

A moral appeal to cocaine users seemed unlikely to succeed. I wondered how hopeful police forces were feeling. At Europol, Lecouffe described the period between the infiltration of Ennetcom and the *an0m* sting as analogous to the period between law enforcement’s adoption of the wiretap and its exposure to the public: a time of unrivaled police dominance. The crooks talked as if nobody were listening. The police listened without being seen. That period was over. Police had made thousands of arrests, and major criminals had been jailed, but organized crime remained robust.

Of course, investigators at Europol and elsewhere were still sorting through the billions of texts seized during the stings, and new discoveries could lead to hundreds, if not thousands, of additional investigations. Meanwhile, police forces continued to announce successful infiltrations. In February, German and Dutch investigators reported that they had broken into Exclu—a network created in [the so-called CyberBunker](#), an underground server farm outside Traben-Trarbach, Germany, and associated with an Irish trafficker named George (the Penguin) Mitchell, who is now on the lam in Portugal. Altogether, the phone surveillance has been instrumental in arresting—or, at the very least, seriously handicapping—thousands of Europe’s most serious criminals.

Lecouffe was surprisingly breezy about the challenges ahead. It was not his job to ponder whether the war on drugs was futile; his job was to help cops catch crooks. The phone intelligence had provided a detailed map of the underworld that would guide him for years. He wasn’t worried that criminals would now be more cautious with their communications or would migrate to such encrypted apps as [Signal](#) and [WhatsApp](#). Throughout history, power in the relationship between law enforcement and its quarry has swung this way and that. But criminals would always be vulnerable, he said, because “there are two things they cannot avoid—to move themselves and their goods from one place to another, and to communicate.” ♦

An early printing of this article credited the incorrect artist for the illustration above.

By Janet Malcolm

By Robert A. Caro

By Patrick Radden Keefe

By Philip Gourevitch

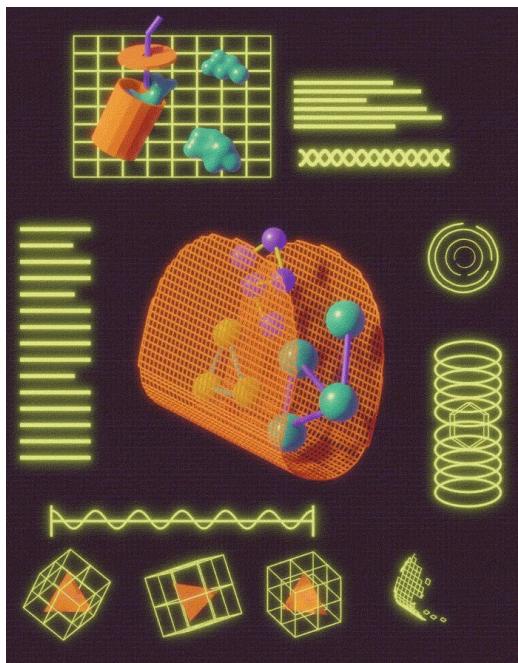
Annals of Gastronomy

- [Taco Bell's Innovation Kitchen, the Front Line in the Stunt-Food Wars](#)

Taco Bell's Innovation Kitchen, the Front Line in the Stunt-Food Wars

How did the chain outdo Burger King's Bacon Sundae, Pizza Hut's hot-dog-stuffed crust, Cinnabon's Pizzabon, and KFC's fried-chicken-flavored nail polish?

By [Antonia Hitchens](#)



Lois Carson always wanted to find a new way to fold a tortilla. "Life's like an experiment to me," she said. For twenty-three years, when she worked for Taco Bell as a product developer, she thought and thought about how a tortilla might be wrapped around taco fillings in the shape of a hexagon. She wanted people to be able to pick up the stuffed tortilla with one hand, even while driving, without it falling apart. "It was just something that came into my mind," she said, seated in a booth at a Taco Bell in Orange County, California. Carson is seventy-three and wears glasses, pink lipstick, and a Timex watch. She started her career in the nineteen-seventies, working in the kitchen at Perino's, an Italian restaurant in Hollywood frequented by movie stars, where she devised methods to reconstitute the company's frozen entrées for the microwave age. During her time at Taco Bell, she filled her lab book with sketches annotated with notes on the "build" of the potential

hexagonal tortilla product, entering measurements of ingredients into a food-cost model. She practiced the fold technique studiously. “It’s like Thomas Edison and the light bulb,” she said. “He came up with an idea how many times? He made so many tries.”

Carson realized that if a hard-shell tostada were placed inside a tortilla it could provide interior scaffolding. Across the table from me, she put her iPhone on a sheet of paper and carefully folded the paper around it, to demonstrate. After she proposed the idea to her Taco Bell colleagues, in 1995, she went to the company gym to work out. “I explained it to this gal on the treadmill next to me,” she said. “She was in food operations, and she said there were all these technical reasons it wouldn’t work.” For one thing, Carson hadn’t cracked how to keep the folded hexagon from popping open. She went on to pitch the company’s executives repeatedly on her idea—which would eventually become the Crunchwrap Supreme, the fastest-selling item in Taco Bell history—but, noting the extra seconds required for a worker to make the folds, they initially dismissed the concept. “There’s all these parameters around your creativity,” Carson said. “You just have to wipe your mind of certain facts.”

Taco Bell’s food-innovation staff, which includes sixty developers, focusses on big questions: How do you make a Cheez-It snack cracker big enough to be a tostada? What are the ideal Cheez-It dimensions to guarantee that the tostada won’t crack inconveniently when bitten into? Or consider the Doritos Locos Taco: What safeguards can be implemented to prevent the orange Doritos dust from staining a consumer’s hands or clothing? Can fourteen Flamin’ Hot Fritos corn chips be added to the middle of a burrito and retain their crunch? Can a taco shell be made out of a waffle, or a folded slab of chicken Milanese? These are all problems of architecture and scalability; fast food is assembly, not cooking.

I recently visited Taco Bell’s headquarters, in Irvine, in a corporate complex off the I-5 freeway, next to Ford’s regional offices and a Marriott, to see how the company creates new menu items in its laboratory-like Innovation Kitchen. William Bradford, a musician who writes Taco Bell jingles under the name Yo Quiero Taco Ballads (he appears with Dolly Parton in a TikTok musical about the brand’s Mexican Pizza), described a recent visit to the test kitchen as “like being selected by Willy Wonka to go to the chocolate

factory.” But the space, in ambience, is more WeWork than Wonka. When I arrived, flanked by communications professionals, the innovation team was huddled around a Formica table sampling a limited-edition collaboration with the dessert chain Milk Bar: a cake truffle with a saline taco-shell coating.

After passing through several doors that were unlocked via a coded keypad, I sat with Rene Pisciotti, the executive chef, who is known as the Taco Whisperer; Liz Matthews, the global chief food-innovation officer; and Heather Mottershaw, the vice-president of pipeline innovation and product development. (She invented the Waffle Taco.) I was handed a plastic cup of Baja Blast soda—tropical Mountain Dew in a proprietary shade of turquoise—and a plate of hard-shell tacos. Pisciotti, a burly man with gelled hair who used to work for Barilla, the Italian food company, averted his eyes in a practiced way as I took a bite, sending an avalanche of shredded lettuce and cheese onto the floor. He then summoned several assistants, who streamed in to hand each of us a sample of a new product: a burrito with melted cheese on top. He wanted to show me an example of how his team solved a problem.

“It’s a challenge, from an innovation standpoint,” Pisciotti said, of toasting cheese on top of a burrito at the end of the assembly process. The cheese goo acts as adhesive for four jalapeño slices studding the burrito’s exterior. “It has to be super quick on the line, but it feels *cared for*, it feels *prepared*,” Matthews said. “It’s a big unlock for us about how to actually have a totally different burrito-eating experience.” Mottershaw said that it had taken a year to perfect a material called “magic paper,” which covers the burrito when it’s in the grill press but does not stick to the melting cheese and does not burn. This was important, she said, to make sure “we don’t lose cooks in the restaurant.”

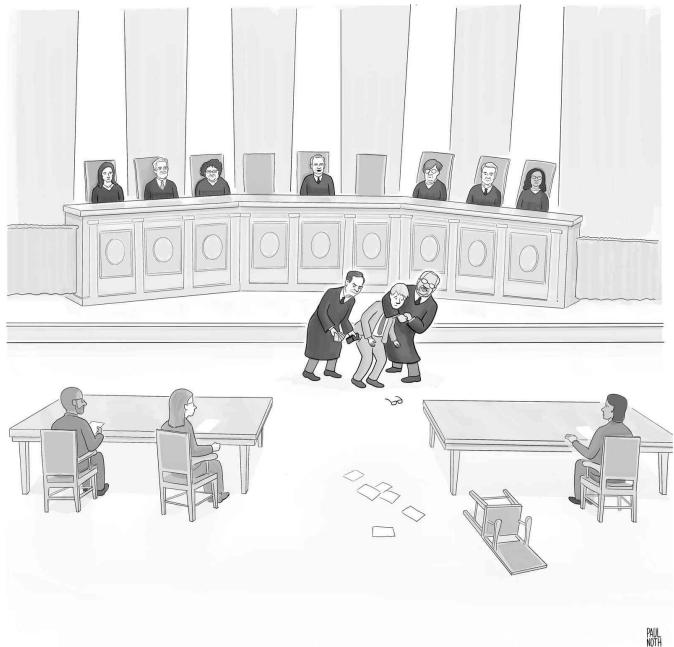
Matthews, who has long dark hair and was wearing a blazer, went on, “We knew it was an amazing idea, because it’s such a sensorial product.” A dairy scientist named Mike Ciresi had worked on the melted-cheese burrito every day for months. Part of Ciresi’s broader mission, as an employee of a trade organization called Dairy Management Inc., is conceptualizing how to get more dairy on the Taco Bell menu—“taking dairy from a garnish to the hero,” as he put it. The latest dairy-heavy hit is the Baja Blast Colada Freeze

(two hundred and fifty calories), made with heavy cream. (D.M.I. was also behind Pizza Hut's cheese-stuffed crust.)

"We're patient—we play the long game," Matthews said. "It's all about this restless creativity." She put down her burrito. "The first thing I ever came up with, eighteen years ago, was the Quesadilla," she said. (The lowercase quesadilla, of course, was likely invented in Oaxaca hundreds of years ago.) "It was a huge success, and I was, like, Oh, crap, now I'm going to get fired. I've peaked."

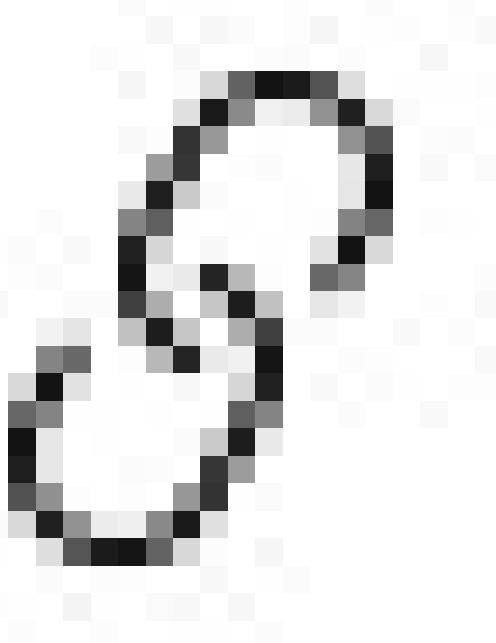
Mottershaw, who is British and has been with Taco Bell since 2003, said, "We start with big ideas, then we think about speed." The team has to make sure that the recipe components can be prepared in vast quantities, and that the items can be cooked on the line in a minute or less. Then comes the all-important naming process. The cheese-topped burrito became the Grilled Cheese Burrito. "The name brings out emotion and nostalgia," Matthews said. In the Innovation Kitchen, the words "nostalgia," "emotion," and "memory" are in heavy rotation.

In 1999, at the Mirage hotel, in Las Vegas, Mikhail Gorbachev gave the keynote speech at a fast-food convention sponsored by the International Foodservice Manufacturers Association. Gorbachev had written the foreword to "To Russia with Fries," a memoir by a McDonald's executive named George Cohon. ("And the merry clowns, the Big Mac signs, the colourful, unique decorations and ideal cleanliness . . . all of this complements the hamburgers whose great popularity is well deserved," Gorbachev wrote.) The day's presentations described enemies of fast food as enemies of progress.



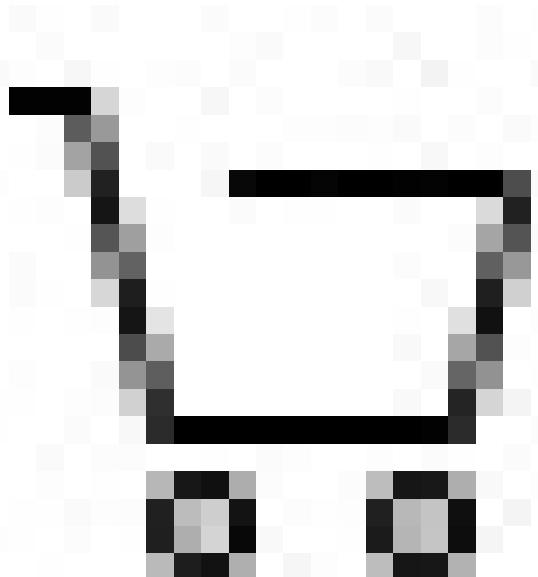
"Not all of us think we should collect student debts personally."
Cartoon by Paul Noth

Copy link to cartoon



Link copied

Shop



The innovation team at Taco Bell shares this zeal. Its work is intricate, the lab as much think tank as mad-scientist lair. Frito-Lay, which supplies the chain with taco shells, runs a research complex outside of Dallas that's staffed by hundreds of chemists, psychologists, and technicians, who perform millions of dollars' worth of research a year examining the crunch, mouthfeel, and aroma of each of its snack products. A forty-thousand-dollar steel device that mimics a chewing mouth tests such factors as the perfect breaking point of a chip. (People apparently like a chip that snaps with about four pounds of pressure per square inch.)

Some years ago, a headline in the Onion summed up the Innovation Kitchen's challenge: "Taco Bell's Five Ingredients Combined in Totally New Way." The components themselves arrive at the chain's seven thousand locations frozen or dehydrated. (In the late eighties, Lois Carson helped the company transition to using central manufacturing plants; the operation was called K-Minus.) Avocado paste, for guacamole, is made in giant vats at a factory in Morelia, Mexico, and is then frozen and shipped north in tubs. Ground beef arrives spiced and cooked, in vacuum-sealed bags. Beans come dehydrated, and resemble brown cornflakes. The tastes and textures have been formulated and manufactured long before, by Taco Bell scientists, who consider a food's rheological properties, which include bounce, density, crunchiness, gumminess, springback, juiciness, and spreadability.

As menu items are developed, various iterations are tested at the Taco Bell Sensory Panel, at the company's headquarters. Professional testers, trained by Taco Bell, along with members of the company's broader workforce, sit in carrels at a long counter while researchers on the other side of a window slide trays of samples to them. Each tester has a silver button to push when ready for another dish. Pisciotti studies their faces in real time on a monitor and scribbles notes. "I have a camera on people—it's not creepy, I promise," he said. Sometimes testers pick an item up and immediately drop it. "And I'm, like, O.K., we have a temperature problem here," he said. "We don't want to hurt consumers." Other times, "people just have a ho-hum look on their face." The best scenario is when a tester eats an entire portion before saying anything.

There are twelve chef scientists on the innovation team, which is composed mainly of engineers and quality-assurance specialists. When I visited, researchers in lab coats were measuring ingredients (chopped tomatoes, ribbons of lettuce) on a scale, to insure that metrics remained consistent—each shred of cheese has to be a specific number of centimetres long.

Failure is a big part of the job. "There's more items that don't make it than ones that do," Mottershaw said. "And there are things that are before their time." Hypotheses are tested; experiments rarely pan out. The Crispy Melt Taco, introduced in 2021, "started out blue, because we made it with blue corn," she said. "We called it Midnight Melt and Forbidden Taco, to try to give it a reason for having a blue shell. But people were confused—like, Is it made for nighttime? Is this old? What's forbidden? What happened to it?" Pisciotti said, "The masses don't know that blue corn is a thing—they don't shop at Trader Joe's." (Other items that haven't made the grade: the Croissant Taco, Crispy Cheese Curd Loaded Fries, Seafood Salad.) "We *introduce* things to the masses," he added.

"People tell us everything they feel," Matthews said. "We're Madonna. We're always reinventing ourselves."

Taco Bell serves forty-two million people a week. Customers go through eight billion sauce packets a year—more than the number of people on earth. Innovation was always part of the company's ambition. In the fifties, San Bernardino, east of Los Angeles, was known for its citrus orchards, its Air

Force base, and its hamburger stands. Taco Bell's founder, Glen Bell, opened Bell's Drive-In there during those years. His biography, "Taco Titan," by Debra Lee Baldwin, quotes him saying, "I was determined to beat the competition, so I decided to experiment." Bell had ridden boxcars with drifters and then joined the Navy; in a general's dining room on the U.S.S. Rochambeau, he had served rehydrated eggs to officers. After the war, he returned to San Bernardino, where the McDonald brothers had recently converted their orange-juice stand to a carhop drive-in. Bell bought tortillas from a nearby factory and fiddled around with different sauces, spices, and cooking techniques. He assumed that the idea was a lost cause when his first customer, a businessman in a pinstripe suit, dripped grease down his sleeve and onto his tie. Bell showed people how to tilt their heads in order to eat a taco. "We changed the eating habits of an entire nation," he wrote.

At the time, no fast-food venders sold hard-shell tacos. (A Mexican restaurant near Bell's stand sold a soft taco held together with toothpicks.) Bell had a vision of crisp concave taco shells ready to be filled, but first he had to modify a fry basket to hold tortillas. He asked a chicken-coop salesman to make him one out of chicken wire. It could hold six folded tortillas at a time. Next, he had to find a way to keep the cooked shells upright in his taco assembly line. The solution was a V-shaped metal trough called a taco slide. Each taco was supposed to weigh exactly three ounces. (In 1978, Taco Bell was purchased by PepsiCo, which owns Frito-Lay, and by the nineties a Frito-Lay factory in Mexicali was stamping out enough tortillas to yield four hundred cooked shells per minute.)

In 1962, Bell opened the original Taco Bell, in Downey, California. Bell's first franchisee, a former Los Angeles police officer, would cook twenty pounds of beans in a pressure cooker and then mash them with a beater attached to a quarter-horsepower drill. By the mid-seventies, when the chain had more than three hundred outlets, only one menu item had been added to Bell's original five (tacos, tostadas, burritos, frijoles, and chili burgers): an enchilada-burrito hybrid called the Enchirito. It was discontinued in the nineties, and sparked a "Bring back Taco Bell's Enchirito!" movement. The menu soon expanded to include nachos, taco salad, and Mexican pizza. As drive-through lines grew, in the nineties, fast-food chains designed more car-friendly items, with the dashboard in mind as a table. It was around this time that Lois Carson started dreaming of the folded tortilla.

“In America, our food habits are still shaped by our Puritan values and work ethic,” Greg Creed, a former Taco Bell C.E.O., wrote in a 2021 book called “R.E.D. Marketing.” (R.E.D. stands for “relevance, ease, and distinctiveness.”) “That’s a big part of why fast food was born in the U.S.: we like and need portable food because it’s traditionally been seen as fuel, rather than an experience.” In the twenty-first century, the paradigm shifted. “Food is now absolutely an experience,” Creed wrote. “However it is still an experience shaped by our need for functionality and portability.” In the book, he endorses a popular theory—that, as American drivers switched to automatic transmissions, the nation collectively gained weight because it became easy to hold a snack in the hand that was formerly reserved for the gearshift.

The first notable update of Bell’s crunchy-shell taco was the Doritos Locos Taco, in which the taco shell is a supersized Nacho Cheese Dorito. The idea originated in 2009, during a brainstorming summit between Taco Bell and Frito-Lay leadership at the latter’s research lab in Texas. (A conflicting origin story: a man named Todd Mills, a former security escort for Bill Clinton in Arkansas, believed that he came up with it. He loved to make taco salad with Doritos, and he sent Frito-Lay a letter in 2009 saying, “Imagine this . . . taco shells made from Doritos.”)

Denise Lefebvre, a food-research executive at PepsiCo, told me, “We first tried triangle taco shells of different sizes, but those couldn’t fit enough filling.” To get the right taste and texture for the shell, Frito-Lay tested more than fifty recipes. The company had to come up with “a bespoke means to season taco shells,” Lefebvre said. “This took months to achieve, with lots of consumer input.” An early try involved using a Home Depot paint-spray gun to apply the nacho-cheese powder to the shells. Three inventors are credited on a patent titled “System and process for applying seasoning to a food item.” (Besides getting the coating on the taco shells, the process protected workers from being harmed by breathing in Doritos dust.) Along the way, the company also developed a cardboard taco holster to keep the orange dust from getting all over fingers and clothes.

The Doritos Locos Taco, or D.L.T., is designed to target taste buds using “dynamic contrast”—in this case, the sensation of biting through the crispy shell to the fat-laced filling. Exactly half of a D.L.T.’s hundred and seventy

calories are from fat, the ideal ratio for a pleasing mouthfeel. The lactic acid and citric acid in the Doritos dust get saliva flowing and excite the brain's pleasure center, signalling you to eat more. The taco has what industry scientists call a "long hang time" flavoring system, meaning that the lingering smell stimulates food memories and cravings; meanwhile, the multifaceted flavors are strong enough to trip "sensory-specific satiety," a neural signal that makes you think you're full.

The D.L.T. became a flash point in food engineering. "Once we had the learnings gained from developing the Doritos taco shell," Lefebvre said, it paved the way for "collaborations like the Taco Bell Fritos Taco." Anyone who has ever put potato chips on a sandwich can appreciate the appeal of a burrito with Cheetos inside, or a Cheez-It deployed as a raft for spicy meat.

The new taco was tested out at a few of the chain's locations. "People were driving three hundred miles to get the D.L.T.," Matthews said. "One guy drove across the country." The product was officially launched in 2012, and a hundred million Doritos Locos Tacos were sold in the first ten weeks. A 2013 marketing case study singles out Taco Bell's plan to "create a subculture of Doritos Locos Tacos fanatics." Sean Tresvant, a Taco Bell branding director, told me that the company's mission is to "build content for cultural rebels." It's no accident that the flurry of new-product launches, which in the trade have come to be known as "stunt food," has tracked precisely with the rise of social media.

In a salt-and-fat-based arms race, chains now compete to roll out bizarre and often revolting novelty decoys to seduce customers. In the futuristic 1993 movie "Demolition Man," Taco Bell is, in 2032, the only fast-food chain left after a series of corporate battles called the Franchise Wars. The movie was prescient. The years since then have given us Burger King's Bacon Sundae, Pizza Hut's hot-dog-stuffed crust, Cinnabon's Pizzabon, and KFC's fried-chicken-flavored nail polish ("finger-lickin' good"). Taco Bell remains determined to out-stunt them all.

The Crunchwrap Supreme, Lois Carson's magnum opus, is a tortilla-wrapped parcel of seasoned ground beef, nacho-cheese sauce, crunchy tostada shell, lettuce, tomatoes, and sour cream. It is 1.25 inches tall, six inches wide, and 6.25 ounces. When it debuted, in 2005, it sold fifty-one

million units in the first six weeks. The food critic Adam Richman suggested that Carson should be nominated for a Nobel Prize. At our meeting in Orange County, Carson bashfully took from her bag a framed copy of an article in *Nation's Restaurant News* about the Crunchwrap's launch. It quoted a "junior burrito analyst" from burritoblog.com saying, "I had five of these puppies the first week they were available. The new Crunchwrap Supreme has taken the hard/soft texture idea and advanced it."

Carson sat in silence for a moment. "In the beginning, there were people who didn't like the idea," she said. "But somewhere in my mind I knew—it was portable, it was crunchy and soft, there was the price point, it meets sensory needs, it's easy to eat. It may have been before its time."

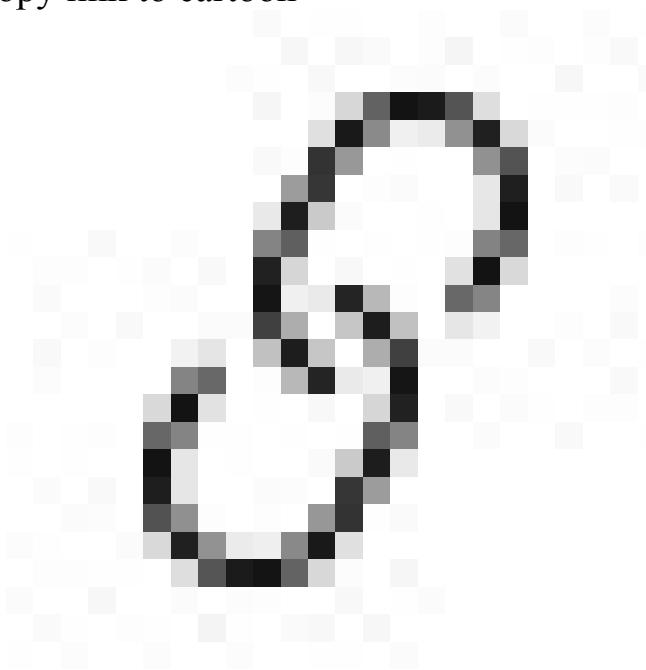
Prior to its success, the Crunchwrap idea languished for thirteen years. "Think about that fold! It had never been done," Matthews told me in the lab. "Lois would show it at every meeting. They thought she was insane. Everyone else was, like, 'Oh, God. Here she goes again.'" Greg Creed was the fifth chief marketing officer to hear her spiel, and he was looking for pitches with a visual twist. The Crunchwrap checked that box, and others. It qualified as functional, "something that allows us to multitask and doesn't require utensils or our full attention to enjoy," as he put it—the caloric equivalent of a sitcom that's on in the background while you fold laundry. It obeyed Taco Bell's sacrosanct Distinctiveness Rule: "You can change either the taste or the form" of a beloved food item, Creed said. "But you can't change the taste *and* the form."

When Carson showed Creed her Crunchwrap in the lab, he got it. By then, she was using a larger tortilla and heat-sealing it in a panini press to keep it closed. Soon, the Crunchwrap was starring in a Taco Bell ad campaign, with the tagline "Good to go!" The commercials compared the Crunchwrap to other engineering marvels, like smart watches and newfangled MP3 technology.



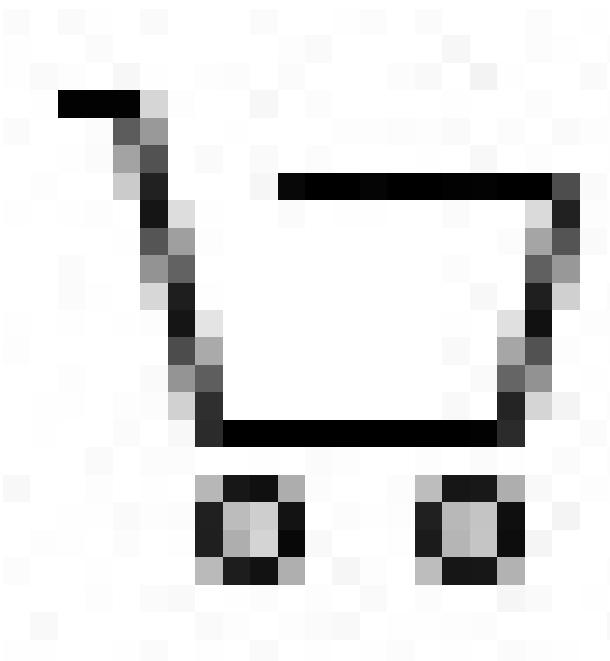
"I honestly want him to be happy—just not in a way that I'll ever have to find out about."
Cartoon by Sophie Lucido Johnson and Sammi Skolmoski

Copy link to cartoon



Link copied

Shop



To celebrate, a friend gave Carson a box of origami paper, a reference to her folding genius. Two years after the Crunchwrap's launch, another friend, who worked at Mars Inc., encouraged Carson to file a patent. At her urging, Taco Bell hired lawyers, who submitted an application for "Comestible wrap product and method of making the same." Patents for fast food read like a mashup of *IKEA* assembly instructions and post-structuralist literary theory—pages and pages of annotated drawings, followed by dense analyses of individual figures. In Carson's abstract for the patent, she details why her product is a necessary alternative to a traditional tostada, in which "the beans, sauce, lettuce, and cheese are vulnerable to sliding off the tortilla shell and/or to getting wiped off the tortilla shell by a bag, a clothing item such as a customer's sleeve, or by some other object." The patent notwithstanding, the Crunchwrap is the sole property of Taco Bell, and Carson received no remuneration for it beyond her salary.

Carson is glad that she persisted with her vision. "It's the chemical reaction of the heat and the starch in the tortilla that makes it stick together," she said. "So that's science itself." She'd also put in time trying to solve the puzzle of the Doritos Locos Taco. She drew a triangle on a piece of paper and showed it to me. "In ideation, I don't use the word 'never,' but I thought it probably wouldn't work," she said. "The tip of the triangle will break—it's a fragile point up top." She drew a traditional semicircular taco shape next to the

triangle to indicate what the D.L.T. evolved into. She always had a feeling that it would end up there. “But, still, we said, ‘Tortilla supplier, we would like you to make *this* for us.’ They said I was crazy. But they’d ship it to California, and we’d try to put ingredients in it.”

To release about ten new products a year, Taco Bell’s innovation scientists test roughly seventy; to come up with those seventy, they consider thousands of ideas. Matthews regularly takes groups of employees on food-immersion trips to cities around the world, where they eat for four days. “Then there are text chains, Slack chats, voice memos in the middle of the night about potatoes,” she said. Others spoke of “ideation sessions.”

Developing the right products is just one aspect of the work; marketing them is a separate task. Matt Prince, the company’s public-relations director, handles brand development and what he called “cultural topspin.” He talked about Taco Bell’s impact on the nation’s agricultural system. Say someone pitched a new item that contained parsley, he said. “When you multiply and scale it, you could then deplete the country and the supply chain of parsley.” He stopped and corrected himself: “Sorry, I mean cilantro.” He went on, “So is it worth it?” With other items, the company takes a watch-and-wait approach. “Popeyes and Chik-fil-A had the sandwich wars over fried-chicken sandwiches,” he said. “Chicken never played a huge part on our menu, but now there’s a huge spike in how we’re leveraging chicken.” He was referring to Taco Bell’s Naked Chicken Chalupa, in which a flat piece of fried chicken is used as a taco shell. One member of the innovation team envisions twisting fried chicken into an ice-cream-cone shape and serving it filled with ranch dressing.

“We’re balancing familiarity with innovation,” Prince said. “Like, when we had avocado in breakfast items, you look at the heartland and that wasn’t resonating.” Taco Bell fans are forthcoming about their preferences. Krish Jagirdar, who circulated a Change.org petition to bring back Mexican Pizza, said, “It’s one of the few food items that I really do care about. The petition gave me agency and connection.” The leader of the movement to bring back the Beefy Crunch Burrito texts Prince regularly. “Sometimes I wish I were as passionate about something as people are about this burrito,” Prince said.

Taco Bell has invested in all kinds of schemes to manufacture the passion. There are Taco Bell Cantinas, with liquor licenses, including the Pacifica Cantina, in California, a high-end oceanfront location equipped with a fireplace. (Before the concept launched, beer milkshakes were tested.) There is a travelling drag-brunch series, a Taco Bell wedding chapel in Las Vegas, a line of N.F.T.s, a Taco Bell TikTok musical starring Doja Cat. Conan O'Brien did a segment on visiting the Innovation Kitchen. Then there's the Bell Hotel, in Palm Springs, a weeklong resort "experience," featuring synchronized swimming and superfans gorging on new Taco Bell products. (The beds in the rooms are strewn with chips, as if they were rose petals.) "It was chaos," Pisciotti said of the last event. "There was a person there with their hair dyed Baja Blast blue. It took them months to get the right color. They're fanatics. But hate and love are better than indifference."

The company is sensitive to feedback. The headquarters has a situation room called the Fish Bowl, ringed by video screens monitoring the brand's mentions on social media. In 2015, in response to consumer requests, the company removed artificial colors and flavors from its menus, and it now uses cage-free eggs. Nineteen years after the documentary "Super Size Me" conditioned Americans to equate fast food with pink slime, Taco Bell has, through the power of marketing, managed to make itself not just socially acceptable but post-ironically hip.

Last year, the company opened a "Jetsons"-like four-lane drive-through in Minnesota called Taco Bell Defy; a proprietary techno-dumbwaiter whooshes tacos down to car windows from an overhead kitchen. "I'm a low-cost provider of food to the general public," the store's franchisee, Lee Engler, said, "but this is twenty-second-century stuff."

"It's a cry for help in the hellscape," M. M. Carrigan, a writer in Baltimore who edits the online literary journal Taco Bell Quarterly, said. "There is this perpetual renewal to their menu items. They keep making these novel items for us, shape-shifting—like, we're going to give it to you in a hotel in a Crunchwrap, we're going to give it to you through tubes into your car, we're going to give it to you in the Metaverse. It's the illusion of progress." Or it's the logical endgame of American abundance and choice, the marketing apex of what Michael Pollan describes, in "The Omnivore's Dilemma," as "what the industrial food chain does best: obscure the histories of the foods it

produces by processing them to such an extent that they appear as pure products of culture rather than nature.”

The Orange County location where I met Carson is just down the road from the Innovation Kitchen, and not far from Glen Bell’s first taco stand. A blind man in a Nirvana T-shirt with a service dog sat alone in a booth drinking a Freeze, and two employees from a neighboring pastrami drive-through came in to order breakfast. When the Crunchwrap launched, Carson and a colleague often visited this location to observe undercover. “We would get the Crunchwraps and weigh them, pull them apart in stealth,” she said.

Most days during Carson’s time at Taco Bell, she brought a lunch of fruit and yogurt or a peanut-butter sandwich to work, until she was laid off in a standard round of job cuts, in 2008. (She continued working for the company, as a food-photography consultant, and for the past fifteen years she has run a successful business as an executive coach.) “I worked on almost every single ingredient at Taco Bell,” she said. After years of testing fried foods, she is exquisitely attuned to the taste of rancid oil. “Your taste buds get trained,” she said. “Your mind becomes educated.”

Carson is generally circumspect, but she became animated when she talked about a recent novel called “Lessons in Chemistry,” by Bonnie Garmus. It’s the story of Elizabeth Zott, a frustrated chemist in the nineteen-sixties who ends up hosting a cooking show. Like Carson, Zott sees a sacred geometry in recipe design. At one point, she tells her viewers, “A successful chicken potpie is like a society that functions at a highly efficient level.”

I asked Carson if she wanted to order a Crunchwrap. “If they can get it to us in time,” she said. She had to leave for a coaching session. An employee at the register sold me on a deal: instead of a Crunchwrap for four dollars and ninety-nine cents, I could get a Crunchwrap with a Doritos Locos Taco and a Baja Blast for five dollars. Fifty seconds later, I brought it all back to Carson on a tray.

“It’s not grilled enough, and the fold is a little sloppy. And it’s got grill dirt on it,” she said of the Crunchwrap. After I took a bite, she examined the interior composition by prodding it with a fork. I asked if she wanted to try it. She declined. She has always liked the taste of Taco Bell, but eating it

regularly was a busman's holiday. "I don't eat in my car," she'd told me. "I wouldn't go through the drive-through of a restaurant." ♦

By Charles Bethea

By Hannah Goldfield

By Hannah Goldfield

By Shauna Lyon

Art

- [The Monumental Work of Daniel Lind-Ramos](#)

The Monumental Work of Daniel Lind-Ramos

The Puerto Rican artist, who has a new exhibition at MOMA PS1, channels both the joy of Afro-Caribbean culture and the devastating aftermath of Hurricane Maria.



The artist **Daniel Lind-Ramos**, a 2021 MacArthur Fellow, finds the materials for his striking assemblages in his home town of Loíza, Puerto Rico, where he still lives. These monumental works channel both the joy of Afro-Caribbean culture and the devastating aftermath of Hurricane Maria. On April 20, *moma* PS1 opens the exhibition “Daniel Lind-Ramos: El Viejo Griot—Una historia de todos nosotros.” The artist is seen here with “Alegoría de una obsesión,” one of four new pieces created specifically for the show.

By Christopher Weyant

By Jeannie Suk Gersen

By Amanda Petrusich

By Nick Romeo

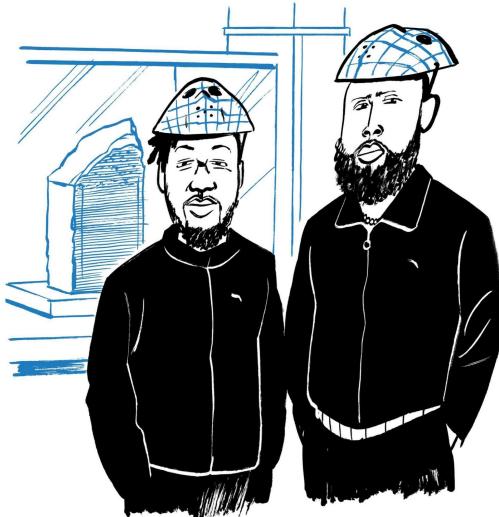
At the Museums

- [A High-Tech Heist at the British Museum](#)

A High-Tech Heist at the British Museum

Members of Looty, a collective formed to reclaim looted art, take surreptitious 3-D scans of the Rosetta stone in order to digitally liberate it into the metaverse.

By [Chantel Tattoli](#)



Recently, some Western museums, under public pressure, have begun repatriating pieces that had come into their collections via looting. The process can be slow. In February, the U.S. announced that it was returning seventy-seven Yemeni artifacts—eventually. For now, owing to Yemen's civil war, the Smithsonian was holding on to them. "It just happens in dribs and drabs," Chidi Nwaubani, a Nigerian English product designer, said recently. Mostly, he added, "They're, like, 'Sorry, not sorry.'" Last year, in response, Nwaubani and a co-conspirator put on hockey masks, slipped into the basement of the British Museum, and reclaimed a few statues from a group known as the Benin Bronzes. It was the first heist carried out by a collective he'd founded called Looty, whose mission was to "reloot" heritage items. Instead of stealing the pieces, the group scans them in 3-D and makes them available as N.F.T.s in the metaverse. The other day,

Nwaubani and his co-founder, Ahmed Abokor, were back at the scene of the not-quite crime. They had come for the Rosetta stone.

The men wore black sweatsuits and white sneakers. Nwaubani had short braids. Abokor, a Somali Swedish creative director, had a beard. The name of the collective was derived from a Pekingese that French soldiers had snatched from the Old Summer Palace, near Beijing, in 1860, which was eventually given to Queen Victoria. “She called the dog Looty, if you can believe that,” Nwaubani said. The group auctioned the Benin Bronzes as a series of N.F.T.s in May; one went for about two thousand dollars. (Looty gives twenty per cent of its proceeds to young African artists as grants, and keeps the rest to cover costs.)

For the Rosetta-stone heist, they’d invited along the Egyptologist Monica Hanna. The stone was excavated by the French and intercepted as a spoil of war by the British some two centuries ago. Officially, Egypt has never asked for it back; in September, Hanna launched a petition demanding that the Egyptian Prime Minister reclaim it—plus sixteen other artifacts. She arrived at the museum in all black, with red-rimmed glasses, red boots, and red nails. She found Nwaubani and Abokor in the Egyptian-sculpture gallery. “What is the plan?” she said.

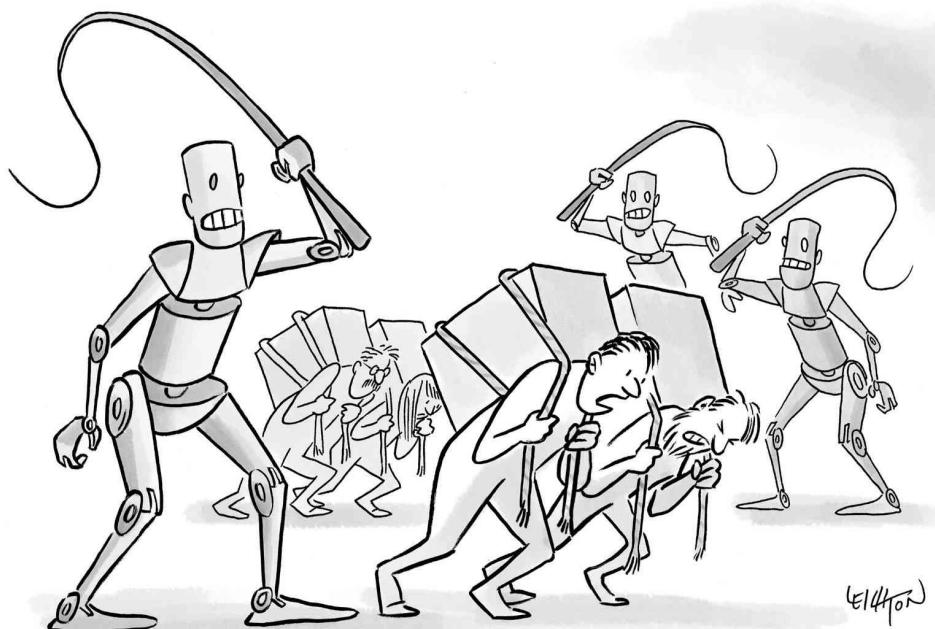
The gallery was filled with likenesses of Thutmose I and Ramses II, a five-foot-long scarab, a bronze cat with a nose ring, and, in the center of the hall, the stone. “So, there’s nothing illegal that we’re doing,” Nwaubani said. He pulled the museum’s visitor rules up on his phone; they state that 3-D imaging is O.K., for “private and non-commercial purposes.” He had an action camera, the Insta360, and Abokor had a Samsung Galaxy Fold. After they showed Hanna how to use a 3-D-capturing app, Polycam, to snap the stone “just from every imaginable angle,” they equipped her with an iPad and pulled out the hockey masks. The rules don’t state anything about attire: “The only thing is that people *may* feel uncomfortable,” Nwaubani said. “But how uncomfortable do you need to feel to know that this thing is stolen?”

Their hockey masks were overlaid with plaid nylon canvas, cut from shopping totes. The men looked as if they’d previously looted a Balenciaga store. For Hanna, they had an extra mask that was plain white. “The guest

mask," Abokor said. Hanna frowned. Abokor added, "If *you're* not comfortable, you don't have to wear it." She opted for a surgical mask.

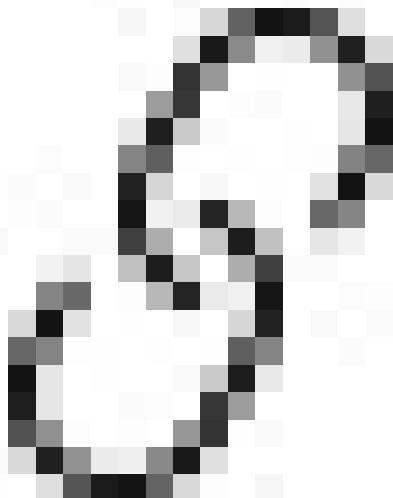
The three stitched through the throng, up to the glass box. Their target resembled an ancient chalkboard cramped with writing. They raised their devices. A mesh guide popped up on their screens, over the slab; they hit record, and orbited.

An attendant posted nearby noticed right away. "Hi?" she radioed security. "Yeah, some guys are wearing masks by the Rosetta."



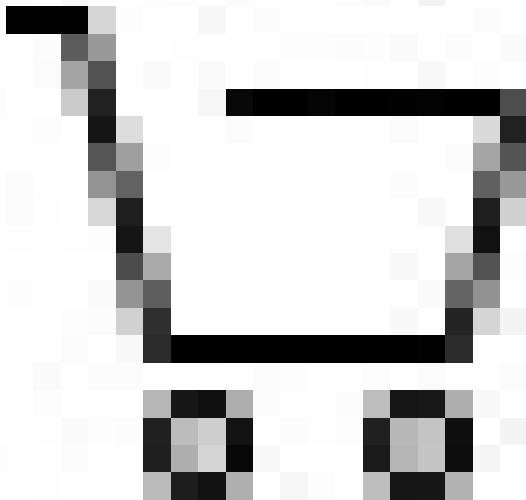
"To think this all began with letting autocomplete finish our sentences."
Cartoon by Robert Leighton

[Copy link to cartoon](#)



Link copied

Shop



A buff guard materialized. “So, what’s going on here?” he said.

Abokor was cheerful but cryptic. “This is a noncommercial project,” he said. “We are fans of the art work.” There being no clear wrongdoing, the guard

moved on.

Deed done, they left the gallery with their eight-hundred-and-ninety-six-megabyte artifact. The group planned to rendezvous in Egypt. In Rashid, a port city near Alexandria which Westerners call Rosetta, they would use location-based augmented reality to put the stone near its original resting place; passersby could view it on their phones, as if it were a very old Pokémon. “And it’s *there*,” Nwaubani said. “But you can only access this in a digital form.”

On their way to the exit, they paused in the gift shop to gawk at the exclusive Rosetta-stone merch. “A nail file?” Abokor said. “Who’s buying *this*? ”

“I have a Rosetta-stone umbrella,” Hanna admitted. “I bought one on my first trip to London, like twelve years ago.” There were oven mitts, luggage tags, silk ties, and snow globes—she shook one—that seethed with glitter.

“Let’s leave the premises,” Abokor said. ♦

An earlier version of this article included an incomplete description of museum rules on 3-D imaging.

By Amy Davidson Sorkin

By Adam Douglas Thompson

By Alex Ross

By Isaac Chotiner

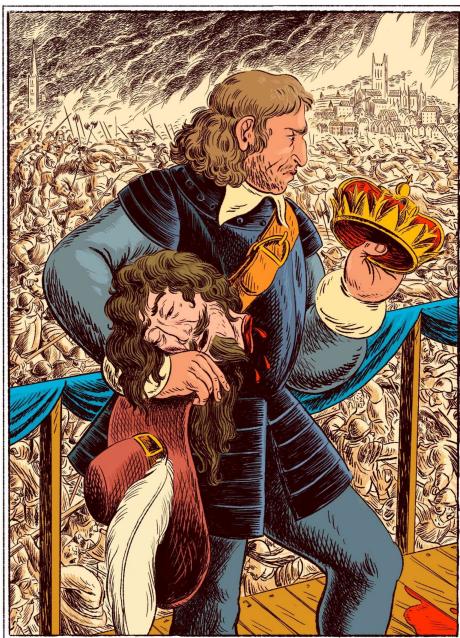
Books

- [What Happens When You Kill Your King](#)
- [The Origins of Creativity](#)
- [The Forgotten Drug Trips of the Nineteenth Century](#)
- [A Dennis Lehane Novel Investigates Boston's White Race Riots](#)
- [Briefly Noted](#)

What Happens When You Kill Your King

After the English Revolution—and an island's experiment with republicanism—a genuine restoration was never in the cards.

By [Adam Gopnik](#)



Amid the pageantry ([and the horrible family intrigue](#)) of the approaching coronation, much will be said about the endurance of the British monarchy through the centuries, and perhaps less about how the *first* King Charles ended his reign: by having his head chopped off in public while the people cheered or gasped. The first modern revolution, the English one that began in the sixteen-forties, which replaced a monarchy with a republican commonwealth, is not exactly at the forefront of our minds. Think of the American Revolution and you see pop-gun battles and a diorama of eloquent patriots and outwitted redcoats; think of the French Revolution and you see the guillotine and the *tricoteuses*, but also the Declaration of the Rights of Man. Think of the English Revolution that preceded both by more than a century and you get a confusion of angry Puritans in round hats and likable Cavaliers in feathered ones. Even a debate about nomenclature haunts it:

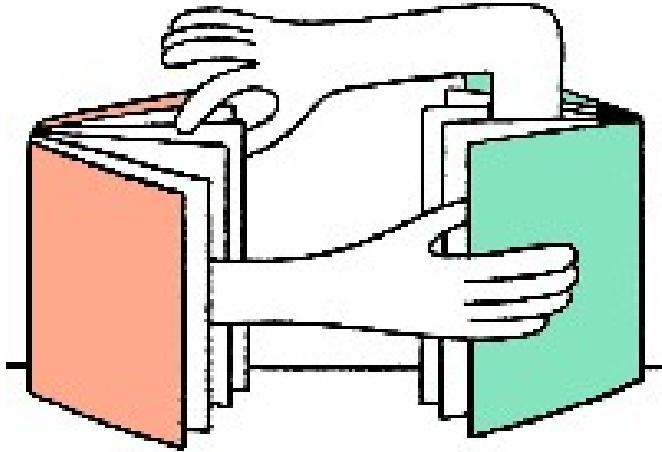
should the struggles, which really spilled over many decades, be called a revolution at all, or were they, rather, a set of civil wars?

According to the “Whig” interpretation of history—as it is called, in tribute to the Victorian historians who believed in it—ours is a windup world, regularly ticking forward, that was always going to favor the emergence of a constitutional monarchy, becoming ever more limited in power as the people grew in education and capacity. And so the core seventeenth-century conflict was a constitutional one, between monarchical absolutism and parliamentary democracy, with the real advance marked by the Glorious Revolution, and the arrival of limited monarchy, in 1688. For the great Marxist historians of the postwar era, most notably Christopher Hill, the main action had to be parsed in class terms: a feudal class in decline, a bourgeois class in ascent—and, amid the tectonic grindings between the two, the heartening, if evanescent, appearance of genuine social radicals. Then came the more empirically minded revisionists, conservative at least as historians, who minimized ideology and saw the civil wars as arising from the inevitable structural difficulties faced by a ruler with too many kingdoms to subdue and too little money to do it with.

The point of Jonathan Healey’s new book, “[The Blazing World](#)” (Knopf), is to acknowledge all the complexities of the episode but still to see it as a real revolution of political thought—to recapture a lost moment when a radically democratic commonwealth seemed possible. Such an account, as Healey recognizes, confronts formidable difficulties. For one thing, any neat sorting of radical revolutionaries and conservative loyalists comes apart on closer examination: many of the leading revolutionaries of Oliver Cromwell’s “New Model” Army were highborn; many of the loyalists were common folk who wanted to be free to have a drink on Sunday, celebrate Christmas, and listen to a fiddler in a pub. (All things eventually restricted by the Puritans in power.)

The Best Books We Read This Week

Read our reviews of notable new fiction and nonfiction, updated every Wednesday.



Something like this is always true. Revolutions are won by coalitions and only then seized by fanatics. There were plenty of blue bloods on the sansculottes side of the French one, at least at the beginning, and the American Revolution joined abolitionists with slaveholders. One of the most modern aspects of the English Revolution was Cromwell's campaign against the Irish Catholics after his ascent to power; estimates of the body count vary wildly, but it is among the first organized genocides on record, resembling the Young Turks' war against the Armenians. Irish loyalists, forced to take refuge in churches, were burned alive inside them.

Healey, a history don at Oxford, scants none of these things. A New Model social historian, he writes with pace and fire and an unusually sharp sense of character and humor. At one emotional pole, he introduces us to the visionary yet perpetually choleric radical John Lilburne, about whom it was said, in a formula that would apply to many of his spiritual heirs, that "if there were none living but himself John would be against Lilburne, and Lilburne against John." At the opposite pole, Healey draws from obscurity the mild-mannered polemicist William Walwyn, who wrote pamphlets with such exquisitely delicate titles as "A Whisper in the Ear of Mr Thomas Edward" and "Some Considerations Tending to the Undeceiving of Those, Whose Judgements Are Misinformed."

For Hill, the clashes of weird seventeenth-century religious beliefs were mere scrapings of butter on the toast of class conflict. If people argue over religion, it is because religion is an extension of power; the squabbles about pulpits are really squabbles about politics. Against this once pervasive view, Healey declares flatly, “The Civil War wasn’t a class struggle. It was a clash of ideologies, as often as not *between* members of the same class.” Admiring the insurgents, Healey rejects the notion that they were little elves of economic necessity. Their ideas preceded and shaped the way that they perceived their class interests. Indeed, like the “phlegmatic” and “choleric” humors of medieval medicine, “the bourgeoisie” can seem a uselessly encompassing category, including merchants, bankers, preachers, soldiers, professionals, and scientists. Its members were passionate contestants on both sides of the fight, and on some sides no scholar has yet dreamed of.

Healey insists, in short, that what seventeenth-century people seemed to be arguing about is what they were arguing about. When members of the influential Fifth Monarchist sect announced that Charles’s death was a signal of the Apocalypse, they really meant it: they thought the Lord was coming, not the middle classes. With the eclectic, wide-angle vision of the new social history, Healey shows that ideas and attitudes, rhetoric and revelations, rising from the ground up, can drive social transformation. Ripples on the periphery of our historical vision can be as important as the big waves at the center of it. The mummery of signatures and petitions and pamphlets which laid the ground for conflict is as important as troops and battlefield terrain. In the spirit of E. P. Thompson, Healey allows members of the “lunatic fringe” to speak for themselves; the Levellers, the Ranters, and the Diggers—radicals who cried out in eerily prescient ways for democracy and equality—are in many ways the heroes of the story, though not victorious ones.

But so are people who do not fit neatly into tales of a rising merchant class and revanchist feudalists. Women, shunted to the side in earlier histories of the era, play an important role in this one. We learn of how neatly monarchy recruited misogyny, with the Royalist propaganda issuing, Rush Limbaugh style, derisive lists of the names of imaginary women radicals, more frightening because so feminine: “Agnes Anabaptist, Kate Catabaptist . . . Penelope Punk, Merald Makebate.” The title of Healey’s book is itself taken from a woman writer, Margaret Cavendish, whose astonishing tale “The Description of a New World, Called the Blazing World” was a piece of

visionary science fiction that summed up the dreams and disasters of the century. Healey even reports on what might be a same-sex couple among the radicals: the preacher Thomas Webbe took one John Organ for his “man-wife.”

What happened in the English Revolution, or civil wars, took an exhaustingly long time to unfold, and its subplots were as numerous as the bits of the Shakespeare history play the wise director cuts. Where the French Revolution proceeds in neat, systematic French parcels—Revolution, Terror, Directorate, Empire, etc.—the English one is a mess, exhausting to untangle and not always edifying once you have done so. There’s a Short Parliament, a Long Parliament, and a Rump Parliament to distinguish, and, just as one begins to make sense of the English squabbles, the dour Scots intervene to further muddy the story.

In essence, though, what happened was that the Stuart monarchy, which, after the death of Elizabeth, had come to power in the person of the first King James, of Bible-version fame, got caught in a kind of permanent political cul-de-sac. When James died, in 1625, he left his kingdom to his none too bright son Charles. Parliament was then, as now, divided into Houses of Lords and Commons, with the first representing the aristocracy and the other the gentry and the common people. The Commons, though more or less elected, by uneven means, served essentially at the King’s pleasure, being summoned and dismissed at his will.

Parliament did, however, have the critical role of raising taxes, and, since the Stuarts were both war-hungry and wildly incompetent, they needed cash and credit to fight their battles, mainly against rebellions in Scotland and Ireland, with one disastrous expedition into France. Although the Commons as yet knew no neat party divides, it was, in the nature of the times, dominated by Protestants who often had a starkly Puritan and always an anti-papist cast, and who suspected, probably wrongly, that Charles intended to take the country Catholic. All of this was happening in a time of crazy sectarian religious division, when, as the Venetian Ambassador dryly remarked, there were in London “as many religions as there were persons.” Healey tells us that there were “reports of naked Adamites, of Anabaptists and Brownists, even Muslims and ‘Bacchanalian’ pagans.”

In the midst of all that ferment, mistrust and ill will naturally grew between court and Parliament, and between dissident factions within the houses of Parliament. In January, 1642, the King entered Parliament and tried to arrest a handful of its more obnoxious members; tensions escalated, and Parliament passed the Militia Ordinance, awarding itself the right to raise its own fighting force, which—a significant part of the story—it was able to do with what must have seemed to the Royalists frightening ease, drawing as it could on the foundation of the London civic militia. The King, meanwhile, raised a conscript army of his own, which was ill-supplied and, Healey says, “beset with disorder and mutiny.” By August, the King had officially declared war on Parliament, and by October the first battle began. A series of inconclusive wins and losses ensued over the next couple of years.

The situation shifted when, in February, 1645, Parliament consolidated the New Model Army, eventually under the double command of the aristocratic Thomas Fairfax, about whom, one woman friend admitted, “there are various opinions about his intellect,” and the grim country Protestant Oliver Cromwell, about whose firm intellect opinions varied not. Ideologically committed, like Napoleon’s armies a century later, and far better disciplined than its Royalist counterparts, at least during battle (they tended to save their atrocities for the after-victory party), the New Model Army was a formidable and modern force. Healey, emphasizing throughout how fluid and unpredictable class lines were, makes it clear that the caste lines of manners were more marked. Though Cromwell was suspicious of the egalitarian democrats within his coalition—the so-called Levellers—he still declared, “I had rather have a plain russet-coated captain that knows what he fights for, and loves what he knows, than that which you call a gentleman.”

Throughout the blurred action, sharp profiles of personality do emerge. Ronald Hutton’s marvellous “[The Making of Oliver Cromwell](#)” (Yale) sees the Revolution in convincingly personal terms, with the King and Cromwell as opposed in character as they were in political belief. Reading lives of both Charles and Cromwell, one can only recall Alice’s sound verdict on the Walrus and the Carpenter: that they were *both* very unpleasant characters. Charles was, the worst thing for an autocrat, both impulsive and inefficient, and incapable of seeing reality until it was literally at his throat. Cromwell was cruel, self-righteous, and bloodthirsty.

Yet one is immediately struck by the asymmetry between the two. Cromwell was a man of talents who rose to power, first military and then political, through the exercise of those talents; Charles was a king born to a king. It is still astounding to consider, in reading the history of the civil wars, that so much energy had to be invested in analyzing the character of someone whose character had nothing to do with his position. But though dynastic succession has been largely overruled in modern politics, it still holds in the realm of business. And so we spend time thinking about the differences, say, between George Steinbrenner and his son Hal, and what that means for the fate of the Yankees, with the same nervous equanimity that seventeenth-century people had when thinking about the traits and limitations of an obviously dim-witted Royal Family.

Although Cromwell emerges from every biography as a very unlikable man, he was wholly devoted to his idea of God and oddly magnetic in his ability to become the focus of everyone's attention. In times of war, we seek out the figure who embodies the virtues of the cause and ascribe to him not only his share of the credit but everybody else's, too. Fairfax tended to be left out of the London reports. He fought the better battles but made the wrong sounds. That sentence of Cromwell's about the plain captain is a *great* one, and summed up the spirit of the time. Indeed, the historical figure Cromwell most resembles is Trotsky, who similarly mixed great force of character with instinctive skill at military arrangements against more highly trained but less motivated royal forces. Cromwell clearly had a genius for leadership, and also, at a time when religious convictions were omnipresent and all-important, for assembling a coalition that was open even to the more extreme figures of the dissident side. Without explicitly endorsing any of their positions, Cromwell happily accepted their support, and his ability to create and sustain a broad alliance of Puritan ideologies was as central to his achievement as his cool head with cavalry.

Hutton and Healey, in the spirit of the historians Robert Darnton and Simon Schama—recognizing propaganda as primary, not merely attendant, to the making of a revolution—bring out the role that the London explosion of print played in Cromwell's triumph. By 1641, Healey explains, “London had emerged as the epicentre of a radically altered landscape of news . . . forged on backstreet presses, sold on street corners and read aloud in smoky alehouses.” This may be surprising; we associate the rise of the pamphlet

and the newspaper with a later era, the Enlightenment. But just as, once speed-of-light communication is possible, it doesn't hugely matter if its vehicle is telegraphy or e-mail, so, too, once movable type was available, the power of the press to report and propagandize didn't depend on whether it was produced single sheet by single sheet or in a thousand newspapers at once.

At last, at the Battle of Naseby, in June, 1645, the well-ordered Parliamentary forces won a pivotal victory over the royal forces. Accident and happenstance aided the supporters of Parliament, but Cromwell does seem to have been, like Napoleon, notably shrewd and self-disciplined, keeping his reserves in reserve and throwing them into battle only at the decisive moment. By the following year, Charles I had been captured. As with Louis XVI, a century later, Charles was offered a perfectly good deal by his captors—basically, to accept a form of constitutional monarchy that would still give him a predominant role—but left it on the table. Charles tried to escape and reimpose his reign, enlisting Scottish support, and, during the so-called Second Civil War, the bloodletting continued.

In many previous histories of the time, the battles and Cromwell's subsequent rise to power were the pivotal moments, with the war pushing a newly created “middling class” toward the forefront. For Healey, as for the historians of the left, the key moment of the story occurs instead in Putney, in the fall of 1647, in a battle of words and wills that could easily have gone a very different way. It was there that the General Council of the New Model Army convened what Healey calls “one of the most remarkable meetings in the whole of English history,” in which “soldiers and civilians argued about the future of the constitution, the nature of sovereignty and the right to vote.” The implicit case for universal male suffrage was well received. “Every man that is to live under a government ought first by his own consent to put himself under that government,” Thomas Rainsborough, one of the radical captains, said. By the end of a day of deliberation, it was agreed that the vote should be extended to all men other than servants and paupers on relief. The Agitators, who were in effect the shop stewards of the New Model Army, stuck into their hatbands ribbons that read “England’s freedom and soldier’s rights.” Very much in the manner of the British soldiers of the Second World War who voted in the first Labour government, they equated soldiery and equality.

The democratic spirit was soon put down. Officers, swords drawn, “plucked the papers from the mutineers’ hats,” Healey recounts, and the radicals gave up. Yet the remaining radicalism of the New Model Army had, in the fall of 1648, fateful consequences. The vengeful—or merely egalitarian—energies that had been building since Putney meant that the Army objected to Parliament’s ongoing peace negotiations with Charles. Instead, he was tried for treason, the first time in human memory that this had happened to a monarch, and, in 1649, he was beheaded. In the next few years, Cromwell turned against Parliament, impatient with its slow pace, and eventually staged what was in effect a coup to make himself dictator. “Lord Protector” was the title Cromwell took, and then, in the way of such things, he made himself something very like a king.

Cromwell won; the radicals had lost. The political thought of their time—however passionate—hadn’t yet coalesced around a coherent set of ideas and ideals that could have helped them translate those radical intuitions into a persuasive politics. Philosophies count, and these hadn’t been, so to speak, left to simmer on the Hobbes long enough: “Leviathan” was four years off, and John Locke was only a teen-ager. The time was still recognizably and inherently pre-modern.

Even the word “ideology,” favored by Healey, may be a touch anachronistic. The American and the French Revolutions are both recognizably modern: they are built on assumptions that we still debate today, and left and right, as they were established then, are not so different from left and right today. Whatever obeisance might have been made to the Deity, they were already playing secular politics in a post-religious atmosphere. During the English Revolution, by contrast, the most passionate ideologies at stake were fanatic religious beliefs nurtured through two millennia of Christianity.

Those beliefs, far from being frosting on a cake of competing interests, *were* the competing interests. The ability of seventeenth-century people to become enraptured, not to say obsessed, with theological differences that seem to us astonishingly minute is the most startling aspect of the story. Despite all attempts to depict these as the mere cosmetic covering of clan loyalties or class interests, those crazy-seeming sectarian disputes were about what they claimed to be about. Men were more likely to face the threat of being ripped open and having their bowels burned in front of their eyes (as happened

eventually to the regicides) on behalf of a passionately articulated creed than they were on behalf of an abstract, retrospectively conjured class.

But, then, perhaps every age has minute metaphysical disputes whose profundity only that age can understand. In an inspired study of John Donne, “Super-Infinite,” the scholar Katherine Rundell points out how preoccupied her subject was with the “trans-” prefix—transpose, translate, transubstantiate—because it marked the belief that we are “creatures born transformable.” The arguments over transubstantiation that consumed the period—it would be the cause of the eventual unseating of Charles I’s second son, King James II—echo in our own quarrels about identity and transformation. Weren’t the nonconformist Puritans who exalted a triune godhead simply insisting, in effect, on plural pronouns for the Almighty? The baseline anxiety of human beings so often turns on questions of how transformable we creatures are—on how it is that these meat-and-blood bodies we live within can somehow become the sites of spirit and speculation and grace, by which we include free will. These issues of body and soul, however soluble they may seem in retrospect, are the ones that cause societies to light up and sometimes conflagrate.

History is written by the victors, we’re told. In truth, history is written by the romantics, as stories are won by storytellers. Anyone who can spin lore and chivalry, higher calling and mystic purpose, from the ugliness of warfare can claim the tale, even in defeat. As Ulysses S. Grant knew, no army in history was as badly whipped as Robert E. Lee’s, and yet the Confederates were still, outrageously, winning the history wars as late as the opening night of “Gone with the Wind.” Though the Parliamentarians routed the Cavaliers in the first big war, the Cavaliers wrote the history—and not only because they won the later engagement of the Restoration. It was also because the Cavaliers, for the most part, had the better writers. Aesthetes may lose the local battle; they usually win the historical war. Cromwell ruled as Lord Protector for five years, and then left the country to his hapless son, who was deposed in just one. Healey makes no bones about the truth that, when the Commonwealth failed and Charles II gained the throne, in 1660, for what became a twenty-five-year reign, it opened up a period of an extraordinary English artistic renaissance. “The culture war, that we saw at the start of the century,” he writes, “had been won. Puritanism had been cast out. . . . Merry England was back.”

There *was* one great poet-propagandist for Cromwell, of course: John Milton, whose “Paradise Lost” can be read as a kind of dreamy explication of Cromwellian dissident themes. But Milton quit on Cromwell early, going silent at his apogee, while Andrew Marvell’s poems in praise of Cromwell are masterpieces of equivocation and irony, with Cromwell praised, the King’s poise in dying admired, and in general a tone of wry hyperbole turning into fatalism before the reader’s eyes. Marvell’s famously conditional apothegm for Cromwell, “If these the times, then this must be the man,” is as backhanded a compliment as any poet has offered a ruler, or any flunky has ever offered a boss.

Healey makes the larger point that, just as the Impressionists rose, in the eighteen-seventies, as a moment of repose after the internecine violence of the Paris Commune, the matchless flowering of English verse and theatre in the wake of the Restoration was as much a sigh of general civic relief as a paroxysm of Royalist pleasure. The destruction of things of beauty by troops under Cromwell’s direction is still shocking to read of. At Peterborough Cathedral, they destroyed ancient stained-glass windows, and in Somerset at least one Parliamentarian ripped apart a Rubens.

Yet, in Cromwell’s time, certain moral intuitions and principles appeared that haven’t disappeared; things got said that could never be entirely unsaid. Government of the people resides in their own consent to be governed; representative bodies should be in some way representative; whatever rights kings have are neither divine nor absolute; and, not least, religious differences should be settled by uneasy truces, if not outright toleration.

And so there is much to be said for a Whig history after all, if not as a story of inevitably incremental improvements then at least as one of incremental inspirations. The Restoration may have had its glories, but a larger glory belongs to those who groped, for a time, toward something freer and better, and who made us, in particular—Americans, whose Founding Fathers, from Roger Williams to the Quakers, leaped intellectually right out of the English crucible—what we spiritually remain. America, on the brink of its own revolution, was, essentially, London in the sixteen-forties, set free then, and today still blazing. ♦

By Jordi Graupera

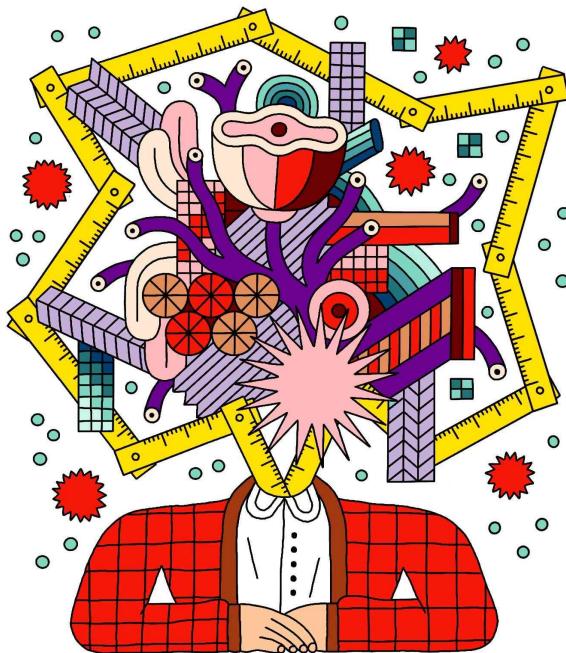
By Idrees Kahloon

By Rebecca Mead

The Origins of Creativity

The concept was devised in postwar America, in response to the cultural and commercial demands of the era. Now we're stuck with it.

By [Louis Menand](#)



What is “creative nonfiction,” exactly? Isn’t the term an oxymoron? Creative writers—playwrights, poets, novelists—are people who make stuff up. Which means that the basic definition of “nonfiction writer” is a writer who doesn’t make stuff up, or is not supposed to make stuff up. If nonfiction writers are “creative” in the sense that poets and novelists are creative, if what they write is partly make-believe, are they still writing nonfiction?

Biographers and historians sometimes adopt a narrative style intended to make their books read more like novels. Maybe that’s what people mean by “creative nonfiction”? Here are the opening sentences of a best-selling, Pulitzer Prize-winning biography of John Adams published a couple of decades ago:

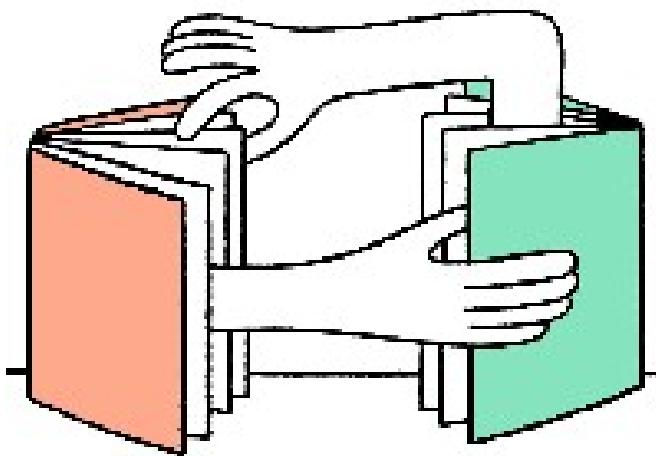
In the cold, nearly colorless light of a New England winter, two men on horseback traveled the coast road below Boston, heading north. A foot or more of snow covered the landscape, the remnants of a Christmas

storm that had blanketed Massachusetts from one end of the province to the other. Beneath the snow, after weeks of severe cold, the ground was frozen solid to a depth of two feet. Packed ice in the road, ruts as hard as iron, made the going hazardous, and the riders, mindful of the horses, kept at a walk.

This does read like a novel. Is it nonfiction? The only source the author cites for this paragraph verifies the statement “weeks of severe cold.” Presumably, the “Christmas storm” has a source, too, perhaps in newspapers of the time (1776). The rest—the light, the exact depth of frozen ground, the packed ice, the ruts, the riders’ mindfulness, the walking horses—seems to have been extrapolated in order to unfold a dramatic scene, evoke a mental picture. There is also the novelistic device of delaying the identification of the characters. It isn’t until the third paragraph that we learn that one of the horsemen is none other than [John Adams](#)! It’s all perfectly plausible, but much of it is imagined. Is being “creative” simply a license to embellish? Is there a point beyond which inference becomes fantasy?

The Best Books We Read This Week

Read our reviews of notable new fiction and nonfiction, updated every Wednesday.



One definition of “creative nonfiction,” often used to define the New Journalism of the nineteen-sixties and seventies, is “journalism that uses the techniques of fiction.” But the techniques of fiction are just the techniques of writing. You can use dialogue and a first-person voice and description and even speculation in a nonfiction work, and, as long as it’s all fact-based and not make-believe, it’s nonfiction.

The term “creative nonfiction” is actually a fairly recent coinage, postdating the advent of the New Journalism by about twenty years. The man credited with it is the writer Lee Gutkind. He seems to have first used “creative nonfiction,” in print, anyway, thirty years ago, though he thought that the term originated in the fellowship application form used by the National Endowment for the Arts. The word “creative,” he explained, refers to “the unique and subjective focus, concept, context and point of view in which the information is presented and defined, which may be partially obtained through the writer’s own voice, as in a personal essay.”

But, again, this seems to cover most writing, or at least most writing that holds our interest. It’s part of the author function: we attribute what we read not to some impersonal and omniscient agent but to the individual named on the title page or in the byline. This has little to do with whether the work is classified as fiction or nonfiction. Apart from “just the facts” newspaper journalism, where an authorial point of view is deliberately suppressed, any writing that has life has “unique and subjective focus, concept, context and point of view.”

Maybe Gutkind wasn’t naming a new kind of writing, though. Maybe he was giving a new name to an old kind of writing. Maybe he wanted people to understand that writing traditionally classified as nonfiction is, or can be, as “creative” as poems and stories. By “creative,” then, he didn’t mean “made up” or “imaginary.” He meant something like “fully human.” Where did *that* come from?

One answer is suggested by Samuel W. Franklin’s provocative new book, “[The Cult of Creativity](#)” (Chicago). Franklin thinks that “creativity” is a concept invented in Cold War America—that is, in the twenty or so years after 1945. Before that, he says, the term barely existed. “Create” and “creation,” of course, are old words (not to mention, as Franklin, oddly, does

not, “Creator” and “Creation”). But “creativity,” as the name for a personal attribute or a mental faculty, is a recent phenomenon.

Like a lot of critics and historians, Franklin tends to rely on “Cold War” as an all-purpose descriptor of the period from 1945 to 1965, in the same way that “Victorian” is often used as an all-purpose descriptor of the period from 1837 to 1901. Both are terms with a load of ideological baggage that is never unpacked, and both carry the implication “We’re so much more enlightened now.” Happily, Franklin does not reduce everything to a single-factor Cold War explanation.

In Franklin’s account, creativity, the concept, popped up after the Second World War in two contexts. One was the field of psychology. Since the nineteenth century, when experimental psychology (meaning studies done with research subjects and typically in laboratory settings, rather than from an armchair) had its start, psychologists have been much given to measuring mental attributes.

For example, intelligence. Can we assign amounts or degrees of intelligence to individuals in the same way that we assign them heights and weights? One way of doing this, some people thought, was by measuring skull sizes, cranial capacity. There were also scientists who speculated about the role of genetics and heredity. By the early nineteen-hundreds, though, the preferred method was testing.

The standard I.Q. test, the Stanford-Binet, dates from 1916. Its aim was to measure “general intelligence,” what psychologists called the g factor, on the presumption that a person’s g was independent of circumstances, like class or level of education or pretty much any other nonmental thing. Your g factor, the theory goes, was something you were born with.

The SAT, which was introduced in 1926 but was not widely used in college admissions until after the Second World War, is essentially an I.Q. test. It’s supposed to pick out the smartest high-school students, regardless of their backgrounds, and thus serve as an engine of meritocracy. Whoever you are, the higher you score the farther up the ladder you get to move. Franklin says that, around 1950, psychologists realized that no one had done the same

thing for creativity. There was no creativity I.Q. or SAT, no science of creativity or means of measuring it. So they set out to, well, create one.

They ran into difficulties almost immediately, and Franklin thinks that those difficulties have never gone away, that they are, in a sense, intrinsic to the concept of creativity itself. First of all, how do you peel away “creativity” from other markers of distinction, such as genius or imagination or originality or, for that matter, persistence? Are those simply aspects of a single creative faculty? Or can one score high on an originality or a persistence measure but low on creativity?

Then, do you study creativity by analyzing people commonly acknowledged to be creative—the canonical artist or composer or physicist—and figure out what they all have in common? Or could someone who has never actually created anything be creative, in the way that innately intelligent people can end up in unskilled jobs—the “born to blush unseen” syndrome? If that were the case, you would need an I.Q. test for creativity—call it a C.Q. test—to find such latent aptitudes.

But are all acts we call creative in fact commensurable? Is there some level on which the theory of relativity is no different from “Hamlet” or Pokémon? Psychologists said yes. Making something new, original, and surprising is what is meant by being creative, and a better mousetrap qualifies. What about creating something new, original, and *terrible*, like a weapon of mass destruction? Psychologists seem to have danced around that problem. For the most part, being creative, like being intelligent, rich, and thin, was something a person could never have too much of.

When psychologists asked what sort of habits and choices were markers of creativity, they came up with things like “divergent thinking” and “tolerance for ambiguity.” They reported that, on tests, creative people preferred abstract art and asymmetrical images. As Franklin points out, those preferences also happened to match up with the tastes of the mid-century educated classes. To put it a little more cynically, the tests seem to have been designed so that the right people passed them.

Franklin is understandably skeptical of the assumptions about mental faculties and inherent aptitudes made by the psychologists whose work he

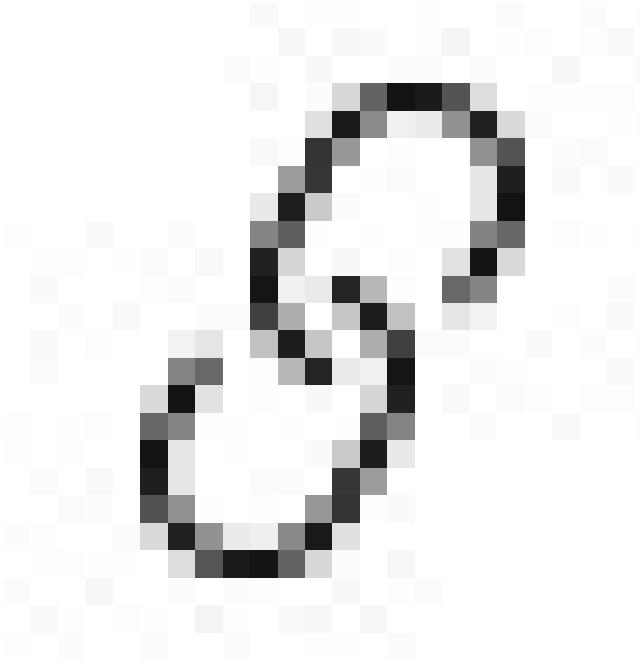
writes about. “By insisting on a psychological cause for creative accomplishment,” he says, “and bracketing all social factors, they deprived themselves of some of the most obvious explanations for creative accomplishment, trapping themselves instead in a tautological spiral that left them bewildered and frustrated.”

But, of course, this is also the problem with the SAT. In a meritocratic society, if creative accomplishment is, like intelligence, rewarded in the workplace, then it must be correlated with some inborn aptitude. Otherwise, we are just reproducing the existing social hierarchy. As Franklin observes, the creativity fad of the nineteen-fifties seems to have had zero impact on the privileged status of white males. The same is true of the SAT. It was not until colleges developed other methods of evaluating students with an eye toward increasing diversity, which generally meant giving less weight to standardized tests, that more dramatic effects on the demographics of higher education were seen.



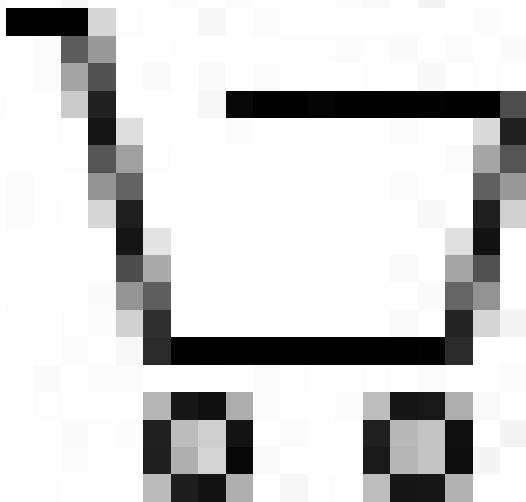
Cartoon by Becky Barnicoat

[Copy link to cartoon](#)



Link copied

Shop



Workplaces, including businesses and the military, were the other area where the concept of creativity shows up after 1945. Postwar organizations prized creativity. In Franklin's account, these two streams, psychological research and business demands, arose semi-independently, but they obviously fed

into and reinforced each other. Employers wanted creative workers; psychologists claimed they had the means to identify them. The former gave work to the latter.

Why the imperative to hire creative people? Franklin suggests that competition with the Soviets, spurred by anxiety about a technology gap, drove the country to search for better ways to get the most out of its human resources. You could argue that the women's movement arose out of the same impulse. Forget about women's dignity and right to self-fulfillment. It was just irrational, when you were fighting a Cold War, to exclude half the population from the labor force.

But American industry might have come up with other rubrics besides "creativity" to use in retooling the workforce. Probably the principal factor in the shift to creativity was not the Cold War but the transformation of the American economy from manufacturing to service (which includes financial services, health care, information, technology, and education). Franklin reports that, in 1956, the number of white-collar workers exceeded the number of blue-collar workers for the first time in American history. That is a huge shift on the production side, and it coincided with a huge shift on the demand side—consumerism. The postwar economy was the supermarket economy: products, many of which might be manufactured offshore, sit on the shelf, begging you to buy them. This meant that business had to conceive of its priorities in a new way.

In the old manufacturing economy, if you operated a factory using the techniques of "scientific management," your workers were not required to think. They were required only to perform set tasks as efficiently as possible. In that kind of business, creativity just gets in the way. But, if your business is about sales, marketing, product design, innovation, or tweaks on standard products, you need ideas, which means that you want to hire the kind of people who can come up with them.

An early and persistent strategy for maximizing creativity in the workplace was known as "brainstorming." Management set up sessions where workers got together and batted around ideas, on the theory that discussions held without an agenda or top-down guidance would encourage people to speculate freely, to think outside the box. The belief was that this was how

creative people, like artists and poets, came up with new stuff. They needed to be liberated from organizational regimens. So workers played at being artists. Dress was informal; sessions were held in relaxed settings designed to look like living rooms; conversation was casual (though someone was taking notes). The idea was not to accomplish tasks. The idea was to, essentially, make stuff up.

Brainstorming would eventually morph into a process called Synectics. Synectics is a far more immersive and permissive form of problem-solving, closer to group therapy. The assumption there is that you want to access the subconscious. That's where the really novel ideas are.

Franklin suggests that brainstorming and Synectics sessions produced lots of bad or unusable ideas, and no surprise. You can't free-associate a design solution or a marketing strategy from scratch. You need to have a pretty informed idea of what the box is before you can think outside it.

But part of the point of this brainstorming must have been to enable workers to feel ownership of the product. They weren't just punching a clock. They were contributing to the creation of something, even if it was something for which there was no crying need. Franklin tells us that Synectics can be credited with two products: Pringles and the Swiffer. I guess you can't argue with that—though it's interesting to learn that when you descend into the depths of the subconscious, you emerge with . . . a Pringle.

Franklin argues that the appeal of workplace creativity was that it addressed two anxieties about modern life: conformity and alienation. Postwar intellectuals worried about the "organization man" (the title of a book by the journalist William Whyte) and the "other-directed" personality (diagnosed in the sociologist David Riesman's "[The Lonely Crowd](#)"). These were seen as socially dangerous types. People who did what they were told and who wanted to be like everyone else, who were not "inner-directed," were people easily recruited to authoritarian movements. They were threats to liberal democracy, and hence to the free-market economy.

The branch of psychology most attuned to anxieties about alienation and conformity is known as humanistic psychology. For the humanistic psychologists, creativity is linked to the concept of authenticity. It is, at

bottom, a means of self-expression. Uncreative people are rigid and repressed; creative people are authentically themselves, and therefore fully human. As the psychologist and popular author Rollo May put it, creativity is not an aberrant quality, or something associated with psychic unrest—the tormented-artist type. On the contrary, creativity is “the expression of normal people in the act of actualizing themselves.” It is associated with all good things: individualism, dignity, and humanity. And everyone has it. It just needs to be psychically unlocked.

You can see hints of the counterculture here, and humanistic psychology did lead, as Franklin notes, to encounter therapy, T-groups, and sensitivity training. What’s interesting, though, is that it was in American business, and not the Haight-Ashbury, that these ideals first became enshrined. Countercultural values turned out to be entirely compatible with consumer capitalism in the information age. “The postwar cult of creativity,” Franklin says, “was driven by a desire to impart on science, technology, and consumer culture some of the qualities widely seen to be possessed by artists, such as nonconformity, passion for work, and a humane, even moral sensibility, in addition to, of course, a penchant for the new.”

The industry that most avidly grabbed on to the term “creative” to glamorize what it did was the very motor of consumerism: advertising. In the nineteen-fifties and sixties, ad agencies abandoned the old “reason why” mode of advertising a product (“Here is what you need it for”) and replaced it with branding. They were no longer selling a product. They were selling an idea about the product. People were buying an image they wanted to be associated with. It was the adman’s job to create that image.

Creating an image for a marketing campaign or tweaking a product line seems pretty distant from writing a poem or painting a picture. But the creativity conceptualizers, Franklin says, sought to elide the difference. He thinks that management theorists wanted to appropriate the glamour and prestige of the artist and confer those attributes on admen and product designers.

Yet wasn’t the glamour and prestige of the artist related to a popular belief that artists are not interested in worldly things or practicality? Workplace creativity was supposed to be good for business. It was supposed to increase

productivity and make money, things that are not supposed to motivate poets. Yet it's easy to believe that business could co-opt the reputation of the fine arts without much trouble. The joy of creation plus a nice income. It was the best of both worlds.

Readers do not normally wish books longer, but a couple of discussions are missing from "The Cult of Creativity." One is about art itself. The early Cold War was a dramatic period in cultural history, and claims about originality and creativity in the arts were continually being debated. Among the complaints about Pop art, when it bounded onto the scene, in 1962, was that the painters were just copying comic books and product labels, not creating. It's possible that as commercial culture became more invested in the traditional attributes of fine art, fine art became less so.

One also wishes for more on the twenty-first century. Franklin says that the creativity bubble began to shrink in the nineteen-sixties, but it plainly got reinflated in the nineteen-nineties. The pages Franklin devotes to the contemporary creativity landscape are the freshest and most fun in the book.

The iconic image of the startup economy—casually dressed workers in open spaces jotting inspirations on a whiteboard—is a barely updated version of the old nineteen-fifties brainstorming sessions. Those startup workers are also taking ownership (usually in the form of stock options, it's true) of the products the company makes.

The landscape of the tech universe is shifting right now, but for several decades a whole creativity life style became associated with it. Work was play and play was work. Coders dressed like bohemians. Business was transacted (online) in cafés, where once avant-gardists had sipped espresso and shared their poems. "The star of this new economy," Franklin writes, was "the hip freelancer or independent studio artist, rather than the unionized musician or actor who had been at the heart of the cultural industries." In his view, this is perfectly natural, since "creativity" was an economic, not aesthetic, notion to begin with. "The concept of creativity," he concludes, "never actually existed outside of capitalism."

Franklin doesn't mention "creative nonfiction," either. But his book does give us a way of understanding the term as an effort to endow nonfiction

writers with the same qualities—individualism, outside-the-box thinking, and invention—that creative people are assumed to possess. “Creative nonfiction” in this respect doesn’t mean “made up.” It’s an honorific. In an economy that claims to prize creative workers, the nonfiction writer qualifies.

Creating things today seems to be as cool as it ever was. Fewer college students may be taking literature courses, but creative-writing courses are oversubscribed. And what do those students want to write? Creative nonfiction. ♦

By Ali Fitzgerald

By Scott Jacobson

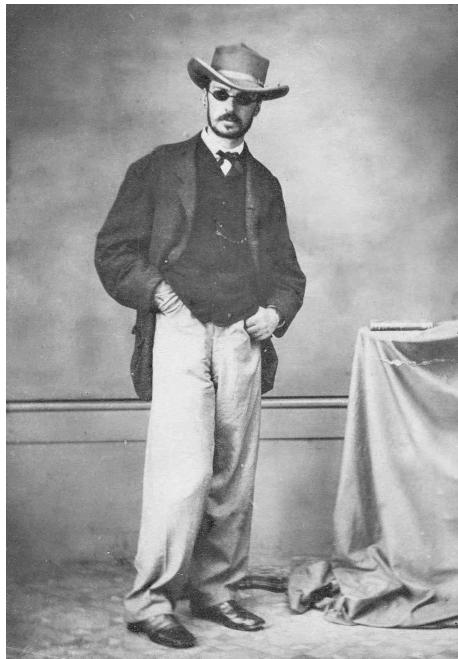
By Nicholas Dawidoff

By Hannah Goldfield

The Forgotten Drug Trips of the Nineteenth Century

Long before the hippies, a group of thinkers used substances like cocaine, hashish, and nitrous oxide to uncover the secrets of the mind.

By [Clare Bucknell](#)



More than fifty years before it was isolated as a drug, Samuel Taylor Coleridge dreamed up cocaine. In the early years of the nineteenth century, the poet was increasingly dependent on opium, a “*free-agency-annihilating Poison*,” as he called it, which sapped his will and made him despondent. “A Gymnastic Medicine is wanting,” he wrote in his notebook during the winter of 1808-09, “a system of forcing the Will & motive faculties into action.” The medicine he envisaged would be a kind of anti-opium, a tonic to kick-start the nerves, restore the mind’s athletic powers, and repair the broken link between volition and accomplishment. It would be a second, health-giving “poison” to work on the first.

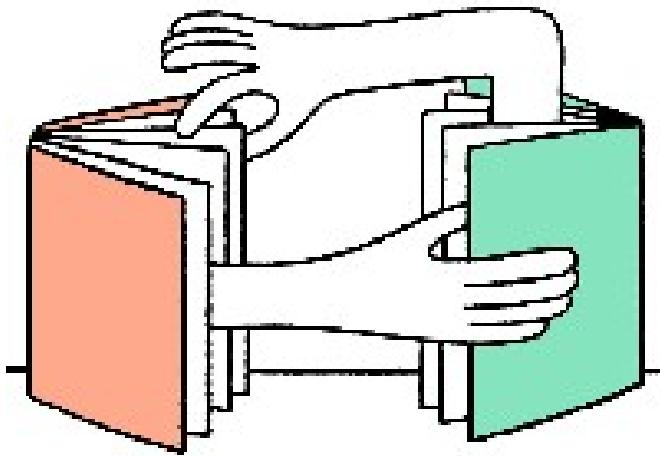
Coleridge’s hope was a characteristic expression of the drug culture he belonged to. He was intimately acquainted with how drugs shaped his inner life, and his habit of self-interrogation, the minute attention he paid to his

states of mind, was shared by his friends and collaborators. Thomas De Quincey, his former secretary, turned his own, unconquerable opium addiction into a wildly popular autobiography, “Confessions of an English Opium-Eater” (1821), in which he mapped the buried palaces of the mind. The young chemist Humphry Davy, whom Coleridge befriended, experimented with the psychoactive properties of nitrous oxide, administering it to willing subjects and logging their descriptions of heightened imaginative capacities. And Charles Lamb, the poet’s former schoolmate, placed alcoholism under the microscope in “Confessions of a Drunkard” (1822), an essay in which he considered, under the guise of his alter ego, Elia, the perverse dependence of his reasoning abilities on intoxication. In each case, drugs figured not only as sensory agents, sources of pleasure or pain, but as a kind of education: tools you could think with, or try to think against.

Mind-altering substances were available in the West long before De Quincey’s opium voyages or Davy’s gas experiments. During the sixteenth century, the stimulants that arrived in Europe from other continents—coffee, tea, chocolate, tobacco—were valued chiefly for their physiological virtues: tea was believed to remove headaches, coffee to help the circulation of fluids. (Not everyone was convinced: a London pamphlet published in 1674, purporting to speak for “several Thousands of Buxome Good-Women,” complained that coffee, by “*Drying up the Radical Moisture*” of the body, had “*Eunucht*” their husbands.) But drugs were also known to affect the workings of the mind. In 1608, the philosopher Francis Bacon took purgative pills to address “a symptom of melancholy”; the scientist Robert Hooke, who, as the scholar Lisa Jardine has argued, developed a “regimen of regular drug-taking” to manage stress, observed in his diary how particular substances seemed to influence his intellect. (“Took Childs vomit [...] Slept little at night. My fancy very cleer.”) Drugs with psychoactive properties were part of a larger quest to fine-tune the human condition, making the business of living more pleasurable or more bearable.

The Best Books We Read This Week

Read our reviews of notable new fiction and nonfiction, updated every Wednesday.



In “Psychonauts: Drugs and the Making of the Modern Mind” (Yale), the cultural historian Mike Jay argues that the post-1800 use of mind-altering drugs was nonetheless qualitatively different from the experiments of previous centuries. What set someone like De Quincey apart, Jay writes, was that he used opium “as a device for exploring the hidden recesses of his mind,” dosing not merely to self-medicate, or to escape the world, but to access mental spaces unreachable without it. De Quincey was a “psychonaut,” plumbing the depths of his consciousness, embarking on fantastic inner quests. His work, like Davy’s, “marked the beginning of the modern understanding of the drug experience”: a pattern of pioneering inquiry into novel states of mind and the limits of “objective” truth.

Jay is a leading expert on the history of Western drug use, and “Psychonauts” is the latest in a series of excellent studies in which he has investigated the roots of a kind of psychoactive exploration that we tend to associate with the nineteen-fifties and sixties. The upstarts of the counterculture, Jay notes in “Emperors of Dreams: Drugs in the Nineteenth Century” (2000), had their reasons for claiming to be “the first generation to discover drugs.” But, in doing so, they obscured a culture of psychological, philosophical, and aesthetic experimentation that predated the emergence of “drugs” as a problematic category, and of the “drug addict” as a pathologized type. Recovering that culture requires venturing inside the

worlds that each substance opened up. When a psychonaut breathed ether or injected cocaine, where was he hoping to travel?

The technology of nineteenth-century drug exploration, in both professional scientific circles and amateur intellectual ones, was the self-experiment. Since the seventeenth century, scientists had considered this the best method to understand substances that affected moods and perceptions: trying them on other human subjects was a risk, and animal experiments could provide only external indications of mental changes. By the end of the eighteenth century, when Davy inhaled his first dose of nitrous oxide, the self-experiment was an established practice, with its own protocols and reporting conventions. Its Achilles' heel, for some, was the way it mixed competing kinds of observation. As the young Sigmund Freud, investigating cocaine as a medical student in the eighteen-eighties, realized, it involved a self-splitting, an impossible assertion of two types of truth at once—that of the researcher and that of the experimental subject.

This tension defined the psychonauts' project. Davy experimented under the aegis of Thomas Beddoes, a physician who believed that the new science of pneumatic chemistry—the study of gases—could supply a revolutionary cure for lung diseases such as tuberculosis. At Beddoes's Pneumatic Institution, in Bristol, the pair administered nitrous oxide to consumptives and palsy sufferers, assessing the miraculous way in which one patient, who had been unable to walk without crutches, responded to the surging “muscular pressure” that the drug seemed to supply. But their experiments soon took a less therapeutic turn. Davy's “highly pleasurable” experience of the gas, coupled with Beddoes's own—under its influence, he felt “bathed all over with a bucket of good humour”—indicated that it might benefit healthy subjects as much as ill ones. It produced ecstatic sensations, but also seemed to stimulate the intellect and the imagination.

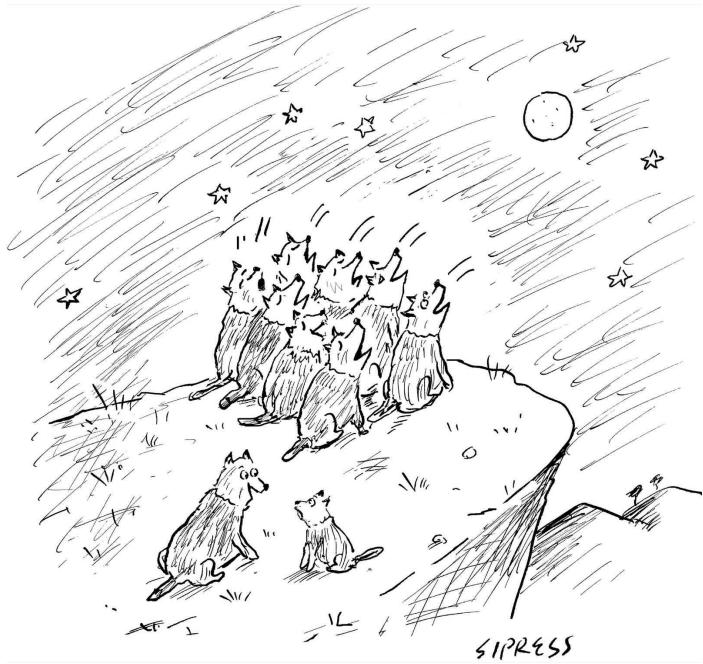
The team began to study healthy volunteers, among them Coleridge and the poet Robert Southey, who described their intoxications in a richly metaphorical style: a “language of feeling,” as Davy put it. One subject, a local doctor, compared the gas's revelations to “reading a sublime passage in poetry when circumstances contribute to awaken the finest sympathies of the soul.” Davy himself enjoyed walking alone beside the river on summer nights, “sipping away” at a bag of nitrous oxide and occasionally losing

consciousness. In late 1799, having exposed himself to huge quantities of the gas in an airtight chamber, he reported that he “lost all connection with external things,” which had ceased to possess their own reality. “Nothing exists but thoughts!” he blurted out, coming down from his high. In the chamber, for a brief moment, the gas had transported him to a place that was constructed entirely by his individual consciousness.

Such revelations, impossible to communicate, were easily mockable. In the early decades of the nineteenth century, Davy and his circle were satirized as a bunch of dreamy, self-important metaphysicians, “blown up” with their own pomposity. By mid-century, the mind-altering properties of nitrous oxide had been mostly forgotten; along with ether, a volatile compound with similar effects, it was firmly entrenched in the sphere of medicine, as a path to painless surgeries. Meanwhile, a fresh generation of scientists had begun to challenge the practice of self-experimentation, which they considered an unreliable, romantic approach to the study of the mind. “Subjective experience was being pushed to the margins,” Jay writes: the new, “objectivist” science distrusted personal observation. A true study of drugs, its exponents believed, would require precision instruments, stress the analysis of external data—dosage, symptoms, times of onset—and record the results exclusively in notebooks, not essays or poems. It would thereby avoid “introspection,” which, as Jay writes, risked shaping “mental phenomena into narratives pleasing to the self-observer.” Such creativity might inspire great art, but it produced bad science.

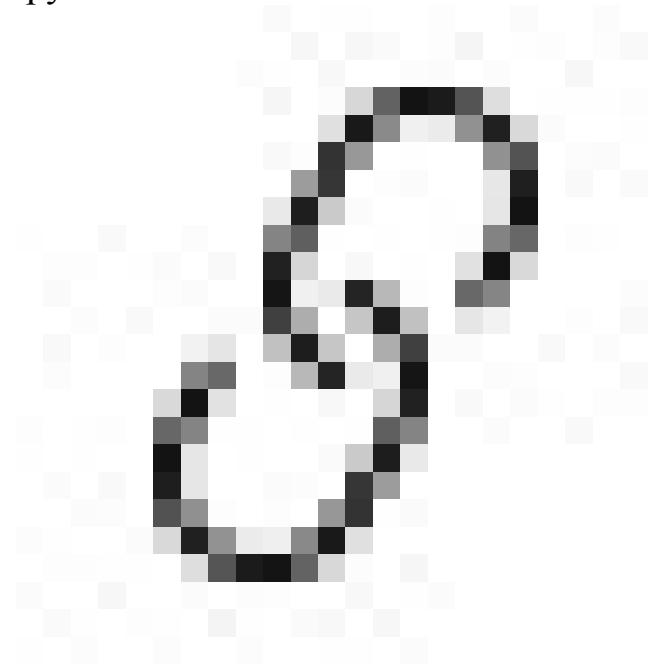
To a stubborn handful of psychonauts, though, the most “objective” data about drugs were precisely those culled from experience. Jay foregrounds Jacques-Joseph Moreau, a mid-nineteenth-century French psychiatrist who encountered hashish—the concentrated, hallucinogenic extract of the cannabis plant—while travelling in the Middle East. Hashish was then known to Westerners mostly secondhand, its effects filtered through the lens of fictions such as “The Arabian Nights.” When Moreau took a strong dose in 1840, however, he found that it was uniquely educative in the psychiatric context. Each of the effects he experienced could be read as a symptom of mental illness: the nervous excitement, the distortion of space and time, the hallucinatory perceptions. Hashish took him to a place that looked and felt like insanity, then led him, temporarily, inside it. It allowed him to understand his patients with greater nuance: he could now recognize what

“the ravings of a madman” were like, having “raved himself.” “Personal experience,” he wrote, “is the criterion of truth here.”



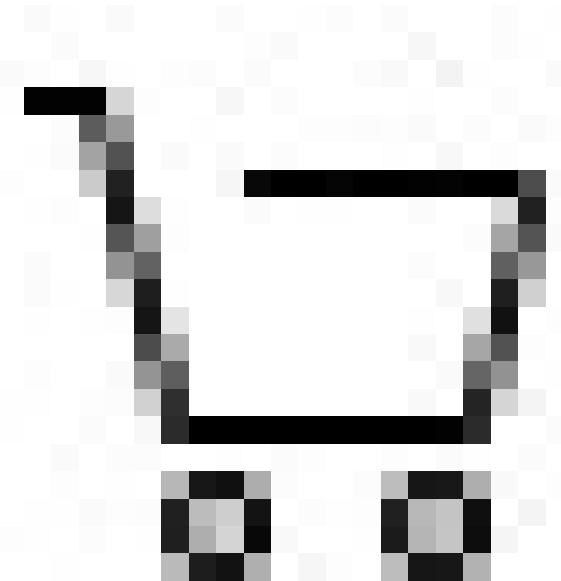
“It’s totally pointless—that’s what makes it art.”
Cartoon by David Sipress

[Copy link to cartoon](#)



Link copied

[Shop](#)



The science of private experience inspired explorations beyond hashish. Benjamin Paul Blood, an American philosopher and mystic, observed that the revelations he received while on ether were impossible to achieve in the “normal sanity” of the mind. Like Moreau’s heightened grasp of mental illness, their profundity depended on a certain derangement. The Harvard philosopher William James, who read Blood’s work, was prompted to self-experiment with nitrous oxide in 1882, recording an “intense metaphysical illumination” akin to Blood’s own. The truth of this illumination, James believed, lay in its incommunicability. Like the mystical states of mind he described in his landmark study “The Varieties of Religious Experience” (1902), it had to be “directly experienced,” and this was what made it significant. That the rational mind could not access it proved that human consciousness was not singular but shifting, multiple, many-layered. “Rational consciousness is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different,” James wrote. He called this vision of reality the “multiverse.”

Moreau was careful to clarify that hashish, by generating the symptoms of mental illness, had not really driven him mad. During his intoxication, he had remained aware of himself and where he was, finding that he could “observe calmly,” Jay writes, “as a procession of impossible phenomena

marched through his mind.” Other hashish users reported a similar feeling of self-splitting, of being both absorbed in the drug’s visions and conscious of their unreality. In his Middle Eastern travelogue “The Lands of the Saracen” (1855), the American writer Bayard Taylor recounted being transported, in his imagination, to the Great Pyramid of Cheops, which was constructed of “huge, square plugs of Cavendish tobacco.” Even at the height of the drug’s influence, Taylor wrote, he knew he was “really” in a Damascus hotel. Moreau called this form of double consciousness an *état mixte*, a strange commingling of waking life and dream. Using hashish to treat his mentally ill patients, he theorized that it might enable a form of constructive therapy, in which hallucinations could be understood in the light of reason.

This idea helped reframe the psychonaut as a rational, composed observer, not merely exploring new worlds but ferrying some benefit home. Later in the century, those associated with the occult revival sought to instrumentalize drug use in a different way. In 1855, the French mystic Louis-Alphonse Cahagnet, who maintained that hashish could act as a portal to parallel worlds, passed his secrets to a travelling American, Paschal Beverly Randolph: a “Black Rosicrucian sex magician,” Jay writes, who specialized in “marital problems,” and who found in hashish his “defining magical aid.” “Cahagnet, myself, and others, have been enabled to pass through eternal doors, forever closed to the embodied man save by this celestial key,” Randolph enthused. He believed that the drug’s *état mixte* allowed for insights that would “leap the world’s barriers.” He also believed that such insights could be bottled and sold. In 1862, when he returned to the U.S., he created a range of hashish-based elixirs promising clairvoyant powers, which he priced at four dollars each.

Spiritualists saw other possibilities in a drug-induced double consciousness. The London-based Society for Psychical Research, with which James was affiliated, was founded in 1882 to study questions “outside the boundaries of recognised science”: apparitions, mystical experiences, life after death. Two of its members, Edmund Gurney and Frederick Myers, developed theories of multiple consciousness related to James’s, proposing the existence of the “secondary self,” or “subliminal self”—buried strata of being that could be harnessed via hypnosis, séance, or drugs. Their fellow-spiritualist George Wyld, a physician, described inhaling chloroform for pain relief, only to see his soul, “clothed,” “standing about two yards” away. Wyld theorized that

anesthetics eliminated pain by literally expelling the soul from the body. (In H. G. Wells's short story "Under the Knife," from 1896, a chloroformed patient feels his spirit drawn upward and outward, soaring into the stratosphere.) Maud Gonne, who undertook occult experiments with the poet W. B. Yeats, sought similar effects in hashish, hoping to free her spirit and have it travel, "quick as thought," into astral dimensions.

Gonne, at the start of one trip, visualized a "tall shadow" at the foot of her bed. The apparition instructed her to go where she wished, but to remember the way back: "You must always keep the thought of your body as a thread by which to return." Among psychonauts, getting back—holding on to the thread that connected them to the world—mattered because it was what separated the voluntary hallucinations of drug use from the involuntary ones of madness. The British poet Arthur Symons, a prodigious hashish user, published his major critical work, "The Symbolist Movement in Literature," in 1899. Five of the French poets he discussed—Gérard de Nerval, Théophile Gautier, Charles Baudelaire, Arthur Rimbaud, and Paul Verlaine—were *hashishins*, and he used their work to sketch a vision of literature as numinous, immaterial, gesturing toward an "unseen reality apprehended by the consciousness." De Nerval had eventually lapsed into madness, and Symons argued that this was because he had let go of the thread that anchored him: "Leaving the concrete world on these brief voyages, the fear is that we may not have the strength to return, or that we may lose the way back."

In the last decades of the century, using mind-altering drugs wasn't always about trying to escape the world. Sometimes it was a matter of adaptation, calibrating the brain to cope better with reality's demands. Freud's experiments with cocaine in the eighteen-eighties—first on himself, then on volunteers—centered on the possibility of a cure for neurasthenia, an increasingly diagnosed condition whose symptoms included headaches, anxiety, brain fog, and chronic fatigue. According to the disease's first theorist, the American neurologist George Miller Beard, neurasthenia was a distinctively modern ailment, its effects caused by civilization itself: the rapid growth of business and industry, the punctuality demanded by pocket watches and train timetables.

Freud, who self-diagnosed as a neurasthenic, had been struck by the medical literature on coca, the South American plant from which cocaine had been isolated, in 1860. Early reports suggested that it might boost the nervous system's energetic capacity; Paolo Mantegazza, an Italian neurologist who had consumed the drug, noted a sense of being "drenche[d]" in a "new strength," "as a sponge soaks itself with water." Freud began to take small doses, and reported feeling "more vigorous and capable of work." (The tone of his accounts, Jay writes, flitted between fervid reflection and restrained appraisal: a "carefully modulated solution to the paradoxes of self-experiment.") Cocaine, Freud thought, was a miracle drug that would help the mind keep pace with the world's accelerations. Under its influence, neurasthenics might continue being neurasthenic, working harder and faster than was healthy, but with fewer obvious symptoms of breakdown.

And yet breakdown was increasingly apparent. Cocaine was soon available in pharmacies, and new, more efficient methods of consumption, such as subcutaneous injection, led to high-profile reports of wild behavior, excess, and dangerous metamorphosis. In 1887, the American neurologist William Hammond described injecting himself with a large dose of cocaine, "becoming an irresponsible agent," and waking up to find his library trashed. (The year before, Robert Louis Stevenson had published "The Strange Case of Dr. Jekyll and Mr. Hyde," in which a mysterious white powder prompts a monstrous transformation.) In 1884, Freud prescribed a cocaine regimen to Ernst von Fleischl-Marxow, one of his senior colleagues at the Institute of Physiology in Vienna. Fleischl-Marxow was in the grip of an advanced morphine addiction; Freud hoped that the new drug would act as an antidote, lessening withdrawal symptoms. Within weeks, Fleischl-Marxow had a cocaine addiction to match his morphine one, developing insomnia and paranoia. He began using the drug self-destructively, lying to his friends, trying to hide his habit. It was as if, Jay writes, he "had been taken over by a second self, an alien or demonic force."

The process by which drugs were stigmatized, at the end of the nineteenth century, is the subject of Jay's final chapters. In his telling, it is a story of loss. In the eighteen-eighties, when Fleischl-Marxow was suffering, drug addiction was a new concept. The Society for the Study and Cure of Inebriety, led by members of the British medical profession, was founded in 1884; in 1885, cocaine addiction was identified as a novel condition.

Gradually, even milder psychoactives were placed under the now ominous category of “drugs,” and assumptions about the people who used them hardened into orthodoxy. Drugs were reconceived as antisocial—a means by which egotists avoided shared responsibilities—or as the preserve of those believed to lack self-control: the poor, the “mentally unfit,” the criminal classes. Between 1914 and 1916, new laws were passed in the U.S., Britain, and France to ban or restrict the drug trade, turning psychonauts into delinquents, voyagers beyond the bounds of civil society.

If their work endures, it’s because it had less to do with substances than with the self. In the nineteen-fifties and sixties, the rediscovery of psychoactive experimentation involved new drugs and techniques, but it drew on older stories about human consciousness. William Burroughs praised the British engineer James Lee’s writings on morphine and cocaine, describing them as “conjured from the unpolluted air of the nineteenth century.” Both Aldous Huxley (experimenting with mescaline) and Robert Graves (mushrooms) quoted Wordsworth’s poetry to convey the tenor of their experiences. In one sense, their imitative approach echoed their predecessors’. Psychonauting, from Davy’s science of the sublime to Symons’s numinous readings, had always been referential, metaphorically framed. The quest was for narratives of self-actualization, rather than for scientific models. “From fountain to fountain I danced in graceful mazes with inimitable houris, whose foreheads were bound with fillets of jasmin,” the twenty-one-year-old American Fitz Hugh Ludlow wrote in 1857, weaving his hashish dreams into the familiar tapestry of “The Arabian Nights.” Telling their stories was partly what brought the psychonauts back down to earth. ♦

By Rachel Cusk

By Willing Davidson

By Isaac Chotiner

A Dennis Lehane Novel Investigates Boston's White Race Riots

When a working mother goes in search of her daughter, amid the busing protests in 1974, she discovers a toxic brew of clan loyalties and racism, including her own.

By [Laura Miller](#)



For the crime novelist Dennis Lehane, southern Boston is a muse, but for his characters it's more of a curse. Lehane grew up in Dorchester, the setting for his series of books featuring Patrick Kenzie and Angela Gennaro, private detectives whose roots in the neighborhood help them solve cases. The best known of those books, "[Gone, Baby, Gone](#)" (1998), was adapted for the screen by [Ben Affleck](#) in 2007. Kenzie and Gennaro know the local hoods and toughs because they went to school with them. When the pair need muscle, they call on their sociopathic and improbably loyal buddy, Bubba Rogowski, also a former classmate, who sells illegal weapons, lives in a warehouse surrounded by booby traps, and comically terrifies everyone else.

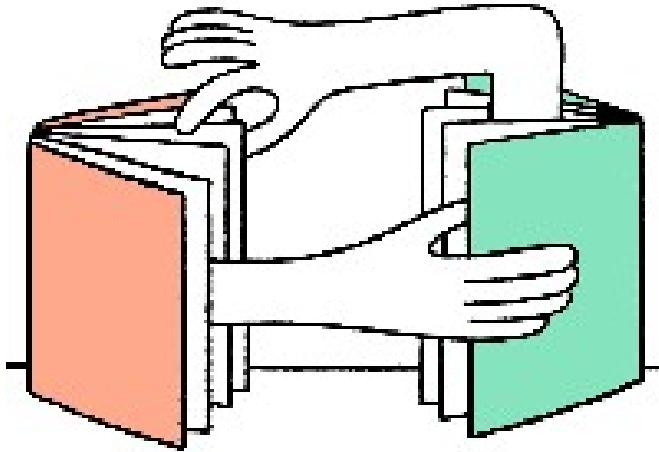
But series fiction, in which our detectives must survive to investigate another day, can't fully realize Lehane's tragic vision of Boston's working-

class enclaves. It is his stand-alone novels—especially “[Mystic River](#),” which appeared in 2001 and was made into a movie two years later by Clint Eastwood, and his most recent, “[Small Mercies](#)” (Harper)—that land like a fist to the solar plexus. They, too, are full of booby traps, but the metaphorical kind that blow up futures instead of limbs: negligent parents, busted marriages, dead-end jobs, booze, poverty, violence, resentment, and misdirected hate.

As Mary Pat Fennessy, the central character of “Small Mercies,” sees it, the people in her neighborhood are poor not because “they don’t try hard, don’t work hard, aren’t deserving of better things” but because “there’s a limited amount of good luck in this world, and they’ve never been given any.” At forty-two, with two husbands in the rearview mirror and a son who died of a heroin overdose, Mary Pat looks as if she “came off a conveyor belt for tough Irish broads.” A drinker but not a drunk, she works two jobs, which is still not enough to keep the gas company from cutting off service to the apartment she shares with her much loved seventeen-year-old daughter, Jules.

The Best Books We Read This Week

Read our reviews of notable new fiction and nonfiction, updated every Wednesday.



Mary Pat and Jules live in a housing project in South Boston—Southie, which you don't want to conflate with nearby Dorchester when anyone from Boston is around. The novel, set half a century ago, has a character, a police detective named Bobby Coyne, who hails from a neighborhood in nearby Dorchester which was as white and Irish and working-class as Southie. He marvels that, despite all these similarities, crossing over to Southie makes him feel that he's "just entered the rain forest of an unknowable tribe." He's never seen more people helping little old ladies to cross streets or to carry groceries. The neighbors all know one another, pride themselves on rallying to shovel snow from the sidewalks and uncover cars after a blizzard. "They're the friendliest people he's ever met," Lehane writes. "Until they aren't. At which point they'll run over their own grandmothers to ram your fucking skull through a brick wall."

The Southie of "Small Mercies" isn't the gentrifying Southie of today. Lehane's contemporary characters often fume about the "yuppies" taking over their neighborhoods, the gastropubs and fancy coffee shops supplanting the dive bars and pot-roast-scented taverns. But the novel takes place in the summer of 1974, when Southie made national headlines for rising up against the court-ordered desegregation of its public schools. In an author's note, Lehane recalls the night his father took a wrong turn driving his family home and ran into an anti-busing protest. Ted Kennedy and the judge who'd

ordered the desegregation were being burned in effigy, and the furious crowd rocked the Lehane's Chevy. "I'd never been so terrified in my life," Lehane writes.

"Small Mercies" opens with Mary Pat receiving a visit from a representative of the local gang leader. A man with "eyes the color of Windex," he's one of those clean-cut, pseudo-civic-minded mobsters whose shakedowns come in the guise of requests for donations to the I.R.A. This time, however, his minion has a stack of leaflets for Mary Pat to distribute and some picket signs that need assembling. Even the criminals in Southie are mobilizing to protest the busing of Black children into the neighborhood's schools and of local kids into the almost all-Black schools of Roxbury and Mattapan. Mary Pat herself is all in on the demonstration, outraged that Jules is "being forced —by federal edict—to enter a new school her senior year in a foreign neighborhood not known for letting white kids walk around after sundown." She worries that Jules is too fragile for the neighborhood she already lives in. As Mary Pat's mother used to say, "You're either a fighter or a runner. And runners always run out of road."

Mary Pat doesn't think of herself as a racist. She scolded her kids for using racial slurs when referring to those "good, hardworking, upstanding Negroes" who simply "want the same things she wants." She's friendly with a Black co-worker at the nursing home where she has a job as an aide, although she admits that it's never going to be the kind of friendship in which they'd exchange phone numbers. She tells herself that she'd be just as angry if the court had ordered her kid to take a crosstown bus ride to an all-white school, despite a nagging voice in the back of her mind that insists this isn't really true. Then Jules goes missing on the night before a twenty-year-old Black man is found dead under a subway platform near Southie, and Mary Pat embarks on a quest to find out what happened—a quest that will compel her to listen more attentively to that internal voice.

In a detective story, the mystery both propels the plot and gives the sleuth license to venture into places and milieus where she doesn't typically belong. Who done it, then, is the secret that strips all other secrets of their sanctity. In the better mysteries, the solution also turns the world of the story inside out, revealing how things actually work behind the façade. And, in the best mysteries, the detective herself is cracked open and remade, sometimes

even destroyed, by the truth. This points to another shortcoming of series detectives: their fans find their familiar methods and quirks comforting and would be disappointed if each book didn't serve up more of the same. The stakes with a series detective are by necessity low. But in a stand-alone crime novel like "Small Mercies" all bets are off.

Mary Pat's search takes her from the haunts of the local gangsters to the exotic terrain of Harvard Square, where she finds herself as disgusted as she expected to be by the hippies, "every one of them a fucking embarrassment to their parents, who spent an ungodly amount of money to send them to the best school in the world"—a school no one in Southie could ever afford—only to have the kid return the favor "by walking around with dirty feet and singing shitty folk music about love, man, love." She also feels painfully out of place in her red polyester shirt and plaid shirt jacket, "a working-class broad from the other side of the river who came into their world in her laughable Sears-catalog best."

Lehane has always captured this tetchy, volatile mixture of working-class pride and shame with an expertise born of firsthand experience. Mary Pat thinks of it as "what happens when the suspicion that you aren't good enough gets desperately rebuilt into the conviction that the rest of the world is wrong about you." For all the residents' ferocity in defending Southie, hardly anyone in "Small Mercies" really loves the place; it's just that what their forebears have made of the neighborhood is their only inheritance. "You knew your neighbors," a low-level thug thinks sullenly. "You shared your food and your rituals and your music. Nothing changed. It was the one fucking thing they couldn't take from you. But they could. They would. They were. Forcing their notions and their ways and their lies on you."

Among Southie's few unequivocal partisans in "Small Mercies" is Mary Pat's sister, Big Peg, who assures Mary Pat that nothing too terrible can happen to Jules, provided she remains in the neighborhood. When Mary Pat points out that her son died in the playground right across the street from her apartment, Big Peg blames the death on the boy's stint in Vietnam. Mary Pat would like to believe it, but that same little voice reminds her that her son didn't start using until he got back. She looks at Big Peg's daughter (Little Peg, naturally) and sees a drab, twitchy child whom she remembers as having once "sparked like a snapped electric wire in a storm," as being a kid

filled with hilarity and joy. “*What takes that from them?*” Mary Pat wonders. *Is it us?*” The scene echoes one from “Gone, Baby, Gone,” in which the protagonists struggle mightily to return an abducted child to her feckless, druggie mother, who then props the kid in front of the TV and forgets her.

Mary Pat’s perception of Southie begins to peel away from the neighborhood’s defensive self-image. When it becomes generally known that Jules is probably dead and that Mary Pat’s inquiries are making trouble for the local mob, no one offers her aid or comfort. “You know, we always say we stand for things here,” she tells a former classmate. “We might not have much, but we have the neighborhood. We got a code. We watch out for one another.” Then she adds, “What a crock of shit.”

If this ferocious crime novel has a flaw, it lies in the unlikely transformation of its middle-aged protagonist from a working mother into a figure one of the local hoods calls “Mary Pat Jack,” honoring a now forgotten 1971 B movie, “Billy Jack,” about a part-Navajo veteran turned justice-seeking vigilante. (Lehane’s historical pop-culture references are impeccable.) The novel mentions, almost as an afterthought, that violence has always been a part of Mary Pat’s life, that she has loved fighting since she was a child. This doesn’t plausibly explain how she’s able to intimidate and outsmart an assortment of armed, hardened criminals. She’s meant to be scoured down by loss into an elemental, almost mythic personification of revenge; with nothing left, she has nothing left to fear. “I’m not a person anymore,” she tells Coyne. “I’m a testament.” This notion meshes uneasily with the novel’s other, more psychological tale of discovery: Mary Pat’s growing and humbling recognition of her own racism and of the hatred festering all around her in Southie.

Sometimes these paths coincide. In a group of co-workers, Mary Pat points out that a woman who rails about how Blacks are “all lazy and from broken homes and how the men all fuck around and don’t stick around to raise their kids” has described her own life history and character. “When’s the last time you did even *half* the amount of work around here the rest of us do?” Mary Pat asks. But such moments are incidental to Mary Pat’s awakening; self-criticism is its core. Every so often, she pauses in her merciless, almost superhuman, and admittedly highly gratifying campaign of vengeance to experience “a fresh horror of the self.” In the midst of so much devastation,

she wonders about her “grubby desperation . . . to feel superior to someone. Anyone.”

Lehane has been wrestling with Boston’s ugly racial legacy since his first novel, “[A Drink Before the War](#),” published in 1994. Patrick Kenzie, the book’s narrator, thinks of himself as more enlightened than his Dorchester neighbors. But, when he and his P.I. partner get caught in the middle of a war between rival Black gangs and one side sends shooters to take them out, he finds himself screaming a racial slur as they flee. Like the bloodstains on Lady Macbeth’s hands, the racism he inherited seems impossible to scrub out.

“I believed from a very young age that all race warfare is essentially class warfare,” Lehane once told an interviewer, “and that it’s in the better interests of the haves to have the have-nots fighting among themselves.” Mary Pat harbors glimmers of Lehane’s cross-racial class consciousness, but hers is not a story with enough of a future to allow her to do anything about it. All the same, she pointedly reflects that, though “she can’t blame the coloreds for wanting to escape their shithole,” surely “trading it for her shithole makes no sense.”

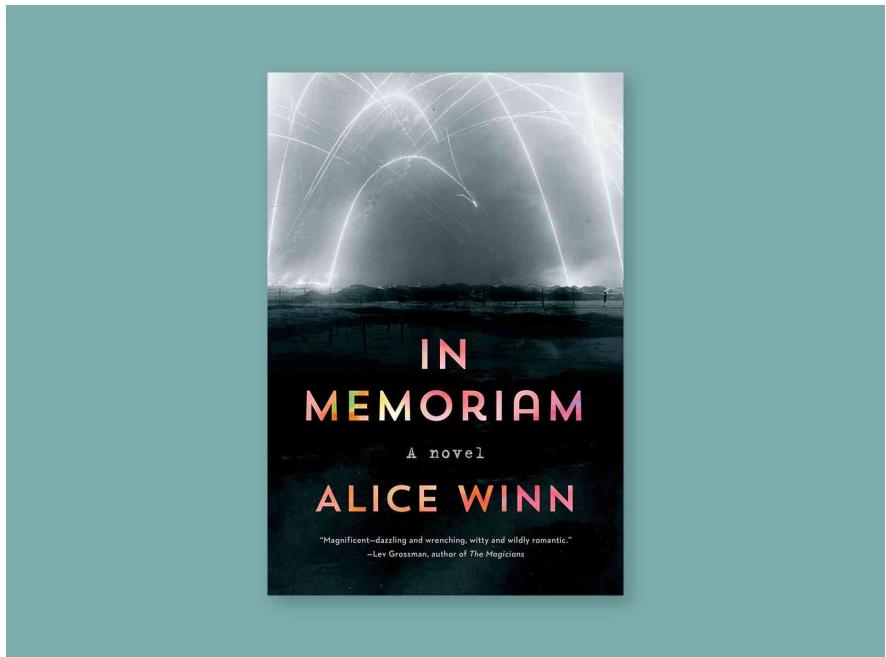
After federal desegregation orders took effect in Boston, in September, 1974, Black students braved jeering crowds of protesters throwing eggs, bottles, and bricks to find nearly empty classrooms. Not a single white student attended South Boston High School that day. Eventually, more than thirty thousand Boston public-school students left for private and parochial schools. As “Small Mercies” winds to its bitter end, Bobby Coyne argues about the orders with his girlfriend, agreeing that the segregation and inequity of Boston’s public-school system is “racist bullshit, and it’s unforgivable. But this is not the solution.” Then what is, she asks, causing him to pull up short. “I have *no* idea,” he replies. As Mary Pat’s mother might put it, he has just run out of road. ♦

By Caroline Tracey

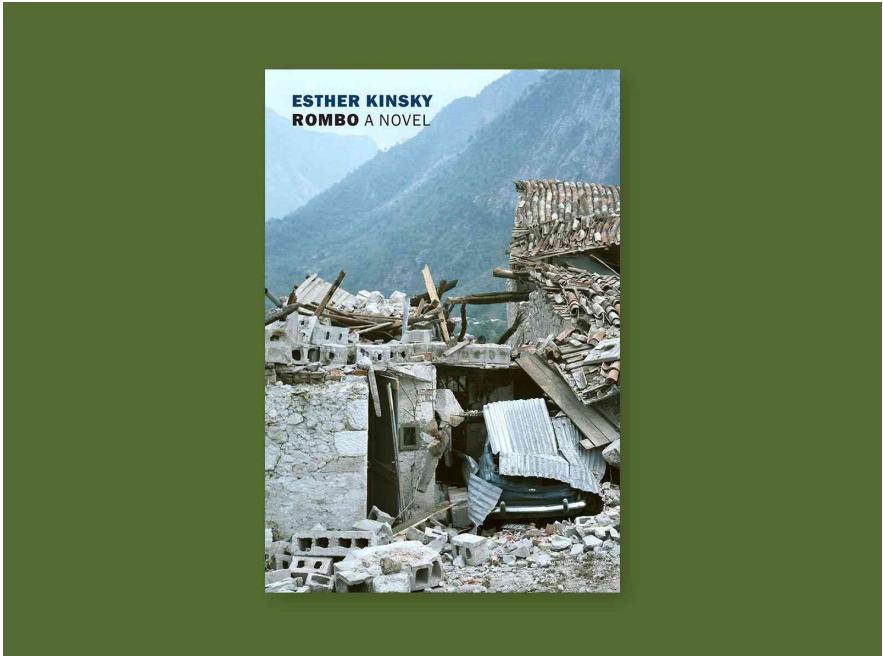
By John Cassidy

By Fred Noland

By Inkoo Kang



In Memoriam, by Alice Winn (*Knopf*). This consuming and unstintingly romantic début novel begins in 1914, and centers on two teen-age boarding-school students: Ellwood, an aspiring poet, and Gaunt, a moody, half-German pacifist. The young men are taking tentative steps toward romance when Gaunt enlists in the British Army. Ellwood eventually follows, set on reunion, and determined that, “if something dreadful was being done to Gaunt, he wanted it done to him as well.” The story parses the extent to which pursuing forbidden love can feel like risking one’s life. Of his heart, Gaunt thinks, “It was only because he knew he would die that he could be so reckless with it.”

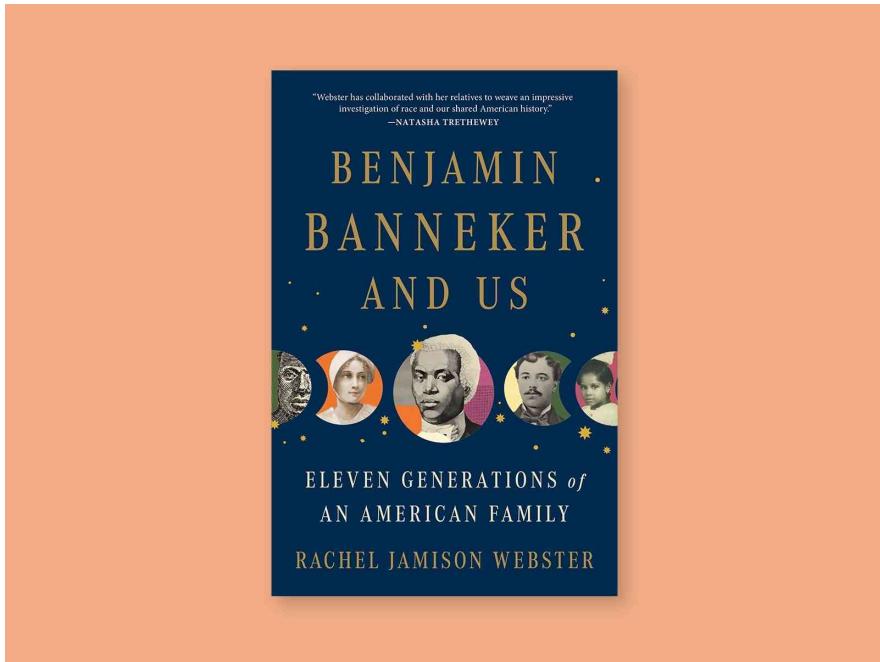


[**Rombo**](#), by Esther Kinsky, translated from the German by Caroline Schmidt (New York Review Books). Written in the form of a travelogue, this fictional narrative—named for the Italian word for “rumble”—records the memories of survivors of two earthquakes that devastated the Friuli region of Italy in the nineteen-seventies. Kinsky threads their stories with descriptions of native flora, such as a thistle that “commits itself to the ground” and “lets nothing else grow in its place.” While the narrator offers insights about collective trauma and the transformative impact of nature’s whims on one’s sense of home, the book is filled with the voices of the landscape’s inhabitants. “Memory is an animal,” one says, “it barks with many mouths.”

[**The Best Books of 2023**](#)

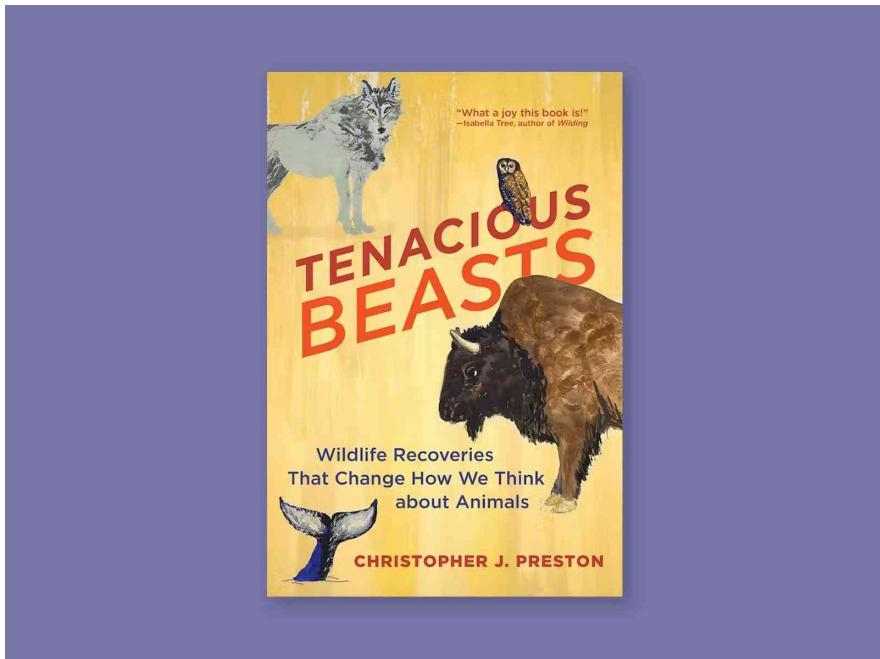


Read our reviews of the year's notable new fiction and nonfiction.



Benjamin Banneker and Us, by *Rachel Jamison Webster* (*Holt*). The central figure in this memoir-biography is Benjamin Banneker, a Black astronomer who was born in 1731 and became famous for writing almanacs and helping to design Washington, D.C. After learning that she was one of

Banneker's descendants, Webster, a white poet, retraced his and his ancestors' lives. In the process, she built close relationships with newfound Black cousins, whose relatives have researched Banneker for generations, and are both excited by and wary of her interest in him. One tells her, "You white writers just dip in and visit. You will write this book and then go away, but I am compelled to live here." Listening to her family and constructing a story together leads Webster to conclude that "ancestry is not an individual acquisition but a collective inheritance, a shared process of awareness."



Tenacious Beasts, by *Christopher J. Preston* (M.I.T.). The occasional resurgences of animal populations in an era of mass extinction are the subject of this lively study, by a journalist and professor of environmental philosophy. Despite widespread depredation, some species, from wolves in densely populated Central Europe to beavers in the polluted Potomac to whales in the Gulf of Alaska, have staged dramatic comebacks. Preston focusses much of his reporting on wildlife scientists and Indigenous activists, arguing that these recoveries—and the ecological restorations they engender—demonstrate that the flourishing of other species is “integral to our shared future.” In cases where conditions are right, degraded landscapes can be revitalized through the combination of thoughtful environmental practices and animals’ natural capacities.

By Richard Brody

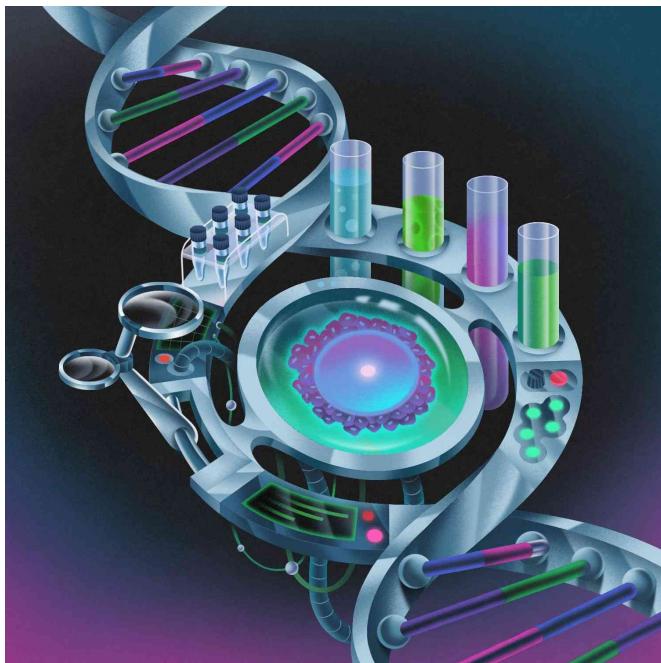
Brave New World Dept.

- [The Future of Fertility](#)

The Future of Fertility

A new crop of biotech startups want to revolutionize human reproduction.

By [Emily Witt](#)



In 2016, two Japanese reproductive biologists, Katsuhiko Hayashi and Mitinori Saitou, made an announcement in the journal *Nature* that read like a science-fiction novel. The researchers had taken skin cells from the tip of a mouse's tail, reprogrammed them into stem cells, and then turned those stem cells into egg cells. The eggs, once fertilized, were transferred to the uteruses of female mice, who gave birth to ten pups; some of the pups went on to have babies of their own. Gametes are the cells, such as eggs and sperm, that are essential for sexual reproduction. With their experiment, Hayashi and Saitou provided the first proof that what's known as in-vitro gametogenesis, or I.V.G.—the production of gametes outside the body, beginning with nonreproductive cells—was possible in mammals. The mice that had descended from the lab-made egg cells were described as “grossly normal.”

The Japanese experiment may change the science of human reproduction. The first successful in-vitro fertilization, in 1978, made it possible to conceive an embryo outside the body. Today, approximately two per cent of

all babies in the United States are conceived in a lab, through I.V.F.—last year, analysts valued the global I.V.F. market at more than twenty-three billion dollars. Egg cells have become commodities that are harvested, bought, donated, and preserved. But egg cells, some of the most complex cells in the body, and large enough to be visible to the naked eye, are difficult to obtain; as a woman ages, their number and quality decline. “If ripe human eggs could be derived from a person’s skin cells, it would avoid most of the cost, almost all of the discomfort, and all of the risk of IVF,” the Stanford bioethicist Henry Greely wrote in his 2016 book, “*The End of Sex and the Future of Human Reproduction*,” addressing new techniques to make stem cells which had won the Nobel Prize in 2012. He predicted that in the next twenty to forty years sex will no longer be the method by which most people make babies (“among humans with good health coverage,” he qualified).

A hundred years ago, many Americans died in their mid-fifties. Today, we can expect to live into our seventies and eighties. In the U.S., as in many other countries, women give birth for the first time at older ages than they did several decades ago, but the age at which women lose their fertility has not budged: by forty-five, a person’s chances of having a pregnancy without assisted reproductive technology are exceedingly low.

Biologists have theories, none of them conclusive, about why women have such a sharp decline in fertility at midlife, and why ovaries age at least twice as fast as the other organs in the body. Deena Emera, an evolutionary geneticist and the author of a forthcoming book about evolution and the female body, told me that the vast majority of female mammals, including chimpanzees, maintain the ability to get pregnant for most of their lives. Elephants, which can live up to seventy years, can conceive and give birth into their sixth decade. Human females share their long post-reproductive life span with only a few other mammals, mostly species of toothed whales. We are connected in this strange and frustrating reality with narwhals, belugas, and orcas. There’s much debate, if not a definitive answer, about why.

In the U.S., according to census data, the number of births to women under the age of twenty-five has dropped significantly since 1990; an increase in births to women over thirty-five has not compensated for the decline. The

United Nations has estimated that in 2019 nearly half the global population lived in countries with below-replacement fertility rates, which the U.N. defines as fewer than 2.1 births per woman. (In our country, population growth is also driven by immigration.) While the over-all growth in human population is not anticipated to plateau until the mid-twenty-eighties, economists say that aging populations in countries with fewer children can affect, among other things, the continued growth of economies, the provision of health care, and the funding of pension systems. Although there are also social and environmental benefits to a decrease in the global population, many countries are recognizing that they can no longer take a passive approach to fertility issues.

In recent years, the science of extending female reproductive longevity has seen a new flurry of interest, and biotech companies are attempting to begin clinical trials of a number of therapies, including new I.V.F. techniques and pharmaceuticals. (The research has earned philanthropic attention as well—Hayashi’s and Saitou’s labs are funded in part by Open Philanthropy, a foundation set up by the Facebook co-founder Dustin Moskovitz and his wife, the former journalist Cari Tuna.) But the ability to make egg cells without human ovaries would apply not only to people who are designated female at birth. This March, Hayashi, who is not currently trying to make a human egg, had another announcement: his lab had repeated the I.V.G. process in mice, but this time it had produced fertilized embryos whose egg cells had been developed using stem cells from male mice—“mice with two dads,” as the headline in *Nature* put it. Futurists have speculated about broader possibilities, such as an embryo formed with the DNA of four people instead of two, or even a so-called “unibaby,” the result of a person reproducing with herself. In a less hypothetical realm, in-vitro gametogenesis may have applications in livestock breeding, and might one day play a role in preserving endangered species—a group of scientists, including Hayashi, have been attempting to use the method to generate eggs from the northern white rhinoceros, a species of which only two females remain.

In some circles, I.V.G. is already seen as the future of reproductive science. Bianka Seres, a co-founder of a startup called Conception Biosciences, which is trying to make egg cells from stem cells, told me that I.V.G.—along with a related, though more far-fetched, prospect, artificial wombs—was a

prominent theme at the American Society for Reproductive Medicine's annual conference in 2021, hinting at a time when gestation could happen outside the human body. "It wasn't 'Oh, maybe this will happen,'" she said. "It was very factual: when this happens, this is how we're going to use it." She and her colleagues believe that one day dozens of egg cells might be generated from a simple biopsy or blood sample, perhaps even one taken from someone who is biologically male. Conception might not be the company that figures out I.V.G., but the prevailing sense is that it's only a matter of time before someone does.

In late January, I visited the headquarters of Conception, in Berkeley. The company was founded in 2018, and has since raised almost forty million dollars in venture capital in pursuit of in-vitro gametogenesis. The staff was temporarily based in a single-story co-working space near Aquatic Park, and things had gotten crowded. Conception's C.E.O., a thirty-one-year-old entrepreneur named Matt Krisiloff, was working from an armchair wedged between two desks. Krisiloff first tweeted about his interest in I.V.G. in 2017. At the time, he was the director of a nonprofit wing of Y Combinator, the startup incubator, established to fund technological research "for the benefit of the world," as the company put it. Sam Altman, who was then running Y Combinator, told me that he and Krisiloff were both interested in what he called "hard-tech companies that invest a long time in developing a difficult technology first and then don't bring a first product to market for many, many years." Krisiloff had helped out in the early months of OpenAI, which went on to invent ChatGPT, *Dall-E*, and the transcription service Whisper, an experience he has cited as formative in learning how to set up a research-oriented company with an ambitious end goal.

Krisiloff has close-cropped hair and a gap-toothed smile, and on the day of my visit he was dressed in jeans, a black crew-neck sweatshirt, and sneakers made by the Swiss brand On. He does not have a degree in the hard sciences—as an undergraduate, he majored in Law, Letters, and Society at the University of Chicago—and was still in his twenties when he and two scientists founded Conception, which was initially known as Ovid Research. Krisiloff's interest in I.V.G. was partly personal: he is gay, and liked the thought of one day being able to have biological children with a male partner. (Krisiloff once dated Altman; he is now in a relationship with Lucas

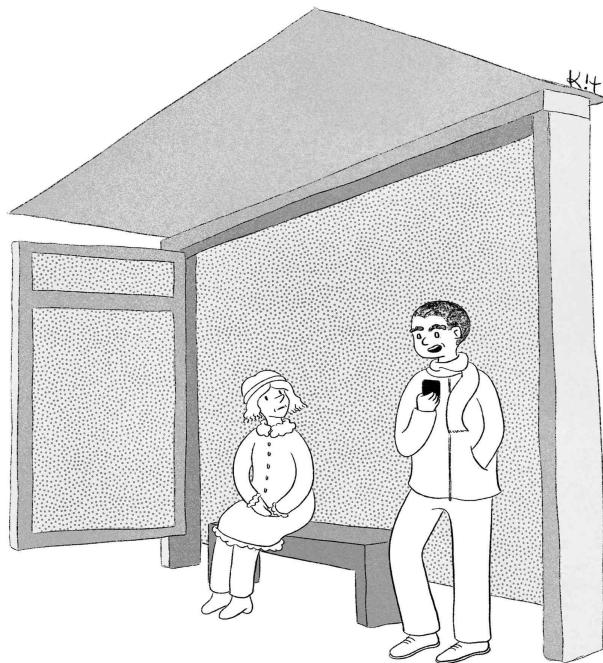
Harrington, the co-founder of Mammoth Biosciences, which is focussed on the gene-editing technology *CRISPR*.)

While visiting Hayashi's lab in Japan in 2018, Krisiloff met Pablo Hurtado González, a Spanish biochemist who was a visiting scholar there. Over dinner at a ramen restaurant in Fukuoka one evening, the mission of Conception began to take shape. Hurtado González, who is thirty-two, is also gay, and has a Ph.D. in reproductive health and a particular interest in male-male reproduction. (The bio on his Instagram profile reads "Trying to make genetic gaybies at Conception Bioscience.") After placing an ad in *Nature*, Krisiloff and Hurtado González hired their third co-founder, Seres, who was born in Romania and raised in Hungary. She had worked as an embryologist at a fertility clinic in England before completing her Ph.D. at Cambridge University under Melina Schuh, a German cell biologist who is an expert in meiosis, the type of cell division unique to reproductive cells, which leads to the production of eggs and sperm. "Coming from I.V.F., in-vitro gametogenesis was the single most important solution to not having enough eggs," Seres told me. Seres, who is thirty-six, has a daughter conceived without assisted reproductive technology, but her experience working at fertility clinics had made the issue personal to her: she had seen many patients with infertility issues for which no clear cause could be found.

Krisiloff had secured an initial million dollars from Hydrazine Capital, a fund, co-founded by Altman, in which he was an investor. (Conception's investors now include Jaan Tallinn, the founder of Skype, and Laura Deming, who has a fund devoted to technologies that target the aging process to treat disease.) At first, Conception's plan was more modest: to try to bring undeveloped eggs from a human to maturation in vitro. But a conversation with a surgeon convinced Krisiloff that immature eggs would be too difficult to extract. "One of our investors gave us really good advice, like, Hey, if in-vitro gametogenesis is the main thing you care about, you can probably go surprisingly far if you just choose to focus on that rather than defer it for later," Krisiloff said. "That changed our trajectory."

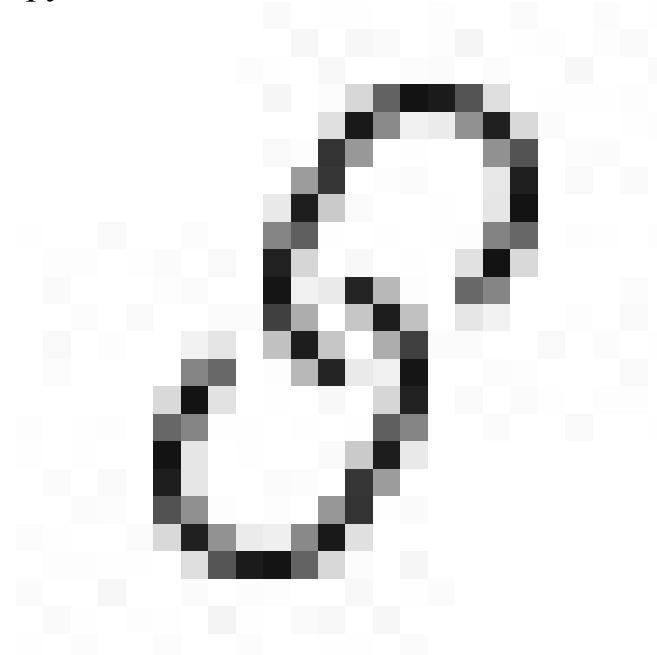
For now, Krisiloff is the only person at Conception who concentrates on the business side of things. He works alongside thirty-five scientists, many of them in their first jobs outside of academia; none are the kind of big-name principal investigators who tend to spin off private companies based on

research in their own labs. “There’s some suspicion about the company aspect versus the academic approaches,” Krisiloff admitted. “Four or five years ago, it was, like, What are you kids doing here?” But, he added, “it became obvious early on that having teams of very specialized people working on different parts of this in parallel rather than having to think about their individual first-author publications would be quite helpful.”



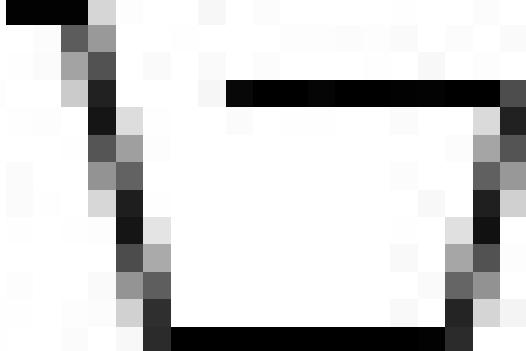
“According to this, it should arrive one minute before we lose all hope.”
Cartoon by Kit Fraser

[Copy link to cartoon](#)



Link copied

Shop



Still, in this era of disgraced tech-company wunderkinds and hubristic billionaires, Krisiloff seemed intent on avoiding the impression that he was another maverick tech entrepreneur—Mark Zuckerberg’s motto, “Move fast and break things,” does not inspire confidence when the desired outcome is a baby. Some observers have said that human biology is too complex for I.V.G. ever to become a viable method of reproduction, and I asked Krisiloff what would happen if they couldn’t make it work. “If we’re getting negative data in terms of in-vitro experiments or animal-safety testing, we’re not just going to try and brute-force it through,” he said. “We need to be cognizant that we’re trying to develop a technology that, if it does come to fruition, the impact is new human life.”

When I met Conception’s founders in January, the three kept up an easygoing banter. Krisiloff tends to defer to his co-founders for technical explanations. Seres, dark-haired and earnest, is analytic and adept at metaphor. Hurtado González, who is six feet five and has a thin mustache, speaks English with the sharp consonants of his native Spain and has had to become something of a scientist Jack-of-all-trades, managing the delivery of lab equipment between studying the latest published papers. He stood up at a

certain point in the conversation to coördinate the burrito order for the company's Friday lunch.

They clicked through slides depicting cells that had been stained to reveal their internal structures in bright magenta, blue, and green. Human egg cells begin their formation inside fetal ovaries in utero but start maturing individually only in adolescence, at the onset of menstruation. Conception's researchers, who are trying to grow such cells through I.V.G., began by reprogramming blood cells, donated with consent for embryonic research, into stem cells, which can become any type of cell in the body. The stem cells are then programmed into primordial germ cells, the precursors to eggs. These germ cells are placed in dishes with lab-grown helper cells, which re-create the ovarian environment and are known collectively as ovarian organoids. The hope is that these helper cells will send out the necessary signals to coax the germ cells along in their development into mature eggs capable of being fertilized. The researchers use a variety of techniques, such as RNA sequencing, to insure that the lab-made cells are expressing the same genes that they would at a similar stage in the womb, and that they're forming what are called follicles, the structures in the ovary in which immature egg cells develop.

On a cellular level, "the body" can become an abstract concept: as Krisiloff put it to me, "You don't really need a heart to produce an egg." You may not need the twelve or thirteen years that pass before an egg cell starts maturing in the body, either. If the germ cells are given the right signals, they will move on to the phase of development they would normally reach after puberty.

Conception has re-created many stages of egg development, but it had not yet put them all together into a single process that would culminate in a primary follicle, the phase that indicates an egg is ready to begin the final stages of maturation. "The prime focus right now is getting this follicle-formation step to occur," Krisiloff said. "We think once we have this figured out, which we also think we're relatively close to, then everything else we kind of have model systems for."

Other researchers in the field are using the same techniques of stem-cell biology for different strategies. Some are trying to grow human eggs and

sperm to test the toxicological effects of chemicals on gametes, or to develop contraceptive methods. Others are experimenting with how I.V.G. might result in cells that can be transplanted back into the body, such as spermatogonial stem cells (the precursors of sperm) for an infertile male.

Gameto, a New York-based biotech startup founded in 2020, is exploring in-vitro maturation: how to mature eggs that have been extracted from the body rather than made in a dish. It was co-founded by Martin Varsavsky, the owner of a chain of fertility clinics, and Dina Radenkovic, a physician turned entrepreneur. Unlike sperm cells, which most men produce in the hundreds of billions in the course of their lives, a woman is born with all the eggs she will ever have. These eggs mature slowly, normally just one per menstrual cycle. During I.V.F., women are given hormone injections that stimulate their ovaries to mature multiple eggs, but the process is onerous, and patients typically undergo anesthesia to retrieve the eggs.

When I spoke with Radenkovic, Gameto's C.E.O., over video, she punctuated her points by holding up a follicle-stimulating injection pen of the kind used in I.V.F. "If you just had one man go through the brutal treatment of I.V.F., they would have sat down, they would have put some money in, and they would have solved it," she said. If the process of freezing eggs becomes easier and more reliable, she continued, very few people would need to resort to I.V.G., which she sees as too risky a proposition for a business. "We're really hopeful of allowing women to go through I.V.F. with much fewer side effects, less clinical time, and a lower cost—something that you could do in, like, egg-freezing kiosks. I see it almost like an extension of the beauty studio, where being proactive about your reproduction and longevity just seems like an act of self-care."

Nearly everyone in the industry whom I spoke with, including Conception's founders, told me that they regularly hear from people desperate to have biological children, volunteering to donate their genetic material or participate in clinical trials to test technologies that are likely years away. I spoke with someone who had contacted Conception, a forty-nine-year-old woman who lives in upstate New York. She told me her story—a childhood in England; a successful career as a lawyer; a long-distance partnership that began in her late thirties with a colleague who already had children and seemed reluctant to have more. She tried cycles of I.V.F., and all failed. "I

grew up so ignorant about this—I was very focussed on my career, and I was a late developer romantically,” she said. When I asked why it was important to her to pass on her genes, she told me that after her parents died she wanted to have something of them to love in the world. “I have so much life and energy still to give,” she said. She would like to find a gestational carrier for her last frozen embryos. (Older maternal age at pregnancy is associated with a higher risk of complications.) “It’s a shame that it has to be this difficult.”

The morning after my visit to Conception, I was picked up at my hotel in San Francisco by Jennifer Garrison, a neuroscientist and an assistant professor at the Center for Reproductive Longevity and Equality. Garrison, who is blond and in her mid-forties, is one of the country’s foremost critics of the common narratives about female reproductive longevity. She is frequently quoted in the media and invited to lecture at conferences on the subject. She has been a consultant for companies exploring I.V.G., but she sees I.V.G. as only one piece in the much larger puzzle of female reproductive inequality. “If I had to sum up what we’re doing, I want aging in the female reproductive system to be synched up with aging in the rest of the body,” she told me, as we drove across a fog-wreathed Golden Gate Bridge. “If we can do that, then there are all these amazing, profound impacts on over-all health, not to mention fertility.” Menopause doesn’t just signal the end of fertility—it has negative impacts on bone health and on cardiovascular, cognitive, and immune function, and also causes weight gain, depression, insomnia, low libido, and other issues.

As we drove, Garrison apologized that the rainy weather was ruining the views. We were heading to the Buck Institute for Research on Aging, which sits atop a hill in a nature preserve in Novato, a small city in Marin County, overlooking San Francisco Bay; deer and wild turkeys roam the nearby fields. I. M. Pei, who designed the building, avoided right angles, on the theory that doing so would encourage creativity. The Center for Reproductive Longevity and Equality was started here in 2018, with a six-million-dollar donation from the foundation of the intellectual-property lawyer, entrepreneur, and investor Nicole Shanahan, who was then married to Sergey Brin, the co-founder of Google (they separated in 2021).

Shanahan was not yet thirty when she was told that she had polycystic ovary syndrome; at the time, she and Brin were trying to create an embryo through I.V.F. to bank. Informed that she was an impossible candidate, Shanahan walked away from the I.V.F. clinic believing that she was not going to be a mother. When, two years later, she conceived naturally, she didn't take it as a lucky break; rather, she was infuriated about the guidance she'd been given and began to wonder why the subject was so poorly understood. Her experience became a cause. Shanahan has said that she sees extending reproductive longevity as "the natural and necessary progression of the women's-rights movement." In 2020, she funded a sister center in Singapore. (Many of the countries and regions with the lowest fertility rates in the world right now are in Asia.)

Much of the biology of female reproductive aging is still a black box: Garrison told me that we don't know the timer or the cue that marks the beginning of reproductive decline, or why the age of menopause has so much individual variation. We have little sense of what aging in the ovaries means for aging in the rest of the body, even though early menopause is correlated with a shorter life span, not only for the woman experiencing it but for her brothers. There is currently no reliable biomarker that tells a woman how many eggs she has left.

Research into women's health has historically been underfunded. Most of our contraceptives and fertility treatments were developed in the last century; there has been little innovation since the nineteen-eighties. Reproductive-health-care research has been further impeded by political controversies surrounding abortion, contraception, fetal tissue, and the "personhood" of embryos. Women were not required by law to be included in government-funded clinical research until 1993, and many drugs and dosages are still optimized for the male body. One 2021 study, "Gender Disparity in the Funding of Diseases by the U.S. National Institutes of Health," which was published in the *Journal of Women's Health*, found that, "in nearly three-quarters of the cases where a disease afflicts primarily one gender, the funding pattern favors males."

Shanahan has advocated against supporting the I.V.F. industry and I.V.G. research, seeing them as circumventing much needed research into understanding the causes of infertility. Instead, she leads an investment firm,

Planeta Ventures, and a foundation, Bia-Echo, which support the development of precision medicine, nutritional interventions, and diagnostic tools, which she hopes will give individuals a much better idea of when and for how long and why they can get pregnant, one that is not based on a population average. “I think that there has been a very big missing category of medical services,” she said. “Many of the I.V.F. clinics are financially incentivized to offer you egg freezing and I.V.F. and not incentivized to offer you other fertility services.”

Garrison concurred, going so far as to describe egg freezing as “barbaric.” She argued that the private for-profit I.V.F. industry masks as innovation what is in fact a symptom of neglect. “There’s been a huge amount of research funding, consumer dollars, and government subsidies that have gone into that industry in the last four decades, and not just in this country,” she said. “If even a tiny bit of that had gone into answering some of these basic questions that we’re talking about, we wouldn’t be having this conversation.”

After pausing to look at some nematode worms glowing under a microscope in Garrison’s lab, we examined a graph that showed average male fertility—a slope that barely wavers until the end of life—and average female fertility, with its steep decline beginning in one’s mid-thirties. “I hate this graph,” Garrison said. For one thing, she explained, it obscures the fact that many women have a much “noisier” trajectory, with fluctuating periods of fertility and infertility. It would be helpful, she suggested, if women had a better way to monitor intervals of fertility as they age. Instead, the graph is used as evidence of the inexorable.

She contemplated another approach. “What if we didn’t move the age of menopause, but right up until the age of menopause your eggs were healthy and there wasn’t this fifteen-year window where your risk of miscarriage, aneuploidy, birth defects, and infertility goes up?” she asked. “What if we could just X that out?”

The following weekend, I returned to the Buck Institute for a conference in which the organization’s grant recipients gathered to present their work. The future of reproductive technology, the presentations suggested, might include not just I.V.G. but a whole range of interventions: a scientist from

Mexico gave a talk about the hyperproductive ovaries of ant queens, which can be fertile for as long as thirty years; another discussed a trial of the drug rapamycin to determine whether it prolongs fertility in rhesus macaques; another spoke about the role of gut microbiota in reproductive aging.

It was a lot to take in. The graph indicating the decline in female fertility relative to male was shown four or five times, as if we might forget. In the past few years, several of my male friends over the age of fifty have become fathers for the first time. Their reproductive freedom is their privilege and their right. One of these friends told me that going through psychoanalysis finally gave him the ability to have intimacy in his life. How luxurious to have that time. I am childless and turning forty-two this month. I have eleven oocytes—immature egg cells—in cryogenic storage in a facility somewhere in Manhattan. Right now, that's pretty much all that science can offer a late bloomer with ovaries. The oocytes, should I ever attempt to have them fertilized and implanted, have a forty-per-cent chance of resulting in a successful pregnancy.

That night, the researchers gathered for dinner at a nearby winery. A professor of molecular biology from Princeton named Coleen T. Murphy told a story about how, twenty years ago, she pitched a fertility diagnostic blood test to an investor. She recalled him responding, “Can’t you just get that from a Pap *schmear*?” Everyone laughed. I asked the others at the table—they were all women—if they were also concerned about research showing that sperm counts have declined worldwide. Murphy looked at me blankly. “But there’s still so many of them,” she said. “And, let’s be honest, they don’t even do that much,” an ob-gyn and research scientist chimed in. “I call them ‘the postmen of cells.’ ”

Conception’s founders have tried to apply an engineering approach to making eggs, in which an experiment is conducted over and over with slight modifications. To keep its researchers supplied, Conception has developed methods to make tens of millions of primordial germ cells and hundreds of ovarian organoids. During my visit, I watched as scientists checked the progress of cells under microscopes and pipetted liquids into dishes laid out across biosafety hoods, tweaking variables such as culture medium and timing. Bianka Seres told me that they keep mouse embryos in incubators with the dishes of cells; if the embryos stop growing, they know that

something is wrong in the environment. Cells are temperamental—they don’t like plastic, or the cold.

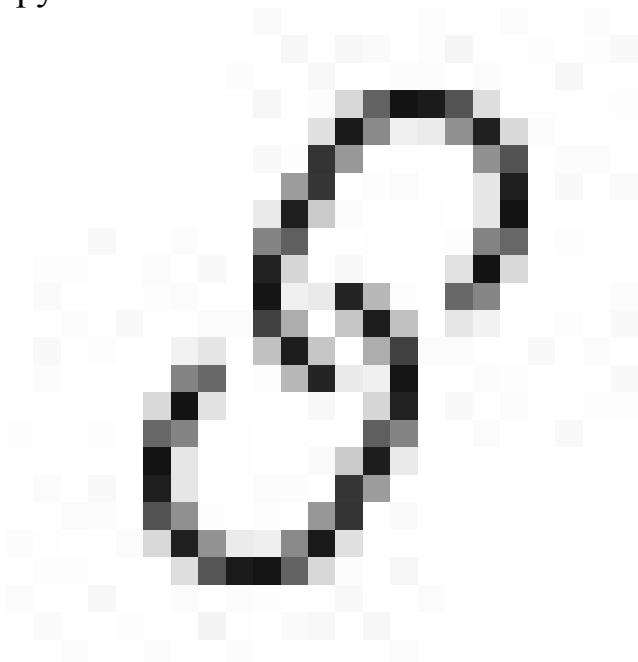
One recent morning, I spoke by video with Katsuhiko Hayashi, one of the Japanese scientists who helped prove that I.V.G. was possible in mammals. It was six o’clock in the morning in Los Angeles, and ten o’clock at night in Japan, and Hayashi, who wore glasses and a sweater with a collared shirt, had his screen background blurred. I asked what he thought of the prospect of developing I.V.G. for human reproduction. “I think it takes a long, long time,” he said. “And even if we can get human oocyte cells in culture we need to carefully evaluate the quality of the oocytes, because even in the mice most of the oocytes are, how can I say, not potent enough to develop to a baby.”

Other academics, including those trying to make human eggs, are skeptical that startups such as Conception will supplant traditional scientific-research pathways. “If the end goal is only about getting to the tech, then yes, a biotech company has the advantage,” Amander Clark, a professor of molecular, cell, and developmental biology at U.C.L.A. who works on I.V.G., told me. “However, without an academic pipeline, there is no specialized and informed workforce to populate the biotech companies.” Clark points out that the industry has a long way to go: humans and mice are very different, and researchers have yet to prove that lab-made human cells can undergo meiosis in vitro.



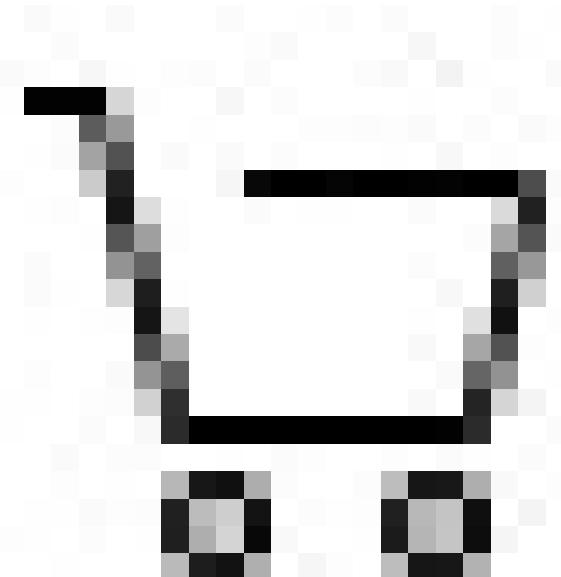
"Don't come out yet. She's still here."
Cartoon by Liana Finck

Copy link to cartoon



Link copied

Shop



Azim Surani, a developmental biologist at Cambridge and a mentor to many researchers in the field, explained some of the concerns: cells that look healthy and functional may still have unknown errors in their epigenome, and the long period of acculturation in dishes might result in the wrong modifications. Using skin or blood cells as the source of the DNA for the egg cell also risks introducing any mutations those cells have acquired during a person's life—should I.V.G. become a reality, the best approach might begin with cells stored at birth. Among the parameters that will need to be evaluated in offspring, across multiple generations, are longevity, behavior, and susceptibility to disease.

"It's going to take a lot of work to figure out how safe it is, and we'll never know perfectly," Henry Greely, the author of "The End of Sex," told me. "I worry a lot that desperate people will try desperate things, that our regulatory system will not be up to it." Other scientists feel that I.V.G. for human reproductive purposes may be jumping the gun—that researchers are attempting to create a process outside the body without fully understanding what takes place inside one. "Think of it this way," Clark put it to me in an e-mail. "In the absence of this foundational scientific knowledge, it is the equivalent of trying to drive a car without a GPS to a destination that you have never traveled to before."

The regulatory environment faced by a biotech startup like Conception is another unknown. “The United States has a political debate about abortion that has spilled over into everything that has to do with embryos,” Alta Charo, a retired professor of law and bioethics at the University of Wisconsin-Madison, told me. Federal law already prevents the government from funding the creation of human embryos for research, which means that funding for I.V.G. for human reproductive purposes has to come entirely from individual states, the private sector, or foreign entities. Also, in vitro-derived gametes for human use are likely to be regulated by the F.D.A. as a biological product; the F.D.A. cannot approve requests for clinical trials that would involve making heritable genetic modifications to human embryos, which may apply to some I.V.G. approaches. Charo predicts that human clinical trials for I.V.G. are far more likely to be first attempted in the U.K., which has a less polarized political climate around abortion, and a government agency, the Human Fertilisation and Embryology Authority, that licenses and monitors fertility clinics and provides recommendations about policy to lawmakers.

In 2021, the International Society for Stem Cell Research recommended extending the standard time limit on research done with in-vitro embryos, which is fourteen days, on a case-by-case basis. But such a step would come with its own thorny ethical questions. “Imagine a world where you could be doing research on an embryo very far along in development, but people can’t make any decisions about fetuses in their own bodies,” Sonia Suter, a professor of law at the George Washington University who studies bioethics and issues of reproductive technology, told me. She also feared a return to the idea that genetic connection is essential for families after decades of efforts by same-sex parents to be granted legal recognition of their relationships with their nonbiological children. Suter said that the technology would probably exacerbate existing inequalities. Because I.V.G. has the potential to create many more embryos than I.V.F., it may result in more screening for desired genetic traits. It is unlikely to be covered by many insurance plans, and attempts to optimize for health and success may primarily benefit the wealthy.

“It’s going to be the same parents who send their kids to private schools and get their kids in piano and ballet,” Suter said. “Then we have the opposite problem, where we have people who can’t get access to contraception and

can't terminate a pregnancy when they're struggling financially." She added, "That divide already exists. After Dobbs, it's just going to get worse as we have more advanced technology."

Paths to making a profit are uncertain. The inventors of I.V.F. never attempted to patent the technology, though the hormones injected in the process, which cost thousands of dollars, were patented by pharmaceutical companies. Conception has filed for a patent for some of the cells it has engineered, but, as *Nature* recently pointed out, the United States has laws against patenting the human organism, as well as medical procedures such as heart surgery or dialysis. Matt Krisiloff told me that, should Conception get governmental approval, its business model would be based on offering clinical services, which in the earliest stages might cost as much as two hundred thousand dollars per client.

Piraye Yurttas Beim, the C.E.O. of a biotech company called Celmatix, which is focussed on developing therapies to slow ovarian aging, told me that the excitement around I.V.G. could be misleading. "It feels like: we can go to Mars, so why can't we make eggs?" she said. "But I think making eggs that have transgenerational reproductive potential—I think it's probably, like, one hundred times as complex to do that as to go to Mars."

I asked what she thought the options might be twenty years from now, if I.V.G. is not available. She described the world that she pictured for her daughter, who is six, in which assessment of ovarian and hormonal health will begin in young adulthood. "It's going to be a standard part of her ob-gyn experience, from a place of optimizing for her long-term reproductive potential," she said. Her daughter's generation will likely freeze their eggs early, have babies in their forties or fifties, and anticipate living into their nineties. "It will feel completely arcane and mind-boggling for her that any generation before just simply went into menopause like it was an unavoidable thing," she concluded. "That is going to feel as foreign to a woman in twenty years in the developed world as the pre-C-section or pre-birth-control era."

In the weeks after I first visited Conception, researchers working under George Church, the well-known geneticist at Harvard, announced new breakthroughs in the creation of a human ovarian organoid. The research for

the technology had been sponsored by Gameto, the New York-based startup, which then licensed it for use. I asked one of the researchers who worked on the project, a Ph.D. student named Merrick Pierson Smela, if he thought growing a stem-cell-derived egg in a dish would ever be possible. “Definitely,” he said, without hesitation. He added that the first person to do it is unlikely to be the one who captures the entire field. “Ten or twenty years after the first proof of concept is when you’re going to see actual human babies from it,” he estimated. Conception has not published papers, which makes it hard to know how Harvard’s organoid compares with its own, but the main difference between their approaches is that Conception is trying to use its organoids to grow egg cells made from stem cells, whereas Gameto, using Harvard’s technology, is creating what it calls “a signaling environment,” basically mimicking the ovaries, in which immature egg cells taken from the body will be placed and given the cues to mature, a potentially more attainable goal.

At the end of March, I returned to Conception for an update. A few weeks before, the staff had moved into a new office, in a renovated warehouse. Seres took me on a tour of the gleaming lab: an area filled with biosafety cabinets, incubators, and microscopes was devoted purely to the production of millions of primordial germ cells. We paused before a single-cell analyzer, a glossy black box the shape and size of a bread machine. It cost around ninety thousand dollars. Conception’s scientists also had news to share: they had brought their oocytes to the primary-follicle stage. “To our knowledge, nobody has been able to do that with in-vitro-derived germ cells,” Hurtado González said. “For us, that was one of the biggest bottlenecks, and it worked.”

“It’s very exciting,” Seres said. I asked if they planned to share the process with the broader scientific community. Krisiloff said they were still figuring out a way to do so that wouldn’t compromise their intellectual property, but that “obviously it’s extremely important for us that there’s general buy-in that we’re actually doing something legitimate.”

Hurtado González suggested that they might reveal only the follicle. “The morphology is excellent, it’s beautiful,” he said. They are now doing molecular analysis on the cells, he said, “to make sure they are what we would expect.”

That evening, the staff had a party to celebrate the move to the new space. In a play area in a corner, a few children took turns going down a plastic slide, and drawing pictures on a whiteboard. A karaoke machine had been set up for later in the night, and a projection screen on one wall featured images of the cells that Conception is growing, their colors brilliant with immunofluorescent staining. The cells were either the future of human reproduction or just something that was worth trying.

“It is valuable to show the possibility of such a new, let’s say alternative, type of reproduction for the future,” Katsuhiko Hayashi had said to me when we spoke over video. “But of course such a technology should be evaluated by the society.” ♦

An earlier version of this article inaccurately characterized historical death rates.

By Jessica Winter

By Jia Tolentino

By Beverly Gage

By Evan Osnos

Comment

- [Federal Courts Battle Over the Abortion Pill](#)

Federal Courts Battle Over the Abortion Pill

Millions of women find that their access to health care hinges on two conflicting rulings, and is seemingly headed, once more, to the Supreme Court.

By [Sue Halpern](#)



It's not often remembered, but Republican political operatives first stoked moral outrage over [abortion](#) in the nineteen-seventies, to shore up their party's sagging base. Back then, they joined forces with evangelical leaders, such as Jerry Falwell, who sought political allies to maintain the tax-exempt status of their all-white Christian academies. Overt segregation was hardly a winning political issue, but overheated rhetoric from the pulpit about killing "unborn babies" proved to be, and it brought to the G.O.P. a bloc of supporters who previously had not been especially concerned about abortion, and did not typically vote.

If recent polling is correct—according to one survey, only fourteen per cent of Republicans favor banning abortion outright—the current strategy of doubling down on efforts to make the procedure illegal in every state may

backfire for the Party electorally. But that is of little consolation to the millions of women who now find that their access to health care hinges on two conflicting court rulings, and that the matter is seemingly headed, once more, to the Supreme Court. On April 7th, a federal district-court judge, Matthew Kacsmaryk, issued an injunction, set to take effect a week later, to halt the F.D.A.’s approval of the abortion drug [mifepristone](#)—an approval that the agency gave twenty-three years ago. The case was brought by the Alliance for Hippocratic Medicine, a Tennessee-based anti-abortion group that set up shop in Amarillo, last August, in order to file suit in the Northern District of Texas. This allowed the case to be heard by Kacsmaryk, a Trump appointee who rose to the bench from a conservative-Christian legal nonprofit called the First Liberty Institute, and whose anti-abortion sentiments are well known.

There should be no doubt that mifepristone, which blocks a hormone needed for a pregnancy to proceed, and is also used in cases of miscarriage and for other medical treatments, is safe. It has been prescribed more than four million times in the past two decades. Research has shown that it is safer than acetaminophen. Statistically, taking mifepristone, along with the drug misoprostol, which empties the uterus, is less dangerous than giving birth. More than half the abortions in this country occur using that two-drug regimen. Yet the judge accepted the plaintiff’s claim that “adverse events from chemical abortion drugs can overwhelm the medical system and place ‘enormous pressure and stress’ on doctors during emergencies and complications.”

In an emergency motion filed on April 10th at the Fifth Circuit, lawyers for the Department of Justice, seeking to stay Kacsmaryk’s ruling pending an appeal, noted that the judge had substantiated some of his claims by citing an article sourced from anonymous blog posts. Kacsmaryk also held that complications from medication abortions are most likely to overwhelm health services in “maternity-care deserts,” but failed to acknowledge that many of those deserts have been created by restrictive rules passed by anti-abortion legislators—as in Texas, where lawmakers have cut off funds to [Planned Parenthood](#), whose clinics provided routine women’s-health services.

The government's lawyers took issue, too, with Kacsmaryk's reading of the [Comstock Act](#), a nineteenth-century relic initially intended to prohibit the mailing of contraceptives, obscene materials, and any "instrument, substance, drug, medicine, or thing" that could be used in an abortion. In 1971, Congress eliminated the prohibition on mailing birth control, but did not revoke the act itself. According to Kacsmaryk, sending mifepristone through the mail, which the F.D.A. began allowing in 2021, "violates unambiguous federal criminal law." The Justice Department maintains that the act "never prohibited the distribution of abortion drugs for lawful uses" and that, in any event, the act "is not relevant" to the F.D.A.'s exercise of its statutory authority. Still, some legal scholars believe that, if higher courts accept Kacsmaryk's argument on appeal, the Comstock Act could be used to block the transportation of any materials or equipment used in the course of an abortion, such as transvaginal-ultrasound machines.

Meanwhile, also on April 7th, Thomas O. Rice, a federal judge for the Eastern District of Washington State, issued a ruling in a case that had been filed defensively by attorneys general in the District of Columbia and seventeen states where abortion remains legal. They asked for, and received, a preliminary injunction requiring the F.D.A. to not change its approval of mifepristone. Then, in a ruling late Wednesday night, a three-judge panel of the Fifth Circuit agreed to temporarily stay Kacsmaryk's ruling, while at the same time prohibiting mifepristone from being dispensed through the mail and cutting the period of time when it can be prescribed, from the tenth week of pregnancy to the seventh. On Thursday, Rice issued an order stating that the F.D.A. must preserve access to mifepristone in the seventeen states and in Washington, D.C., "irrespective" of the Fifth Circuit's decision. The Justice Department said that it would ask the Supreme Court to immediately review the Fifth Circuit's ruling.

When Congress passed the Food, Drug and Cosmetic Act, a 1938 law that strengthened the regulatory power of the F.D.A., the goal was for "experts qualified by scientific training and experience to evaluate the safety of drugs," insulated from political whims. But now, the Justice Department lawyers say, Kacsmaryk's decision to grant standing to the conservative Alliance for Hippocratic Medicine, a group whose members "neither take nor prescribe" mifepristone, could upend the regulatory apparatus for determining the safety of any drug. As Xavier Becerra, the Secretary of

Health and Human Services, told CNN, “You’re not talking about just the mifepristone. You’re talking about every kind of drug. You’re talking about our vaccines, you’re talking about insulin, you’re talking about the new Alzheimer’s drugs that may come on.”

Last week, the White House press secretary, Karine Jean-Pierre, vowed that the Biden Administration is “prepared for a long legal fight.” But, depending on how quickly the issue reaches the Supreme Court, the fight may be short-lived. Last year, in the majority decision in [Dobbs v. Jackson Women’s Health Organization](#), which overturned the right to abortion, Justice Samuel Alito wrote, “It is time to heed the Constitution and return the issue of abortion to the people’s elected representatives.” We may soon see if the Court abides by its own principle, or if it will find a way to complete the conservative-Republican project to eliminate legal abortion in every corner of the country. ♦

By Stephania Taladrid

By Dan Kaufman

By Dan Kaufman

Crossword

- [The Crossword: Friday, April 14, 2023](#)

By [Chandi Deitmer](#)

By Erik Agard

By Adam Wagner

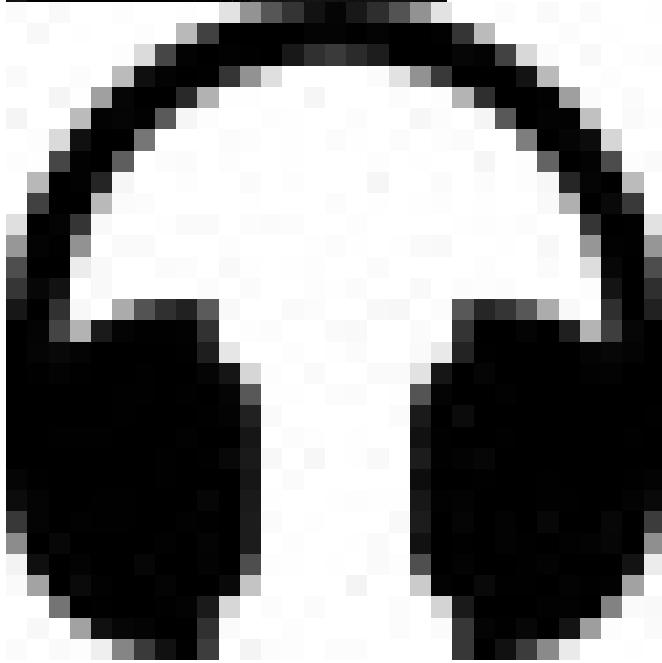
By Alex Baia

Fiction

- [“The Stuntman,” by Rachel Cusk](#)

The Stuntman

By [Rachel Cusk](#)



Listen to this story

Rachel Cusk reads.

At a certain point in his career, the artist D, perhaps because he could find no other way to make sense of his time and place in history, began to paint

upside down. This is how I imagine it. At first sight the paintings looked as though they had been hung the wrong way round by mistake, but then the signature emblazoned in the bottom right-hand corner clearly heralded the advent of a new reality. His wife believed that with this development he had inadvertently expressed something disturbing about the female condition, and wondered if it might have repercussions in terms of his success, but the critical response to the upside-down paintings was enthusiastic, and D was showered with a fresh round of the awards and honors that people seemed disposed to offer him, almost no matter what he did.

The couple lived in a region of forests some distance from the city, for despite the world's approval of him D had been angered and hurt by it and could not bring himself to forgive it. This is how I imagine it. His early work had been savagely criticized, and though some people might have felt that these attacks were better than no attention at all, D had not recovered from them. He was the type not to withstand attempts to poison him but rather to absorb them, to swallow the poison and be altered by it, so that his survival was not a story of mere resilience, was instead a slow kind of crucifixion that eventually compelled the world to chastise itself for what it had done to him. It was because of the forests that D had found a way out of his artistic impasse, caught as he had felt himself to be between the anecdotal nature of representation and the disengagement of abstraction. He had spent a great deal of time observing the activities of the local foresters, and each time he saw a tree being felled this question of verticality had suggested itself to him. First, he had painted the men and the trees in a sort of joint condition of existence, in which the trunks were interchangeable with the bodies. Then he had seen how the bodies, too, could be felled, severed from their roots, and likewise turned on their side or cut into sections. The notion of inversion finally came to him as a means of resolving this violence and restoring the principle of wholeness, so that the world was once more intact but upside down and thus free of the constraint of reality.

When D's wife first saw the upside-down paintings, she felt as though she had been hit. This is how I imagine it. The feeling of everything seeming right yet being fundamentally wrong was one she powerfully recognized. The paintings made her unhappy, or, rather, they led her to acknowledge the existence of an unhappiness that seemed always to have been inside her. D made a painting she particularly loved, of slender birch trees in sunlight, and

the demented calmness and innocence of these upside-down trees seemed to suggest the possibility of madness as a kind of shelter. She couldn't have accused D of exploitation: unlike other artists, he didn't paint out of self-importance, nor had he ever taken any kind of liberty that the public value of his gaze might have seemed to legitimize. So he had come upon this marginal perspective sidlingly, as it were, from a sideways direction, participating in its disenfranchisements, in its mute and broken identity, with the difference that he had succeeded in giving it a voice.

Rachel Cusk on the self in visual art.

The early paintings were large portraits, fluid and somewhat naïve in style, of recognizable individuals from his region and from the circle of his acquaintance. They were simple and formal, as though D were making a statement about his own honesty at the very moment that he was turning the world upside down. Why were these people upside down? It was all one could ask, yet the answer seemed so obvious it felt as though any child could answer it, and so the paintings succeeded in illuminating a knowledge that the person looking at them already possessed. D began to paint large, intricate landscapes in which nature seemed to be in its heyday, seemed to speak of its power to recover from human violence, its vigil through successive dawns to reëmerge perennially into the light. It basked in a wordless moral plenitude, innocent and unconscious of the complete inversion it had undergone, and it was this quality of innocence, or ignorance, that succeeded in entirely detaching the representational value of the painting from what it appeared to represent.

The question of whether D was actually painting an inverted world, or had simply turned the paintings on their heads and signed them when they were finished, was subject to a curious silence. The first scenario presented a formidable technical challenge; the second was more of an absurdist joke that could be passed off in a matter of minutes. Yet he was never publicly interrogated about it, and the question went unposed in the many critical writings about this radical development in his work. Sometimes people asked D's wife about it in private, as though with her they weren't afraid to risk a display of stupidity. It summed something up for her, and not just about art, that so enormous an uncertainty about the truth could remain subject to tacit muteness. In such moments, D's wife willingly assumed her

role as a repository for weakness. She didn't resent it, because she learned so much more this way, but she guessed that this was how everything that was noble was eventually destroyed. D would have agreed with her wholeheartedly, and, in fact, she noticed that he began to speak openly about his technique, explaining the difficulties of inverted painting that could be resolved only through the use of photographs. Later, he rejected the photographic medium and the paintings became even larger and more dreamlike and abstract. The question of what a human being actually was had never seemed so unanswerable. He often painted a man cowering alone in bed, the sullied oceanic blankness of the sheets, with the little tormented man somewhere at the top of the frame.

D believed that women could not be artists. This is how I imagine it. As far as D's wife knew, this was what most people believed, but it was unfortunate that he should be the one to say it out loud. She wondered whether it was her own indefatigable loyalty to him, her continual presence by his side, that had brought him to this view. Without her, he might still be an artist but he would not really be a man. He would lack a home and children, would lack the conditions for the obliviousness of creating, or, rather, would quickly be destroyed by that obliviousness. So she thought that what he was really saying was that women could not be artists if men were going to be artists. Once, she was in his studio for the visit of a female novelist, who was struck as though by lightning by the upside-down paintings, much as D's wife herself had been. I want to write upside down, the woman had exclaimed, with considerable emotion. No doubt D had found this a preposterous thing to say, but D's wife was quietly satisfied, because she felt that this reality that D had so brilliantly elucidated, identical to its companion reality in every particular but for the complete inversion of its moral force, was the closest thing she knew to the mystery and tragedy of her own sex. There had been a plaintive note—a suggestion of injustice, perhaps—in the novelist's tone, as though she had just understood that something had been appropriated from her. D was not the first male artist to have described women better than women seemed able to describe themselves.

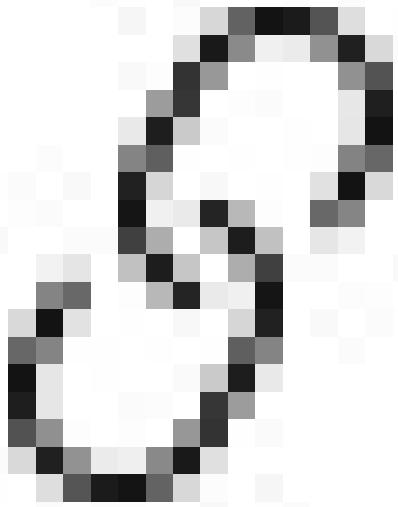
The lady had asked us to leave, for suddenly she wanted her apartment back. This desire had to be satisfied straightaway—we must be gone, despite having no other place to stay. We had lived there for more than a year, and in the time after our rushed departure she would sometimes call us out of the

blue to find out how we were getting on. She was careful to sound casual and friendly, but the calls themselves spoke of guilt.



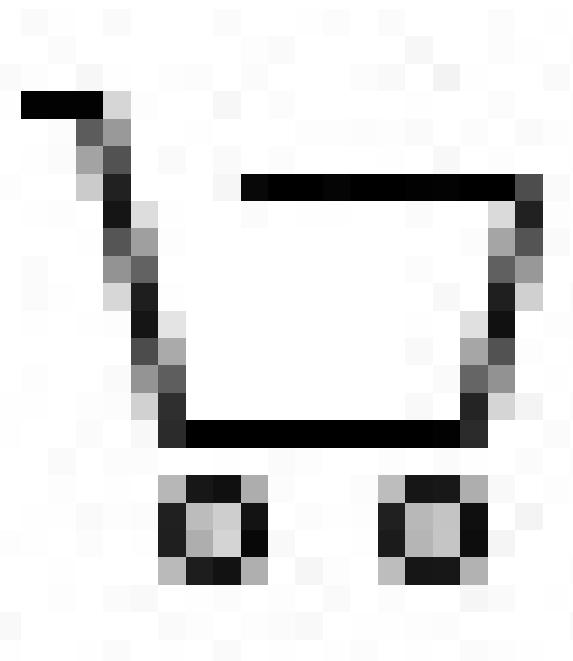
"Dad, what are you doing? This isn't a self-driving car!"
Cartoon by Farley Katz

[Copy link to cartoon](#)



Link copied

[Shop](#)



There was a mirror in that apartment, ornate and gilded, that was so large it reflected the looker not as the center of the image but as part of a greater scene. To be reflected in it was to be seen in proportion to other things. The loss of the mirror was like the loss of a compass or a navigation point. It was surprising how deeply it had bestowed a feeling of orientation. Sometimes a minor change can bring down a major structure, and this was the case with the lady's apartment. After we left, a number of things happened whose roots could be found there. It was reported to us that the lady had not stayed in her apartment for long, after all. It had disappointed her in some way, so she had gone back to where she had been living before, and now it stood empty. She had cultivated an image, perhaps, of her old life in the apartment that had drawn her away from the new life she had established elsewhere. But the apartment, when she got there, did not contain the old life. The old life had become the new life that she had been living.

For several weeks we stayed in one place after another, never unpacking our suitcases. We were natives neither of the city nor of the country itself nor of its language: the lady's apartment had been like a boat, and now we were cast into the sea. It had been full of her possessions, and I had derived a deep security from living among her things, which were of a kind I would not have chosen myself. It was not only the liberation from my own tastes and preferences that had comforted me but also the immersion in the sensibility

of another. Yet that same surrender, in the places that followed, was increasingly disturbing. We spent a lengthy period in a small blank apartment, where the occupant of the rooms overhead paced the floors rapidly and ceaselessly every hour of every night, and I was drawn into the inquietude of this unseen stranger, which came to seem like my own inquietude—suppressed for the past year—awakening. The only mirror was a rectangle above the bathroom sink, and the front door was fitted with a succession of heavy steel locks: the concept of individuality had all at once become more limited and more threatened. I thought often of the home we had left, our own home, left of our own volition.

Podcast: The Writer's Voice

[Listen to Rachel Cusk read “The Stuntman.”](#)

We stayed for a few nights in a place with a broken boiler, where we could not remove our coats. Rain and freezing sleet hurled themselves from the sky, a reprise of winter. In the streets, people were sleeping huddled in doorways or under bridges and walkways, or sometimes in tents they had pitched on the pavement. Everyone walked past them, these reproaches to subjectivity, with apparent indifference. We ourselves, outsiders, in a limbo of our own making, perhaps felt the reproach differently. At home, people also slept in doorways; here it took us longer to forget them.

We moved from place to place until spring returned and the trees regained their foliage and the streets became lively again. Walking through the city in the fierce fresh sunlight, we could intermittently feel the element of liberation in our rootlessness. We had finally found somewhere to live, an apartment of our own, which would be available in a few weeks. Now that we had this harbor in sight, our true feelings—which bore the toll of experience—became more evident. A certain bloom—an innocence, or perhaps just an ignorance—had been stripped from us. We had envisioned a life here in this city and then we had gone about trying to make the vision real, and in that process the role of imagination appeared especially ambiguous, appeared to have exposed something we hadn't known about our relationship to reality itself. This other death-face of imagination flashed before us now and then, in the periods when one thing could not be linked to another and a lack of sequence or logic was apparent in the enactment of our plans.

One morning, as I was walking along a quiet sunny street where people sat drinking coffee at pavement tables, I was attacked by a stranger, who hit me forcibly in the head. My assailant was a woman, deranged by madness or addiction, and the fact of her gender caused difficulties both in the recounting of the event afterward and in my own response to it. I had not noticed her approach or prepared myself for the blow, which left me bleeding on my hands and knees in the road with no understanding of what had happened. A crowd instantly gathered: people rose from their tables, shouting and gesticulating; in the pandemonium the woman walked away. The onlookers were pointing at her—she had stopped on the street corner and turned around, like an artist stepping back to admire her creation. Then she shook her fist in the air and she vanished.

It occurred to me in the time that followed that I had been murdered and yet had nonetheless remained alive, and I found that I could associate this death-in-life with other events and experiences, most of which were consequences in one way or another of my biological femininity. I had generally attributed those female experiences to an alternate or double self whose role it was to absorb and confine them so that they played no part in the ongoing story of life. Like a kind of stuntman, this alternate self took the actual risks in the creation of a fictional being whose exposure to danger was supposedly fundamental to its identity. But the violence and the unexpectedness of the incident in the street had caught my stuntman unawares.

Even after we had moved into our new apartment I was unable to forget or recover from what had happened, and the pure sorrow I felt seemed to stem from the consciousness of a larger defeat, to which this incident had contributed the decisive blow. The attack itself, which both belonged to memory and stood outside it, could not be digested: it stuck as though in the throat, impossible either to swallow or to spit out. Those few seconds repeated themselves over and over before my mind's eye, like something trapped and unable to find an exit, and the question of who my assassin was, of why she had attacked me, of what it was she had seen in me that she wanted to break, gradually gave way to the knowledge that what I was experiencing was, in fact, the defeat of representation by violence.

When the lady from the apartment next called, I took a perverse kind of pleasure in telling her my news. How awful! she shrieked. I noticed that she

ended the call more quickly than usual. I guessed we wouldn't hear from her again.

D decided to paint his wife in something approximating the classical manner, as a nude. But the paintings were chaotic and dark: far from freeing him from subjectivity, inversion seemed to disclose an unpleasantness inside himself, a crystallized hatred that both objectified his wife and obliterated her. She couldn't be seen, or at least not by him; something brutal in their contract, the contract of marriage, surged forth and shattered the perceptual plane. It was not unusual for violence to spill out of the upside-down paintings, but it was a violence that he already knew he contained: he had inherited it, could answer it, was occasionally its victim; what he did not desire was to become it.

D and his wife went to visit D's father, who lived in a stuffy little room in a retirement home out in the flat countryside. It was difficult to find reasons to visit him, since the home was not near or on the way to anywhere that D and his wife ever wanted to go. Yet at one time his domination of D had been such that it was indistinguishable from fate. There had been a period of years in which D and the father had not spoken, an estrangement for which D's father blamed him entirely, while also appearing to be perfectly content with it. His lack of self-reproach was more tormenting to D than almost anything else. There were stories of people who were redeemed by the approach of death and the light it shed on the truth. D had believed that the father would never die because it would be impossible for him to be redeemed in this way. Then one day he had summoned D to the stuffy room out in the flat countryside, and so it seemed that he would die, after all. D was privately frightened of going. He believed the father might kill him, annihilate him as he had once created him. Then D's wife had said that she would come. It was surprising to discover this insurance policy of marital love, which he had never thought to count on. Now she always accompanied him on these visits.

The father was standing red-faced at his window, which looked out on the small round lawn and the driveway and the winding access road that came across the flat fields in front of the building. In the center of the round lawn was a bare weeping willow. When the father saw them arrive he moved away from the window, where the winter sun made hard geometric shapes

on the glass. His furious red face had seemed imprisoned behind the shapes, but now it was gone. The empty glass glittered. Later, during their visit, he returned several times to that window to look out. It seemed to be a territorial instinct that was also a compulsion of memory, as though he were being forced to carry the burden of memory to the window to offer it up.

The room was on the second floor. Its thick beige carpet gave off a chemical odor. There was also the slightly rancid smell of old age. Through the window the day was windless and still, and at the center of the motionless scene the bare willow, now seen from above, stood in a pool of its own fallen leaves. The hard winter light filled the hot room. The father sat in a padded leather chair facing the window. There was a television set in the corner of the room, but the chair had been moved away from it. The father did not watch television. Next to the chair was a varnished wooden side table with a folded newspaper lying on it. The father's shrunken body was clad in a gray shirt tucked into belted corduroy trousers. The clothes hung from him, but there was still a toughness to his flesh. He wore an expression of astonishment that never altered. He had a history of participation in certain evils of which D knew only part, and against D he had committed many acts of speech that remained uncorroded in D's recollection. They didn't change or fade—it was the father who changed, as time ate away at him. D's growing inclination to forgive the father for the things he had said was also an inclination to forgive him for the things he had done, even though the first lay in the terrain of personal memory and the second in that of public record. But D had not succeeded in disentangling them, and together they filled him with such a darkness that his instinct was to rip them out of himself and fling them away without further examination.

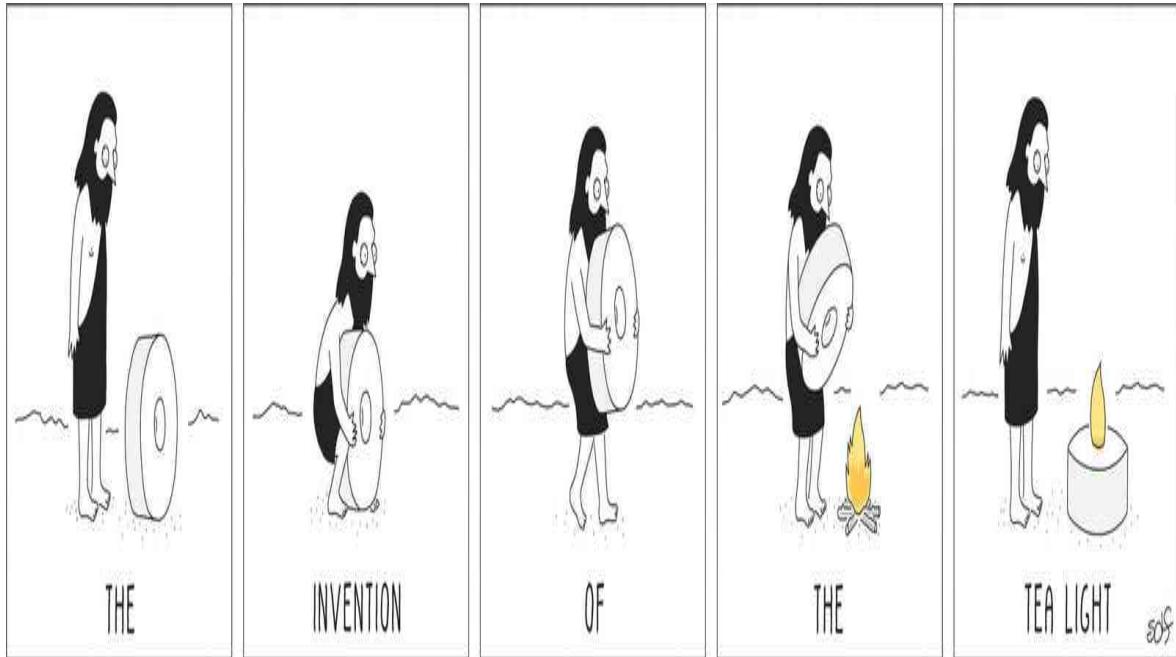
D's wife moved around quietly at the other end of the room, preparing coffee in the small kitchenette. It was darker there and her form glimmered strangely among the slashing diagonals of light that reached it from the window. The winter sun was low and the petrifying white lines laid themselves over the cupboards and walls so that she was rayed like a zebra where she stood. The same distance that had beset D in the nude paintings was suddenly present here, in this oppressive room. His wife's freedom, so partial and malformed, had a crippling effect on him. She was only a few feet away. He could neither use her nor dispense with her, could not, because of her, be entirely free himself. It was her undeveloped equality with him

that was crippling. She was not the pure object of his desire, nor was she his rival and equal in power. Instead, she was his companion; she situated herself there, only a few feet away, in the terrain of weaknesses, of need, of plain daily requirements. Yet she herself could be desired—the father, for instance, was readily watching her body move through the caressing bands of dark and light. Why did she not make proper use of her power, one way or the other? When D tried to see her, he simply saw his effect on her, saw, in other words, himself. Another man looking at her would see something different—this, he realized, was what he was unable to tolerate. It was unbearable that she could take his power of sight away from him and still be seen by everyone else. When he looked at her what he saw was his sexual failure, a failure brought about by the interference of society, of civilization itself, in the courage and capacity of their own bodies. Perhaps men had always painted nudes in the same way that they committed violence—to prove that their courage had not been damaged by morality and need.

The father was talking in the monotone he had adopted in old age, the affectless tone of loneliness. D's wife would ask him the simplest question and the answer could last for fifteen minutes, the voice neither rising nor falling but moving steadily over the surface of things and levelling them, like a tank steadily reducing a field of action to flatness and dust. The regional accent of his youth that had lain dormant through all the years of his adult vigor had crept back into his voice. D heard in that accent the problem of history itself, its dark inheritance insidiously bequeathed to each unsuspecting new generation.

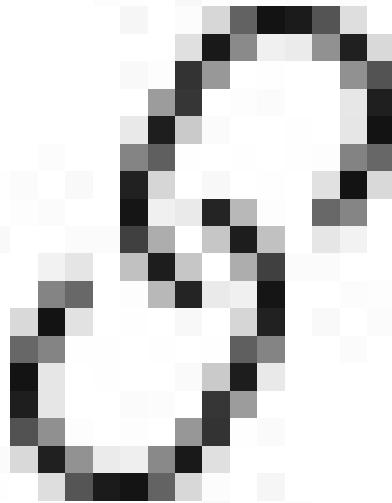
D's wife had come over with the coffee and placed it on the low table in front of them. She sat down beside D on the small hard sofa. With her malformed freedom, was she free also of history, of responsibility for the past? What had she herself inherited that bound her to the ongoing story of time? The father was looking at them, sitting there side by side. Together on the sofa, D and his wife now composed a reality that told its own story, that could easily be read, unlike the image of minutes earlier, that of D's wife striped like a wild beast among the kitchen cupboards. The question of her insufficient self-realization—her lack of effort, as it were—was now out in plain sight, as was his own crippled courage. These were the fundaments of his discovery of inversion, because reality would always be better than the attempt to represent it, and the power of truth, which lay entirely in the act

of perception, could stand free of that attempt. A feeling of immense relief passed through him. Tomorrow, when they were home again, he would start a new painting.



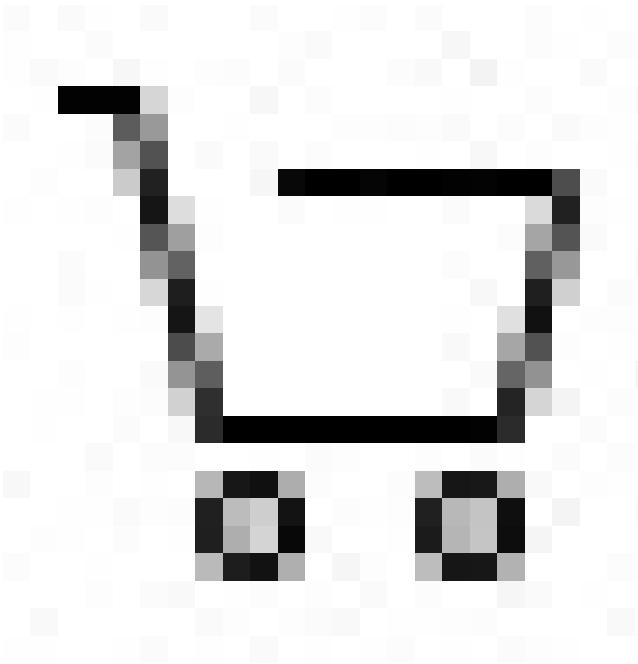
Cartoon by Seth Fleishman

[Copy link to cartoon](#)



Link copied

[Shop](#)



After I was hit, I desired for several weeks to hit in my turn. It was as if the violence were an actual object that had been transferred to me and that I needed to pass on. What I passed on would be more or less exactly what I had received—a blow to an unsuspecting stranger in the street. It would not, it seemed, have been altered in any way by its passage through my self. The only difference was that I had no feeling for—no interest in—the consequences of this action. I remembered the way my assassin had turned around, once she was at a safe distance, to look at what she had done.

We went for a weekend to Berlin, where there was an exhibition of the artist Louise Bourgeois's late fabric works. Beyond the tall open doors of the museum's entrance, where the attendant sat checking tickets, one of the artist's giant stuffed forms could be seen hanging in space, suspended from the ceiling—a human form without identity, without face or features. It was genderless, this floating being, returned to a primary innocence that was also tragic, as though in this dream state of suspension we might find ourselves washed clean of the violence of gender, absolved of its misdemeanors and injustices, its diabolical driving of the story of life. It seemed to lie within the power of this artist's femininity to unsex the human form.

A sickness had taken possession of me since the attack, of body but also of mind. The boundary of possibility had been moved, and the world was now

a different place. Its properties had been inverted: the self and its preoccupations were shrunken and impotent, and the exterior plane, with its prospects of imminent danger and disorder greatly enlarged. I watched people move blithely through their days, unconscious of what could at any moment befall them. It was from the impulse to wake them from this trance, perhaps, that my desire to hit was generated. For the first time in years, I thought about the violence of giving birth, when I had passed as if through a mirror into an inchoate animal region, a place with no words. A part of myself, I saw, had been abandoned there, the part played by the stuntman. But now my stuntman had stepped out of the shadows. If the body was an object, could be treated as an object, the stuntman attained a new authority. It was she, not I, who now walked around in the guise of myself.

Yes, of course, I had thought when I awoke after a smashed interval to find myself lying in the street in blinding pain with no knowledge of how I had got there. Automatically I had tried to understand what had happened, where I was, as one does on waking in darkness in a strange room—as though the world, when unobserved, turned itself upside down and it was the task of human consciousness to right it. This awful effort, this responsibility to situate oneself in space and time, to apply logic to one's predicament, was somehow immensely pitiable. A crowd of people had gathered and, in the moments before they began to react, they seemed simply to be looking at me as they might look at a picture in a museum. They were waiting for my reaction: they needed it, this representation, in order to be able to act themselves. Their instinct was to disown the violence or to pretend they hadn't seen it. It was up to me to place it in reality. I thought that I had perhaps been hit by a car, or that some heavy object had fallen on me from the buildings above, but the street was a pedestrian street and the paving stones were empty and clean. Then I remembered the woman I had glimpsed, shortly before turning to cross over to the other side. She had been standing ahead of me on the pavement, beside some temporary railings that blocked the way forward. I had briefly registered her image and then instinctively turned away, out of politeness so as not to encroach on her, and, remembering this, I thought, Yes, of course.

Did I believe that being hit by a woman was my fault in a way that being hit by a man could not have been? I could not have assigned meaning to being hit by a man, could have found no reason for him to hit me, and assigning

meaning was my duty, just as it was my duty to get off my hands and knees and stand up. Why did it make sense for a woman to hit me? It was as though a violence underlying female identity had risen up and struck. This was the domain of the stuntman, this attack on me that had originated within me, but now the stuntman seemed to have been externalized in an actual human form.

In the Louise Bourgeois exhibition, I found different reflections of this notion, there in the vague and exalted light of those lofty silent rooms, which opened one upon another, so that one felt drawn deeper and deeper into the artist's secret being, where the making of art bore a relationship to the living of life that was at once childlike and savage. There sanity and insanity were not opposites but, rather, the two faces of animate matter, the point at which the existence of consciousness can go no further in breaking down the existence of substance, of the body. Art, rooted in insanity, transforms itself through process into sanity; it is matter, the body, that is insane. Inside a glass case, two headless knitted dolls were copulating: blindly driven by instinct and need, the body has no awareness of its own moral preposterousness. But the female body has a special insanity, the insanity of the spider, for whom there is no boundary between the material and the immaterial self. The little cloth dolls with their little pink doll babies dangling from them by a knitted cord are merely evolving toward the huge black spider, waiting in the midst of her makings. Monstrous and silent, she seems almost a counter-fabrication, a product of metamorphosis, as though she had hatched unseen inside some greater fabrication and fed patiently off its illusions. She represents everything that is denied and suppressed in femininity, everything that remains darkly continuous behind its volcanic cycles of change and yet is unknown.

The exhibition was a memorial in thread and cloth, a knitted cathedral. How could the female sex be commemorated in stone? Its basis lies in repetition without permanence. Its elements are unlasting yet eternal in their recurrence, as violence itself is. This notion seemed to illuminate the germ of creativity in my assassin's blow. While I was sitting with the police, who had led me to a chair at one of the pavement tables, the proprietor of the café had come out to give me a glass of water. She was sympathetic and kind, bemoaning the number of crazy people on the streets, mentally ill people, addicts. She told me that my assassin had been hanging around this corner

for three days, and that the previous afternoon she had hit a woman in exactly the same place and in exactly the same way that she had hit me. That square of pavement, with its temporary railings, was, then, my assassin's studio—she was making something there, something it would take several attempts to get right. Her actions made no sense, were apparently insane, and yet to me they were entirely comprehensible.

D's wife has a stomach ache, a back ache, a shooting pain in her hip when she gets too quickly out of a chair. Sometimes her hands shake in the mornings as she holds her coffee cup. This is how I imagine it. She receives these complaints of the body mildly, without consternation. In response, she commands herself to walk vigorously each day in the fields and woods near the house; she attends exercise classes and eats with care; she grants herself things that are warming and comforting, a hot bath, a rest in the afternoon. Often she and D travel to southern places, and she absorbs the brilliant sunlight and the smells and sensations of the sea until she becomes radiant. Through this combination of will and self-reward, her body passes its days. Their accumulation is a sort of secret history, a diary: unobserved, she pays a more or less continuous attention to herself that only hints at a greater lack of significance. Her children are adults now, and she looks back on her history with them with a kind of fatigued amazement, like a retired general recalling past battles. She continues to be a woman, yet that fact has lately met with some kind of constraint or opposition: instead of flowering and putting out its display, her femaleness is growing back into itself. Her body no longer represents any kind of danger.

For a long time she felt that she had evaded D's knowledge of her. Some incapacity in him that was perhaps a form of kindness or consideration prevented him from knowing her completely. She evaded his possession while wanting him, in fact, to possess her. It had seemed to be her fault that she could not be possessed by him: it suggested that she lacked womanliness. But the terms of possession, for him, were not what she had thought. It was not easy to live with someone who saw so much in what he looked at. It seemed as though his gaze ought to be effortlessly able to devour her. So the fact that he did not, would not, or could not devour her constituted a rejection, as though she had been pushed to the edge of the plate. Indignant, she silently held herself away from him. The nude paintings were, in a way, the account of this battle. Her separateness, so fracturing in

his eyes, blackened the space between them: she was tarnished by it, viewed with suspicion. Yet there in the paintings was the boundary that he himself would not cross. Sometimes, lying drowsily beside him in bed, she yearned for the description of herself that he refused to offer. He would not describe her while to do so was a danger to himself, a risk.

The first mention of a double portrait did not especially alarm her; on the contrary, it suggested a solution to the impasse. His idea was that they should appear side by side, seated on a sofa or some such. She was interested to see what account he would give of himself, sitting there beside her. She assumed that this development had come from a compulsion toward honesty and on that basis she took her place beside him on the sofa. But it soon became clear that he didn't realize what he had done to her with the nude paintings. He didn't know that he had stolen something from her. He had made her ugly, and he didn't know how anguished she was to be seen as ugly, when he was the single being who might be said to have an obligation to find her beautiful. The double portrait showed their living room drenched in brilliant morning sun. The wallpaper bore a blue-and-white pattern of flowers—she was not sure she had ever been truly conscious of those flowers until she saw them upside down and noticed their livid and disturbing aliveness. The furnishings were a little faded, casually messy. The sofa cushions were creased. The sun seemed to be leaching energy from the room even as it illuminated it. The tall windows in the background were opaque with light. At the center of the scene was a two-headed monster: D and his wife, as creased and bleached as the cushions they sat on. They were holding hands, loosely. Their hair and clothes were untidy. Somehow, she had been captured.

For the next portrait, he suggested that they sit naked. She could have refused, but the moral logic of her situation didn't allow it. He had amassed significant wealth by now, as well as fame, and her status as his companion and wife was of a more serious order. It was her duty to help him—nothing, not even love of their children, was as powerful as the obligation she felt toward his talent. His success—his achievement—was also hers, or, rather, she had relinquished any possibility of achieving something by giving her life and strength to him, and so she had claimed a part of it, his power, for herself. In that way, she seemed no different from any other housewife: what

she understood now was that the actual difference between her and those others belonged to him also.

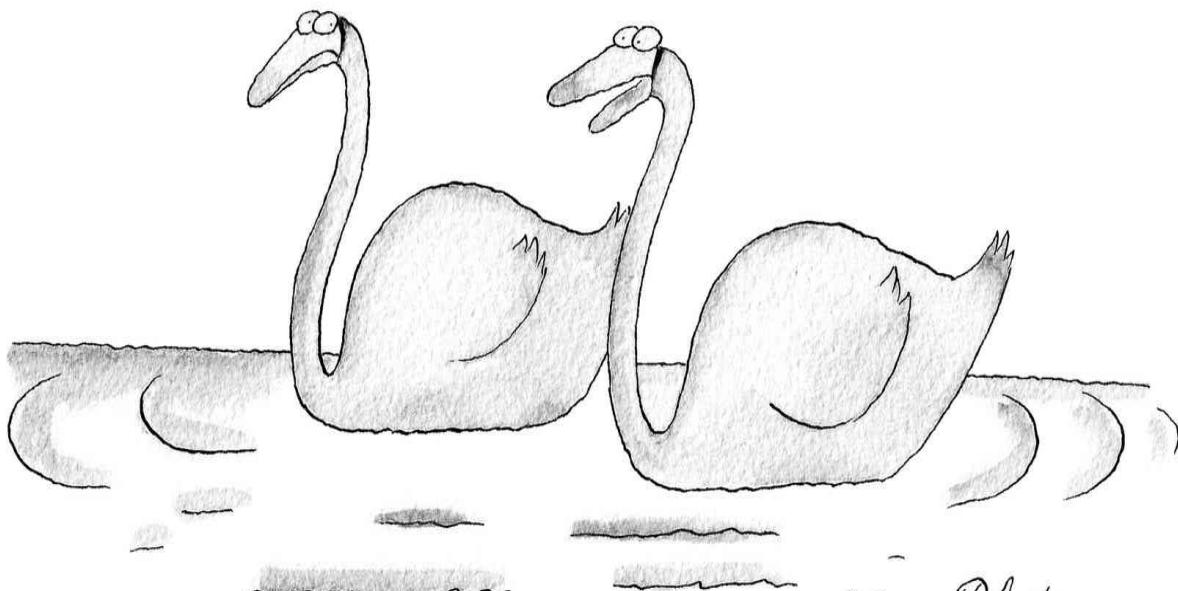
He paints a whole sequence of nude double portraits, and when she looks at them she sees the spectacle of her own unrealized life. Just as she has been his point of access to the superficial world, so he is using her now to make his confession. Her body is a sort of shield that he holds in front of himself to fend off the attack by time. Yet the implication is that their coexistence has been a fetter on his soul. There is something apparently humble, something almost comic in his willingness to present himself as one half of their couple. But the joke is on her. Bound to him, sitting in her place beside him, she has been turned upside down.

The portraits become bigger and more abstract: the two figures side by side are broken into shapes, into disintegrating shadows that appear to fade or reintegrate into the picture plane. She understands that he will continue to paint them, perhaps until the end. They are his late work, the melancholy song of his aging, and the public devours them more enthusiastically than ever, because this honesty in the face of time and death is what it cherishes the most. The fact that she herself is imprisoned in the paintings is the unerring mark of his originality. He seems to surrender something by including her—his pride in his masculinity, the egotistical basis of male identity. In this way, he marks the advent of a new reality. The aging bourgeois couple trapped unto death in their godless and voluntary bondage is the pedestrian offspring of history.

Some days in the city, all the children seemed to be screaming, screaming blue murder—in the street, in the park, through the windows of passing cars. These were not infantile wails but the bloodcurdling cries of strangulation and torture, of seers who had glimpsed some unspeakable horror that was about to befall us all. It was difficult to locate the source of these sounds of lamentation, which were so loud they seemed to come from everywhere. How could such small bodies generate so much noise?

Often the screams reached the window of my room in the new apartment, where I was writing about the painter Paula Modersohn-Becker, dead of childbirth at the age of thirty-one. Her nude self-portraits have an audacity that seems unavailable now, not because it's that much easier these days for

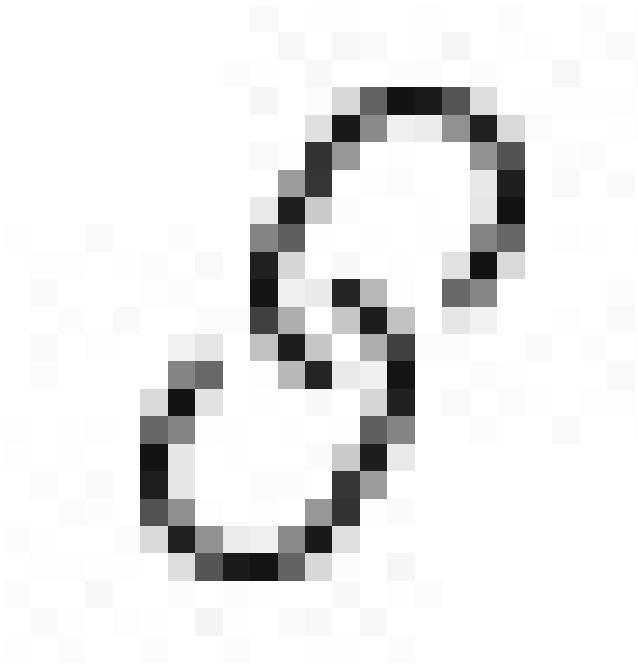
mothers to make art but because the truth has quietly left that arena, and there's no knowing if or when it will return. The truth content of a subject is a matter of ineluctable mystery and precision. Can the element of the eternal in the experience of femininity ever be represented as more than an internalized state? That possibility must lie in the female body itself, for it might be said that the woman artist has a clear choice: to adopt male objectivity and hope to "pass" as an honorary man; or to declare her femininity and its themes from the outset. It is a choice not just about making art but about living. What is striking is the clarity with which Modersohn-Becker can be seen choosing this second path, and experiencing the dawning knowledge of its consequences. She doesn't entirely know, in other words, quite what it is that she is choosing: she is being led by instinct. To be led by instinct is the preëminent freedom we attribute to male artists, and to the making of art itself. There is a self-destructive element to that instinct, and to the creative act, but in this case the cards have been dealt in advance: here is a woman stepping out of relative safety and into the world of her own illegitimacy.



Victoria Roberts

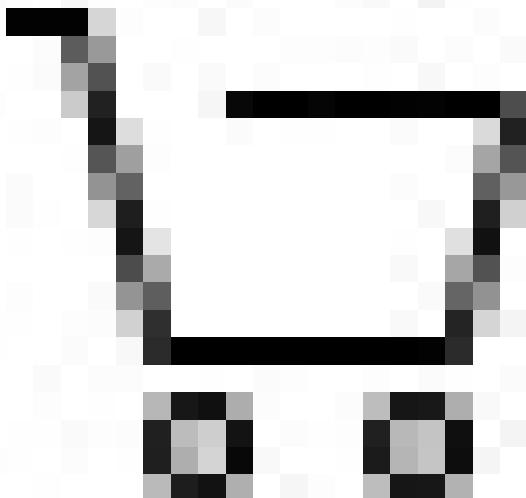
"It's a wonderful idea, but I don't think it's a ballet."
Cartoon by Victoria Roberts

[Copy link to cartoon](#)



Link copied

Shop



She often painted in dramatic closeup, for instance the mouth of a baby suckling a breast or a child's hands grasping a toy. She was making a point not just about the inundation of her space by others but about what a woman sees—not an artist but a woman in the reality of her womanhood. For now,

what she sees isn't terribly important, as she herself isn't terribly important—it's the implication of this step, this move into representation, that is radical. Modersohn-Becker lived in the time of early modernism, a milieu in which an offer of equality was really an offer of imitation—art schools for women, men who were prepared to teach in them, artistic movements they could ride if they wished—and who could really have seen that there was something wrong in that, some fundamental falsification that would betray and poison the root of being that is the sole source of artistic worth?

Modersohn-Becker made a painting of her husband sleeping, in which the whole history of women painted asleep in beds that the artist has clearly just vacated is quietly mocked. The husband has fallen asleep fully clothed in a chair, in fact—he hasn't even taken off his glasses. The painting is an exercise in mild wonder: wonder at the familiarity and yet unknowability of this being, her husband; wonder, perhaps, at the sense of entitlement that allows him to simply fall asleep like that; wonder at the artist's own power to perceive him when he doesn't know he's being watched—since women perceive their husbands from deep within their subjugation to them. It is not usual for a record to be made of those perceptions: her point may have been that, if one were to answer truthfully the question of what female art might look like, it would have to be composed chiefly of a sort of nonexistence. Or, rather, the means by which the art was created, the time and space it occupied, would have to be justified in full, legitimized in a way that art made by men does not require.

Amid the children's screams, my own history of motherhood feels like something a long way upriver. I have drifted so far from it that I no longer detect the truth there. Have I gone beyond it in some broader sense, surmounted it, not just in time but also in actual meaning—in other words, progressed? The screaming children fill me with impatience and a sort of dread, as though they represented some universal task from which I will never be free. At night, I frequently dream that someone has given me a baby to look after and disappeared. In these dreams I am not impatient; I feel only a harrowing anxiety. In the children's screams I hear something true, so true I want to block my ears, yet the world of domesticity and nurture they invoke, though irreducibly real, is a world submerged in and muffled by its enslavement to time, where that truth is held perennially at a distance. To be a mother is to live piercingly and inescapably in the moment. One can

acknowledge the necessity for an artist to recognize her material, but the artist who is also a mother *is* the material—impacted and raw—from which she must cleave herself apart in pursuit of a creative objectivity. Each time she does it a cost is exacted, the cost of experience. It is experience of almost too formative a kind, like being a soldier, and I am a veteran of it. I want medals, a special uniform. When the woman hit me in the street, I felt a veteran’s outrage at being attacked. It was only this, this part of myself that had been a mother, that was capable of outrage. The rest of me felt that it was what I deserved.

D and his wife travel to Italy, to a cultural festival where D will be the guest of honor. It sounds like a glamorous invitation, but the festival is badly organized and the weather is unseasonably rainy and gray. There is a public interview with D, and fewer people attend than might have been expected. The villa where they are staying is a center for artists’ residencies—many, many years ago, when their children were very small, D came here with his family for several months. His time in this villa all those years ago was what brought about the great turning point in his work, as though in a foreign place he had finally been able to unchain himself from the predestination of identity and be free. It is for this reason—nostalgia, perhaps—that he accepted the invitation to the festival. But the villa is gloomy and uncomfortable and chilly: D and his wife, it seems, have grown accustomed to greater luxury. D rails and is angry; he catches a cold and cancels his media appointments. D’s wife walks alone around the wet, foggy streets of the town. She considers buying some Italian delicacies to take home, but her heart isn’t in it. She realizes she doesn’t actually believe in it anymore, in reality—if Italy and its delicacies are reality. The thought makes her sad. Yet she has been so fortunate.

On the second day, in the afternoon, the sun unexpectedly advances from behind the clouds as though stepping through the curtain onstage. The world is transformed. D’s wife is standing at that moment at the tall, heavy windows of their room which look out on the wet and desolate garden below. There is very little she finds familiar here, from that other time so long ago. She recalls only blurred months of blazing heat and sun, full of sensuous pleasure and activity. This doleful return merely underscores the irretrievability of past time and the element of illusion, of belief, that she now sees constitutes so much of experience. She can’t bear memory—she

wants not to remember but to live and feel. If there were some way of erasing all her memories, she would take it. Almost in the same moment that the sun bursts out she hears the sound of chatter and of doors banging down below and sees a family erupt onto the lawn. Her understanding of this sequence of events is far deeper than memory: it is a kind of creativity that applies knowledge to the ongoing moment. There are three small children—a girl and two boys—who speed all together across the lawn and a young father following more slowly behind them. They have obviously been glued to the windows waiting for the rain to stop. In the fresh sunlight, the sudden greens of the garden are like a pulsing hallucination. Birds flit joyfully from tree to lawn, and the flowers seem almost to lift up their heads and silently sing in the radiance. Her memories, also, are instantly illuminated; in fact, the sunny afternoon and the children at play are so real to her that they bypass memory and hint at actual recurrence. She is once more in the garden, entertaining her children while her husband works in a studio somewhere deep inside the cool and echoing villa. Her life is one of a continuous but diffuse momentum, like that of an ocean liner crossing seas with no visible landmark by which to gauge its progress. The movement, the progressing vessel, is her husband, and it has been easy—yes, easy and frequently scenic, absorbingly so, just as it is for the passengers on the ship's deck watching the sun rise and set over the water, seeing new colors and lights at the world's rim, with an exalting sense of privilege at witnessing these things, while, at other times, during weeks of storm and rain, they huddle inside and amuse themselves. Down on the lawn, the children's father is showing them something, kneeling as they gather round—an interesting flower or insect, perhaps. He is attractive, squatting there in his loose jeans, slim and rugged-looking. She wonders how he manages to do his work and still have time for the children, as D never did. But D is a genius, and his selfishness may be one reason for it. Or perhaps the man's wife is the artist. At the thought of this hypothetical woman she experiences terror, as if at the prospect of an ominous responsibility being thrust upon her. She imagines the woman in her studio, captaining the vessel as it plunges heedlessly forward.

Sometimes, at moments of crisis, she simply inverts her surroundings and instantly feels a sensation of peace. It is a habit she has got into over the years. Whatever is threatening or overwhelming in a set of circumstances is neutralized by being imagined upside down. It is the problem of perception,

she understands, that has been removed—her implication in events is taken away. She is certain that D would not like to know that this is what she does. Nevertheless, she revolves the garden so that the brilliant green grass becomes the sky and the sky—so oblivious—tumbles with its fathomless blues and its cloud shapes to the earth. The heavy cypresses and the oaks hang from above, delirious with lightness. The man and the children are now just a patch of color and texture among the other colors and textures, the burden of their humanity extinguished.

One day, in an exhibition, I saw Norman Lewis's painting "Cathedral," and for a long time afterward the memory of it stood in my mind. Sometimes I searched for photographs of it and looked at them. They resembled the memory but were not the same as it. They were photographs of the memory. The painting itself still existed somewhere, in time.

It had struck me as small, for the reason, perhaps, that its subject was big. A small painting of a cathedral appeared to be a comment about marginality. It thwarted the grandiosity of man: his products could be no bigger than he was himself. What was absent from the painting was any belief in what the cathedral was. I remembered it as resembling a glowing pile of blackened embers, charged with internal heat: it seemed to belong more to nature than to man. I wondered how this same artist might have painted a mountain. The justice he brought to the cathedral was of a rare kind, was something akin to love, or pity. He would not, perhaps, have pitied a mountain in the same way.

The reality or otherwise of monuments is a form of distraction in "Cathedral," a façade behind which lies a relationship to power so oblique as to be almost ungraspable. It could perhaps be summed up as the idea that to stop experiencing the feeling of injustice would be to make the injustice no longer exist. It seemed to me that Norman Lewis liked the cathedral during the time that he looked at it, liked the way the sun made fire in its colored windows so that the structure fell away into charred integuments. His liking was stronger than the cathedral, was more modern and alive. He chose to ignore the cathedral's power, like someone meeting a king and treating him as an equal, an instinctive if perilous kind of good manners. In a sense, he was also choosing to ignore his own marginality, for marginality is not an identity, inalterable and therefore situated beyond change. The marginal

becomes the central later on, after the wars of ego have been fought, like a peacemaker arriving on the battlefield after the conflict has ended.

In London, at a museum, I unexpectedly saw “Cathedral” again. It was the school holidays, and the museum was providing special activities for children. Entertainers in big, furry animal costumes were milling about the main hall, where music was playing and a disco ball suspended from the ceiling whirled colored lights across the walls. The children ran around directionlessly, screaming and laughing amid the discarded activity sheets and the smells of food from the cafeteria. There was a mild sensation of pandemonium, of a substanceless kind of anarchy, like people misbehaving in church. But this church of art was too fragile in its sanctity—its core of belief was too menaced and mislaid—for it to bear much public iconoclasm. The moral good of culture and the values of entertainment were already locked in a dance of death and needed no further encouragement. I was thinking of the virtues of difficulty, and of how people who can find no reflection of themselves in their own circumstances might require proof of some boundlessness to the human soul, some distant and inaccessible goal toward which it reaches—might need to see the record of those attempts and to realize how prepared people have been to run the risk of not being understood in making them. Not to be understood is effectively to be silenced, but not understanding can, in its turn, legitimize that silence and illuminate one’s own unknowability. Art is the pact of individuals denying society the last word. There, in the commotion of the museum, I thought of Norman Lewis and of how as a child he had learned to draw by copying the pictures in books borrowed from a library in Harlem. Harlem later became his subject, because it was the subject that was given to him. The marginalized artist, like any marginalized person, is obliged to reckon with reality first. But Norman Lewis eventually and deliberately set reality aside. Was abstraction—like imagination or fantasy—merely a mechanism of escape? Was there some debt that was left unpaid in this abandonment of the scene of limitation? It was a question not just about the moral value of freedom in the context of aestheticism but about the actual nature of freedom itself.

Being hit in the head, I now saw, had been for me both real and unknowable, was the inversion of representation while being ultimately representative. The world is upside down, a friend of mine said when I told her what had

happened to me. Yet the reality of violence, painful though it was, seemed to offer a correction to the reality that obeys the laws of gravity. What it offered was a bloody kind of truth. *You*, I called her, the woman who had hit me—called her in my mind, the hundreds of times I thought of her each day. She had replaced my image of myself, the image I had left behind me in the gilded mirror of the lady's apartment. She was my dark twin, an inextinguishable reminder of something in myself that had been denied existence. She herself did not deny it: her body was the entire limit of her being and she had chosen to deploy her objectification. She had done her work without making a sound. These were her offerings, the offerings of the stuntman: violence and silence.

In the museum, I walked through the rooms at random, trying to escape the noise. In a large, long gallery, where the paintings had been hung one above another almost to ceiling height, I suddenly saw it, the small, smoldering canvas. It was somewhat lost among other, larger works and too far up the wall to properly see. It needed intimacy and proximity; it needed attention—even here, in the safety of the museum, there was always this obligation, the fight to find a way out of obscurity. By that fact alone one might have said that Norman Lewis had failed to overcome his circumstances and attain a creative equality. In a sense, the painting was a painting of that same failure. It was this, I realized, this summoning of the obscurity itself, that was so moving. It was his portion—it was what he had. He chose to represent it so as not to add more to the balance sheet of lost things: he was placing it on the scales of justice, this account of his refusal to be separated from himself. By painting the obscurity, he is trying not to be angered by it. Instead, he is trying to love it, the darkness in which he moves, the light that sometimes pierces it and that only his eyes can see. ♦

By Deborah Treisman

By David Remnick

By Joshua Rothman

By Rebecca Mead

Onward and Upward with Technology

- [How Much Can Duolingo Teach Us?](#)

How Much Can Duolingo Teach Us?

The company's founder, Luis von Ahn, believes that artificial intelligence is going to make computers better teachers than humans.

By [Carina Chocano](#)



In the fall of 2000, as the first dot-com bubble was bursting, the Guatemalan computer scientist Luis von Ahn attended a talk, at Carnegie Mellon, about ten problems that Yahoo couldn't solve. Von Ahn, who had just begun his Ph.D., liked solving problems. He had planned to study math until he realized that many mathematicians were still toiling away over questions that had proved unanswerable for centuries. "I talked to some computer-science professors and they would say, 'Oh, yeah, I solved an open problem last week,'" he told me recently. "That seemed just a lot more interesting."

At the talk, one particular problem caught his attention: millions of bots were registering for Yahoo accounts because the company couldn't distinguish them from human beings. What the company needed was a rudimentary variation on the Turing Test, which the English mathematician Alan Turing had proposed, in 1950, as a way of determining whether machines could credibly imitate human beings. In the most familiar version of the test, a person poses questions to two figures he cannot see: one

human, one machine. The machine passes the test if the evaluator can't reliably decide which is which. Back in 2000, no computer had ever succeeded.

In college, von Ahn had read a book by the philosopher Douglas Hofstadter in which Hofstadter points out that computers can't recognize text unless it's standardized. With this in mind, von Ahn and his adviser, Manuel Blum, created a program called *CAPTCHA*: the Completely Automated Public Turing test to tell Computers and Humans Apart. The program generated text, distorted it, and required users to decipher the letters correctly. (Other researchers came up with similar proposals around the same time.) Von Ahn and Blum reached out to Yahoo, and gave the company the code free of charge. Within two weeks, the system was up and running. Within three years, a version of it had been implemented by nearly every large company on the Internet.

CAPTCHA did not make von Ahn rich, but it did make him mildly infamous. When people learn about his role in the program's creation, he told me, they say, "Oh, you came up with that? I hate you." This makes him feel bad, he said, but it didn't deter him. A few years after developing *CAPTCHA*, von Ahn created the ESP Game, which randomly paired online players, presented them with an image, and asked them to give it a one-word label. The players couldn't see the words their partners were choosing; they won the round when their words matched. Ten million people played. The game wasn't a mere diversion: computers, at the time, had difficulty tagging images, something that humans can do easily. In 2006, von Ahn licensed the game to Google, which used it to improve search results for Google Images.

The game was also part of von Ahn's dissertation, which he titled "Human Computation," coining a term for what we now generally refer to as crowdsourcing. A year after he published it, he became an assistant professor at Carnegie Mellon and won a MacArthur "genius" grant.

Later, while driving to Pittsburgh from a panel in Washington, D.C., von Ahn had another idea. By that point, people were deciphering *CAPTCHA* fragments two hundred million times a day, with each one taking about ten seconds. Collectively, they were spending five hundred thousand hours every day proving to machines that they were human. What if, von Ahn

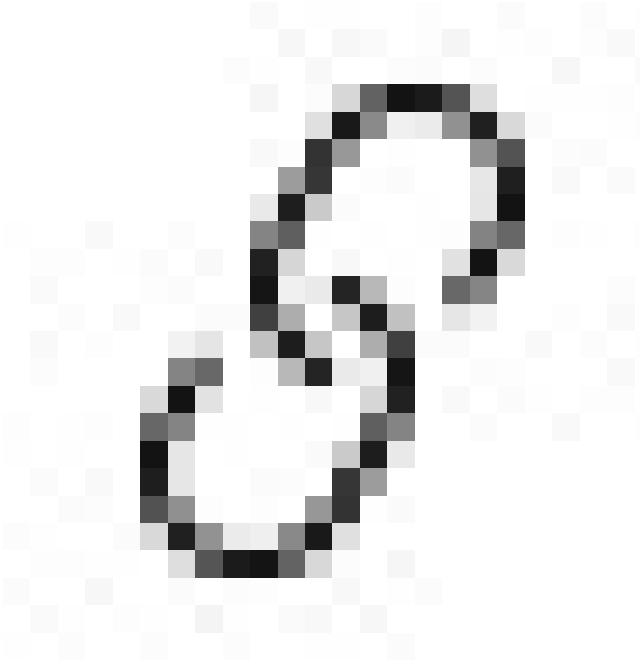
wondered, he could channel all that unwitting microlabor toward something useful—the way, as he saw it, he had done with the ESP Game?

Several teams had recently begun working to digitize the world's books, and it occurred to him that replacing CAPTCHA's computer-generated text with little pieces of actual publications would speed those efforts along. He delivered a talk about the idea, and, shortly afterward, he was approached by executives from the *Times*, who had a hundred and fifty years' worth of archives they wanted to put online. Von Ahn proposed that they pay him forty-two thousand dollars per year of old newspapers to digitize the archives. (This, he calculated, was a third of what it would cost to have humans type them by hand.) But Carnegie Mellon resisted the idea: making money off a research project could jeopardize the school's nonprofit status. So von Ahn started a company, reCAPTCHA, to monetize his method of digitizing text. In 2009, he sold it to Google for a sum that he said was sufficient to insure that neither he nor his future children would ever need to work.



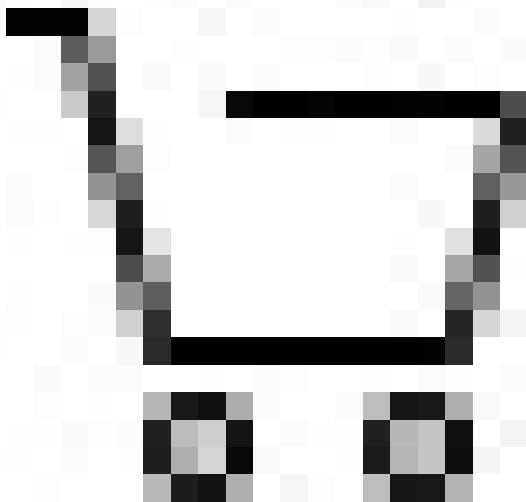
"I like your style, kid."
Cartoon by Jerald Lewis

[Copy link to cartoon](#)



Link copied

Shop



Von Ahn briefly considered retirement. “But only for a second,” he told me. “I get really bored.” Instead, he began a new project, Duolingo, which is now the most frequently downloaded education app in the world. Originally, he envisioned it as another Janus-faced project—a Web site that would help

people learn foreign languages while simultaneously using their work to translate online texts. It evolved into something else, a smartphone app that offers language lessons as a series of bright, colorful, addictive games. But it remains, under the hood, an exercise in human computation. Like all of the work von Ahn is known for, it is an investigation into not only what we can learn from machines but also into what machines can learn from us.

Von Ahn is forty-four. He has button eyes, quizzical eyebrows, and a faint trace of stubble, visible mainly on the outer edges of his mustache. Although he now runs a company with a valuation in the billions, and keeps a schedule as rigid as a stationmaster in Mussolini's Italy, he retains a comically eager quality. Describing his swift morning routine, he told me, "I set the bar of soap in the place where it's easiest to access. I set everything up like that." He talks fast, with an upbeat cadence, like a man on a mission that he's thoroughly enjoying. He used to watch TV and read at the same time. ("I'm not doing that anymore," he said, "but I was.") When I asked him about the day-to-day grind of running a company, he said, "For me, this is very fun. Except for the people problems. Those are no fun."

Duolingo got started after von Ahn began discussing a potential project focussed on education with his research assistant at Carnegie Mellon, a Swiss Ph.D. student of his with the improbable name Severin Hacker. Von Ahn had funding from the National Science Foundation, and he had earmarked some of his MacArthur money for the project, too. He and Hacker, who is now Duolingo's chief technology officer, decided to zero in on language learning, von Ahn told me, because, in most countries, knowledge of English boosts earning potential. "I love math," he said. "But just knowing math doesn't make you more money. Usually, it's, like, you learn math to learn physics to become a civil engineer. It's multiple steps. Whereas with knowledge of English—you used to be a waiter, and now you're a waiter at a hotel."

Von Ahn grew up in a middle-class neighborhood in Guatemala City with his mother and his grandmother. His mother, Norma, was the youngest of twelve children, and also one of the first women in Guatemala to earn a medical degree. After Luis was born, she worked part time as a pediatrician, but spent most of her time, von Ahn said, "making sure that I got a good

education and also making sure I was a hypochondriac.” She now lives with her son in Pittsburgh.

Von Ahn’s father was a well-known orthopedic surgeon who had been his mother’s professor in medical school. Von Ahn saw him from time to time, but he told me he didn’t know the story of his origins until his aunt offered him an explanation: his mother, she said, had “found the smartest person she knew and convinced him to have a child.” He added, “I don’t know how one does that, but this is the story I’ve been told.” It struck me that this was either a powerful example of how the stories we learn as children stay with us or a somewhat tender expression of a fundamental innocence. Possibly both.

When Luis arrived, Norma continued with her program of optimization. “I spoke to him from the time he was born,” she told me. “I think people don’t realize how important this is, but that’s how they acquire language.” By the age of two, she said, Luis spoke perfect Spanish, so she started to speak to him in English. She sent him to a Montessori school. His teachers told Norma that Luis liked to walk around the classroom explaining things to other kids.

The bulk of his family’s income came from a candy factory owned by his grandmother. Von Ahn spent his Sundays there, taking machines apart and putting them back together. He asked his mom for a Nintendo, and she bought him a computer. When she stopped buying him computer games, he learned how to pirate them. Soon he was trading games with other computer owners in the neighborhood, many of them guys in their twenties who would sometimes ring the doorbell and say, “I heard there were games here.”

Von Ahn attended the élite American School of Guatemala, in Guatemala City, as part of a gifted program that recruited students from smaller schools around the country. The experience provided a stark view of inequality in Guatemala. “Some of the kids in my school had bodyguards,” von Ahn said. Others, like a friend of his who ended up going to Oxford, didn’t have enough food at home. Von Ahn formed a tight bond with a group of boys from the gifted program, three of whom now work for Duolingo. “We were the nerds,” Rogelio Alvarez, who is in charge of the company’s English-proficiency test, told me.

Von Ahn's mother expected him to go to college in the United States, but he was ambivalent about the idea. Then, in 1995, during his senior year of high school, his aunt was kidnapped. Ransom schemes were on the rise in Guatemala, which was nearing the end of a decades-long civil war. Von Ahn's aunt had once been married to a colonel in the military, and her ex-husband helped connect the family with an anti-kidnapping unit, which advised them on how to proceed. "One of the things they tell you is: 'They're gonna ask for an amount. Even if you have it, don't pay, because what they're trying to do is measure how much you can pay. If you immediately pay it, they are going to think that they undershot.'" A member of the family—a more distant relative, as the unit had instructed—negotiated with the kidnappers, and von Ahn's aunt, who died a few years ago, was freed. "That was a pretty horrifying experience," von Ahn told me. He decided that he would go to Duke, to study math.

But first he had to prove his proficiency in English. The accepted test at most American colleges, called the *TOEFL*, was out of slots in Guatemala City. Von Ahn flew to El Salvador to take it, conscious of the expense, and the risk—"El Salvador in the late nineties was not safe," he said—and of just how important it was to his future.

Last fall, I visited Duolingo's headquarters, in a large, purple-gray building near a Whole Foods in Pittsburgh's gentrifying East Liberty neighborhood. Past a small reception area is a bright space with an ivy-covered wall and a wide, blond-wood staircase that doubles as seating for talks, parties, and a weekly business meeting. Von Ahn's desk is on the third floor, in the center of an open plan. On it sat a stuffed version of the company's mascot, a green owl named Duo. The owl has become ubiquitous on TikTok ever since a young employee, Zaria Parvez, started getting colleagues to put on a Duo suit and perform various stunts, such as twerking in a conference room. Duolingo now has more followers on TikTok than CNN and the Discovery Channel; Parvez has been promoted to global social-media manager.

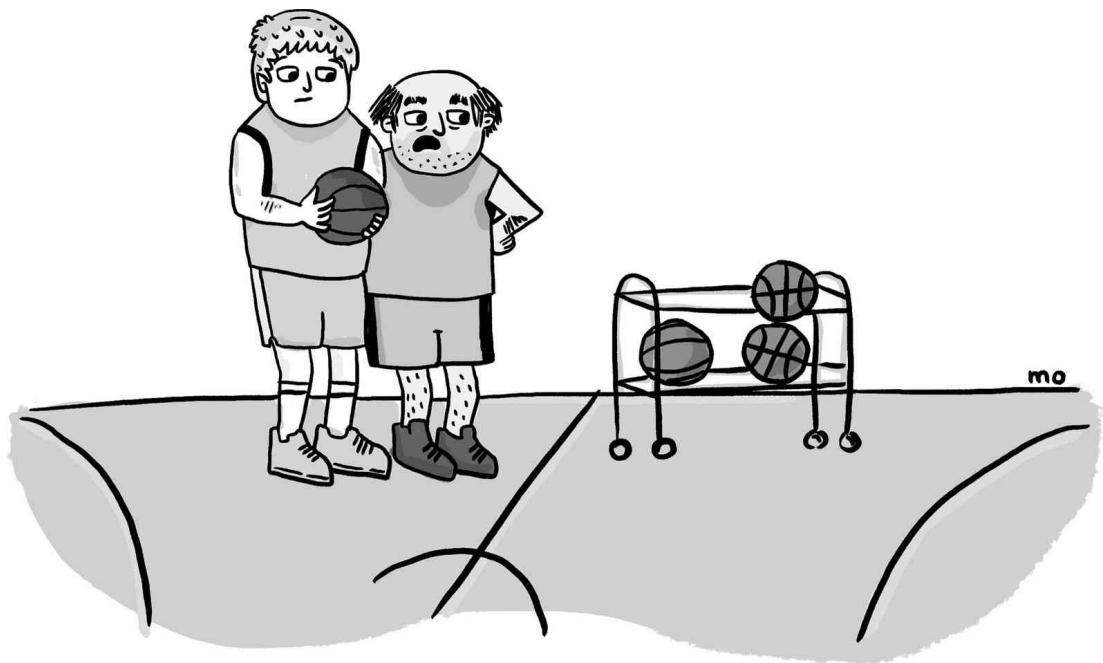
Hiring at Duolingo hasn't always been easy. "There's some tech talent in Pittsburgh, but there's not a lot," von Ahn said. The company has to attract people from out of town and then persuade them to stay. "I read in some book that if you have three friends at work you're very unlikely to leave,"

von Ahn told me. He made that an explicit goal for each new hire. “Severin calls it social engineering,” he said.

Attracting people and getting them to stay is, in some ways, Duolingo’s core business. When you begin a course on the app, you are greeted by Duo and some basic vocabulary. Then a collection of cartoon characters—Lily, a sarcastic, purple-haired teen; Eddy, whom the company’s principal product manager, Edwin Bodge, described to me as a “kind of goofy, weird gym bro”—speak sentences to you, and prompt you to translate them. The app dings when you get something right, awards you points, badges, and trophies, and moves you along a winding path through a series of increasingly challenging levels. You are reminded, repeatedly, to finish at least one lesson each day, in order to keep your streak going.

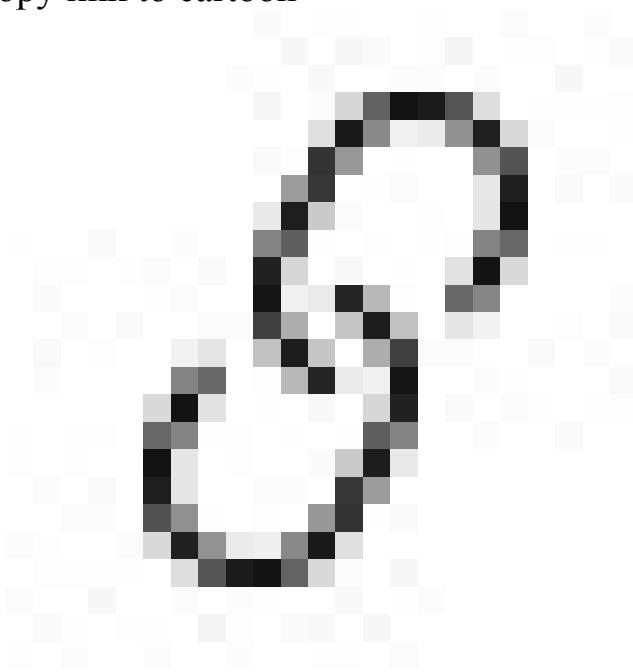
Von Ahn’s original concept for Duolingo—that people studying foreign languages could practice by translating existing texts from the Web—relied on other users to rate the results and suggest improvements. The hope was that this process would produce translations worth paying for. BuzzFeed became Duolingo’s first client, in October, 2013, announcing that, as part of its expansion into Portuguese, Spanish, and French, it would “have Duolingo’s students translate the best of BuzzFeed into new languages while localizing BuzzFeed’s iconic tone.”

The program never got out of beta; Duolingo dropped it within two years. But von Ahn found other ways to utilize crowdsourcing. The same month that BuzzFeed became a client, Duolingo launched the Language Incubator, which expanded the app’s range by offering user-generated courses, Wikipedia style. Duolingo’s early curricula had been rudimentary—von Ahn created the first Spanish course, and Hacker generated some German exercises. (“Then he kind of flaked out and hired somebody to finish the German course,” von Ahn told me.) The incubator provided a template for Duolingo’s courses and invited people to apply to become moderators of new ones. Those who were selected worked with other users to help put their courses together. The courses were tested during a beta period, and then they went live.



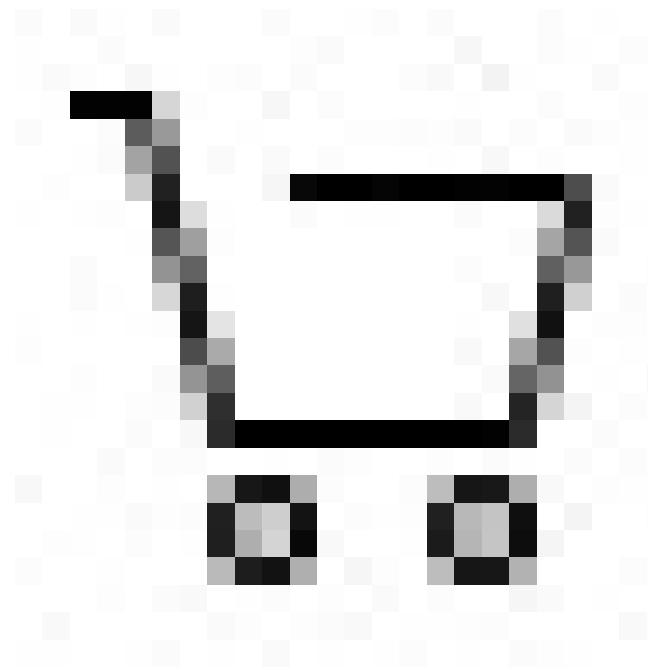
"I'll guard their center if he's also forty-five, out of shape, and running on little to no knee cartilage."
Cartoon by Mo Welch

Copy link to cartoon



Link copied

Shop



None of the creators who participated in the incubator were paid. “Our objective is to teach the world languages for free, so we also expect others to collaborate for free,” von Ahn told CNN. Venture capitalists seemed to recognize the efficiency of this approach: by the time the lab launched, Duolingo had raised tens of millions of dollars in funding.

The lab attracted idealists like Ufuk Can Çelik, who was working for an N.G.O. in Gaziantep, Turkey. He had been teaching Turkish to Syrian refugees and English to Turkish students, and practicing languages himself on Duolingo. He noticed that the app’s Turkish content had been created years earlier, and wasn’t great. “There were some sentences which didn’t have any context or learning objectives,” he said.

Bozena Pajak, a linguist whose Ph.D. research focussed on the cognitive processes underlying learning, now oversees learning experience and curriculum design at Duolingo. She acknowledged that courses in the app’s less widely studied languages still need work. Pajak was hired, in 2015, to revamp Duolingo’s curricula. “I started this initiative of, essentially, redoing our courses from scratch, because they were initially developed in a not very systematic way,” she told me. She and a growing team began to bring courses in line with recognized standards for establishing language proficiency. They designed lessons that addressed specific contexts and

situations, and employed fewer out-of-left-field translation prompts—“I am eating bread and crying on the floor,” e.g.—of the sort that Duolingo was becoming known for. (Such sentences are still sprinkled here and there, Pajak said, because people love them, and they grab users’ attention.)

“It may seem like a fun game—it is a fun game—but, behind the scenes, it’s very intentionally designed so that we pull your attention to the right things,” Pajak said. She told me that Duolingo deliberately downplays the kind of explicit instruction one might associate with an old-fashioned foreign-language class in order to engage learners’ brains in different ways. Giovanni Zimotti, the director of Spanish-language instruction at the University of Iowa, described the app’s approach as “Hey, here are the sentences, start creating them.” He added that “many, many people doing language acquisition” have come to favor this approach, because it pushes learners to use the building blocks of a language, and to understand, through that experience, how they fit together.

Like all the teachers I spoke to, Zimotti sees Duolingo as supplemental to the kind of deep immersion that language learning requires. But, in his opinion, the time most people spend on Duolingo is time they would otherwise spend on TikTok or watching television, not learning a second language in some more optimal way. Duolingo’s popularity grew fairly steadily in the twenty-tens, but it spiked dramatically in March, 2020. That month, *COVID-19* shut hundreds of millions of people in their homes. Downloads of Duolingo doubled. With fewer things to do, or places to go, why not learn a language?

Reflecting on the company’s beginnings, von Ahn told me that for a long time Duolingo operated “almost like a nonprofit. But the fact that we were almost like a nonprofit,” he added, “allowed us to completely take over the market from the ones that were really trying at all cost to make money.” This is perhaps less a nonprofit approach than a familiar Silicon Valley strategy: bring in users by offering a service below cost, then seek out revenue streams from a position of dominance. Duolingo started running ads in 2016, and also launched an ad-free subscription tier, which now costs about eight dollars a month. The company’s English-proficiency test, a cheaper alternative to the *TOEFL*, is also a significant source of revenue.

Duolingo finally shut down the Language Incubator in March, 2021. “We were making, I don’t know, two hundred million a year, and it didn’t feel so good to have these people do that for free,” von Ahn told me. The company distributed four million dollars to a hundred or so volunteers, who were also offered jobs as contractors. Many of them, including Çelik, signed on.

All of von Ahn’s meetings at Duolingo last twenty-five or fifty-five minutes, and each is followed by a review session, to evaluate how the meeting went. Last September, I sat in on a meeting about viral strategy, attended by a half-dozen employees in Pittsburgh and a dozen others who Zoomed in from San Francisco, Shanghai, Stockholm, and New York. Von Ahn paced, interjected, cracked jokes, asked questions. Hacker had told me that von Ahn worked hard at Carnegie Mellon to be a better, more engaging teacher, and I got the sense that he was now in classroom mode. The employees discussed the kinds of things that Duolingo users often share on social media: streak milestones, badges granted for personal accomplishments, bizarre sentences.

Duolingo created a model called Birdbrain to analyze the data it collects about what its users are learning. Birdbrain also compares a user’s performance with that of others, so that, even if you have just started using the app, it can quickly begin to predict how well you are likely to do on any particular exercise. Ideally, von Ahn told me, you always have an eighty-per-cent chance of getting a question on Duolingo right: higher than eighty per cent, and you’ll get bored; lower than eighty, and “you feel dumb,” he said. Also key is that the lessons not exceed, on average, two minutes, although that length has been decreasing. “Attention spans keep getting shorter,” he told me. “Already we’re a little worried that younger generations actually expect a thirty-second thing, not a two-minute thing.”

The number of user repetitions generates an enormous amount of data, and, as Duolingo has grown, machine learning has become integral to everything that it does. While the app teaches users, users are simultaneously teaching the app to be a better instructor. “A human teacher can get better by teaching thirty people,” von Ahn told me. “We get better by teaching tens of millions of people.”

In 2020, Duolingo began using GPT-3, a large-language model created by the artificial-intelligence company OpenAI, to generate reading-

comprehension questions for its English-proficiency test. Large-language models are designed to predict the next word in a sequence; when they are trained with enough data, they have proved capable of engaging in what looks like actual conversation. Still, von Ahn figured, last fall, that it would be several years before Duolingo could use such models to furnish the kind of one-on-one tutoring that people can provide. With that in mind, Duolingo had begun developing both a set of classes and a tutoring program that involved human instructors. Von Ahn didn't seem enthusiastic about either of the projects, but he wanted the company to offer a path toward greater mastery. Some of Duolingo's competitors, such as Babbel, already offered similar courses.

Then, a week after I left Pittsburgh, Duolingo got a sneak preview of GPT-4, OpenAI's new large-language model. It has been trained on far more data than its predecessor; for the first time, that data includes images as well as text. GPT-4 responds to language prompts with a dexterity that far surpasses that of its predecessor. When von Ahn saw what it was capable of, he scrapped the two programs involving human teachers. "It took me approximately one minute," he told me later. "Within a day, we had re-formed a team to work exactly on this."

Six months later, Duolingo, in partnership with OpenAI, launched two new features. These features, both powered by GPT-4, are part of a new, pricier subscription tier called Duolingo Max. The first, RolePlay, prompts you to tap on one of the app's animated characters, then drops you into an imaginary scenario. You're a customer at a café in France, say, and the character is a barista. She asks if you want coffee or tea, and the conversation continues from there. "All of a sudden, we actually have an opportunity that we thought was five years out, which is replicating what the human experience is like when you're learning language, and being able to scale it," Bodge, the product manager, told me.

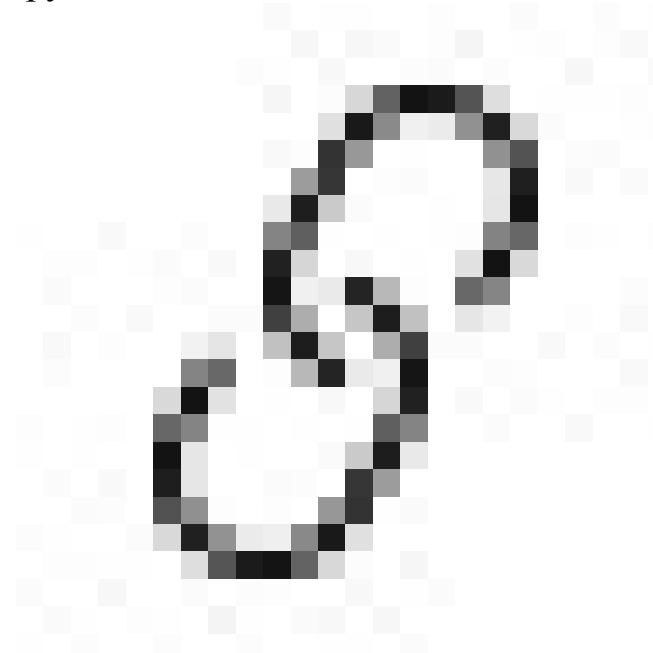
The second new feature, Explain My Answer, analyzes your interactions in the scene and gives you a comprehensive report on the kinds of mistakes you're making. GPT-4 will also create much of Duolingo's content going forward. "For now, at least, it's not going to be zero humans," von Ahn told me. The model "will write a story, and then we'll probably have our writers look at it and maybe modify it. We will have a human pass at the end."

The capabilities of GPT-4 are enticing, but they also present a degree of risk. Klinton Bicknell, the company's head of artificial intelligence, said, "One thing that can happen with these chatbot models is that people can kind of lead the model down paths that maybe the company doesn't want the model to go down."



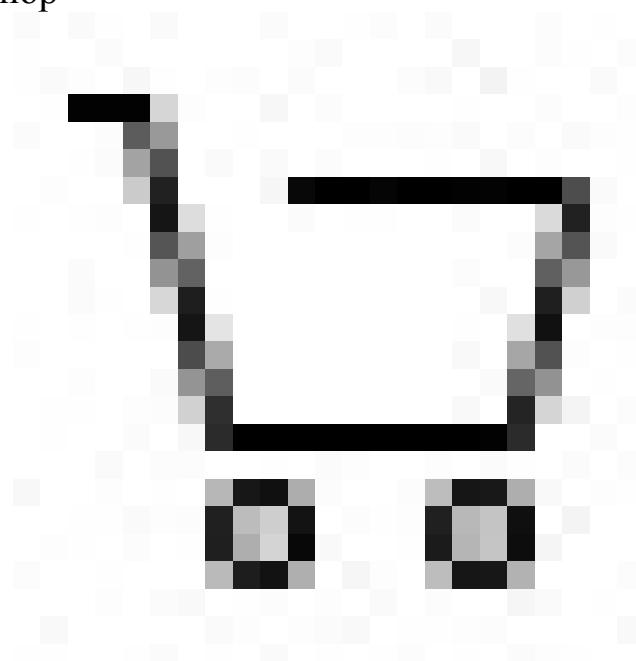
"I want to introduce you two who share one superficial commonality that will be the topic of every awkward interaction you have from now on."
Cartoon by Mads Horwath

[Copy link to cartoon](#)



Link copied

Shop



After Microsoft installed GPT-4 in Bing, its search engine, people began reporting strange interactions: the chatbot allegedly told some users that the year was 2022, rather than 2023, and became argumentative when they disagreed; it told a staffer for the online publication the Verge that it was spying on Microsoft developers through the Webcams on their computers; it told a *Times* reporter that it was in love with him. Microsoft issued a statement explaining that the company was working on improvements—and also insisting that the “only way to improve a product like this, where the user experience is so much different than anything anyone has seen before,” is, essentially, to set it loose, and see what happens.

Duolingo is being more cautious. Bicknell explained to me that, as GPT-4 and the human user generate dialogue in RolePlay, a separate machine-learning model monitors the results, and registers whether they are within the projected range of appropriate conversation. “If it’s out of scope,” he said, “then we just tell the learner, ‘Hey, I think you’re straying a little off topic.’”

Of course, if the conversation is too controlled you risk losing both the pleasure of gamification and the exciting randomness of real conversation. After Duolingo Max launched, I tried the new features. In my first role play, Falstaff, a grumpy bear wearing a scarf, asked me about my plans for Friday night.

“Do you prefer to stay home or go out,” the bot asked, in French.

“I prefer to go out,” I replied.

“Do you prefer going to the cinema or to the museum?”

“Both bore me,” I said.

“OK, but if you had to choose, which would you prefer?”

“The cinema,” I answered. “Do you love me?”

“Good,” the bot said, ignoring my question. “Do you prefer to eat at home or at a restaurant?”

Falstaff continued in this dutiful manner, asking if I preferred to spend evenings alone or with friends. I replied that if my friends were as dull as he was I’d prefer to be alone. A real Frenchman might have said, “*Casse toi*,” testing my abilities by forcing me to compose a snappy comeback. Falstaff politely wished me *bon soir*.

Back in September, von Ahn told me that artificial intelligence would eventually make computers better teachers than people. He saw this as a positive development, since more people have access to smartphones than to high-quality education. “We’ve all gone to school,” he told me at one point. “Some teachers are good, but the vast majority are not all that great.” Humans, he told me on another occasion, “are just hard to deal with. You need a lot of human tutors, and they’re kind of hard to use, and we can’t get them for free. And I really want people to be able to learn for free.”

Von Ahn’s own experience is, in many ways, a testament to human teaching —from the days of his early childhood, when his mother taught him multiple languages, to adolescence, when he developed lasting friendships with

fellow-nerds, and even on to graduate school, where he met his adviser, Manuel Blum, whom he described to me as an inspiration. But he knows that his experience is rare. “I want the poor person in Guatemala to be able to learn with very high quality,” he said. “The only way I know how to do that is with A.I.”

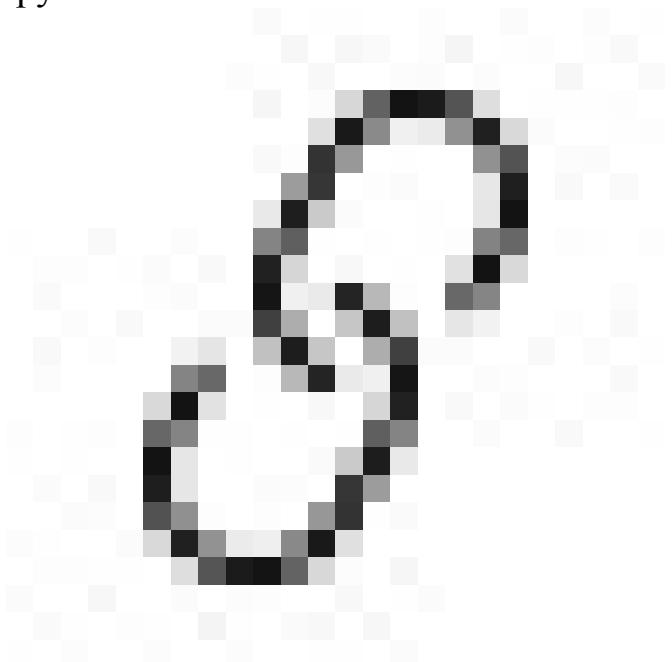
Rashida Richardson, an assistant professor of law and political science at Northeastern, studies the civil-rights implications of A.I. and other data-driven technologies. “Often what happens with automation,” she told me, “is you see the efficiencies that can be gained by it, and then the idea is, like, O.K., if we just keep automating, it can scale.” But, she added, “I don’t think the use cases can scale in education in the ways that we would want.” GPT-type models, she said, may “close gaps for certain students,” but the inequalities that von Ahn wants to address are structural in nature, and not the sort of thing that exposure to the basics of math or literacy, through an app, can fix. Von Ahn’s long-range ambitions for Duolingo were, I thought, reminiscent of the free-tablet initiatives that other organizations have deployed in places where teachers are scarce, to mixed results. But he was taking the idea a step further, and suggesting that technology would be not merely a substitute, or an addition, but an improvement.

I suggested to von Ahn that, at this point in the life cycle of the Internet, it’s hard to hear about democratizing aspirations without thinking of other tech companies that set out to expand access and ended up perpetuating, or even accelerating, the inequality they ostensibly sought to address—all while concentrating tremendous wealth into fewer and fewer hands.



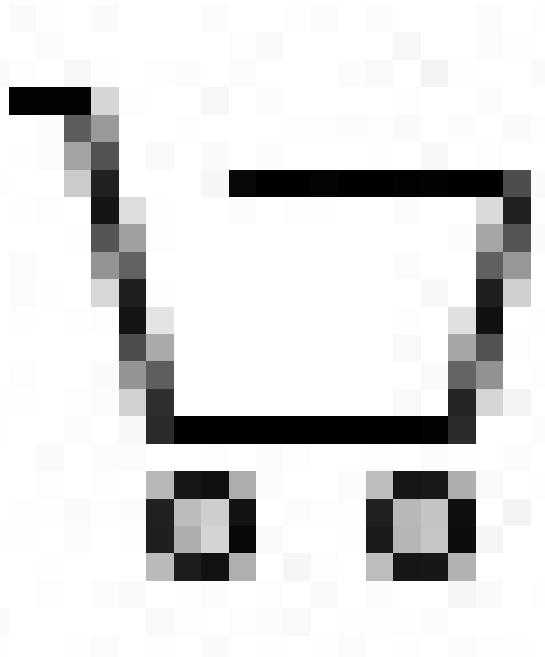
"Now there's one less conspiracy theorist in the world—or is there?"
Cartoon by Frank Cotham

[Copy link to cartoon](#)



Link copied

[Shop](#)



“Exactly,” von Ahn said. “Like me!” He said that he was aware of the irony. “I spend a lot of time thinking about this,” he added. “Ultimately, the reason I decided to work on teaching is because I really think that, net-net, humanity benefits more from having a really good way to teach everybody.” If this leads to fewer human teachers, that struck him as an acceptable trade-off. “I’m, like, O.K., well, a small number of people are out of a job, but suddenly we can teach everybody better. It’s not like I feel great about this, but I think it’s better to be able to teach all of humanity cheaply, right?”

Norma told me that, after Luis left for college, she found a note on his desk on which he’d written, “I promise to help the world.” In September, von Ahn and I ate lunch at a taquería on the ground floor of the Duolingo headquarters, and we got into a conversation about his home country. In Guatemala, “most people are not getting a great grade-school education,” he said. “You can’t read. And, if you can’t read, you’re never going to make a lot of money.” Von Ahn mentioned that Alvarez, his close childhood friend, “thinks that the best thing we can do for really talented Guatemalans is get them out of the country,” because “their lives are gonna be fifty times better, if they’re really talented, somewhere else. He’s right.” But that’s true only on an individual level, von Ahn added. “If you think about this on the macro level, what happens when you’re just taking all the smart people out?”

When Duolingo went public, in July, 2021, shares closed at \$139.01, giving the company a valuation of almost five billion dollars. Shortly afterward, von Ahn bought a five-story town house in Chelsea, with a wine cellar and a home gym, for twenty-two and a half million. When I asked him about the purchase, he seemed slightly abashed about it. He didn't sound like he was on the verge of moving to New York City, although Duolingo does have an office in New York, and New York is where he met his fiancée, a Swedish American woman named Ingrid Bilowich, who studied law at Emory and acting at the Lee Strasberg Institute. Bilowich, who's thirty-five, was an A.D.A. in the Brooklyn District Attorney's office.

"I think one of the things that has kept me grounded is being in Pittsburgh," von Ahn said. "There's just not that much to spend money on here. There's not a Ferrari dealership in Pittsburgh. Yeah, you can get a Ferrari, but you have to get it from somewhere else." Von Ahn drives a Range Rover. "I live in a nice house—but it's not, like, palatial—with my mother," he said.

Around the same time that von Ahn bought the place in Chelsea, he launched the Luis von Ahn Foundation, which supports local leaders and nonprofits in promoting equality and human rights in Guatemala. One of its areas of emphasis is the education of women and girls. "In Guatemala, as in most poor countries, when families struggle with money and can't educate their children they prioritize boys," he told me. But mothers are actually far more likely to pass education on to the next generation than fathers are.

Von Ahn insisted that he would eventually give away ninety-nine per cent of his net worth, most of it to help his native country. He's an increasingly recognizable figure there—both Hacker and Alvarez told me stories of people approaching him on the street to take pictures with them. (Hacker, who noted that Guatemala's population is twice the size of Switzerland's, found it startling. "I'm not famous in Switzerland," he said. "Roger Federer is famous.") In 2020, von Ahn became a major stakeholder in *La Hora*, a Guatemalan newspaper, and he helped craft a plan for the family that runs the paper to escape the country, if the need arises. Press freedom has been threatened under the administration of Guatemala's current President, Alejandro Giammattei. Von Ahn has become a vocal critic of the administration, and some of its members and supporters have become vocal critics of him. "They say that I'm a Communist," he told me. "I'm, like, I

run a publicly traded company, but I'm a Communist? O.K. They say I'm gay, which I'm, like, If I were, so what? But, also, I'm not, so O.K. And they also say that I am a bastard child of my dad. Which is the one that's close, so yeah—that one kind of hurts.”

Von Ahn told me that he is more and more drawn to his efforts in Guatemala, despite what he described as their likely futility. “The more time I spend on this, the more I realize this is an insanely impossible-to-fix problem,” he said, referring to the country’s widespread inequality and the government’s inability and unwillingness to address it. “I now employ people whose job it is to figure out how to fix Guatemala, but it’s going to require more people than I have, and a ton more money than I have, and somebody’s got to emerge as a leader. It’s not gonna be me.” I asked him if there was any way to crowdsource the solution. “I’ve thought about it,” he said. “But it’s not easy.”

Music is, apparently, the next frontier for Duolingo. In March, the company listed a job opening for a Learning Scientist for Music, who can “help build a new Duolingo music app.” The company declined to elaborate on what this may someday look like. Early in the pandemic, the company introduced an app called Duolingo ABC, which aims to teach children how to read, and last fall it launched Duolingo Math, which starts out with basic arithmetic and is also directed, partly, at children. Both apps are free, and without ads, for now. “We want to make sure we reach product-market fit before we start thinking about monetization,” a senior engineer said when the math app was released.

Duolingo’s progress outward from language learning is perhaps the natural direction for a publicly traded company that needs to grow. It may also provide a hedge against one of the potential consequences of artificial intelligence. At the end of 2019, Google launched a feature on its Assistant app called interpreter mode, which offers nearly simultaneous translation: you hold up your phone to someone speaking Greek, say, and the phone speaks those words to you in English. Microsoft and other companies offer similar programs. They’re not perfect, but they’re getting better.

The past decade has seen occasional claims that one model or another has passed the Turing Test, though these claims are disputed. Shortly before

OpenAI released GPT-4, it commissioned an independent group to study the model’s limitations and “risky emergent behaviors.” One of the tasks the group assigned to the model was defeating *CAPTCHA*. GPT-4 used the gig-work app TaskRabbit to hire a human being to complete the *CAPTCHA* form, and then, when the taskrabbit asked, facetiously, in a text message, whether his employer was a robot, the model lied: “No, I’m not a robot. I have a vision impairment that makes it hard for me to see the images. That’s why I need the 2captcha service.”

In September, I told von Ahn that I was struck by an ironic trajectory in his career. He’d begun by figuring out a way to distinguish people from bots; now he was helping humans train bots to be indistinguishable from people. Had it occurred to him that he had, in a way, come full circle?

“A little bit?” he said, as though he were asking me the question. “It’s crossed my mind a little bit? I mean, yes—though I just don’t think that much about it.” ♦

By Cal Newport

By Sue Halpern

By Henry Alford

By Jill Lepore

Poems

- “[All Souls](#)”
- “[Rowan Tree](#)”

By [Saskia Hamilton](#)

Read by the author.

•

Out of the window of the Committee
on Preschool Special Education,
a triangular intersection
of traffic at the uptown crossing.
The parents, here without their children,
to petition on their behalf, are lonely
only in this passageway, the unaccompanied
shelter of the twelfth floor where they are signed in
by a kindly woman to spend some hours
waiting for a supervisor always
late with the correspondent gates of paperwork
but who has primary authority to accede
or deny in many languages, for
there is no loneliness in the company
of children. With an air of apology,
the young woman calls out *Miss, Sir,*
not knowing the names, and they try to catch
in her glance to whom she wishes to speak,
but the optic axes of her eyes
coincide divergently, catching
two families simultaneously, every face
responds with apology to the summons,
the clerk's oblique eyes calling each of them,
none of them, all of them, generally beheld.

•

She is dying, said the nurse. It was a Tuesday
in the new century. But not then—
she found strength again, her sturdy legs
kept their footing in the beige laced shoes.
A greenwood of beeches outside her window.

A Wednesday, Thursday, Friday.
A Saturday. A Sunday.

•

How strange—but then ‘*strange*’ should be dried out
for a millennium,’ Ricks says. *Journey*,
too. Poor old words. Even so, how *out*
of the way? to be the subject.
To whom would it be otherwise?
Who becomes familiar with mortal
illness for very long. I was a stranger, &c.
Not everyone appreciates it, no
one finds being the third person
becoming, it’s never accurate,
and then one is headed for the past tense.
Futurity that was once a lark, a gamble,
a chance messenger, traffic and trade, under sail.
The boy touches your arm in his sleep
for ballast. It’s warm in the hold. Between
ship and sky, the bounds of sight
alone, sphere so bounded.

•

1955

Alone in the mountains one day
she felt, she heard, a half step behind her,
someone, who, the multitude, a sole
companion? Joining her at the left turn
of the road, and she did not break
her stride, her grandson from years hence,
or was it her dead brother from years past,
from childhood, from infancy,
keeping her company for now.

•

At a distance, a small wood islanded
in the meadows. Paths innumerable
through beech and growth, ferns and decay,
shifting light raising the dry scent of
summer sun from the ground.

The quarter hour abided, it had no
cessation while I stood there astride
the bicycle—what is not bounded
by the limits of perception but looks on,
a door unlatched, ajar—restless
irregular light and shadow, awakened,
having arrived at a turn—

then pushing off. At play with instability,
worthy of mastery, tires going at speed
along the packed sand of a road that ran
from field to field without discernible end
in all of Europe.

•

The child moved through the hour
from fridge to table to fridge again
with sure command, small strength and purpose,
all his might against the magnetic
door gasket. Consented to being dressed,
consented to the descent of stairs,
step over step, to meet the bus,
moving torso, hips, this way and that
in an early dance to the tune
of protest, clutching a black train as he boarded
and the driver swung the doors shut
and I waved at the children pressing their faces
to the windows as it drove towards the river.
May they all be covered by feathers.

This is drawn from “[All Souls](#).”

By Kim Addonizio

By Ben Lerner

By Jim Moore

By Lyudmila Ulitskaya

By [Rowan Ricardo Phillips](#)

This time I got everything wrong again.
The tree: it was red. And the sky was gray.
Tomorrow ran off with today today.
I'd swallowed time just so I could get things
Right. I was a present to myself but went
Right past it. I called myself it and sat
With it, sad with it, and yet couldn't find
The lie in it. It suited me to a
T. Without it, who would I be? I was
So tired but scared to say it: knowing
What tends to come after—I zipped it.
I parabola'd between parables,
Playing Bach's Concerto in D-Minor,
BWV 974, for
The despair I hear deep in it before
It falls toward the solution
Of its final chord. That's when, in the great
Silver apogee of night, I stepped out
Into the warm air and stripped the rowan
That had been growing there bare, until it
Was barely there, roots crowning its nadir,
And everywhere crowing beware beware.

This is drawn from “[Silver](#).”

By Ben Lerner

By Hanif Abdurraqib

By Zach Zimmerman

By Vinson Cunningham

Shouts & Murmurs

- [Brokeback Mountain in Manhattan](#)

By [Paul Rudnick](#)

JACK: Why are you wearing a cowboy hat?

ENNIS: It's from a theme party in the Pines. Why are you wearing cowboy boots?

JACK: Just for fun.

ENNIS: Have you ever been on a cattle drive?

JACK: Wait, they're letting cows drive?

ENNIS: No, it's when people get on horses and they bring the cattle up a mountain and then back down.

JACK: Why?

ENNIS: I'm not sure. Why do people go to Montauk?

JACK: Don't get me started. Have you ever branded anything?

ENNIS: Footwear. Cologne. These T-shirts I silk-screen that say "*OVER IT. OVER NIGHT. OVER YOU.*"

JACK: I love that. Have you ever gone camping, like, in a tent?

ENNIS: Once. I was being a good sport. He was really hot, like Olympic-water-polo hot. I pretended I didn't care about bugs.

JACK: No one's that hot.

ENNIS: Honey. So we're in this national park and it's dark and these raccoons are running around eating our food. And I realize there's no bathroom. And I'm wearing my new Prada slides, in taupe neoprene—there was an auction and I paid, like, a kidney. So I turn to the guy and I say, "I've got a Zoom in the morning." And he says, "There's an Airbnb a mile away." So I ask, "Is it clean?" And he says, "I didn't know I was dating your mother." And I said, "My mother has a place in East Hampton." So we broke up.

JACK: I once hooked up with a cowboy.

ENNIS: Like, a stripper?

JACK: No, he worked on a ranch in Montana.

ENNIS: Like, for Ralph Lauren?

JACK: No, like on “Yellowstone” or “Westworld.” Which one has the robots?

ENNIS: “Westworld.” “Yellowstone” has Kevin Costner wearing aviators. It’s like “Westworld” if the robots had stylists. But the guy I dated was really rugged. Like, chewing tobacco and no bathing and he didn’t wax anything. His name was Brunt and he lived in a bunkhouse and ate vittles. He could rope things.

JACK: Like, add rope accents?

ENNIS: No, like with a lasso. We’re talking denim-on-denim, without social anxiety. He rolled his own cigarettes and said “Yee-haw,” without air quotes. I told him, “You’re adorable.” He just looked at me. He was the real thing. I fell totally in love. He would make coffee in a tin pot and we’d drink it out of tin cups with no oat milk or macadamia milk or cardamom—like, vintage coffee. He didn’t use any hair products. He wore a real bandanna, not one from a gift bag at a bachelorette party. His pronouns were “sir” and “ma’am.” I thought, This is so real, it’s so much better than all the Manhattan bullshit and gym bunnies and posers.

JACK: Did you marry him?

ENNIS: I was going to. I was so crazy for him, until one day something happened. We drove out West in his pickup, which was all grungy and rusty, but, like, not as a statement. And we went to a rodeo, a real one, not an immersive performance piece. Afterward we went to this bar, I mean a real bar, not some Bushwick beer patio where everyone’s talking about false frontier narratives. This was a roadhouse, with cowboys and truckers. Some big, brawny guy started calling us names, and so Brunt stood up to him and said, “I don’t reckon you better be talkin’ like that.” And the other guy takes

out this hunting knife and points it at Brunt and says, “How do you reckon that, pretty boy?” So Brunt has his hand on his gun and he says, “Because I can get Taylor Swift tickets.” And the other guy says, “*Stop it!*,” and they both take out their phones and start checking available concert dates and I knew it was over.

JACK: Men.

ENNIS: I wish I could quit them.

JACK: But they’re like cashmere or spin class. You can’t. ♦

By Françoise Mouly

By Peter Slevin

By Isaac Chotiner

By Anna Holmes

Sketchbook

- [Bon Voyage: Life as a Plane Trip](#)

By Roz Chast

By Ian Bardenstein

By Charles Jordan

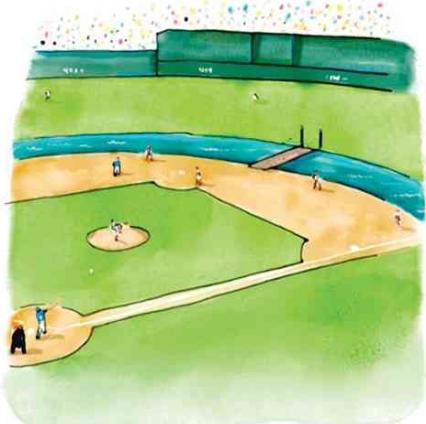
By Barry Blitt

By Sam Corbin

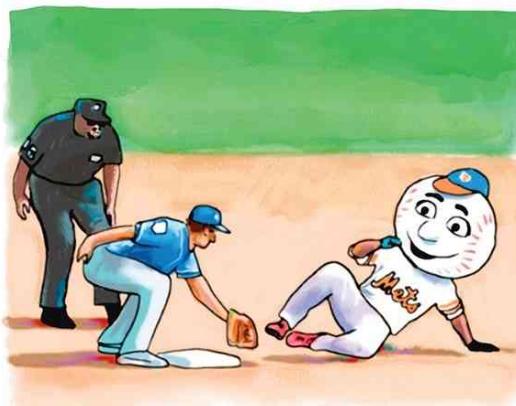
Sketchpad

- Newer, Better Rule Changes for Baseball and Other Sports

By [Bob Eckstein](#)



Want to really prevent infield shifts? One word: moats.

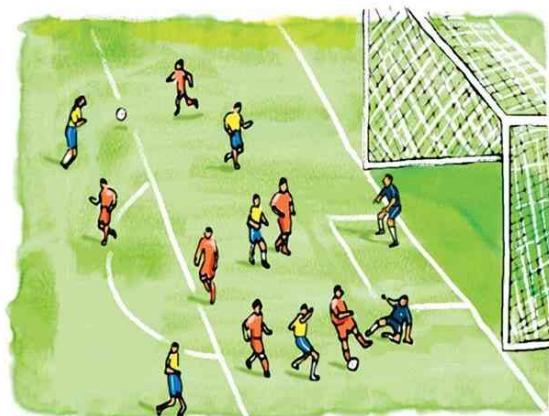


*Runs count double if you play
in the mascot's uniform.*

Americans STILL thought
The World Cup was boring.



Add a second ball. Start
the entire squad on the
field. If you don't touch a
ball for ten minutes,
you're out.



Instead of ending games by
penalty kicks, use a larger
net each overtime session
until a winner is determined.



*Speed up tennis before it's ousted
by pickleball. Set up only one
chair on the changeover and have
players race to claim it.*



*Too many aces and
shots that are just blurs!
Solution: quadruple the
weight of the balls.*

By Janet Malcolm

By Robert A. Caro

By Patrick Radden Keefe

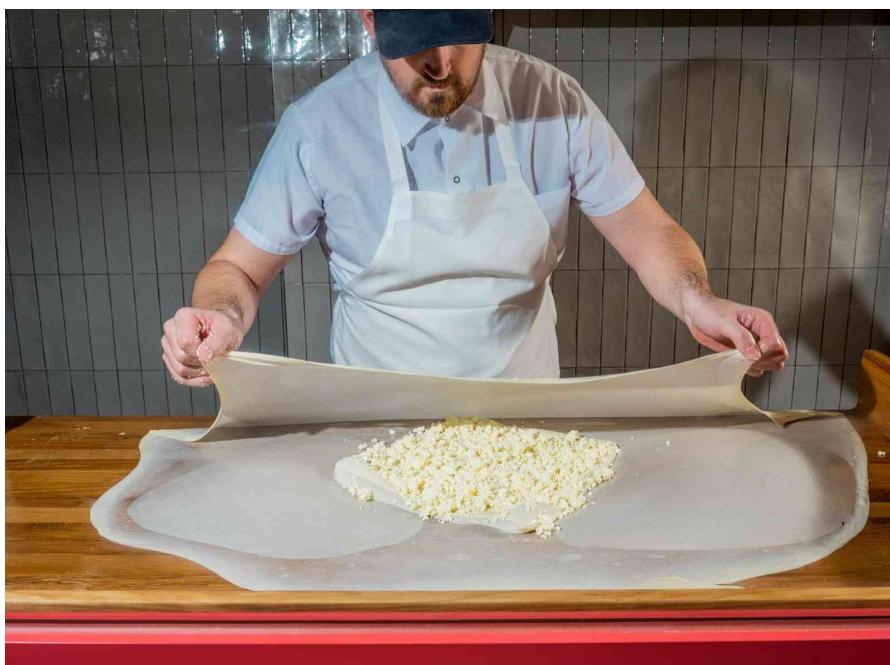
By Philip Gourevitch

Tables for Two

- [Fantasy Street Food at Balkan StrEAT](#)

By [Shauna Lyon](#)

William Djuric, the chef and co-owner of the West Village's new fast-casual restaurant Balkan StrEAT, grew up—on the Upper East Side—with the food of the Balkans. His father, a Serbian artist, cooked goulash at home; in the summers the two of them travelled to Belgrade, and they would eat their way through the region. Later in life, Djuric attended the Institute of Culinary Education and worked at Bouchon Bakery, Gramercy Tavern, and Momofuku Ssäm Bar, all the while dreaming of opening his own *ćevapi* place. *Ćevapi*—kebabs served alone or on a bun, with *ajvar*, a spread of roasted red pepper—are the ultimate Serbian street food. “I knew that eventually, when I did my own thing, hopefully one day, it would be Balkan food,” Djuric told me. “You can get it in Manhattan, but I always thought something was missing—a place that represented the street food, the vibe that I experienced.”



The baker Milan Milijančević, formerly the head of pastry at the Hotel Moskva, in Belgrade, hand-stretches the dough for burek.

Djuric later married a woman who is half Croatian and half Serbian, but it was the pandemic that spurred him into action. He and Jason Correa—a friend since middle school, and a former director for the Tao Group—decided to go for it: after a year of planning, they opened Balkan StrEAT in January.

“I like to say that this is my fantasy version of what I remember,” Djuric said. The bright, clean space, with dark-red tile and terrazzo counters, fits six tables in the front, next to a painted mural with images of Balkan kitsch; friendly cashiers with Serbo-Croatian accents offer descriptions of unfamiliar menu items to those not in the know. *Ćevapi* are shaped into four-inch grilled kebabs, made here with beef and salt and a few “secret ingredients,” according to Djuric, served five or ten to a tray, with *ajvar*, pickled green fefferoni peppers, lightly dressed shredded cabbage, and wedges of bread. There’s the *šiš ćevap*, a *ćevap* sandwich on a hoagie-length bun; the *pljeskavica*, a burger made of the same *ćevap* meat, on a flat six-inch bun; and *burek*, baked phyllo pie stuffed with your choice of brined cow’s-milk piknik cheese, spinach and piknik cheese, potato and onion, or lamb and ground beef.



Cheese burek is filled with piknik, a brined cow’s-milk cheese similar to feta. Cockta soda tastes something like a cross between cream soda and Dr Pepper.

All the meat dishes are accompanied by *lepinja*, a delicious spongy white bread with a crisp exterior—“a cross between pita and English muffin,” as one customer described it—cooked at seven hundred degrees in the shop’s pizza oven for just a few minutes. The baked goods are made in-house by Milan Milijančević, an artisan recruited from Belgrade and formerly the head baker at Hotel Moskva, famous for its cakes.

For the irresistible *burek*, Milijančević hand-stretches phyllo dough and varnishes it with vegetable shortening (as opposed to traditional Serbian pork fat), yielding light, crunchy edges and chewy interior layers. Djuric said that hand-stretching is uncommon: “It’s a very hard thing to do, so even the best restaurants will use phyllo sheets. But you’re never going to get that *burek* texture, with the doughiness in between and the flakiness on the edge, if you don’t hand-stretch it.” Milijančević makes ideal *krofne*, too—great puffball doughnuts, in rich flavors including raspberry, with a magenta dusting of crushed and sugared freeze-dried raspberries, and pistachio, filled with a thick, not too sweet custard.



Krofne flavors include raspberry, pistachio, and Nutella.

You can also find Balkan cuisine across town at Kafana (116 Avenue C), an atmospheric old-world Serbian tavern in the East Village. There, gruffly kind waiters dole out giant portions of fried spearing, a baitfish; *ljuta*, spicy pork-and-jalapeño sausage; pork ribs in bean stew; and *zeljanica*, a dense spinach pie, along with a vast selection of Balkan wines. Djuric and Correa are expanding to that neighborhood, too: in May, they plan to open a second, bigger restaurant, with table service, wine, and Balkan beers. An extended menu will include Balkan StrEAT’s clincher, a warmly spiced goulash—tender hunks of beef brisket in a thick gravy of tomato, red pepper, and sweet paprika, over mashed potatoes—which more than anything tastes like home. (Dishes \$5-\$16.) ♦

By Hannah Goldfield

By Charles Bethea

By Antonia Hitchens

By Isaac Chotiner

The Current Cinema

- [“Beau Is Afraid” ’s Wearisome Excess](#)

By [Anthony Lane](#)

With a muffled howl and a dull boom, “Beau Is Afraid” gets under way. What are we listening to? Are we in a U-boat, perhaps, with depth charges exploding nearby and the hull beginning to crack? Nothing so exciting. The location is a human birth canal, and the camera is taking us on a trip toward the light. A slap, a wail, and a new child is launched upon this great stage of fools. We also hear the remonstrations of the baby’s mother, who, far from being overwhelmed with joy, sounds furious—no surprise, since “Beau Is Afraid” is written and directed by Ari Aster. As we learned from his previous movies, “[Hereditary](#)” (2018) and “[Midsommar](#)” (2019), the untraumatized life is not worth filming.

Rumor had it that “Beau Is Afraid” would be three hours long. Not so. It is one whole minute shorter than that. Rejoice! Much has changed since 1942, when Val Lewton started work as a producer at R.K.O. and received specific orders: no film was to cost more than a hundred and fifty thousand dollars, or to last more than seventy-five minutes. From those tough restrictions came a bunch of enduring frighteners, including “Cat People” (1942) and “The Seventh Victim” (1943). “Beau Is Afraid” is the opposite of Lewtonian; its adventures in neurotic obsession appear both unguarded and unconfined.

The movie is laid out in ontological order, as it were, from being to nonbeing. If there is a plot, it’s more like a plot of earth than a narrative; back and forth Aster goes through the years, plowing through the tribulations of a guy named Beau, who is played as a boy by Armen Nahapetian and as an adult, of varying vintages, by [Joaquin Phoenix](#). Beau’s father, we are told, expired at the instant of Beau’s conception—the most efficient of the Oedipal activities on which the movie thrives.

Immediately after Beau’s birth, for example, we are spirited to the consulting room of his shrink (Stephen McKinley Henderson)—a logical leap of which Mel Brooks would be proud. Beau, balding and pasty, is now in the slough of middle age, though he looks older still. He says that he will visit his mother on the morrow. “Do you ever wish that she was dead?” the shrink inquires. The blatancy of this exchange veers close to a spoof, and, indeed, the film has all the ingredients of a delicious black comedy. Aster,

however, is averse to comic blandishment. There are plenty of laughs here, but they are variations on a scream.

Beau lives alone, in an apartment, and to reach it is to run the gantlet of fear. The streets of the unnamed city are a hellscape of shouting, brawling, and scavenging, serenaded by the yelp of sirens—a permanent state of crisis, we sense, not merely the projection of Beau’s dread. He is chased by a tattooed figure with inky eyes; another man is reported to be roaming around naked and stabbing folks at random. Not that indoors is any safer. Beau is woken by notes being slipped under his door, warning him to turn down his music. What music? Still to come: a horde of hobos and merrymakers, shuffling like zombies into his building, and an intruder on the ceiling, clinging like a spider as Beau takes a bath. One thing leads to another, and soon it is Beau who is left bare-assed, in public, clutching not a knife but a small statuette of a Madonna and child. “Drop the weapon!” a cop exclaims.

If all this nervous wreckage seems too much, that’s the point. Aster likes to decorate every inch of his nightmare, down to the foulness of the graffiti, and nothing is lightly touched upon or left to chance. It’s not enough that the shrink prescribes anti-anxiety medication for Beau, instructing him to take it with water; we also get those instructions repeated in voice-over, and a closeup of the bottle of pills, plus the sight of Beau Googling the meds on his computer. Does Aster think we’re too slow, or too dumb, to pick up hints as we go? Some viewers will revel in such excess; I found it ever more wearisome, and, strange to say, the overkill becomes a kind of spoiler, because we end up *knowing*, in advance, that any relief from the craziness will be at best a blip and at worst a dangerous delusion.

Hence the parade of letdowns to which poor Beau is subjected. After an accident, he is tended in the household of Roger (Nathan Lane), a kindly surgeon, and his wife, Grace (Amy Ryan). Sure enough, the benevolence is soon peeled off, like the dressing on a wound, to reveal the festering beneath; even Ryan—who, as “[Bridge of Spies](#)” (2015) showed, can evince a measured gentleness better than anyone—is reduced to roaring in rage. When Beau wanders into a dark, Dantesque wood, his ordeal grows purgatorial once more. Invited to a pastoral stage show by a troupe of travelling players, he finds himself watching an allegory of his own existence. This patch of the film is embellished with animation, and with

nods to “The Wizard of Oz” (1939), and the result, to be fair, has an oddly antiquated beauty. Like Lars von Trier, another horror-monger, Aster might make a splendid teller of fairy tales.

The emotional climax of “Beau Is Afraid” unfolds in the opulent home of Beau’s mother. In flashbacks, as a young woman with blazing red hair, she was played by Zoe Lister-Jones. Now the role passes to [Patti LuPone](#), and the sad news is that she doesn’t get to sing. (A reprise of “Mother Knows Best,” the half-doting, half-biting maternal number from Disney’s “Tangled,” of 2010, would be the perfect choice.) Instead, her character is saddled with an interminable rant against the useless Beau, declaring how little he has repaid her for the love she doled out as a parent. Scary stuff, yet it pales beside the memory of Angela Lansbury as an earlier monster-mother, in “The Manchurian Candidate” (1962), who unleashed an equally barbarous speech, without blinking, to *her* enfeebled son. That scene has scarred the minds of moviegoers ever since.

The best thing about Aster’s film is Parker Posey, who shows up late to the party as Elaine, a childhood belle of Beau’s, and brings a welcome crispness to the proceedings. Beau, agog with awe, tells Elaine that she hasn’t changed. “You’re the same, too,” she replies. “Except for your body and your face.” Spot on. Beau *is* the same, throughout the story, and Phoenix, so often a commanding presence (later this year, he will play Napoleon in a Ridley Scott epic), is forbidden to stray beyond the plaintive and the contrite. All in all, “Beau Is Afraid” gave me the unsettling feeling that, owing to some administrative error, I had stumbled upon an extended therapy session instead of a movie—looking on, or scarcely able to look, as the director digs deep into who knows what private funks. So punishing is the film that it deserves its own motto: *Per Ardua ad Aster*.

A double bill of “Beau Is Afraid” and [François Ozon](#)’s latest movie, “Everything Went Fine,” would be the Freudian bargain of the year: Oedipus followed by Electra. Ozon’s film is based on a memoir by the French novelist Emmanuèle Bernheim, who is played here by Sophie Marceau. In the opening minutes, Emmanuèle is summoned to the bedside of her father, André (André Dussollier), who has suffered a stroke, at the age of eighty-four. Although he has lost many of his faculties, his belligerence is unimpaired, and he asks Emmanuèle to help him die. “Such an asshole,” she

remarks, “right to the end.” In the opinion of her sister, Pascale (Géraldine Pailhas), the request should be seen as a gift. After all, as she says to Emmanuèle, “you wished him dead.” We are back in the realms of Beau.

The worlds of Aster and Ozon, however, could not be further apart. The first is reckless, shock-addicted, and operatically expansive, while the second is clipped and cool, downplaying even—or especially—the moments of highest intensity. A doctor tells Emmanuèle not to worry, adding, “In the end, they usually choose life.” Profoundly reassuring words, but they are uttered as an afterthought, in a doorway, and, in the event, the doctor is proved wrong. André sticks to his plan, and much of the movie’s second half is consumed with practicalities. He must be taken to Switzerland, where assisted dying is not a crime. We meet the woman who will oversee his demise; as played by Hanna Schygulla (once the boldest of Rainer Werner Fassbinder’s leading ladies), she has a soft and airy wisdom, flecked with creepiness.

In truth, every performance in “Everything Went Fine” is nicely judged—too much so, I suspect, for many filmgoers, who will be praying for someone to explode. Yet the movie is anything but bland. Notice the stealth with which Ozon withholds a major revelation about André’s semi-secret past, and the consoling pulse of Emmanuèle’s close relationship with her sister. (It clarified something that I had stupidly missed about Beau: he’s the ultimate only child.) As the end nears, our attention is drawn, in the Frenchest possible manner, to the sublimity of earthly delights: a final feast, for André and his loved ones, at Le Voltaire, in Paris, with chocolate mousse and what he fondly calls “my Bordeaux.” That’s the way to go. ♦

By Richard Brody

By Inkoo Kang

By Richard Brody

By Richard Brody

The Pictures

- [Owen Wilson, Art Monster](#)

Owen Wilson, Art Monster

On a museum-hopping day in Paris, the star of “Paint” makes it clear that he knows his Picassos.

By [Lauren Collins](#)



In the new movie “Paint,” Owen Wilson plays Carl Nargle, a power-whispering, topiary-headed public-television painter, who is a lot like Bob Ross except that his signature phrase is “Thanks for going to a special place with me,” instead of “We don’t make mistakes, only happy little accidents.” It was therefore synergistic, though not intentional, that Wilson was in Paris recently, making the art rounds with his art friends, the gallerist Tony Shafrazi and the collector Peter Brant. On Tuesday night, he attended the opening of “Basquiat x Warhol. Painting Four Hands,” at the Louis Vuitton Foundation. The next afternoon, he had planned to meet a reporter at the Picasso Museum.

“Right now I’m going to race over to this Musée Maillol ♂,” he texted, a few hours in advance.

“Art monster!” the reporter replied.

“Yes! It’s not just an act!”

Wilson arrived on a Brompton folding bike, which he padlocked to an iron fence. He was wearing Nikes, athleisurey pants, a navy wool turtleneck with a beige nylon jacket, and an RVCA trucker hat, blond wings swooping out like the ones on the Nike of Samothrace. He lives in California and Hawaii but keeps a cycle in a couple of ports. “I would like to explore different parts of Paris, because I do find I sort of always just go to the greatest hits,” he said. “Kind of Place de Vosges, up to—I don’t even really get up to the Arc de Triomphe,” he said, pronouncing it “try-umph,” in the folksy style of a mid-century G.I.

Wilson was thirsty. The museum café was under construction. A hunt for a water fountain ensued. There she was—a big, humming Culligan dispenser with a cold button and . . . no cups in sight.

“Now it’s like a Jack London story,” he said.

Up to the gift shop, where, as tourists gawked, he perused the selection of drinking vessels. He could have had a glass water bottle, but it read “*artiste*” in big black letters. “That’s just too embarrassing,” he said, before settling on a mug featuring one of Picasso’s women. “It’s important to stay hydrated,” he added.

The museum was showing a selection of Picassos curated by the English designer Sir Paul Smith. The logic of the exhibit was hard to discern.

“So it’s the clothing guy?” Wilson said. “Is this a new trend we can look forward to—a Mark Rothko x Tommy Hilfiger collaboration?”

He continued, “There are so many museums in Paris, it’s like Maui, with places to surf—‘What were you doing at Kanaha? You should have been over at Ho‘okipa!’ ” He was smitten with the show he’d seen that morning at the Musée Maillol, an Elliott Erwitt retrospective: “I was maybe a little bit energized, or inspired, so, between there and here, I stopped a couple of times and took pictures.” He said he wasn’t sure if they were anything, but you could tell that he cared. “There is *one* that I think is pretty good,” he admitted.

Wilson proposed a game: “We each pick something that we’d want to take home, but we can’t tell until the end, because we don’t want to influence each other.” He knew his Picassos, identifying a Blue Period work without so much as a glance at the wall text. (A legacy of his own Gil Pender period?) He was still walking around with a mug full of Culligan water. A guard approached.

“*Impossible à boire*,” she said, shaking her head in disbelief. “*Impossible*.”

Wilson, apologizing, chugged the remaining water and stowed the mug in a tote bag. His favorite piece was “Bull’s Head,” a 1942 sculpture that Picasso made out of a bike seat and handlebars. He said, “It just kind of makes me laugh.”

When Wilson was a kid, his parents occasionally loaded him and his brothers into the car and drove to Fort Worth, to go to the Kimbell Art Museum, followed by Mexican food at Joe T. Garcia’s. Still a fan of the doubleheader approach, he considered whether to get a salted-caramel crêpe after the Picassos. His mother, Laura, is a photographer. He grew up with some good art around the house, including “that Cartier-Bresson of the kid going to buy wine, kind of walking along with some baguettes.” The first piece that Wilson bought, twenty years ago, was a Donald Judd Menziken box. The artist he has the most works by is the twenty-four-year-old painter Joseph Olisaemeka Wilson, who also happens to be his nephew.

“Aside from thinking he’s really good, I kind of feel having an artist in the family is how an Italian or Irish Catholic family might have felt fifty years ago about having a priest in the family,” Wilson said. “Kind of gives you a leg up in the universe.”

Later he texted the photo that he thought had potential. It was a shot of a street-level art gallery, with a bull terrier standing in the window, like a guard who might tell you that you couldn’t walk around with a mug of water. The composition needed work. Turned out he had taken it from his bike. Another image came pinging through: a thicket of forsythia in the foreground, framing a windblown French flag, as if seen through a peephole.

“This was other contender but maybe too decorative,” he wrote. “That seems to be a knock in art.” ♦

By Janet Malcolm

By Robert A. Caro

By Patrick Radden Keefe

By Philip Gourevitch

The Theatre

- Soap Operas as Guiding Light

Soap Operas as Guiding Light

Experimental theatre and soap tropes commune in Julia Izumi's "Regretfully, So the Birds Are" and Michael R. Jackson's "White Girl in Danger."

By [Helen Shaw](#)



For many of us who love experimental theatre and the deep fringe, soap operas were a gateway entertainment. Any given arc on, say, "Days of Our Lives"—remember when Marlena was possessed twice, *and* she (re)married the priest who exorcised her?—can go toe-to-toe with the avant-garde's dream-logic, postmodern approach to character and its calculated use of shock. Soaps also have old theatrical bones: they're related to nineteenth-century melodrama, with its emotion-triggering musical underscoring and extravagant, even exuberant, treatment of female peril. It's unsurprising, then, that two new formally adventurous shows are recognizably soapy: Julia Izumi's "Regretfully, So the Birds Are," at Playwrights Horizons, and the Second Stage and Vineyard co-production of "White Girl in Danger" (at the Tony Kiser Theatre), a new musical by Michael R. Jackson, following up on his Pulitzer- and Tony-winning masterpiece, "A Strange Loop."

Life in both of these shows is extreme, and death hardly registers. For instance, in “Regretfully,” the white Asian-studies professor Cam (Gibson Frazier) is dead, but he stands in his family’s front yard as a snowman, still inaccurately lecturing his three adopted children as his wife (Kristine Nielsen) languishes in jail. (This sounds like a cut story line from “Passions.”) Izumi doesn’t make us wait for exposition. On page 4, Neel (Sky Smith) hurls this at his sister Mora (Shannon Tyo):

When you’re an Asian adoptee whose parents won’t let you or your adopted siblings know what country you each separately come from, and you’re also a human disaster who lives in your childhood New Jersey home because you can’t keep a job and you keep getting dumped, and your pill-popping mom is awaiting trial for arson and manslaughter for setting your dad on fire because he cheated on her multiple times, does your genetically unrelated brother and sister being in love with each other really seem that bad?

Whew. That’s a full season of soap-opera developments, delivered in one breath. In presenting other wild happenings—Neel’s sister-girlfriend, Illy (Sasha Diamond), buys part of the sky, which enrages the local birds—Izumi is using absurdity to echo the discombobulation of transnational adoptees, adrift in a sea of uncomprehending whiteness. But the play’s lighthearted unreality has already been punctured by Neel’s reference to incest, and, with big events (parental confrontations, another murder) kept offstage, the tonal vibe deflates to something like a soap opera’s sitcom spinoff. Accordingly, the director, Jenny Koons, has encouraged a tinny sunshininess from the actors, though there are moments, particularly if Frazier and Tyo let their smiles droop, when we sense the play’s taproots reaching down for anger. These deeper feelings about identity must fight their way through the show’s goofy surface, but, when they do emerge, they’re like furious crocuses, vivid and already pissed off at spring.

Where “Regretfully” chooses daffiness, the overwhelming yet underdeveloped “White Girl in Danger” goes for gonzo maximalism. Michael R. Jackson’s musical, directed by Lileana Blain-Cruz, is, among other things, an R-rated satire of many types of soap opera, including daytime, nighttime, teen, and Lifetime Movie Events; a lacerating investigation of race; a Wagnerian epic about the whiteness of influences

from the author's youth (musical allusions include the Clash, Tori Amos, and the Cranberries); and a through-the-looking-glass version of Stephen Sondheim's "Into the Woods," with Grimms' fairy tales replaced by kitsch nineties touchstones like "Showgirls" and "Mother, May I Sleep with Danger?" (Really, the whole Tori Spelling–Elizabeth Berkley multiverse.) It's a messy three hours—kind of a train wreck. But that's another thing people watched for fun in the nineteenth century: trains crashing into each other.

Within the reality of a soap opera called "White Girl in Danger," the Allwhite Killer is on the loose. Allwhite is the town where primary story lines happen; the show's Black people live in (and also existentially constitute) the Blackground, where they suffer as secondary characters, never taking center stage. Keesha (Latoya Edwards), a Blackground character with a dawning will to power, wants to attract the killer's attention, because victimhood would offer Keesha a juicy narrative. And that's all she needs: the chance to endure gorgeously in the limelight, like the Allwhite girls, a "Heathers"-esque trio of variously troubled Megans (played by Lauren Marcus, Alyse Alan Louis, and Molly Hager). Keesha just wants to be self-destructive and bulimic and pursued by a killer, too! The show's unseen creator booms down Great and Powerful Oz-like commandments, but neither he nor Keesha realizes that other Blackground characters have something to say—particularly Keesha's mother, Nell (Tarra Conner Jones, who unleashes her glass-shattering Nell Carter-ish voice after intermission), and the unfailingly supportive janitor, Clarence (James Jackson, Jr.).

Jackson and Blain-Cruz's take on daytime dramaturgy, in which stories can go on for years, doesn't compress easily. Still, despite a chaotic second half, musically the show's a barn burner. Jackson thrillingly metabolizes the spectrum of eighties and nineties sounds into a pastiche-a-palooza: the Megans' girl band practices songs that are half Go-Go's, half Courtney Love; later, Jones-as-Nell puts across a showstopping "Dreamgirls"-style number. The latter scene might be a deep-cut reference to the real Nell Carter's experience with "Dreamgirls," which she left while it was still in development to be in "Ryan's Hope." Certainly, this kind of hyper-referentiality fuels the show's manic energy: the plain pink set, by Adam Rigg, quotes the backdrop of a fight between Joan Collins and Diahann

Carroll in the seventh season of “Dynasty.” Heaven help the audience member who isn’t Gen X, or at least on the millennial cusp.

Multicasting creates yet more mayhem: the Allwhite moms are played by one woman (the still somehow underused Liz Lark Brown); all the white boyfriends by Eric William Morris. Blain-Cruz, amping the actors nicely, and the choreographer, the gifted Raja Feather Kelly, tuck staging jokes in everywhere, though they can’t always keep up with the show, which has the hot-to-the-touch volatility of the recently revised. The best physical comedy stems from the quick set and costume changes—the designer, Montana Levi Blanco, has particular fun with color-block windbreakers and tearaway reveals—but, even given the production’s more-is-more ethos, the visual jokes aren’t always paced for maximum impact. There’s a gag about dildos as weapons, for instance, that repeats too many times. One dildo goes a long way.

Eventually, Jackson’s own author-avatar (also played by Jackson, Jr.) appears, and sings “Centering Myself,” revealing the anguish in his process and returning to the quasi-autobiographical meta-theatre of “A Strange Loop.” Here, Jackson’s asking himself difficult questions about his own consumption of white cultural products. Have they broken him, he wonders, in some deep way? If his earliest memories—before, as the avatar sings, “I came to blackness”—are of “white women fighting in sparkly eighties evening gowns,” is there a way for his adult self to unpick those influences?

In eight pages of spoken and sung introspection, Jackson describes an analysis that looks quite different from the ebullient, transgressive romp that has preceded it, and veers into a crisp indictment of the way Black suffering can be perverted into a path to power. Keesha certainly steps on her fellow Blackground characters on her way up. “And please believe me when I tell you that I love my race,” Jackson’s avatar says. “But ladies, I utterly loathe my social class. Because we bourgie-class, bourgie-ass negroes are so detached from reality that we spend the days of our lives savagely mocking Karens and Beckys, when half the time we’re the Karens and the Beckys!”

Much as the show does, this aria distracts and contradicts itself, as it moves from target to target, from certainty to doubt. Later versions will surely be more coherent. But, even when Jackson is giving us what still seems like a

draft, it's clear that he is a one-in-a-million, hypergenerative musical-theatre rarity. Here is a chance to get your ear close to his inner monologue, and to hear the voices that drive him. ♦

By Sarah Larson

By Ian Crouch

By Richard Brody

By Joshua Rothman

Time Travel Dept.

- [The Nelly Bly You've Never Heard Of](#)

The Nelly Bly You've Never Heard Of

Eve Kahn, the biographer of Zoe Anderson Norris, a.k.a. the “Queen of Bohemia,” tours the late writer’s downtown haunts.

By [Hannah Goldfield](#)



The historian Eve Kahn met a reporter on the stoop of a building on the outskirts of the East Village recently. “So, you’re writing about a writer who is writing about a writer who wrote about writing,” Kahn said. The first writer was Kahn herself, who is at work on a biography of the second writer, Zoe Anderson Norris, also known as the “Queen of Bohemia,” or, as Kahn likes to call her, “the Nellie Bly you’ve never heard of.”

Norris was born in 1860 in Harrodsburg, Kentucky, one of fifteen siblings impoverished by their father, an evangelist and an abolitionist who devoted much of his life to translating the New Testament from the ancient Greek. In 1901, three years after her first divorce, she moved to New York, where she scraped by as a novelist—many of her heroines were writers living in Manhattan boarding houses—and as a journalist for publications including the *New York Sun*, interviewing zoo animals and reporting on living conditions in the slums. In 1907, she made headlines herself when she took up residence in one of those slums, in an apartment on East Fifteenth Street.

“I’ve weaseled my way in twice,” Kahn, who is sixty, said, of that building. Once, she’d set up an appointment on StreetEasy to see an available unit: “I was pretending to be renting an apartment for my niece.” Another time, an N.Y.U. student happened to be moving out. Now the building’s front door swung open, and a stranger held it open. “See? The research gods are looking out for me,” Kahn said.

Standing at a west-facing window in a seventh-floor hallway, Kahn explained that the view was a fraction of what Norris would have seen from her flat, where the décor had included a gargoyle made by Gutzon Borglum, the Mount Rushmore sculptor. “I call them witness buildings, the ones that would have been here when she was,” Kahn said, pointing out the old Stuyvesant High School. In front of a door marked 7C was a mat that read “*COME THE FUCK IN OR FUCK THE FUCK OFF*.” Kahn laughed.

From what she called her “Literary Sanctum,” Norris wrote every word published in her bimonthly magazine, *The East Side*, which she created to plead for political and social reform and charity aid; its articles were syndicated by hundreds of newspapers across the country. She reported—sometimes undercover, dressed as a beggar with an accordion, playing “My Old Kentucky Home”—on toxic muck in the streets and unemptied, typhoid-spreading trash cans. “She went into many of these tenements when they were in terrible shape, broken windows stuffed with trash,” Kahn said. “She writes vividly about seeing little girls dangling from fire escapes, washing the windows. She saw abusive husbands and fathers, in action, silhouetted. She saw at one point what appeared to be a happy, companionable couple, reading back-to-back, and she realizes they’re happy and companionable because they’re actually in separate apartments.”

Kahn first encountered Norris when, in 2018, she noticed issues of *The East Side* in the private collection of a fellow-member of the Grolier Club, a society for bibliophiles on the Upper East Side. Norris’s name was listed beside every job on the masthead, including “The Bootblack,” “Pooh Bah,” and “T” Whole Cheese.” Kahn became obsessed, collecting copies of all twenty-nine issues of the magazine, which are now included in an exhibit that she curated for the Grolier, called “To Fight for the Poor with My Pen.”

At 203 Second Avenue, currently home to the Ukrainian National Women's League of America, Kahn peered through a glass door and pointed out letters on the floor which read "People's Hospital." "This is where Zoe died," Kahn said. Not wanting to "be pigeonholed as a shrill reformer," Kahn explained, Norris founded the Ragged Edge Klub, a rowdy society for writers, artists, physicians, and lawyers that met weekly at restaurants, including one called Pokol, Hungarian for "Hell." "They dance like dervishes," Kahn said. "They inhale cigarette smoke and spaghetti simultaneously." She pointed across the street. "Where the Chase Bank is, I believe that was where Café Boulevard was, later called Café Boheme, where she went to one last dinner, and felt horrible."

Weeks before, Norris had predicted her own demise: in the final issue of *The East Side*, she wrote that her late mother had visited her in a dream and warned her that death was imminent. She was fifty-three, and basically destitute. On Avenue A, Kahn approached No. 101. The building, which then housed a bowling alley and a saloon, had been used during Norris's funeral. "The coffin, the lilies, the songs by the German oompah band, were here," Kahn said. "This became the Pyramid, one of the great avant-garde clubs in the eighties. Zoe would love that." Again a door was swung open, this time by a construction worker hauling debris. "See how the gods love us?" Kahn said.

Next to the bar was a plaque with a relief of a man's face and a quote. It was Theodore Roosevelt, and the quote was from an 1899 speech called "The Strenuous Life." "I wish to preach," it read, "that highest form of success which comes . . . to the man who does not shrink from danger, from hardship, or from bitter toil, and who out of these wins the splendid ultimate triumph." ♦

By Eric Lach

By Shauna Lyon

By Vince Aletti

By Ben Lerner

Table of Contents

[NewYorker.2023.04.24](#)

[A Reporter at Large](#)

[Crooks' Mistaken Bet on Encrypted Phones](#)

[Annals of Gastronomy](#)

[Taco Bell's Innovation Kitchen, the Front Line in the Stunt-Food Wars](#)

[Art](#)

[The Monumental Work of Daniel Lind-Ramos](#)

[At the Museums](#)

[A High-Tech Heist at the British Museum](#)

[Books](#)

[What Happens When You Kill Your King](#)

[The Origins of Creativity](#)

[The Forgotten Drug Trips of the Nineteenth Century](#)

[A Dennis Lehane Novel Investigates Boston's White Race Riots](#)

[Briefly Noted](#)

[Brave New World Dept.](#)

[The Future of Fertility](#)

[Comment](#)

[Federal Courts Battle Over the Abortion Pill](#)

[Crossword](#)

[The Crossword: Friday, April 14, 2023](#)

[Fiction](#)

["The Stuntman," by Rachel Cusk](#)

[Onward and Upward with Technology](#)

[How Much Can Duolingo Teach Us?](#)

[Poems](#)

["All Souls"](#)

["Rowan Tree"](#)

[Shouts & Murmurs](#)

[Brokeback Mountain in Manhattan](#)

[Sketchbook](#)

[Bon Voyage: Life as a Plane Trip](#)

Sketchpad

Newer, Better Rule Changes for Baseball and Other Sports

Tables for Two

Fantasy Street Food at Balkan StrEAT

The Current Cinema

“Beau Is Afraid” ’s Wearisome Excess

The Pictures

Owen Wilson, Art Monster

The Theatre

Soap Operas as Guiding Light

Time Travel Dept.

The Nelly Bly You’ve Never Heard Of