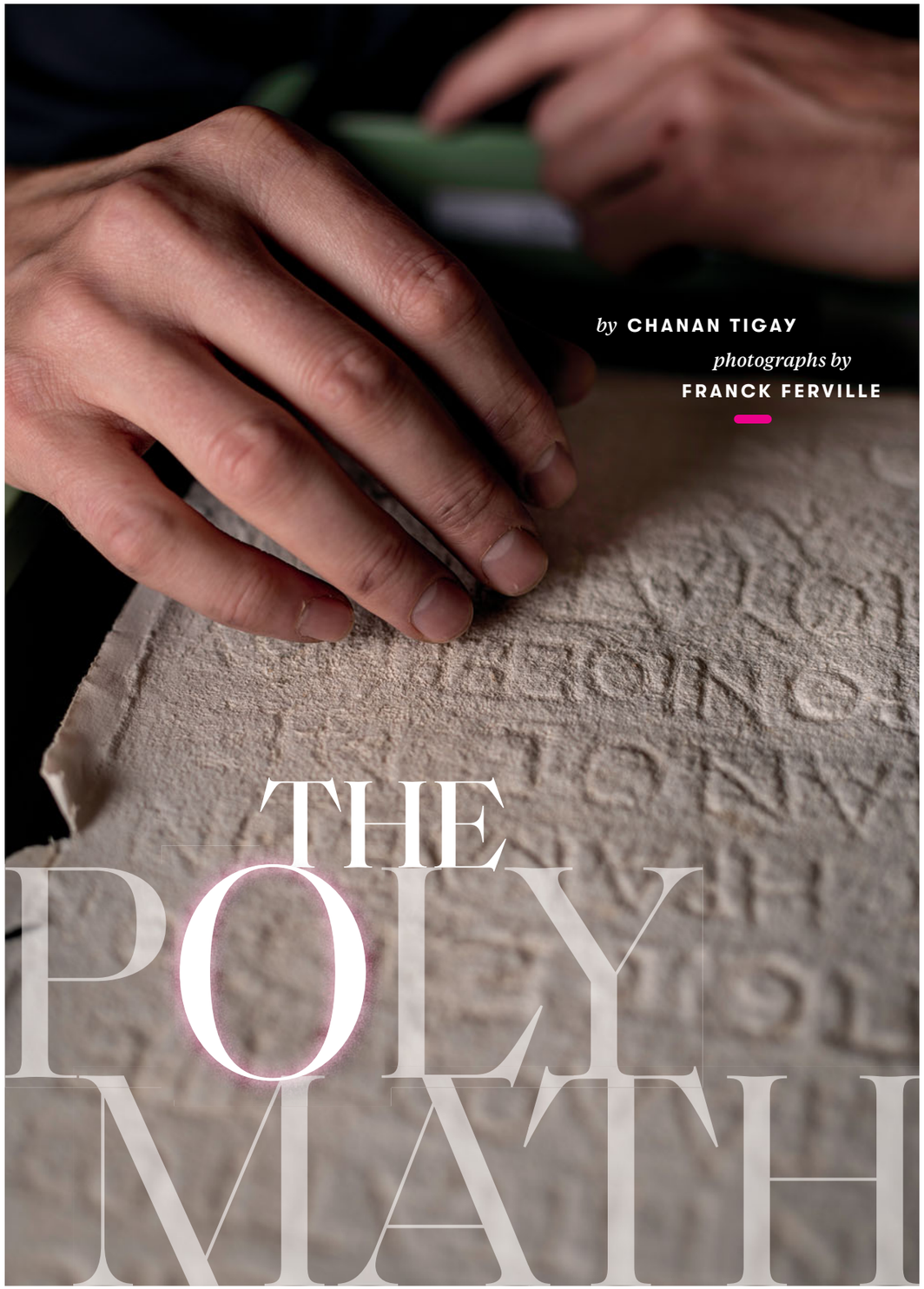


by **CHANAN TIGAY**

photographs by
FRANCK FERVILLE

THE POLY MATH

Michael Langlois outside the Institut de France. Left, a copy of a Greek inscription, made by laying wet paper or plaster over carved stone to create a mirror-image impression.

A multitalented scholar wields technology to decipher the ***Dead Sea Scrolls*** and other ancient texts

Langlois working at the Institut de France, in Paris. The august learned society houses academies of French language, fine arts, humanities, sciences, and politics and ethics.

If you spotted Michael Langlois walking along the Seine, in Paris, as I did one overcast morning last spring, you could be forgiven for mistaking this scholar of the ancient Middle East for the bassist in Def Leppard. He wears his long brown hair in a leonine mane, and when I caught up with him on the Pont des Arts he was sporting a pink sweater and salmon-colored pants. As it turns out, Langlois *is* a professional musician, having played bass on some 20 French studio albums, from soul to gospel to pop. He had recently laid down the bass tracks on an album of Celtic music by the French composer Hélène Goussebayle, and that summer he would perform in France with the Christian rock singer Chris Christensen. But he is also perhaps the most versatile—and unorthodox—biblical scholar of his generation.

That morning, he was headed to the Institut de France, a learned society founded in 1795 for the cream of French intelligentsia. At 46, Langlois is one of the institute's youngest affiliates. He led me past its luminous gold-trimmed cupola and guided me through a vaulted entryway, across a cobblestone courtyard and up several flights of stairs, where he stopped at a room with a little sign affixed out front: "Corpus Inscriptionum Semiticarum." The cramped office once served as the headquarters for a group of French scholars who, beginning in the mid-19th century, endeavored to publish a sweeping study of every ancient Semitic inscription then known.

Ancient inscriptions, scratched into stone or put onto parchment or papyrus or any other surface, including broken pieces of pottery known as *ostraca*, not only offer insights into the Bible's history but also paint a picture of how people lived in biblical and even prebiblical times. The ancients used ostraca the way we use paper: to record tax payments, tabulate receipts, write letters and take notes on meetings. "Instead of looking at the heroes of epic stories, we can look at very normal people with very normal lives, struggling with jobs, food, even their marriages, kids or health," Langlois said. "That's another way of reconstructing history."

A professor of Old Testament studies at the University of Strasbourg, in France, Langlois is nearing completion of a book, written with a colleague, about a cache of 450 Hebrew ostraca likely dating

> "WITH FORGERIES, IF YOU DON'T PAY ATTENTION, THEN ***they become part of the data set*** YOU USE TO RECONSTRUCT THE HISTORY OF THE BIBLE."

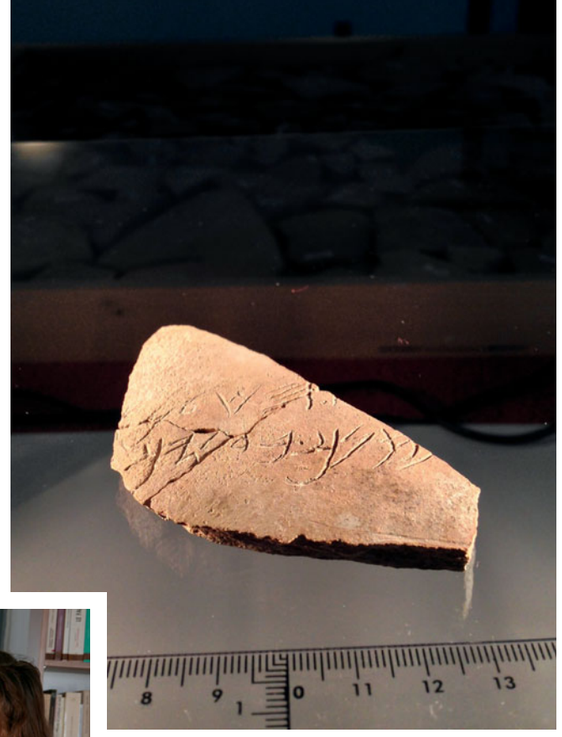
to around 600 B.C.—a "time capsule of daily life in the Kingdom of Judah." For instance, he decoded notes written by a soothsayer who advised a pregnant woman worrying about her baby's health, another woman who feared her husband was lying to her and a man who couldn't decide if he should move to a new city.

But ancient inscriptions, whether sacred or mundane, don't always survive unblemished. To decipher them, Langlois draws on an impressive range of academic training. He holds three master's degrees—theology, ancient Middle Eastern languages and civilization, and archaeology and linguistics—and a doctorate in history and philology from the Sorbonne. But his facility with sophisticated technologies, some of his own design (he briefly worked constructing simulations to chart the route of a high-speed train through a mountain tunnel), has armed him with techniques that allow him to make sense of texts so badly damaged by age, climate or human folly that they are now nearly illegible. His approach, which combines the close linguistic and paleographical analysis of ancient writings with advanced scientific tools—from multispectral imaging to artificial intelligence-assisted "texture mapping"—can sometimes make long-gone inscriptions come back to life.

Or it can bury them for good—as in his most widely publicized feat of scholarly detective work, an exposé involving arguably the greatest archaeological discovery of the 20th century.

THE DEAD SEA SCROLLS, first uncovered by a trio of Bedouin wandering the Judean Desert in 1947, provide a fascinating glimpse into what Scripture looked like during a transformative period of religious ferment in ancient Israel. The scrolls include the oldest copies ever found of the Hebrew Bible, "apocryphal" texts that were never canonized, and rules and guidelines for daily living written by the community of people who lived at Qumran, where the first scrolls were found. All told, scholars have identified as many as 100,000 Dead Sea Scrolls fragments, which come from more than 1,000 original manuscripts.

Experts date the scrolls between the third century B.C. and the first century A.D. (though Langlois believes several may be two centuries older). Some of them are relatively large: One copy of the Book of Isaiah, for example, is 24 feet long and contains a near-complete version of this prophetic text.



A modified digital camera helps decipher degraded texts. Special light filters enable Langlois to pick up details invisible to the naked eye.

This inscribed pottery shard is part of an archive of texts dating to around 600 B.C. that, Langlois says, paints a portrait of daily life in ancient Israel.

Langlois in Wadi Murabba'at, where many Dead Sea Scrolls were found, with Torleif Elgvin, of NLA University College, Oslo, and Daniel Machiela, of the University of Notre Dame.

In the 19th century, French scholars began to publish all Semitic inscriptions then known. This first volume reprinted 3,000-year-old Phoenician texts.

COURTESY MICHAEL LANGLOIS (3)

Most, however, are much smaller—inscribed with a few lines, a few words, a few letters. Taken together, this amounts to hundreds of jigsaw puzzles whose thousands of pieces have been scattered over many different locations around the world.

In 2012, Langlois joined a group of scholars working to decipher close to 40 Dead Sea Scrolls fragments in the private collection of Martin Schøyen, a wealthy Norwegian businessman. Each day in Kristiansand, Norway, he and specialists from Israel, Norway and the Netherlands spent hours trying to determine which known manuscripts the fragments had come from. "It was like a game for me," Langlois said. The scholars would project an image of a Schøyen fragment on the wall beside a photograph of a known scroll and compare them. "I'd say, 'No, it's a different scribe. Look at that *lamed*,'" Langlois recalled, using the word for the Hebrew letter L. Then they would skip forward to another known manuscript. "No," Langlois would say. "It's a different hand."

Each morning, while out walking, the scholars discussed their work. And each day, according to Esti Eshel, an Israeli epigrapher also on the team, "They were killing another identification." Returning to France, Langlois examined the fragments with computer-imaging techniques he had developed to isolate and reproduce each letter written on the fragments before beginning a detailed graphical analysis of the writing. And what he discovered was a series of flagrant oddities: A single sentence might contain styles of script from different centuries, or words and letters were squeezed and distorted to fit into the available space, suggesting the parchment was already fragmented when the scribe wrote on it. Langlois concluded that at least some of Schøyen's fragments were modern forgeries. Reluctant to break the bad news, he waited a year before telling his colleagues. "We became convinced that Michael Langlois was right," said Torleif Elgvin, the Norwegian scholar leading the effort.

After further study, the team ultimately determined that about half of Schøyen's fragments were likely forgeries. In 2017, Langlois and the other Schøyen scholars published their initial findings in a journal called *Dead Sea Discoveries*. A few days later, they presented their conclusions at a meeting in

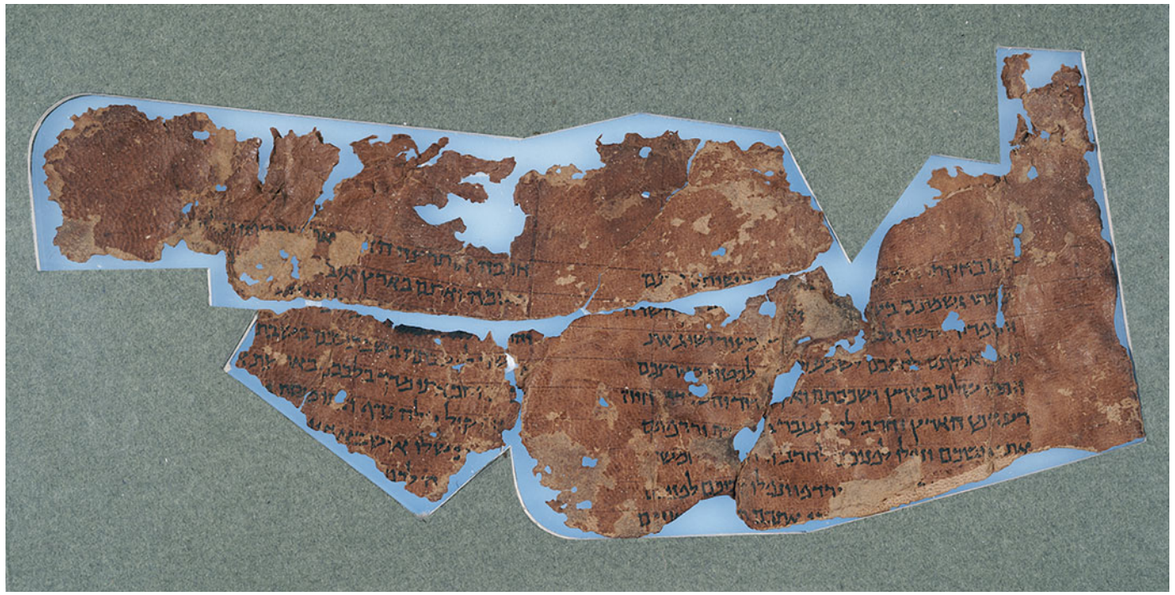
Berlin of the Society of Biblical Literature. Flashing images of the Schøyen fragments on a screen, Langlois described the process by which he concluded the pieces were fakes. He quoted from his contemporaneous notes on the scribe's "hesitant hand." He pointed out inconsistencies in the fragments' script.

And then he dropped the gauntlet: The Schøyen fragments were only the beginning. The previous year, he said, he'd seen photos of several Dead Sea Scrolls fragments in a book published by the Museum of the Bible, in Washington, D.C., a privately funded complex a few blocks from the U.S. Capitol. The museum was scheduled to open its doors in three months, and a centerpiece of its collection was a set of 16 Dead Sea Scrolls fragments whose writing, Langlois now said, looked unmistakably like the writing on the Schøyen fragments. "All of the fragments published there exhibited the same scribal features," he told the scholars in attendance. "I'm sorry to say that all of the fragments published in this volume are forgeries. This is my opinion."

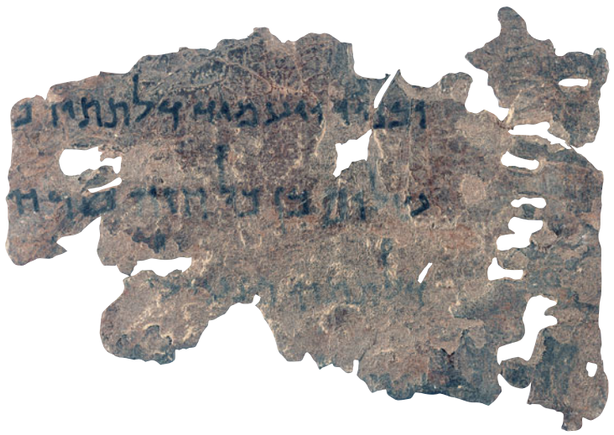
The weight of the evidence presented that day by several members of the Schøyen team led to a re-evaluation of Dead Sea Scrolls in private collections all over the world. In 2018, Azusa Pacific University, a Christian college in Southern California that had purchased five scrolls in 2009, conceded that they were likely fakes, and it sued the dealer who had sold them. In 2020, the Southwestern Baptist Theological Seminary, in Fort Worth, Texas, announced that the six Dead Sea Scrolls it had purchased around the same time were also "likely fraudulent."

The most stunning admission came from executives at the Museum of the Bible: They had hired an art-fraud investigator to examine the museum's fragments using advanced imaging techniques and chemical and molecular analysis. In 2020, the museum announced that its prized collection of Dead Sea Scrolls was made up entirely of forgeries.

Langlois told me that he derives no pleasure from such discoveries. "My intention wasn't to be an expert in forgeries, and I don't love catching bad guys or something," he told me. "But with forgeries, if you don't pay attention, and you think they are authentic, then they become part of the data set you use to reconstruct the history of the Bible. The entire theory is then based on data that is false." That's why ferreting out biblical fakes is "paramount," Langlois said. "Otherwise, everything we are going to do on the history of the Bible is corrupt."



VALIDATING DEAD SEA SCROLLS The ancient documents had disintegrated into thousands of fragments by the time they were discovered. Left, part of an authenticated scroll, with Hebrew text from the biblical book of Leviticus. Below, a purported fragment that Langlois identified as a modern forgery. He found that the parchment's "skin" had peeled off. If the inscription were indeed ancient, the ink would no longer be on the surface.



Fragments from an authentic copy of the Song of Songs, a biblical book in the form of an erotic poem that is traditionally believed to have been written by King Solomon.

COURTESY MICHAEL LANGLOIS (3)

LANGLOIS WAS RAISED in Voisins-le-Bretonneux, a small town near Versailles, in a devout Pentecostal Christian household. Before he could walk, he crawled from pew to pew. But when he was 11 or so, his father, a telecommunications engineer, brought home an old computer. Langlois' brother Jean-Philippe, two years his senior, tracked down code for a rudimentary computer game and drafted Langlois to type the whole thing—several thousand lines—into the machine. "That's how I learned to code," he told me.

Around that time, Langlois read a book on numerology in the Bible and informed his Sunday-school instructor that her lecture on the theme was deeply flawed. She said, "You're old enough now to attend services with the adults," and showed him the door. But the more he learned about the Bible, the more questions he had. If the holy book was perfect, why did he keep finding it was rife with contradictions? Did God create people after he created animals, as the first chapter of Genesis had it? Or did people come first, as per Chapter 2? Langlois began attending Bible study armed with a notepad and pen, and he would pepper his pastor with questions. "I wasn't trying to undermine him—I had sincere questions," Langlois said. "He probably thought I was a pain in the ass." It was more than a little rebellious of him to form a rock band at age 14 with his brother, because the family's church had long disdained drums and electric instruments; the boys' grandfather especially worried that rock music did not "please God."

In France, high school students are required to choose a major, and Langlois signed up for math and science, which he went on to study as an undergraduate at Paris-Sud University. He thought he might become a math teacher or maybe a computer scientist, but when he graduated, he found that his faith still had a hold on him. "I had questions," he told me, "and I wanted answers." So he enrolled at the Continental Theological Seminary, near Brussels, where he studied theology as well as Greek and ancient Hebrew. A course on the origins of the Bible introduced him to the cultures of the ancient Middle East and the birth of the Hebrew alphabet. "I was like, 'Wow, *that* is what I need to study.'" It was during this period, he told me, that his faith "shifted." The more he learned about the history of Christianity, the more he came to feel that no single denomination or doctrine had a monopoly on truth, and today he feels comfortable in a variety of churches.

He was working toward a graduate degree in ancient languages at the Catholic University of Paris when a professor invited him to join the group preparing a new bilingual volume of the Dead Sea Scrolls, which would include the original texts alongside a new French translation. "We had a meeting, a dozen people, and they were asking who wanted to do what," Langlois said. "I was raising my hand all the time. I wanted to do everything."

But when they got to the Book of Enoch, no one's hand went up—not even his. Enoch, an apocryphal text thought to be written sometime between the third century B.C. and the second century A.D., is named for the biblical Noah's great-grandfather. One reason Langlois didn't know much about the book was that it didn't make it into the Hebrew Bible or the New Testament. Another is that the only complete copy to survive from antiquity was written in an ancient Ethiopic language called Ge'ez.

But beginning in the 1950s, more than 100 fragments from 11 different parchment scrolls of the Book of Enoch, written largely in Aramaic, were found among the Dead Sea Scrolls. A few fragments were relatively large—15 to 20 lines of text—but most were much smaller, ranging in size from a piece of toast to a postage stamp. Someone had to transcribe, translate and annotate all this "Enochic" material—and Langlois' teacher volunteered him. That's how he became one of just two students in Paris learning Ge'ez.

Langlois quickly grasped the numerous parallels between Enoch and other books of the New Testament; for instance, Enoch mentions a messiah called the "son of man" who will preside over the Final Judgement. Indeed, some scholars believe Enoch was a major influence on early Christianity, and Langlois had every intention to conduct that type of historical research.

He started by transcribing the text from two small Enoch fragments, but age had made parts of it hard to read; some sections were missing entirely. In the past,

> "I DIDN'T CONSIDER MYSELF A SCHOLAR. I WAS JUST A STUDENT WONDERING HOW WE COULD ***benefit from these technologies***."

scholars had tried to reconstruct missing words and identify where in the larger text these pieces belonged. But after working out his own readings, Langlois noticed the fragments seemed to come from parts of the book that were different from those specified by earlier scholars. He also wondered if their proposed readings could even fit on the fragments they purportedly came from. But how could he tell for sure?

To faithfully reconstruct the text of Enoch, he needed digital images of the scrolls—images that were crisper and more detailed than the printed copies inside the books he was relying on. That was how, in 2004, he found himself traipsing around Paris, searching for a specialized microfiche scanner to upload images to his laptop. Having done that (and lacking cash to buy Photoshop), he downloaded an open-source knockoff.

First, he individually outlined, isolated and reproduced each letter on Fragment 1 and Fragment 2, so he could move them around his screen like alphabet refrigerator magnets, to test different configurations and to create an "alphabet library" for systematic analysis of the script. Next, he began to study the handwriting. Which stroke of a given letter was inscribed first? Did the scribe lift his pen, or did he write multiple parts of a letter in a continuous gesture? Was the stroke thick or thin?

Then Langlois started filling in the blanks. Using the letters he'd collected, he tested the reconstructions proposed by scholars over the preceding decades. Yet large holes remained in the text, or words were too big to fit in the available

A squeeze copy of a Nabataean inscription. Since the 18th century, the method has helped linguists decipher many ancient languages.

THE MESHA STELE
Below, the actual, reconstructed monument at the Louvre. Right, a replica at the Institut de France. Uncovered in 1868, in present-day Jordan, the three-foot-tall inscription contains the first contemporaneous account of a biblical story found outside the Bible. It may even refer to King David—an interpretation that Langlois believes he has confirmed.

space. The "text" of the Book of Enoch as it was widely known, in other words, was in many cases mistaken.

Take the story of a group of fallen angels who descend to earth to seduce beautiful women. Using his new technique, Langlois discovered that earlier scholars had gotten the names of some of the angels wrong, and so had not realized the names were derived from Canaanite gods worshipped in the second millennium B.C.—a clear example of the way scriptural authors integrated elements of the cultures that surrounded them into their theologies. "I didn't consider myself a scholar," Langlois told me. "I was just a student wondering how we could benefit from these technologies." Eventually, Langlois wrote a 600-page book that applied his technique to the oldest known scroll of Enoch, making more than 100 "improvements," as he calls them, to prior readings.

His next book, even more ambitious, detailed his analysis of Dead Sea Scrolls fragments containing snippets of text from the biblical Book of Joshua. From these fragments he concluded that there must be a lost version of Joshua, previously unknown to scholars and extant only in a small number of surviving fragments. Since there are thousands of authentic Dead Sea Scrolls, it appears that much still remains to be learned about the origins of early biblical texts. "Even the void is full of information," Langlois told me.

MBZT 2012 / WIKIMEDIA

BACK AT THE INSTITUT DE FRANCE, Langlois set down a heavy bag and, from a nearby shelf, retrieved a black box that looked like it might hold a pair of shoes.

Inside, protected by balls of old, crumpled newspaper, were several pieces of jagged white plaster, each about the size of a fist. Langlois removed one and traced his pinky along an inch-long line engraved on one side—the ancient letter *yud*. "These are from the Stele of Mesha," he said.

The Mesha Stele, a three-foot-tall black basalt monument dating to nearly 3,000 years ago, bears a 34-line inscription in Moabite, a language closely related to ancient Hebrew—the longest such engraving ever found in the area of modern-day Israel and Jordan. In 1868, an amateur archaeologist named Charles Clermont-Ganneau was serving as a translator for the French Consulate in Jerusalem when he heard about this mysterious inscribed monument lying exposed in the sands of Dhiban, east of the Jordan River. No one had yet deciphered its inscription, and Clermont-Ganneau dispatched three Arab emissaries to the site with special instructions. They laid wet paper over the stone and tapped it gently into the engraved letters, which created a mirror-image impression of the markings on the paper, what's known as a "squeeze" copy.

But Clermont-Ganneau had misread the delicate political balance among rival Bedouin clans, sending members of one tribe into the territory of another—and with designs on a valuable relic no less. The Bedouin grew wary of their visitors' intentions. Angry words turned threatening. Fearing for his life, the party's leader made a break for it and was stabbed in the leg with a spear. Another man leaped into the hole where the stone lay and yanked up the wet paper copy, accidentally tearing it to pieces. He shoved the torn fragments into his robe and took off on his horse, finally delivering the shredded squeeze to Clermont-Ganneau.

Afterward, the amateur archaeologist, who would become an eminent scholar and a member of the Institut de France, tried to negotiate with the Bedouin to acquire the stone, but his interest, coupled with offers from other international bidders, further irked the tribesmen; they built a bonfire around the stone and repeatedly doused it with cold water until it broke apart. Then they scattered the pieces. Clermont-Ganneau, relying on the tattered squeeze, did his best to transcribe and translate the stele's inscription. The result had profound implications for our understanding of biblical history.

The stone, Clermont-Ganneau found, held a victory inscription written in the name of King Mesha of Moab, who ruled in the ninth century B.C. in what is now Jordan. The text describes his blood-soaked victory against the neighboring kingdom of Israel, and the story it told turned out to match parts of the Hebrew Bible, in particular events described in the Book of Kings. It was the first contemporaneous account of a biblical story ever discovered outside the Bible itself—evidence that at least some of the Bible's stories had actually taken place.

In time, Clermont-Ganneau collected 57 shards from the stele and, returning to France, made plaster casts of each—including the one Langlois now held in his hand—rearranging them like puzzle pieces as he worked out where each of the fragments fit. Then, satisfied he'd solved the puzzle, he "rebuilt" the stele with the original pieces he'd collected and a black filler that he inscribed with his transcription. But large sections of the original monument were still missing or in extremely poor condition. Thus certain mysteries about the text

> "SO NOW ***these missing letters*** HAVE TO END WITH *VAV* AND *DALET*," HE SAID, NAMING THE LAST TWO LETTERS OF THE HEBREW SPELLING OF "DAVID."

persist to this day—and scholars have been trying to produce an authoritative transcription ever since.

The end of line 31 has proved particularly thorny. Paleographers have proposed various readings for this badly damaged verse. Part of the original inscription remains, and part is Clermont-Ganneau's reconstruction. What's visible is the letter *bet*, then a gap about two letters long, where the stone was destroyed, followed by two more letters, a *vav* and then, less clearly, a *dalet*.

In 1992, André Lemaire, Langlois' mentor at the Sorbonne, suggested that the verse mentioned "Beit David," the House of David—an apparent reference to the Bible's most famous monarch. If the reading was correct, the Mesha Stele did not just offer corroborating evidence for events described in the Book of Kings; it also provided perhaps the most compelling evidence yet for King David as a historical figure, whose existence would have been recorded by none other than Israel's Moabite enemies. The following year, a stele uncovered in Israel also seemed to mention the House of David, lending Lemaire's theory further credence.

Langlois plays bass alongside the French singer Alexia Rabé during a televised concert; the scholar formed his first band at 14.

Over the next decade, some scholars adopted Lemaire's reconstruction, but not everyone was convinced. A few years ago, Langlois, along with a group of American biblical scholars and Lemaire, visited the Louvre, where the reconstructed stele has been on display for more than a century. They took dozens of high-resolution digital photographs of the monument while shining light on certain sections from a wide variety of angles, a technique known as Reflectance Transformation Imaging, or RTI. The Americans were working on a project about the development of the Hebrew alphabet; Langlois thought the images might allow him to weigh in on the King David controversy. But watching the photographs on a computer screen in the moments they were taken, Langlois didn't see anything of note. "I was not very hopeful, frankly—especially regarding the Beit David line. It was so sad. I thought, 'The stone is definitively broken, and the inscription is gone.'"

It took several weeks to process the digital images. When they arrived, Langlois began playing with the light settings on his computer, then layered the images on top of each other using a texture-mapping software to create a single, interactive, 3D image—probably the most accurate rendering of the Mesha Stele ever made.

And when he turned his attention to line 31, something tiny jumped off the screen: a small dot. "I'd been looking at this specific part of the stone for days, the image was imprinted in my eyes," he told me. "If you have this mental image, and then something new shows up that wasn't there before, there's some kind of shock—it's like you don't believe what you see."

In some ancient Semitic inscriptions, including elsewhere on the Mesha Stele, a small engraved dot signified the end of a word. "So now these missing letters have to end with vav and dalet," he told me, naming the last two letters of the Hebrew spelling of "David."

Langlois reread the scholarly literature to see if anyone had written about the dot—but, he said, no one had. Then, using the pencil on his iPad Pro to imitate the monument's script, he tested every reconstruction previously proposed for line 31. Taking into account the meaning of the sentences that come before and after this line, as well as traces of other letters visible on RTI renderings the group had made of Clermont-Ganneau's squeeze copy, Langlois concluded that his teacher was right: The damaged line of the Mesha Stele did, almost certainly, refer to King David. "I really tried hard to come up with another reading," Langlois told me. "But all of the other readings don't make any sense."

In the sometimes contentious world of biblical archaeology, the finding was hailed by some scholars and rejected by others. Short of locating the missing pieces of the stele miraculously intact, there may be no way to definitively prove the reading one way or another. For many people, though, Langlois' evidence was as close as we might get to resolving the debate. But that hasn't stopped him from inviting competing interpretations. Last year, Matthieu Richelle, an epigrapher who also studied under Lemaire, wrote a paper arguing, among other things, that Langlois' dot could just be an anomaly in the stone. He presented his findings at a biblical studies conference in a session organized by Langlois himself. "This says something about how open-minded he is," Richelle told me.

COURTESY MICHAEL LANGLOIS

To walk from the Louvre to the institute, as Langlois does to study inscriptions, you cross the Seine. "We need to make the most of it," he says of the ancients' written legacy.

AFTER WE LEFT THE INSTITUTE, Langlois and I crossed the Seine on a footbridge to reach the Louvre. The tourist shops across the street carried countless varieties of *Mona Lisa* trinkets and an Eiffel Tower for every occasion—painted, stuffed and sculpted. But insofar as I could tell there was no Mesha Stele swag to be had.

Today, the pillar is kept on a pedestal in the Department of Oriental Antiquities, Room 303, a cavernous hall with high ceilings, beige stone walls and pleasant natural light. As Langlois approached it, he immediately kneeled down and flicked on his iPhone flashlight. "It looks much smaller in reality, right?" he said.

Clermont-Ganneau had done his best, but the stele looked like something out of Dr. Frankenstein's laboratory. The lighter pieces were original, the smooth dark areas an incongruous filler. Langlois arced his phone slowly over the inscription, shining light over the words from different angles. Then he stopped over line 31. "The sequence of letters is from here to here," he said. "So you can see the bet here at the beginning, then the vav and the dalet and the dot."

Together we marveled at how much seems to rest on the presence or absence of a tiny mark carved onto a stone 3,000 years ago and recovered from distant sands—nothing less than evidence suggesting the existence of King David.

But it was hard to make out the mark, so I asked him if there was another on the stele that he could show me for comparison. He pointed to a better-preserved dot elsewhere.

"It looks like your dot got a little damaged," I said.

"It's a bit damaged, but with the correct angle"—here he moved his light again—"you can see the diameter is the same and the depth is the same."

And it was true. Illuminated this way, it looked like a dot—effaced by water, by fire, by time itself. But a dot. ◆

BYLINES

Chanan Tigay last wrote for *Smithsonian* about a daring rescue operation to save European refugees from the Nazis.

Photographer **Franck Ferville**, who trained as a musician, got his start by taking portraits of pianists.