

Trinidad Huamani and Francisco Quico are making an oven out of the earth.

They collect stones and chunks of clay from the farmland around them, then form a small dome, held together by the shear force of gravity, with an opening on one side. Inside, they start a fire with eucalyptus, fava bean stems and leaves and they keep adding to the fire as the heat grows stronger. A small hole is added in the back to release some of the smoke. After thirty or so minutes, the walls on the inside of the oven become blackened. When the oven, called a huatía, is on the verge of collapse the tubers — ocas, mashuas, and different varieties of Andean potatoes that have just been harvested — are added into the oven and then they tear it apart with their hands, extinguishing the flame. They push the dirt and rocks inward, forming a small mound, and then poke at the pieces with pickaxes until it becomes tightly packed dirt. Pachamama (mother earth) and the potatoes have become one.

As the potatoes and dirt smolder in the background, Trinidad makes uchucuta, the Quechua word for chile sauce. In a stone mortar, she adds rocoto peppers, satchatomate, and huacatay. She grinds them into a thick, green paste. She sprinkles in salt from Maras and keeps grinding. She pours a little bit of chicha de jora, fermented maize beer, into it. It's a labor-intensive process, lasting 20-minutes or so, for a small amount of sauce, yet when it is finished it's creamy, smooth, and ripe with the flavor of the Andes. She has tried to make the same sauce in a blender, but it's not as tasty. She doesn't know exactly why, yet she accepts that there is a reason why things have always been done in this way.

As she finishes the uchucuta, Francisco begins digging the potatoes out of the huatía. The skins are charred and crisp.

The couple pulls most of the potatoes out of the earth with their hands, almost like a second harvest. They brush off the dirt and lay them on a manta, a colorful blanket.

While Trinidad and Francisco were preparing the huatía, a crowd of 60 or so from Peru's culinary community, as well as others from a variety of disciplines from around the world, have been observing this ancient tradition. It is the first Momento Mater, and the gathering — established by Virgilio and Malena Martinez of the Lima restaurant Central and its research arm Mater Iniciativa — is set on the grounds of Hacienda Urubamba, an Inkaterra hotel in Cusco's Sacred Valley with its own ancestral Andean farming project.

Trinidad and Francisco are from Chahuay, a village set at 3,600 meters in the Acomayo province a few hours from Cusco. They have been working with Mater Iniciativa for several years, helping the organization understand ancestral Andean culinary traditions and supplying some of the produce for Central's altitude based tasting menu.

"Normally we do this in the rainy season, so we are offending pachamama," Francisco laughs.

Together, everyone peels the skins of the potatoes, dips them in the ucuhucuta, and eats.











Peru has the biodiversity of Indonesia and a history as extensive as Egypt. On their own, each of those things makes for profound culinary conditions. Combined, they provide a gastronomic framework that is without equal.

For several thousand years, Peruvian cuisine has been in a state of constant evolution, pushed along by clashes of civilizations and waves of immigration. Humans arrived in the region around 14,000-20,000 years ago, but 5,000-8,000 years, parallel to the pyramids of Egypt, changes in climate and advances in technology allowed early inhabitants to shift away from hunter and gatherer lifestyles and cultivate maize, cotton, and other crops, plus herd llamas and alpacas. Around 1000 B.C. came the Chavin in the Ancash region, who learned how to dehydrate llama meat, called *ch'arqui*, allowing them to expand their reach. Around the same time, the Paracas culture, and then the Nazca, built elaborate irrigation systems that are still used by valley farms and vineyards.

Near modern day Trujillo around 100-300 A.D., the Moche made totora reed rafts to fish further away from the shore, while the Wari near modern day Ayacucho developed terraced fields and roads that allowed food to be traded over greater distances. The remnants of the Moche gave rise to the Chimu, who created adobe cities on grand scales and produced more than they could eat, resorting to storehouses to preserve food for long periods of time.

Around the 15th century, the Incas began conquering other cultures one by one and absorbing their knowledge, including agricultural practices and cooking styles. Their signature staple was the potato, which they freeze dried by leaving outside in the cold, stomped on to expel the water, and then dried in the sun. Quinoa and other pseudograins like kiwicha (amaranth) grew at higher altitudes, while maize was grown on lower slopes and valleys and was often used to make chicha, which was alcoholic yet provided sustenance. They also grew oca, maca, tarwi, bananas, avocados, papayas, plums, and several variations of pineapple. At the time of the Spanish conquest, the Incas cultivated almost as many species of plants as the farmers of all Asia or Europe and this was all accomplished without iron, wheels, or work animals for plowing. They could produce food for as many as fifteen million people across the entire length of the Andes from southern Colombia to central Chile. Their storehouses overflowed with grains and dried tubers, and it is believed that at their height the Incas had as much as 3–7 years of food supply in storage.

The Spanish arrived in 1533 and began suppressing foodways that had existed for thousands of years, while introducing new proteins (beef, pork, chicken), fruits (limes, apples, grapes), and vegetables (onions, olives, spinach). An amalgamation of both the New and Old worlds, soon evolved. The new, mixed blooded race began to incorporate native ingredients such as maize, yams, potatoes, yuca, ají, and bananas into their diet. Recipes like ají de gallina and papas a la huancaina, which mix peppers, cheese, and milk for their sauces, became mainstays in Peruvian households. Sugar cane was grown on the coast and it made possible the vast variety of sweets that would later be made by nuns in the convents.

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West African slaves came to work on coastal plantations and began experimenting with the leftovers the hacienda owners didn't want. Chicken blood was boiled and then fried to make sangrecita. Tripe was tossed in a pot with potatoes and became cau cau. Yesterday's rice and beans became today's tacu tacu.

When slavery ended, the Chinese came in droves from Canton, adding potatoes and ají to beef stir fry to make lomo saltado. By the 1920s, chifas, or Chinese restaurants, began appearing in Lima and soon spread to every part of the country. Around this time, Japanese immigrants arrived, mostly from Okinawa, altering how Peruvians prepared fish. Over time, the cut of fish for ceviche became finer and they shortened the length of time it was in contact with citric acid.

In the 1980's, a violent civil war played out, isolating the coast from the provinces. As war died down decades later, a push began to rediscover many of the diverse ingredients of the sierra and jungle by the publisher Bernardo Roca Rey and chef Cucho La Rosa, who began to recognize Peruvian gastronomy's global potential. In 1994, Gastón Acurio, the son of a senator, returned to Peru after attending culinary school at Le Cordon Bleu in Paris. He knew his Arzaks from his Adriàs and opened a restaurant called Astrid y Gastón in Miraflores, serving mostly European style cuisine. When Acurio shifted to creating contemporary Peruvian food, it was like Bob Dylan going electric.

The next two decades were focused on promoting and recognizing Peruvian cuisine as a sense of pride and in developing economic opportunities. The culinary festival Mistura launched in 2008, getting bigger and bigger each year. Ambitious restaurateurs such as Acurio and Jaime Pesaque opened dozens of restaurants in global capitals such as London, San Francisco, Madrid, and Hong Kong. Ceviche appeared on restaurant menus around the world and once obscure Peruvian peppers, and even Amazonian fish like paiche, showed up at American supermarkets. More and more young people turned to cuisine as way to climb out of poverty. Tourists began flying to Peru just to eat, while Peruvian restaurants abroad won Michelin stars. Malabar entered the 51-100 portion of the World's 50 Best Restaurant list, and soon after several other Peruvian restaurants joined it. In 2017, both Central and Maido ranked in the top 10, something no other city in the world could claim.

So where does it go from here?









Cochineal beetles, yellow flowers, a fungus that grows on plants in the high jungle are being tossed into clay pots of boiling water in a pit outside Hacienda Urubamba by a group of weavers from Chinchero. It's a pre-Inca technique for creating natural dyes and they soon add bundles of alpaca fibers, transforming them into bright, colorful strings.

Since Mater Iniciativa began in 2013, they have begun asking why things like chemical dyes are often added to food when there are natural alternatives. What the weavers used to dye their wool in Chinchero had culinary applications, they soon learned, as did many other cultural traditions.

Central has transitioned to using only ingredients for each dish found within a single ecosystem, which can be as large as a region or as small as a rock in the sea. This has meant going to the extreme of eliminating everyday kitchen ingredients like flour and sugar imported from abroad, not to mention things like xantham gum. In their place are a system of substitutions: thickeners made from freeze dried potatoes, dyes from Amazonian tree resins, and sweeteners created from the pulp of pacay pods. Nearly everything the restaurant needs for fine dining can be found within Peru's natural environment.

Yet it doesn't always look like fine dining is supposed to. Martinez's plates look more like a forest floor scattered with flower petals and patches of green leaves, or a piece of coral with the tips of octopus tentacles peaking out from behind layers of algae, than a perfectly layered millefeuille. Nor does his food always taste like traditional fine dining. Tocosh, a foul smelling fermented potato pulp used traditionally as a natural antibiotic, is sometimes added into Central's menu in small amounts with the intention of making the diner ever so slightly uncomfortable. While the overall experience remains to serve a delicious meal, there is an underlying current of something much bigger going on.

It's Renzo Garibaldi exploring the decomposition of meat in the guise of a steakhouse. It's Pedro Miguel Schiaffino preserving the culture of an Amazonian village simply by using a long forgotten fermented yuca extract in his restaurants. It's Mitsuharu Tsumura proving how a natural fusion of two cuisines can extend much deeper than just putting them on the same plate. It's young chefs like Arlette Eulert, Matías Cillóniz, and Palmiro Ocampo, part of a group called La Generación con Causa, pushing for vegetable driven cuisine and working with food waste. It's Karissa Becerra with nutrition, Harrysson Neira with coffee, Pepe Moquilaza with quebranta grapes, Iván Murragarra with cacao, Cervecería del Valle Sagrado with beer, and Distilleria Andina with spirits. It's every anticucho cart vendor, conchas negras collector, camu camu farmer, chifa line cook, and culinary school teacher.

One night over dinner there was some debate about what exactly Momento Mater was trying to accomplish. The stated goal was intentionally vague: "understanding the interaction of multiple disciplines and how they relate to food." There wasn't a specific question to answer or a theme like at MAD ("Appetite," "What is Cooking?," "Tomorrow's Kitchen"). Are we here to solve hunger? To make things tastier? To make food sustainable?

"Food has a very deep biological root," explained Atom Sarker, an American neurosurgeon who presented a lecture on taste and memory He gave the example of why a bottle of Burgundy doesn't taste as good at home as it does in a vineyard at sunset with cheese. He spoke of Proust when he ate that madeleine and how he understood something physiological was happening, whether he knew it or not.









Throughout Momento Mater the attendees shared their own work, their sought knowledge. Scientist Marino Morikawa described how he could restore polluted wetlands by using nanotechnology to remove invasive species and kill harmful bacteria. Argentine chef Narda Lepes spoke of distance in Argentina and how it defines the cuisine. Isaac McHale showed how to make haggis inside of corn husks like a humita. Filmmaker Daniel Silva showed a story about the dying art of totora raft making for fishermen in Huanchaco on the north coast. Diego Prado and Sasha Correa of the Basque Culinary Center explained how they learned to grow mushrooms out of bags of used coffee grounds and to use nettle leaves to coagulate milk in the fresh cheese making process.

Harvard's Pia Sörensen explained the connection between cooking and the scientific process. "Everyone has a lab in their home," she said. "Their kitchen." While making ceviche, she explained how understanding the amount of time fish is doused in lime is really calculating how quickly protons move into the fish. By balancing acidity, chefs are using a simple equation again and again whether they know it or not.

Marine biologist Angel Perrea described how the Peruvian sea is the most productive in the world yet the number of fish in the sea is 90 percent less than in 1950. Stocks of merluza and lenguado are dropping dramatically, while the perfectly healthy anchoveta gets used only to feed to other fish. Hundreds of thousands of tons of other fish are tossed out.

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"Something is happening in the ecosystem," he said.

Gastón Acurio pointed out how Peru was moving forward due to the work of the people, not the politicians, however, many challenges remained. They have been talking for 10 years now and have seen few results. Only twenty percent of what most restaurants use is local. Few pay attention to environmental impact. In Lima, "the city of ceviche," there is not a single store that sells fish. The country's 50,000 restaurants lack political voice. There was an entire list of problems.

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A couple of months after Momento Mater took place in Urubamba severe floods, which followed a severe drought, occurred on the coast of Peru, which is typically arid desert. It was caused by an atypical warming of sea surface temperatures. No one was prepared and hundreds of thousands were displaced. Highways and farms were washed away by violent mudslides called huaycos. Apocalyptic scenes were recorded on shaky cellphone cameras. Scientists are predicting that these abnormal weather patterns will grow more frequent and more intense.

Still, we keep digging deeper into the past to discover the future, trying to find out why some farmers on the altplano planted crops on raised platforms or why they are some of their potatoes with clay picked right out of the earth. Will we use this knowledge to pinpoint where things went off course? Where the basic functions of the earth that have existed for millions of years began breaking down. The moment that fish reproduction could not keep up with fishing boats. The moment that industrial fertilizers and pesticides began entering the food chain. The moment we started replacing traditions that have been fine tuned over centuries and millennia with short term solutions. Will we use it to find the moment when everything was still okay so we can find a way to make it better? Or will we settle for something that looks cool on Instagram?