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Buried : Unearthing the Secrets of Oregon Truffles

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ABSTRACT

An abstract of the thesis of Lucy Burningham for the Master of Arts in Writing presented February 20, 2008.

Title: Buried: Unearthing the Secrets of Oregon Truffles

Heady, rich and mood-altering, truffles have inspired quixotic legends, bizarre crimes and gluttonous consumption for hundreds, even thousands of years. For as long as humans have known about the strange, bulbous fungi that grow underground, they have found truffles fascinating, mysterious and persuasive. Expert at the art of luring people and animals through scent alone, truffles beg to be found.

But in the misty mountains of Oregon, between 500 and 1,000 feet above sea level, most truffles will never get the chance to ripen and never release their captivating scent. That's because in the United States, not many people understand truffles, the culinary provenance of the Europeans. When three new varieties of edible truffles were discovered in Oregon thirty years ago, a gold rush mentality ensued. Men armed with rakes rushed to the forest, digging deep for the exotic delectable, not paying attention to each truffle's scent, texture and size, the qualities that indicate ripeness.

Immediately, buyers, chefs and the public assumed Oregon truffles lacked the culinary value of their European counterparts, and the price of the native varieties

reflected the lack of respect. But in the past few years, a handful of Oregonians decided to start a campaign to change all that. With a combination of obsession, passion and dedication, these local truffle fanatics set out to spread the word: Oregon truffles deserve respect.

BURIED:

UNEARTHING THE SECRETS OF OREGON TRUFFLES

by

LUCY BURNINGHAM

A thesis submitted in partial fulfillment of the
requirements for the degree of

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I owe a great deal to those who let me follow them around in the woods, in particular, John and Connie Getz and Jack and Chris Czarnecki, and to Aaron Kennel and Charles Lefevre, who trusted me with an extraordinary amount of information. Thanks to chefs Philippe Boulot, Pascal Chureau and Greg Higgins.

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Table of Contents

Five Senses

On a chilly December day, I stand a foot away from the boundary between a truffle forest and the rest of the world. Countless rows of thirty-year-old Douglas Fir trees suspend a dark, dank quiet between their branches like spider webs. When I step into the woods, off a dirt road overgrown with wild grasses, I feel a portal close behind me with a small, soft whoosh. Other distinctions vanish, too, when you stand on ground where truffles silently swell underground. Dividing lines, between human and soil, air and water, the hunter and hunted, disappear. Just like that.

I inhale, absorbing a million permutations of the smell of dirt, a composition that's rich and varied, but monochromatic, like chocolate mousse rolled in cacao nibs. Here, the soil seems inordinately complex. Unlike the plastic bags packed with black gold you'd buy at a nursery, this dirt is composed of living things that prefer to remain hidden.

I'm not alone. Ahead of me, two of Oregon's most famous truffle hunters navigate through the woods.

We start methodically, following what I'm guessing is a well-worn pathway through the woods. John Getz plunges forward holding a ten-month-old black lab named Snoopy on a leash, scanning the ground for bumps, divets and swirling patterns of pine needles. When I ask him to show me an example of what he's looking for, he

points to a spot on the ground that looks, to my untrained eye, exactly like every other spot on the forest floor. He scrapes away the soil with his index finger. No truffles, but I can see that he's onto something—it's as though John sees the forest in a fourth dimension. If Getz is working with a fourth dimension, his wife, Connie Getz, is working with a fifth. Well behind John, Connie, who has a round, soft face framed by shaggy brown hair and a camouflage coat that matches John's, extends a long white cane, identifying potential pitfalls as she slowly finds a pathway through the dense forest. Every few minutes, she pushes her cane into the soil and lifts the tip to her nose.

"Mmm, this smells good," I hear her say in a whisper. "John you might want to come check this spot."

Once we entered the forest, she took off her standard black, wrap-around sunglasses. Connie still has some vision in her right eye, which can detect a little light, but she's considered legally blind even after twenty-eight surgeries that began when she was eighteen years old, when she lost her vision in reaction to an antibiotic. But since marrying John five years ago, she's decided to stop having surgeries and just enjoy the senses she still has. And it seems that the forest, a place with sharp hanging branches, protruding take-you-down roots and a quality of light that resembles dusk, makes her feel alive.

Sometimes Connie drops to her knees and starts digging with her gloved hands, while other times she just inhales the scent of the soil and either smiles or cringes as if she's just smelled something rotten. Once in awhile John returns to her

side and digs in the ground Connie has identified as pungent with truffles, but sometimes he ignores her entirely. Right now he's busy trying to determine if Snoopy remembers how to find a truffle. "Where's the truffle Snoopy?" he croons quietly. "Come on, where's the truffle? Snoopy?"

John Getz is tall, lanky and ghostly pale. He smokes hand-rolled cigarettes, makes good use of his cell phone and seems to slope under some invisible weight. Today he's wearing tall rubber boots, a baseball cap and a big camouflaged coat patterned with spots that appear to be eyes staring me down from a new angle every time he moves. John is the kind of guy who speaks with a slow, melodic drawl even though he's never lived anywhere that would inspire the speech pattern. He unfurls his sentences with a modest, measured pace and punctuates most phrases by saying enthusiastic things like, "All right," which, coming from anyone else might sound ridiculous, but Getz always makes them sound genuine, as though all his statements deserve a high-five. Before I met Getz, I'd heard people describe him as "an angel" and "someone who has mysterious, magical powers." "He's just amazing," one person said, shaking his head.

Getz is one of the state's most experienced commercial mushroom and truffle pickers, although the profession doesn't pay enough for him to do the work fulltime, so he augments seasonal income with odd jobs like laying tile. He considers himself a master of the matsutake, which he calls the "matsie," a type of mushroom highly valued as delicacy in Japan, and has been for the past thousand years; the country continues to determine the mushroom's high value. In the past decade or so, the

Western world has begun to understand the financial benefits of harvesting and selling the matsutake overseas, which has drastically changed the mushroom harvesting scene in Oregon, as well as Getz's way of life. The experienced mushroom hunter has watched his favorite foraging spots—places he speaks about with a religious reverence—devolve at the hands of less respectful pickers bent on maximizing a lucrative cash crop. Getz remembers crouching on the forest floor at one site, quietly watching herds of elk nibbling on matsutake in a field. After the elk left, he moved out into the open to harvest only what he considered his share of the mushroom. While he won't say exactly what happened to that place—to articulate the story might rub too closely to raw emotion—he alludes to hordes of commercial pickers with rakes and little respect for sustainability or the preservation of an ecosystem. And that's not to mention what he calls "Clinton-era clear cut logging practices" that have destroyed many prime matsutake habitats.

"When I first started hunting the matsie twenty years ago, things were different," he says. "So far, truffles are like the ten minute version of that story." He sounds disheartened and beat down, and I wonder if he ever looks for truffles for fun anymore, considering that many commercial pickers begin as hobbyists with a taste for fresh fungi then return to the pleasure of finding mushrooms and truffles for their own consumption after selling becomes less lucrative and enjoyable. But he seems to exist somewhere in between, as he and Connie rarely sell the truffles they find, but don't seem to enjoy truffle hunting like true hobbyists. "I'm not interested in what

truffles are worth in terms of their dollar amount, but in their potential," he says. "Let's just say I'm not in it for the money."

* * *

I follow John's lead through the trees, looking for abnormal spots in the soil, places that call me closer to investigate with my hands. Statistically, the odds are not in my favor. Of the hundreds of types of truffles that grow in Oregon, only six are presently recognized as delicacies worthy of human consumption. The rest are non-poisonous by most accounts, the fruiting bodies of underground fungi, essentially subterranean mushrooms. But truffles don't look anything like mushrooms. The unscientific term "turd" may best describe the average truffle, while the food-minded might prefer "small, stunted potato." Ranging from pea- to softball-sized, truffles can be tan with pink bruises, wart covered and reddish brown, rubbery and cinnamon colored on the inside, dirty white with the remnants of a stem, lumpy but smooth, pale pink, leathery yet solidly white, charcoal black and hollow, or red with tiny hairs.

You'd think that because of their limited numbers, edible truffles would be easy to recognize, but with so many varieties exhibiting only minor differences in appearance, not to mention phases of ripeness that affect texture and smell, rash judgments can lead to severe disappointment for the truffle hunter. An amateur who thinks he's found say, a *Leucangium carthusianum*, the much sought-after Oregon

black truffle, based on its charcoal-like appearance and pungent, earthy smell, might have actually discovered an unappetizing relative that can only be identified by cutting the find in half to examine the color of its veins.

No matter their appearance, truffles are not immediately visible in the forest, for the most part. They hide, underground, mostly near the base of trees, where small animals such as squirrels and voles dig them up for a meal and eventually distribute their spores around the forest. In Europe, dogs, and some pigs, are trained to find edible truffles based on scent, but most truffle hunters in the United States, who search for edible varieties and other types, use rakes instead, a practice based not on scent, but sight and sometimes, blind luck, which feels like what I'll need today to make any sort of find.

"Nice," John says, watching me dig around a fresh-looking hole. "Way to trust your instincts." But my instincts aren't turning up much of anything and neither are John's, Connie's or Snoopy's. I sense frustration.

In fact, John loses it. He ties Snoopy's leash to a tree and tromps away, eyes fixed on the ground. Eventually Connie meanders over to the tree and bends down to give the dog some attention. "Oooh." She stops moving. "Smell that Snoopy?" Snoopy, entirely focused on John, who's receding into the woods, doesn't seem to be smelling much of anything. Connie pushes the dog aside and starts digging. Her fingers find something. "I found one! I found one!" she says. "Oh, every single one is exciting." Turns out that Snoopy had been standing on a few ripe black Oregon truffles.

Ever since we stepped into the forest, it was obvious that Snoopy was going to be a problem. He'd started the foray by foaming at the mouth and bristling with angry fear at three docile donkeys on the way to the woods. But his behavior is excusable, because Snoopy is a puppy, a puppy that has found both black and white truffles in the woods as an eight-week-old runt. But today, John seemed disheartened with the dog's performance. "We've got a long way to go with this one," he says, sighing. John's well-trained dog died a few months ago from a freak stroke; the truffle hunter was not used to teaching a young dog new tricks.

Smelling the first truffle Connie unearths makes me feel like I'm being admitted to a cult of the forest that worships hedonism. The truffle doesn't remind me anything I've ever known, but at the same time, the scent is so familiar, warm, earthy and complex that I react in the only appropriate way: my mouth waters. I posit out loud that the pineapple scent is what really makes me want to consume the crusty black lump, and John, now just a few trees away, stops to look at me. I can't tell if he thinks I get it or that I'm insane. But there's not much time to find out, because with a few strokes of the rake, John has found his own supply of buried blacks. "Can you smell the truffles, Snoopy? Snoopy?" he says.

Connie slips the first truffle inside a Ziploc bag and hands it to me. A gift for the novice. I take it. She puts the rest of the find into her own bag and slips the stash into her coat pocket. "Make sure your baggie is completely sealed," she says. "Otherwise I'll get confused by the scent."

We continue walking just like before, with John circling trees, eyes scanning the dirt. I can no longer tell if the sun's up or which direction I'd walk to find the cars. All of a sudden, I sense that something's wrong. My feet sink into the mossy ground, which feels unsettling, as though I were breaking through the surface of an old, grassy cemetery. This time, my instincts are right—the earth has been turned, but not like it would have been in a cemetery. Instead of depositing the dead, someone took the unripe.

"I like to call this section 'the moguls,'" John announces. Around us, the earth rolls in unnatural mounds. "Makes my back hurt just looking at this," John says under his breath. "You'd have to be on some kind of uppers to do this work." He shakes his head.

When John discovered this patch six years ago, the ground was smooth and moss-covered. One time, when he brought Connie here, he saw black truffles popping out of the ground as squirrels ate them. A few years later, he encountered a group of men he calls the Chain Gang—commercial pickers with an obvious penchant for rakes. They found quick cash and the patch hasn't been the same since. John says that for the past few years, the Chain Gang has starting harvesting truffles here in September, a good three months before any black truffles are even close to ripe. And I notice beer cans scattered among the trees, which local truffle purveyor Jim Wells later tells me has more to do with psychological games than an inability to locate a trash can.

"Not only are they trying to ruin the aesthetic for people like you, who have a certain idea of what nature should look like, but they're sending a message to the other pickers about their territory," Wells says. "That and they're addicted to abusing substances at all times."

Before we trespassed onto this truffle patch, a former Christmas tree farm now owned by a paper company (which means it could be logged at any time), John ducked behind a tree and removed a rake from the underbrush. "I hate to walk into any patch holding a rake," he said quietly, looking up and down the dirt path. By hiding the rake close to the patch, he had avoided drawing attention to himself near the main road.

"How many of those rakes have you got hidden out there in the world?" I asked.

"Out there in the world," John muttered. Then he laughed. "Just this and one other."

For people who traipse through forests, looking for delicacies on the ground that could be found by anyone—man or animal—secret spots, foraging techniques and opinions about other people the industry must be closely guarded for continued success. Mushroom and truffle hunting is a brutally competitive way to earn a living, and sometimes, conflicts boil over in the backwoods. A rake only attracts trouble. But that's not the only reason John dislikes the tool.

"I hate using this thing," he says, glancing at the rake as though he were a proud old man looking at a cane. "For years I didn't ever use one, but finally someone showed me how. I guess I use it as backup."

"I tried using little hand rakes a few times," Connie adds. "But I kept losing them. I'd forget I had one, because I'd put it aside and just start digging with my hands in the dirt. I love putting my hands in the dirt. It feels so good."

While Connie sticks with her preferred method of digging, John has finally decided to use the rake. He begins to scrape the top few inches of a slope of ground that looks like it's been recently plundered, and starts plucking handfuls of dime-sized white truffles from the loose soil. He rakes vigorously, with an almost mechanical control, then replaces the soil when he's finished. Even so, he calls me a few weeks later to apologize. "I don't usually rake like that," he says. "I just wanted to make sure you had a few good specimens to take home with you. If I had been working with a trained dog, I would never have had to do that." So this is how it goes in Oregon's truffle forests. A moment of desperation. A small find. The knowledge that more truffles exist, right there, just inches away from your face. And even though your mind might realize that the truffles are imperfect, inedible and unready to leave the soil, they're right there. And you want them like nothing else. So you take them.

The sun starts to set, casting a yellowish glow throughout the trees. But the light seems to remain constant and I wonder if we could stay here into the night, basking in some sort of unending glow, be it magical or sinister, that only exists in truffle forests.

* * *

At the cars, the Getzes want to ensure that I leave with some good truffles. But before the Ziploc bags come out of the pockets, the couple glances up and down the quiet street suspiciously, as though they're about to sell me something intoxicating and illegal. Across the street a dog barks, then a large, shiny black pickup truck with a loud diesel engine zooms past with headlights blazing. No one's watching.

Connie smells the first big black truffle she found, the one I'd hoped to smell during my three-hour drive home. "Oh no, that's no good," she says.

"Really?" I reply. "It's so strong and interesting smelling."

She turns the truffle over. "Smell this side," she says. "It's rotting." Ironically, the first truffle to really make me salivate is over the top, dying and decomposing. But instead of tossing the rotting truffle on the ground, Connie drops it into her bag and picks out a few prime truffles for me. After just ten minutes inside the car, with some black and white Oregon truffles, strange scents of garlic, gasoline and fruit overwhelm my already overtaxed sense of smell.

Even though back then I barely knew what I was smelling, I knew one thing for sure: I wanted more.

The Getzes' Truffles on Toast

Following the tradition of European truffle purveyors, who serve specimens of their harvest on toast, John and Connie enjoy this recipe in the morning or for a snack.

1 slice white bread

1 Tbs. real butter

1 white or black Oregon truffle of any size

Toast bread to desired darkness in toaster. Spread butter on hot toast and, working quickly, shave thin slices of truffle over bread using a truffle shaver or small grater. Eat immediately.

The Great Debate

It's a blindingly bright afternoon when I visit Jack Czarnecki's restaurant, the Joel Palmer House, for the first time. Situated in Dayton, a tiny Oregon town located just far enough from an ugly string of box stores to feel rural, the Joel Palmer House looks like an old Southern mansion. Two-story-high columns frame the huge front porch and old oak trees fence the sprawling, manicured lawn. In the summer, it's the kind of place that makes you want to sit in a rocking chair, sipping a mint julep and wearing linen, but in the winter, the house looks cozy enough to make you want to come inside.

But today, the inside of the Joel Palmer House feels oppressive, heavy and stagnant, redolent with the rich meals of evenings past. Voices rise in the kitchen, but the rest of the first floor is empty of life, tightly packed with tables enclosed by empty chairs. Carpet, wallpaper and dark wood give the impression of age, as though an octogenarian with a penchant for dining sets lives upstairs.

Despite the heat and the clear blue August sky, I'm imagining misty mornings, forty-degree drizzles and socks soaked from forays in the forest. I'm here because I couldn't wait until November's truffle season to meet the person who seems to be the center of the great debate: Oregon truffles versus the European varieties.

Czarnecki's a writer, the author of three cookbooks loaded with mushroom recipes. Copies of his favorite title, *A Cook's Book of Mushrooms*, sit in a stack on the reservation desk just inside the front door. His expertise comes from the fact that he personally collects almost all of the wild mushrooms and truffles served on the Joel Palmer menu. After a brief scan of the offerings, that feat seems nothing less than astounding.

Just as I'm studying the menu and trying to do some mental math (if on one night, fifty diners order a mushroom tart followed by pork tenderloin with a wild mushroom port sauce and a cheesecake drizzled with a candy cap mushroom sauce, how many pounds, and types, of wild mushrooms would you need?), a sweaty man with a large round belly draped by a t-shirt briskly walks through one of the dining rooms. He stops and looks at me as though I'm a party guest who's arrived two hours early.

"I'm looking for Jack Czarnecki," I say. "Is he here today?"

"Ah yes," he replies, looking flustered, "that's me."

* * *

Czarnecki's entire existence revolves around collecting mushrooms and truffles. "It's my hobby, my avocation, my passion, my life," he explains. Every morning, before he even thinks about breakfast, he checks the weather report around the state for rain. With decades of experience, he creates educated guesses about

which mushrooms and truffles he's likely to find in certain locations, then he hits the road.

He comes by the pursuit honestly. Czarnecki's grandmother hunted mushrooms around the family's hometown of Reading, Pennsylvania, and passed the hobby down to her son, Joe Junior. When Joe Senior died, his son inherited the family's bar and started serving the fruits of his forest forays, mushroom dishes such as morel soup covered with puff pastry and salmon in lobster sauce with cepes, which caught the eye of national gourmands. "He was the first person in the country to pick and serve his own mushrooms," Czarnecki says, "which was well before anyone else in the country was even interested in serving wild mushrooms." In 1974, the year Czarnecki joined his father in the kitchen, Joe's Restaurant became the first restaurant in the country to receive a Mobil Guide four-star rating, which catapulted the Czarnecki family name into culinary history.

When Joe Junior died and the family restaurant closed, Czarnecki and his wife Heidi picked up and moved to Oregon, the center of a culinary universe that, in their eyes, revolved around mushrooms. (It also happened to be conveniently situated in pinot noir country.) In 1997, the couple opened the Joel Palmer House, named for the Oregon pioneer who built the house itself during the late 1800s. Since then, Czarnecki has continued driving down remote logging roads and hiking into dense forests without trails for one reason: his memory of past successes.

"I will never forget the day I found my first really large black truffle right here in Oregon," Czarnecki tells me. "I was wearing one of the standard collecting

containers, little sawed off milk cartons that you put on your belt. I picked up that big black and I put it in the container and just felt the weight on my hip. I'd be digging and every once in awhile I'd pull it out and look at it again, smell it and put it back. It's a sensual experience like nothing else."

The thought of Czarnecki, who talks fast and always seems somewhat distracted, becoming utterly enthralled, not to mention somehow turned on, by one simple truffle gave me pause. He really meant it. But I was starting to sense that he was looking for converts. "There's nothing quite like the adrenaline rush you get when you find a mushroom. Multiply that by ten and that's the rush that you get when you find a truffle, especially a black truffle. If you've been out there for three hours and you haven't found anything, then all of a sudden it comes rolling at you, there's nothing else like it. It's a total drug."

Oh and for the record, he says, these Oregon black truffles? They're just as good as anything from Europe.

* * *

In the world of truffles, connoisseurs bow reverently to the epicenter of culinary taste: France. There, you've got the black truffle from the Perigord region, which grows during the winter months, and the black summer truffle, considered an inferior breed with less intensity than the winter Perigord. The black summer truffle has more white veins inside, and for the most part, a heavily veined truffle will

produce a so-so smell and so-so taste. Even so, for many, if a truffle isn't French, it's guaranteed unremarkable.

But that's debatable. The Perigord also grows in Italy. Then there's the Italian white, *Tuber magnatum Pico*, trumps every other truffle on the marketplace in cost alone. In 2006, the coveted fungus sold for between $1,300 and $1,700 per pound. For that price, you could purchase an equal amount of the finest Russian beluga caviar in the world. This fall, just outside the town of Acqualagna, Italy, about a four hour drive east of Florence, a lucky Italian unearthed one of the largest white Italian truffles on record, a three-pound whopper that was purchased by a Hong Kong tycoon for $160,406. The wheeling and dealing took place thanks to an invitation-only auction via satellite, and the international media went crazy for the story; the purchase price far exceeded 2005's record-breaking $52,000 truffle.

Italian whites overshadow the Italian blacks, which are also desirable but less pungent and complex than their pale cousins. Stories about gigantic Italian black truffles just don't make international news.

On the other hand, Chinese truffles, *Tuber himalayense* and *Tuber indicum*, received plenty of negative attention during the mid-1990s. The familiar-looking black truffles flooded the marketplace, and even though many define them as smelling like chemicals or rubber and having little taste when served raw or cooked, chefs were getting duped by sellers spouting the virtues of their supply of "French black truffles." The industry reeled under the weight of the impostors, and by 2004, a few American newspapers reported that in France, serving a Chinese truffle as a *truffe de Perigord*

inside any dish would result in two years in jail, a fine of $47,000 or both. But many American chefs still admittedly use Chinese truffles in their dishes as cheap filler that can enhance the taste of a "real" truffle.

Increasingly, many chefs admit to using the two types of Oregon white truffles, *Tuber oregonense* and *Tuber gibbosum*, and Jack Czarnecki's favorite, the Oregon black, *Leucangium carthusianum*. Still, Oregon truffles spark some of the fiercest debates among truffle fanatics. While some say they're a bargain (last year both blacks and whites sold for between $200 and $480 per pound), others call them a bona fide rip off.

After all, Oregon truffles were discovered just thirty years ago, at the most. In a 1984 *Times* article, writer Marian Burros lamented the unearthing. "White truffles have been discovered in Oregon; they are not very good, but given American ingenuity, anything is possible." Since those words appeared in the Gray Lady, the battle for the reputation of Oregon truffles ensued.

Unfortunately for those who believe in the culinary potential of the Oregon truffle, many nationally recognized chefs dismiss their claim to culinary distinction. Internationally-famous chef Charlie Trotter took the role of naysayer in a *Bon Appetit* article, saying the Oregon truffle is a "chimera, not in the same league as real truffles." But his skepticism receives only slight mention in the piece. Otherwise, the *Bon Appetit* reader is treated to photos of a white truffle and crab napoleon and Jack Czarnecki shaving truffles onto a tart, as well as glowing descriptions of the white

truffles' floral and nutty tones and the power of a locally-harvested black truffle shaved over *pommes frites* alongside a steak with melted truffle butter.

I call San Francisco-based food writer Daniel Duane to get his impressions on Oregon truffles nearly a year after he'd visited the state to research the piece. "The blacks were amazing, and the whites, less obvious," he says. "The blacks radiate an incredible smell, and that smell translates right into the food, no mystery involved. But the whites are more elusive. I stuck my nose in a bag of Oregon whites and smelled garlic. I took one out of the bag and sliced it, nothing." He pauses. "Best use I put them to was making a compound butter and putting pats of that butter over steak. When I did concentrate the flavor in that way, they were fabulous."

Duane's article outlined some of the major problems facing the Oregon truffle industry—the raking practices employed by uneducated foragers, ignorant buyers, stubborn chefs and a somewhat uninterested general public. The result? Poor quality truffles, either under-ripe or rotting, shipped around the world. Sure, such a delicate product won't always arrive at its destination in perfect shape, but the implicit Made In Oregon stickers on those boxes have slowly created a reputation, the kind you pray your mother will never have to endure. And for most consumers, something Made in Oregon is simply not as glamorous as Made in France.

"When I called Charlie Trotter, he was totally dismissive," Duane remembers. "It doesn't surprise me. If you're a high-end chef working under a lot of pressure, and every time Oregon truffles are delivered they suck, you're going to start to say, 'I don't need to deal with this.'"

* * *

"I know more about truffles than any other chef on the West Coast," says Philippe Boulot, the executive chef at the Heathman Restaurant in downtown Portland. The chef, who was born and raised in France, leans back at a table in front of the fireplace at the Heathman Hotel and explains that he's been working with truffles in professional kitchens since he was fourteen years old. Boulot, who insists that every member of the kitchen staff call him Chef, has never actually hunted for a truffle in the wild because hundreds of kilos of the prized fungi have always come to him.

Looking dwarfed in the customary crisp, white chef's uniform, Boulot briskly hails a member of the wait staff and orders a cappuccino. The lunch rush is just ending, but somehow, Boulot's managed to keep his uniform spotless even while working the line alongside his staff. With salt-and-pepper hair neatly trimmed and eyeglasses carefully folded inside the breast pocket of his uniform, Boulot looks like a shrewd businessman with a secret, varied investment portfolio. And when he talks about his coming-of-age-years in the Perigord region of France, the award-winning chef plays the part, sticking to the facts without waxing nostalgic.

As a short, skinny French boy from the countryside, sixteen-year-old Boulot served his first apprenticeship in Dordogne, where he carefully scrubbed mounds of Perigord black truffles, otherwise known as the "black diamonds" that now sell for between $800 and $1400 per pound depending on availability (Boulot calls them "the truffle that made truffles famous"). He cleaned the truffles then peeled them, carefully

saving each peeling for later use. Then he diced the truffle and sprinkled it into an *omelette aux truffes* or left it whole, wrapping the truffle with a puff pastry lined with a thin slice of cured ham and putting in the oven, for truffles under the hypothetical ashes, a *truffe sous la cendre.*

But these days, diners won't find that delicacy on the menu at the Heathman, or anywhere else in the world for that matter. Even though he was apprenticing just thirty years ago, Boulot was experiencing the end of the glory days of the French black truffle, a period of hundreds, and possibly thousands of years, when truffles were so abundant that people could afford to eat them whole. Those truffle-rich days stretch back to Louis XIV or even the Romans or the Bedouins, depending on whom you ask.

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No one knows exactly who unearthed the first truffle, but in the fifth century B.C., a Greek recorded the first written record of people eating the fungus in the Western world, a story that began the written mythologizing. A man living in Athens, described as a metic, or resident non-citizen, cooked a special truffle dish for a person with connections. That simple act, the combination of heat and pungent earthiness, helped him gain citizenship status, which at the time was the most coveted rank in the civilized world.

Back then, many scientific and philosophical minds were turning over the nature of things, pursing knowledge of the natural world. The Greek philosopher

Theophrastus, one of Aristotle's most famous disciples, began to examine plants from a new perspective, as a methodical botanist. "We must consider the distinctive character and the general nature of plants from the point of view of their morphology, their behavior under external conditions, their mode of generation and their whole course of life," he wrote. Not only did Theophrastus classify plants by watching seeds and pieces of roots grow into seedlings, but he also pondered another mysterious growing object, the truffle, which was considered a plant. "It is said that they are born of autumn rains, and if there is no rain or claps of thunder, being more plentiful in the latter case, for a flash of lightening is the principal cause of them," Theophrastus wrote.

His theory influenced later thinkers, including Plutarch, a Roman who lived more than 200 years later. "Since, during storms, flames leap from the humid vapors and dark clouds emit deafening noises, is it surprising the lightning, when it strikes the ground, gives rise to truffles, which do not resemble plants?" he asked. In 180 A.D., Galen suggested in *On the Powers of Foods* that truffles be classified as roots or bulbs, "since they have no pronounced quality. Chefs use them as a vehicle for seasonings, just as they do with all the other foods that are called flavourless, harmless and watery in taste."

In the second century B.C., Galen, a famous Greek physician prescribed truffles to his some of his patients, one of whom may have been the emperor Marcus Aurelius. He noted that the fungi may give rise to sensual pleasures, the beginning of the truffle's naughty reputation. Galen wasn't the only ancient to connect truffles with

sex. For centuries, Roman physicians treated impotent patients with truffles and eventually, monks of the Middle Ages were banned from eating the fungi.

But more importantly, truffles were treated as a delicacy, something to be cooked in precise ways and savored with certain foods. In a rare, early cookbook titled *The Art of Cooking*, the Roman Apicus, who lived during the first century, described how to store, cook and dress truffles. The most complicated recipe translates to "Scrape the Truffles," and requires a salty fermented fish sauce (liquamen), a grape juice reduction (caroenum) and wheat starch (amulum). Apicus writes: *Scrape the truffles, boil, sprinkle with salt, and put them on skewers. Grill lightly, then put in a saucepan oil, liquamen, caroenum, wine, pepper, and honey. When this boils thicken with amulum, undo the truffles, and serve.*

But it was the poet Juvenal who revealed that while the Greeks and Romans may have been pioneers in many fields, they were never the first to eat truffles. "Lybians, unyoke your oxen!" he wrote. "Keep your grain, but send us your truffles!" In Northern Africa and the cradle of civilization, people had been harvesting truffles from the sand during unrecorded centuries, watching for the telltale lightning storms that were thought to cause a proliferation of the underground fungi, which, miraculously, bulge to softball size and crack through hard-crusted sandy surfaces. Frequently, truffles in the Middle East are called *fagaa*, which means "eruption." Even today, truffle foragers in Saudi Arabia watch for lightening storms, which scientists say may infuse the soil with enough nitrogen to make truffles flourish, and locusts, a sign that truffle-inducing rains will come.

* * *

Throughout history, truffles have been closely intertwined with sex, an aphrodisiac that could have launched ships and started wars. And like most aphrodisiacs, there's little proof that they arouse anything more than the imagination. Pope Gregory IV said that he needed to eat truffles before going into battle, a request that may have served as a sign to his troops of his virility (although beyond symbolism, he may have simply had a taste for truffles, a truly refined component of a last meal).

When Charles VI of France and Isabella of Bavaria married in 1385, they feasted on truffles, and records of household purchases show that Charles' brother, Jean de Berry, regularly purchased the food; he may have slipped his bachelor brother a few ripe truffles prior to the wedding day, which landed them on the menu.

Napolean ate them. The Marquis de Sade did too. Louis XIV held a particular fascination for culinary grandeur and therefore, truffles. He initiated the first research on how to cultivate the fungi, and his mistress, Madame Pompadour, ate them feverishly, along with vanilla and celery, to keep up with his sexual demands.

And while the Romans, in their hedonistic pursuits, obsessed with adding a myriad of flavors to truffles—wine, honey, herbs and leeks—the people of the Middle Ages cooked the fungi in a simpler manner, with a heavy application of salt, pepper and other spices. Their purist cooking style matched the prevailing tone of the day; the Catholic Church denounced truffles as devilish delectables that inspired sexual

promiscuity. Therefore eating and preparing the strange fruit, as well as waxing poetic about the fungi's virtues, went underground. But you can imagine that somewhere around a cast-iron pot, someone took a sensual whiff of a truffle stew. Instead of heading into battle or theorizing about the food's origin, they kept quiet.

Then came the French.

* * *

"Would you ever call Philippe, 'Philippe'?" I ask a server at The Heathman Restaurant. "What about 'Mr. Boulot'?"

"It's Chef," he replies with a smile. "Plain and simple. To do otherwise would be like calling the captain of a ship something other than Captain."

I nod. "So he's your Captain."

"Without a doubt."

And after meeting Boulot a few times, he's become a captain in my view as well. Captain of the Truffles.

If the young Boulot wasn't overly confident when he was baking whole truffles in Dordogne, he must have felt entitled to bragging rights when he left the heart of the French countryside for increasingly prestigious gigs in Paris, London and New York City, where Perigord truffles aren't piled in baskets in restaurant kitchens like potatoes. But Boulot still got his hands on mass quantities of black and white truffles, especially when working with chefs such as Joel Robuchon. "For him, truffles were a *reh lee shion*!" Boulot says, throwing his hands in the air. The Heathman chef

learned to make truffle consommés, sauces, soups and other classic preparations, the kind you'd find in *Larousse Gastronomique.*

Even when he left the continent and started working at The Mark Hotel in New York City, Boulot imported enough European truffles to keep him in the loop and says he was the first chef to prepare an entirely truffle-based dinner, an event covered in the pages of *Gourmet* magazine seventeen years ago. "We received a lot of attention," he says forcefully.

By the time Boulot's finished outlining his truffle resume, I'm not surprised to hear that he thinks everyone, minus a few select internationally known chefs, is completely ignorant when it comes to the famed fungi. "It's very rare to have truffle experience because it's so expensive," he says. "Some people, they go to France and eat at two restaurants and think they're truffle specialists. Unless you have used hundreds of kilos of truffles, you know nothing about truffles." Boulot's voice rises slightly and he sits forward in his chair. "Unless you have known truffles for more than twenty-five years, you know nothing about truffles."

While he didn't say it, Boulot may have meant: unless you're French, you know nothing about truffles. And in truth, not many Americans know much about truffles. Once, when I met a French woman at a cocktail party and told her that I was genuinely interested in truffles, she started choking on an hors d'oeuvre. Implicit in her laughter was a comment on my nationality.

"Wow," she said with a thick accent as she covered her mouth with a napkin to avoid spewing salmon spread. "I never would have thought."

The French come by their claim to truffle ownership quite honestly. As masters of many aspects of the culinary domain, truffles simply fall into the category of national treasures that know how to get used. The French took cuisine to new and extravagant heights starting in the 1650s. La Varenne, considered France's preeminent chef of the time, recorded new cooking techniques in his cookbook *Le Cuisine François*, including instructions for making two boullions and a roux. And he didn't hesitate to include fresh vegetables, as well as truffles, in a variety of recipes, evidence that the medieval days of boiled meats and sensual repression had ended.

Extensive meals featuring heavy dishes and plenty of wine became the food of the day for the bourgeoisie, and many meals were created as part of the art of seduction. By 1825, Jean Anthelme Brillat-Savarin wrote about the previous century's truffle shortage, which made a truffled turkey in Paris "an object of luxury which was only seen at the dinner-table of the greatest lords, or at that of kept women." But mere decades later, Brillat-Savarin recorded some of the most famous published musings on truffles, which had proliferated since the previous century. Still mostly a food for the wealthy, the fungi became just one of many objects of obsession for the writer. In fact, he may be responsible for the Perigord's nickname, by calling the black truffles "the very diamond of gastronomy."

Brillat-Savarin couches his interest in the powerful and "general bondage" of the truffle as an investigation in his book, *Physiology of Taste*. He recounts a story by a woman who flirted and behaved badly after having only one glass of champagne, by eating a good portion of a truffled fowl. The next day, she blamed the truffles for her

behavior and vowed only to consume truffles again in modest amounts and with a cautious eye on her actions. Eventually Brillat-Savarin unearths a quote, which today is often repeated, minus the first, contradictory phrase: "The truffle is not a positive aphrodisiac, but it may under certain circumstances render women more affectionate, and men more amiable."

The cult of the truffle wasn't entirely lost on Americans, but their reverie always returned to the Continent. In 1869, the *Brooklyn Eagle* published a story titled "Rossini as a Gourmet." Because Rossini had died the year before, the article reminisced about the Italian composer's fondness for a thick sauce made with *foie gras* and flavored with "his darling truffle." That sauce would have been carefully injected into a syringe and served alongside macaroni. Rossini's syringe was made of ivory, bequeathed to his widow on his death and referred to in the article as "one of his musical instruments." "Decidedly music and gourmandise were associated in the mind of the composer who called the truffle the Mozart of mushrooms—and said he knew of nothing save a truffle to which he could compare 'Don Juan.'"

When Colette wrote about truffles during the early 20th century, she attacked the common cooking techniques of the day. "Away with all this slicing, this dicing, and this grating, this peeling of truffles! Can they not love it for itself? If you do love it, pay its ransom royally—or keep away from it altogether. But once having bought it, eat it on its own, scented and grainy skinned, eat it like the vegetable it is, hot and served in magnificent quantities."

Even the famed French novelist Alexandre Dumas couldn't help but comment on the truffle. "The most learned men have been questioned as to the nature of this tuber, and after two thousand years of argument and discussion their answer is the same as it was on the first day: we do not know. The truffles themselves have been interrogated, and have answered simply: eat us and praise the Lord."

* * *

Thousands of miles from French soil, Philippe Boulot must now inhabit an entirely different truffle territory, a place where for most people, the word "truffle" conjures up images of little dark chocolate nuggets. A fungus? Maybe they've heard of it. When it comes to the truffle, Oregon is not France. Even so, as the truffle expert of the West coast, Boulot must, in some manner, find value in the native species.

"The Oregon black and the Oregon white?" says Boulot, smiling with a hint of smugness. "They absolutely do not line up to a European truffle! There's no comparison! They're still good, but culinary wise, they have nothing to do with European truffles."

Before I can interject, Boulot rolls with the momentum of a finely crafted opinion, one that must have started to form fourteen years ago, when the chef moved from New York City to Portland with his pastry chef wife, and immediately revamped the menu at the Heathman.

"It would be ridiculous for any chef to say otherwise. It would be like comparing pinot noir from Oregon to a Burgundy." Boulot laughs. "Oregon truffles

are different species than the European ones. They grow differently. They grow somewhere else. The only thing they have in common? They both grow under the earth."

* * *

At the Joel Palmer House, the afternoon sun streams through the windows as I grill Jack Czarnecki about the logistics of truffle hunting ("eh" to the GPS, but "absolutely" to rain gear, no matter what the weather report). Suddenly, he reveals that even though it's August, he has some Oregon black truffle onsite.

"Ice cream," he says.

"Really?" I ask.

"The black is so special." He sighs. "We mince it very, very finely and make ice cream out of it. It looks like chocolate chip ice cream, but there are no chocolate chips in it. They're black truffles."

I don't know what to say.

"Hold on one second. I'll let you taste it."

Czarnecki disappears into the bowels of the kitchen, where people are yelling orders that include the words "bread," "oven," "burn" and "quick." Pots clank and the sense of anticipation is palpable—someone's coming to dinner. I study the patterns of stains on the tablecloths, which should, and will, be covered with a top cloth before the dinner hour. Outside, painters move ladders as they touch up the trim. I think I hear a clock ticking, but there's not one timepiece in sight.

Finally, Czarnecki returns with a small white ramekin cradled in his fleshy palm. He quickly sets it on the table in front of me, tosses down a spoon and heads back into the kitchen, where someone's loudly discussing the ingredients in a sauce.

The ice cream looks familiar, like mint chocolate chip, the kind without the sickly green food coloring. And it's melting, oozing quickly, as any ice cream should during the summer. The first bite shocks my mouth, which, despite all urgings from my brain, expected chocolate chips. Instead, a heavy earthiness pervades an almost overwhelming sweetness, and in the place of crunchy bits, I discover soft, toothsome flecks of what must be the Oregon black truffle. The ice cream, technically frozen custard, tastes richer and creamier than your average pint. Mysterious flavors develop then retreat from my palate before I can discern their identities. A hint of chocolate evolves into a strange mustiness. Then, as I'm on the verge of recognizing something familiar, a tropical fruit, the flavor disappears and eludes description.

So this is a truffle.

Jack Czarnecki's Oregon Black Truffle Ice Cream

1-2/3 cups heavy cream

2 ounces chopped black truffles

1/2 ounce shaved black truffles

1 cup whole milk

3/4 cup sugar, divided

4 large egg yolks

Equipment: An ice cream maker

Bring cream and truffles just to a simmer in a small saucepan, then cover and let steep for 30 minutes.

Meanwhile, bring milk, 1/2 cup sugar and a pinch of salt to a simmer in a heavy medium saucepan over medium heat, stirring.

Whisk together yolks and remaining 1/4 cups sugar in a large bowl or mixer, then add milk mixture in a slow stream, whisking. Return mixture to medium saucepan and cook, stirring with a wooden spoon, until mixture coats back of spoon and reads 175° F on an instant-read thermometer. Do not let boil. Immediately strain custard through a fine-mesh sieve into a metal bowl, then quick chill by setting bowl in an ice bath and stirring occasionally until cool, about 15 minutes.

Add truffle-cream mixture to the custard. Continue to chill in ice bath until custard is very cold, then freeze in ice cream maker. Transfer to an airtight container and put in freezer to harden, about 1-2 hours.

Serve in individual bowls and shave a few reserved truffles on top of ice cream.

Note: It is important that the truffles be ripe. They should have a distinct fruity, earthy, chocolate-like aroma, and the interior should be a dark gray (not white or light gray) color. This will make the most flavorful and powerful truffle ice cream.

Faking It

These days, real truffles aren't required to experience a truffle. At least that's what purveyors of the art of imitation declare.

I'm holding a small, squat bottle that arrived in the mail this morning snugly tucked into a box. The brown-tinted glass makes it look like an old-fashioned tincture, something the snake oil salesman would have brought to town in a wagon. But this particular bottle came from modernity, from the Japanese company T. Hasegawa, one of the world's largest producers of flavors and fragrances.

The bottle holds twenty-five grams of liquid X647C018, otherwise known at T. Hasegawa as "A Truffle F," one of three truffle flavors registered in the company's system. Two of the three flavors, including A Truffle F, are made entirely from artificial ingredients. The label, which lists only the product's name and no actual ingredients, makes me feel like I'm holding something that could be either sinister or magical, depending on what's actually inside.

Like all artificial flavors, A Truffle F was created to mimic something that occurs in nature, but it's not the first of its kind. For over one hundred years, people have tried to replicate the truffle, both in liquid form, as a flavoring and as solids—little affordable balls of trickery. In 1907, the United States Patent Office granted Alphonse Morel-Lautier of Grasse, France, a patent for a "food product," the first written record of an attempt to make truffle oil. The patent explains the benefit: "The

novel product has the great advantage, while retaining all the constituents of the truffle, that it is not, like it, difficult of assimilation of digestion, and especially that it requires no painful and disagreeable mastication...It enables, moreover, a product to be obtained of a quality equal to the fresh truffle at any time of the year and in any country." Through a process of masticating truffle in olive oil, or soaking a truffle in a volatile, organic solvent, such as benzene or petroleum ether, truffle essence could be added to olive oil. Like magic, a truffle became portable and everlasting.

By 1984, a Japanese company called Sun Food, had captured the truffle in a solid form, as reflected by U.S. Patent 4592913: "It is the object of this invention to achieve a sense of taste and eating close to that of the natural truffle, which is unique to this fungi, and also to imitate the appearance of the natural truffle." To replicate the technique, start by mixing sodium alganate, a soybean protein or albumen, and cyclodextrin, a starch, with water. Then knead. Form the mixture into balls resembling the shape of a natural truffle. Immerse ball or balls in a solution of calcium salt until balls have hardened, for about twenty hours. Remove balls from liquid. Make another liquid containing seasoning and flavor (garlic should be included) and again, immerse the balls. Remove and eat. (Consider adding carbonxymethylcellulose for texture or appropriate black/brown pigments from either rapeseed oil or cocoa.)

So while the little bottle I'm holding does not represent an entirely new undertaking, it contains a bold endeavor and, says the man who created what's inside, a failure.

* * *

Clive Redfern, who once worked at T. Hasegawa in the Creative Flavor Department as a Certified Flavor Chemist, one rung above the Junior Flavor Chemists but one below the Chief Flavor Chemist, carefully researched and crafted A Truffle F. But in the end, the company that requested the flavoring in the hopes of adding it to olive oil (to create a version of the increasingly popular truffle oil), decided not to buy the final product. Redfern's interpretation and representation of the truffle, which like all his flavors he considers a work of art, was flatly rejected. But for a professional flavorist, coping with such rejection comes with the job.

Clive Redfern grew up in England. As a child, he spent his days dismantling electronics contraptions studded with knobs and dials with a pair of pliers and a screwdriver. He created lifelong ham radio call signs F5VHS and G4CZR and helped construct the sound system for an outdoor play during high school. While Redfern assumed he'd work with his father, a chemist who helped create thermonuclear weapons for the government, he met a man named Eric Bush, owner of W.J. Bush & Co., one of the largest flavor companies in England. Bush convinced the young Redfern to work for the company as a laboratory assistant in the soft fruits lab, and the company would provide him formal training and hands-on experience in the flavor arts. Redfern has worked in the flavor industry ever since, for nearly forty years.

Today, he lives in France with his wife (also a flavor chemist) and their two sons, but a decade ago he resided in California, where he worked for T. Hasegawa.

* * *

The quest to replicate flavors isn't new considering that the pursuit began with scents, a fitting evolution considering how we perceive the world. Scientists believe that humans and other mammals can detect just five taste qualities: sweet, bitter, sour, salty and umami (glutamates, which are present in protein-heavy foods). On the other hand, we can discern between thousands of scents, a survival mechanism that allowed us to tell the difference between the toxic and non-toxic. (We still instinctually understand that if something smells bad, you shouldn't eat it.)

Long before scientists understood just how chemicals affect our senses, the ancient Egyptians distilled the white Madonna lily and applied the essence to the body, which may have been the first perfume, and consequently, the beginning of today's multi-billion-dollar flavor industry. Technically, flavor companies should be called aroma companies, not only because most of them manufacture an extraordinary amount of compounds for perfumes. They also produce chemical compounds for food (made of natural or artificial chemicals, or a combination of both) using nearly the same procedures used for creating a perfume. Flavorings appeal primarily to our sense of smell. Taste follows.

But for professional flavorists like Redfern, processing flavors involves more than just smell and taste. "My impression of the truffle has to do with sensation, not just aroma," Redfern explains. "Truffle is not simply a taste, but an experience."

Not all humans experience flavors equally—only some of us have the capacity to detect certain chemical compounds. Take, for example, A Truffle F. While Redfern estimates that the flavor includes thirty to forty chemicals, he doesn't remember the exact recipe, mostly because he created the flavor nearly a decade ago. (He also says he's not a "black book chemist," someone who repeats the same projects even when asked to create a new flavor.) But he does know that he used a mushroom alcohol called 1-Octen-3-ol, which was first discovered in the matsutake mushroom and has been found in many other varieties since. While most people agree that the compound smells "mushroomy," William Wood, a professor of chemistry at Humboldt State University discovered that forty percent of the population cannot detect 1-Octen-3-ol at all.

It's likely that A Truffle F also includes sulfur compounds, including 2, 4-dithiapentane, a powerful, easily detected component of real truffles. "The human nose is very sensitive to sulfur compounds," the professor says. "We can generally detect them at one part per ten billion, a fantastically small amount that is not pleasant for us in high concentrations. Coffee has some sulfur compounds and so does skunk odor." (Coincidentally, Redfern calls himself an expert on coffee.)

The process of creating a flavor always begins with hard data. Jeff Carlson, vice president of sales and marketing for T. Hasegawa, explains the procedure. "When

we make a fresh peach flavor, for example, we take one of the freshest, best varieties of peach and stick it into glass vessel," he says. "There, the smell is allowed to permeate the air. Then we suck the air out, run it through some analytical equipment to see what chemicals peach was letting off, and create a flavor that uses a balance of those chemicals."

"Flavoring is subjective, but on an immense scale," Redfern says. "Both you and I perceive strawberry, although our life experience is diametrically different. What is created [in an artificial flavor] is a flavor cartoon using subtle lines of data that appear to be simple, but is in reality highly complex. The flavor chemist is cognizant of, and plays with, a range of alternate perceptions." Basically, a flavorist aims to emulate what most people think of as strawberry flavor, which never involves using every single chemical contained in one real berry. Flavorists work to please the masses, an ambiguous mission. "Mostly I just tell people how easy it is to create a flavor," Redfern says, "because that is what they wish to hear. When you push me, it becomes more complicated."

* * *

Like many of the major players in the flavor industry, T. Hasegawa was formed about a century ago, around the time when monosodium glutamate, MSG, the texture-less, flavorless artificial seasoning, was being invented by a professor in Tokyo. Back then, the company probably distilled plants for the most part—chamomile, mint and rose—concentrating their scents into essential oils. But

presumably, the company's chemists dabbled with the artificial as well. After all, saccharine, the world's first artificial sweetener, had been discovered in 1879 by a chemist in the United States who tasted an extraordinary sweetness on his hands after conducting lab experiments.

Business exploded for T. Hasegawa after the Second World War, just as American diets became increasingly dependent on processed food. In fact, processed food has propelled the entire flavor industry forward since the era of the TV dinner, shooting earnings through the roof, employing hundreds of thousands of people around the globe and allowing consumers to suspend disbelief concerning what they're eating. As foods are processed they lose many of their original flavors, so flavor companies put the flavors back. That's why one brand of frozen lasagna will taste the same from week to week, and month to month, even though one batch of sauce was made with tomatoes picked during the summer in Mexico, while another batch used American greenhouse tomatoes that ripened in December. And that's not to mention that by the time the lasagna lands on a plate, it's been heated, frozen and reheated numerous times. And yet the tomato sauce remains consistent, as though every tomato was equally ripe, sweet, acidic, and most importantly, fresh—a favorite flavor industry buzzword—all thanks to artificial flavorings.

These days, the flavor industry has started emulating luxury food items that chefs and consumers can't afford, including truffles, saffron, prawns, crab and shallot. In 2006, *The Times* in the UK revealed that most top restaurants use *aromes artificiels*, a revelation that shocked many diners who believed they were paying top dollar for

premium ingredients. And the news that every truffle oil on the market contains some artificial flavoring, as reported by *The New York Times* this past spring, came as a surprise to many top chefs and consumers.

In Italy, savvy food purists and even legislators already knew about the problem. In 2004, Carlo Petrini, the founder of the international Slow Food movement, wrote about recent Italian legislation that banned using the words "with truffles" or "truffled" on any product that contained less than three percent real truffle. "I even visited a large American store selling completely ethical organic food which proudly displayed its artificial truffle-flavored oil," he wrote. "It is disgraceful: apart from the label misleading the consumer with the permitted wording 'with truffles,' these products are truly revolting. The nauseating flavor persists after you have eaten the basic food."

"Truffles are valuable because they are rare, because finding them is difficult and absorbing," Petrini continues. "Prices are often ridiculously high and it is true that not everyone can afford them. Personally I would prefer to do without when prices reach certain levels, but everyone has to understand, particularly potential consumers, that the substitute products have no sense, they are completely different and may even be bad for us. The money spent, even though much less than would be spent on the genuine article, is money thrown away."

But what Petrini views as money down the drain has helped create the gigantic, successful flavor companies of today. For T. Hasegawa, the luxury flavor market helped the company go international in 1976, when it expanded to the U.S. Today, T.

Hasegawa USA has a 91,000-square-foot production facility in Los Angeles County, which contains the labs where Redfern created A Truffle F. But the company remains rooted in Japan, a country that actively competes with the U.S. for prominence in the flavor industry. A letter from the president on the company's web site reads: "The amount of flavor and fragrance consumption is often said to reveal a country's level of affluence."

* * *

While Redfern speaks like a scientist (he says his greatest challenge occurred when he "used a twin screw extruder as a high speed heat exchanger for the successful generation of a reaction flavor"), he also considers himself an artist operating under limitations. "There is a realism that is demanded of the flavor chemist as a creative artist that is rarely demanded of the painter, sculptor or musician," he explains. "An aroma has the transience of sound and must convey, within a single chord, an orchestrated symphony."

Marie Wood, a senior flavorist for International Flavor & Fragrances (IFF), a company that makes $2.1 billion every year and employs 5,000 people around the world, says that she, and others in her position, usually posses a combination of analytical and creative skills. "I've always had a creative side and have gravitated toward fashion, painting and drawing," Wood says. "Most flavorists tend to have creative outlets. Some like to cook and others prefer photography. All that creativity balances the boring side of being a complete chemistry nerd."

Last year, IFF paired a few of its flavorists with artists in New York City to create an art installation designed to be seen, touched and smelled. For the project, Wood helped create a "sweaty sock" compound as well as an "earthy" flavor, which was inspired by an abstract landscape oil painting. That creation, she says, included many elements that have appeared in truffle flavorings from the past.

Still curious about the mysterious composition of A Truffle F, I ask Wood what exactly she included in those representations of truffle. "It's not something I'm able to share with you because it's proprietary information," she says. "Something like truffle is not published. But I can tell you that the chemicals are very aromatic, intense, earthy and meaty, and there's mystery around them. It is clever, when you look at composition. Clever and intriguing."

And while I already know that despite truffles' commercial unpopularity, especially compared with something like strawberry, many modern flavorists have created some version of a truffle flavor. But they're not breaking new ground. A search reveals patents, from the past century, for both solid artificial truffles and artificial truffle flavorings. But Redfern tells me that universities usually file patents on flavors as part of the endless search for funding. Because in chemistry, academia and the public sector rarely collaborate, universities often use outdated chemical analytics instruments, so most flavor patents represent antiquated formulas and discarded methods. I send Redfern a link to a patent for a black truffle flavor that was developed in France in 1987. After noticing that one of the patent's key compounds

was misspelled, he replies, "This patent is not worth the paper it is written on. It's naive."

* * *

Without access to the specific composition of A Truffle F, I decide that to understand the notion of a flavor as a "caricature," I must taste the flavor as Redfern originally intended. But before I start playing chemist in my own kitchen, I ask Jeff Carlson what kind of truffle Hasegawa used during the analysis phase. "We did not do that procedure for this truffle formula," he says, "because it was not worth the time and money. Truffle is not a big seller. The average consumer does not know what truffles are. I guess real truffles are really special."

Redfern relays the instructions for bringing the concentrate in the little brown bottle to life. "Put ten drops in an ounce of olive oil and mix well," he writes in an e-mail. "Then put five drops of this solution into another ounce of oil and mix well. Leave it for a day or two. Then make a vinaigrette with it and sprinkle it on your salad."

I slowly unscrew the black plastic cap from the T. Hasegawa bottle, holding the container firmly to avoid spilling the liquid. Even at arm's length, a strange smell invades my nose with an alarming swiftness. The aroma is acrid and acidic and reminds me of rotting fruit or the slimy parts of the jungle floor that never see sunlight. I quickly plunge a dropper into the bottle then squeeze ten drops of the yellowish liquid into olive oil, as instructed, and repeat the process again in a different

glass jar. For a few days, both mixtures, one of which I labeled "uber dilute" with a black marker, sit on the kitchen counter. And to be honest, I don't salivate when I see them.

Finally, I decide to make my little salad with truffle oil. In lieu of a lab coat, I don my cooking apron and set up an experiment station. I begin whisking the uber dilute with various vinegars. They all smell familiar, like versions of salad dressings I usually make. I taste each one with my finger before adding a few leaves of baby greens and can detect a faint addition of something extra in each bite, but the flavor possesses a subtle strangeness that my palate can't quite identify as anything extraordinary. And I would never guess that I'm consuming truffle oil.

I glance at the other jar, the one containing the higher concentrate of A Truffle F. I unscrew the lid and immediately get a whiff of the same scent I encountered when I opened the small brown bottle; only less intense. Again, I whisk the oil with vinegars and sniff. The balsamic mixture smells best, and faintly mushroomy, so I drop a handful of greens in the bowl, toss and take a bite. Instantly, I'm transported, not to a dark forest or French kitchen, but to a sterile room that feels like a friendly incubator. I take another bite, and can almost sense someone in that room working, making tiny adjustments while weighing grand ideas about what people know, and don't know, about the nature of perception.

Truffle Oil

There are many truffle oils on the market, some with good truffle flavoring and others that could double as gasoline. If you have enough truffles, make your own oil, you will be rewarded with authentic flavor.

½ cup mild extra-virgin olive oil, mild seed oil, or a combination
¼ to ½ ounce white or black truffle, preferably fresh, thinly sliced
Pinch of kosher salt

If using a white truffle, combine the oil, truffle, and salt in a small bowl. Stir lightly to dissolve the salt. Cover with plastic wrap and set aside at room temperature for at least 1 hour or up to 6 hours. If you use a black truffle, warm the oil ever so gently, then add the truffle and set aside for 2 hours. Taste the oil after a couple hours; it should have a nice truffle flavor and aroma. Store the oil in an airtight container in the refrigerator and use within 2 days.

Reprinted from *Caviar, Truffles, and Foie Gras: Recipes for Divine Indulgence* by Katherine Alford (Chronicle Books, San Francisco, 2001).

Weird Science

Tonight the North American Truffling Society will hold its twenty-eighth annual truffle potluck—and for the twelfth time, organizers have chosen to gather NATS members in a place more associated with bingo and jell-o salads than one of the most coveted foods on the planet. Tonight, truffles will become the main attraction at the Corvallis Senior Citizens Center.

Safely ensconced in a tree-thick neighborhood filled with ramblers with bad siding, the Senior Citizens Center emanates a bleak coldness as a few dingy windows glow with a florescent blue. But, like the innocuous soil that sustains a forest of truffle trees, this institutional building hides a potentially sensual feast featuring an unlimited number of pounds of heady truffles served in butters, stews, salads, cream sauces, pasta, risottos and cheese.

Inside, two long tables form an "L" in the corner of the main room, which borders a kitchen with a revealing, gaping mouth of a serving window. Among the round tables adorned with festive, red-and-green centerpieces, women with coifed masses of gray curls move between the kitchen and the table, using crotched hot pads as a buffer between their hands and hot handles. Already, the gathering feels as wholesome as a Sunday school event.

Every person here is a NATS member. Some are bona fide mycologists who study things like the effect of controlled burns on fungi at universities with strong biology departments, but most of the members in twenty-seven states and seven countries simply share a fascination with truffles. During the day, NATS members earn their livings making pottery, programming computers, driving trucks and filing paperwork for the government. The group organizes monthly foraging trips, sends out a sporadic newsletter, hosts speakers and holds the truffle potluck every December.

I spot one of the younger people in the room, a woman in her 40s with short black hair and a serious look on her face. She turns out to be Sylvia Donovan, an active NATS member who has a reputation for never leaving a truffle hunt empty-handed. If anyone knows what's happening underground with the truffle supply, it's Donovan. "We're not going to be eating many truffles tonight," she says. "It's been such a horrible season."

Even a few months ago, experienced mushroom and truffle hunters were grumbling about the dry dust, heat spells and a serious lack of fungi. Since then, not much has changed. Normal, cooler winter temperatures brought some rain, but the season had been anything but predictable; a freeze in November most likely killed many truffles before they started maturing.

Eugene-based truffle purveyor Jim Wells, who likes to be called Mr. Truffle, had already explained why some years yield great batches of mushrooms, while others disappoint entirely. Mycorrhizal mushrooms, which form a symbiotic relationship with living plants, develop in five stages of growth, each with their own temperature

and moisture requirements, and each species requires different timing to succeed. "But ultimately," he said, "each mycorrhizal fungus must depend on its host tree to spare sugars and nutrients for growth. So if trees are coping, instead of flourishing, they have less to share with a fungus." And while experienced mushroom hunters can generally predict how the next few weeks of a season will unfold, the multiple, conflicting variables make even the simplest predictions more like astrology than astronomy, decidedly unscientific.

* * *

Think of something that fruits—a stately tree with limbs weighted with sweet, fleshy morsels that hold pits; a leafy tomato plant that develops sturdy stalks before producing bulbous, red fruits that ripen in the sun; or a prickly berry bramble. Now, think of a fungus. Even though it spreads in darkness, without chlorophyll, it too makes fruit in the form of a mushroom or a truffle. As fruiting bodies of fungi, mushrooms and truffles provide the same service that a cherry or a pear might for its plant parent; they hold the spores (instead of seeds) that, when distributed, allow the fungus to propagate and survive. But the way mushrooms and truffles distribute these all-important reproductive structures varies greatly.

In some cases, a mushroom relies on wind to carry just some of the millions of one-celled spores from the cap or gills to the dirt. The stem acts as a simple lift that raises the spores above ground, a prime spot for an earth-dwelling organism to catch some free-flowing air. But many stems are too short. Barely rising above the ground,

some mushrooms deposit their spores in the immediate soil underneath the cap. And a mushroom expires quickly. Exposed to dry air or sunshine, most mushrooms, notoriously delicate and fragile, will shrivel within days. And heavy rains cause them to rot. Hopefully, by the time a mushroom begins to fade, the spores have escaped, making survival a distinct possibility for the fungus.

Since truffles grow entirely underground, the trait that qualifies them as hypogeous fungi, they encounter little heat, zero light and no chance of being destroyed by a heavy animal traipsing through the woods. The spores sit in a safe place. In addition, truffles, in comparison to mushrooms, have time on their side. Coddled by cool, moist soil, a truffle matures slowly, allowing the spores contained inside a tightly constructed tissue, or skin, called a peridium, to develop together, over weeks and sometimes months. As the spores start to reach a state of ripeness, the truffle emits an alluring scent that attracts all kinds of animals: squirrels, shrews, mice, armadillos, opossums, wallabies, deer, elk, bear, raccoons, pigs, potoroos, bandicoots, meercats and on occasion, humans. Propelled to action by the intoxicating scent, which may include a pheromone, the animals dig down in the dirt until they find the delectable nugget then dine on the delicacy, one nibble at a time for those with small mouths. Spores pass through an animal's digestive system and end up back in the dirt yet again, only this time as part of fecal matter. If the truffle fungus had its way, the animal that ate its fruit would have traveled a great distance, introducing the possibility of total domination of truffle-friendly soil. The animals have just a few days to find the ripe prize. The peridium, which once helped the truffle retain water,

begins to decay and the interior turns into a spore-bearing slime, signaling the end of a truffle's life.

On the surface, a truffle may seem like the remnants of a stunted evolutionary project: mushrooms that refused to evolve. After all, a mushroom rises above ground, independently offering its all-important spores to the woods without any bait or concealment. And while some mushrooms do rely on animals eating and digesting their spores, often a mushroom either contains, or appears to contain, poison—it wants to be left alone to wither in the wind. Most mushrooms have little interest in the art of seduction.

James Trappe, an internationally recognized truffle expert and professor emeritus in forest science at Oregon State University, says truffles trump mushrooms in terms of evolution. "Truffles work more cleverly than mushrooms," he tells me. "They expend less energy on structures to produce and disperse spores—they don't pour energy into stems and caps, but focus instead on spore-bearing tissues plus a bit of energy to produce aromas."

I'd assumed that as denizens of the dirt, truffles represented a sad remnant of an evolutionary process in progress, mushrooms-in-the-making that never managed to push through the forest floor. But appearances can be deceiving. "Most truffles evolved from mushroom ancestors," Trappe says, "and to me are beautiful examples of nature moving to a more economical use of energy. And that's not to mention how they look. With magnificently patterned and colored interiors, truffles are quite beautiful, if one looks at them closely."

* * *

On a small stage at the back of the room in the Senior Center, a NATS member starts slowly plucking the strings of an acoustic guitar. Everyone gravitates toward the long tables covered with dishes marked with handmade labels listing ingredients, visible warnings to the allergic and the finicky. But the labels do more than prevent hives or a moment of disgust: they offer the opportunity for subtle boasting. That's because no member of the North American Truffling Society would ever *buy* mushrooms or truffles. Serving fungi that you did not personally find in the forest would be pure sacrilege, and admitting to such an indiscretion would demean your standing within the group just a bit. Imagine the conversation at the end of an official foray in the woods: "So Bob, I heard you brought some store-bought *Tuber oregonense* to the potluck last year. Not sure I can trust your judgment that this is a real bolete."

As I wait in line, paper plate in hand, I notice that my bread and cheese contribution to the dinner, an embarrassingly non-mushroom and non-truffle item (which I also failed to label), has garnered some attention. "Man, this is stinky," says a man wearing suspenders as he sniffs a piece of bread he'd slathered with soft goat cheese. Farther down the table, the dishes spread out in homage to local, seasonal ingredients. Chanterelle and elk stew; wild rice with mushrooms (boletus and oyster, the label states); lasagna with zucchini and chanterelles; morel pasta with chanterelle sauce; mushroom tarts packed with diced boletes, chanterelle and morels; mushroom

turnovers with chanterelles, ricotta, parmesan, herbs and—truffle butter. At last, a dish that contains truffles.

"I don't like eating truffles," a woman remarks as she spoons some elk stew into a paper bowl. "I just like finding them."

Back at the bread-and-cheese area, a small woman with tight gray curls places a clear glass bowl stuffed with salad greens into the lineup. "I managed to get a few little truffles in there," she says. A large man with large square eyeglasses peers into the bowl with a quizzical look. After all, truffle butter can be made then kept in the freezer until it develops freezer burn, but a salad dotted with truffles means fresh specimens, a near impossibility this year. Many NATS members reported leaving forays with next to nothing. But there they were, floating among various lettuces—squishy, gray pea-sized truffles (species unknown) that were unforgettable to me not because of any sort of distinguishable flavor, but because of their unappealing texture.

"I never heard you say you got enough truffles," someone in line blurts out. The crowd chuckles. It wouldn't be the last truffle joke of the evening.

* * *

As the most highly attended North American Truffling Society event of the year, the gathering also serves as the annual meeting, a time for formal announcements and elections. The room seems to shift into a more serious mode as the group's president, Charles Lefevre, walks to the front of the room. "As you all know, now's the time to talk about our accomplishments from the past year and do the nitty gritty

stuff, like elect new officers," he says. "In fact I believe it was here, at last year's gathering that you voted me into office *in absentia.*" The tone of his voice suggests that once he no longer holds the position, he won't miss another potluck.

Lefevre begins to recite the year's major accomplishments, including media coverage, truffle discoveries and, for the first time in group history, a hefty stash of funds in the NATS checking account. "We'll decide what to do with the money later," Lefevre quickly says, noticing the overwhelming number of heavy-lidded eyes in the audience. The money resulted from membership fees and the sales of a truffle identification book and *The Cookbook of North American Truffles*, a collection of recipes written by various NATS members over the course of a decade. "Most of us had never tasted even the outrageously expensive tinned truffles from Europe; and no one had any idea which of the dozens of Northwest species were palatable," begins the preface. "So we began (cautiously!) to taste and test, to experiment and innovate, and to gradually invent American truffle cuisine."

The cookbook features simple recipes involving just a few ingredients, including four different versions of truffle butter. One of which, penned by Wanda and Henry Pavelek, starts by explaining that enough of their butter, in particular, had been consumed at truffle outings and in the back of the Oregon Mycological Society show "to fill several butter barrels," making that rendition the tried-and-true choice. Another butter recipe advises spreading the mixture onto steamed green beans and, of all things, sourdough waffles. But adventurous uses for local truffles don't stop there. Subsequent pages include instructions for making steamed cauliflower with *genea*

truffles (includes Velveeta and imitation bacon bits), Chinese buns filled with a truffled chicken mixture, and on page twenty-six, *Melanogaster* stuffed celery, the recipe that once prompted Portland chef Greg Higgins to liken the cookbook to "ants on a log."

As Lefevre plods through the agenda, I see noted mycologist James Trappe's son, Matt, a Corvallis resident and PhD hopeful in the environmental sciences (who's known as the "Trufflemaster" among NATS members), completely absorbed by something he's eating with a plastic spoon out of a paper bowl. Ice cream. I sneak back to the food tables and head straight to a vat of Tillamook vanilla ice cream. I scoop out the most solid parts of the oozing mass of off-white goo and plop them into my own bowl. One small bite assaults me with a powerful, biting vapor that makes my head feel empty, like a scientific vessel designed to catch gaseous byproducts. It's not so much what I taste on my tongue, but what invades my sinuses, something akin to diesel fuel fumes. I can't decide if I want more or less.

I glance around the room, desperate to share the moment with someone who can answer a question that feels like it's burning a hole through my left nasal passage: should a white winter Oregon truffle taste like this, and more importantly, am I supposed to like it? My eyes meet those of Dave Pilz, a forest ecologist researcher and NATS member of fifteen years. Even though he barely moves, I still detect a nod and subtle smile that borders on smirk. Then I remember. "Just wait till you taste my ice cream," I'd heard Pilz say to the man in suspenders earlier in the evening. As the ice cream maker, Pilz was probably enjoying my reaction, no matter how mixed.

Later, Pilz tells me that he won't take credit for the recipe, because former Oregon truffle hunter Eric Jones introduced him to the ice cream ten years earlier in Eugene. "But it might not have been his original idea either," Pilz says. "You'll have to ask him." In search of a simple description of what exactly harnessed such a powerful concentration of white truffle (it's mysteriously absent from the NATS cookbook), I ask Jones about the dessert. But he responds with even more deferrals, saying that he wished he could take credit for the recipe, but that he first had the ice cream during the eighties with Stan Patterson, a legendary Oregon mushroom and truffle gatherer also known for his inventiveness in the kitchen. But before I can inquire about finding Patterson, Jones back steps; another Oregon truffle hunter created the recipe, a man named Owen Rice.

Like a truffle dog honing in on a powerful scent, I anticipate a revelation from Rice, or at least a semi-accurate ingredient list. "Alas, I cannot take credit for that brilliant invention," Rice tells me. "However, I have enjoyed a good many pumpkin pies with truffled whipped cream." Foiled again. While chefs gladly take credit for recipes that may or may not be their own, these foragers seemed bent on keeping their culinary creations a secret, a pact they may have made with each other on some misty morning in the woods.

With the taste of white truffles still coating my tongue, Lefevre auctions off the homemade table centerpieces, another unstoppable potluck tradition. One centerpiece includes a tea towel embroidered with the phrase, *Nobody knows the truffles I've seen*, while another holds a box of stationary featuring various mushrooms—Fabulous

Fungi note cards. Then the lights dim for the evening's final speaker, Nancy Weber, an associate professor in forest science at Oregon State University. As Weber flashes the first slide in her PowerPoint presentation, *Mushroom Watering Tales from a Mycologist's Backyard*, the Senior Center grinds to a slow, sleepy halt. Slumped in their chairs with heads bobbing, many NATS members look like they've been drugged. And while some people perk up when Weber mentions collecting dead yellow jacket wasps from her lawn simply to keep an accurate account of their population, most seem to be digesting the evening without overtly engaging in her words, as they dream of secret truffle recipes and better harvests for next year's event.

Frank Evans' *Melanogaster* Stuffed Celery

1 pkg. cream cheese (8 oz.)

2 truffles, walnut sized (*Melanogaster intermedius*)

Celery, washed and trimmed

Clean and peel the truffles. Grate or mash the truffles and blend with the softened cream cheese. Stuff the celery stalks with the mixture, arrange on a plate with a garnish and serve.

Notes from the Underground

On a blustery spring day, Charles Lefevre, a short, serious-looking man with a neatly trimmed goatee and frizzy brown hair pauses at the edge of a boggy field just outside Eugene, scrupulously surveying the horizon. Were someone to catch sight of him standing there, dwarfed by the countryside, he'd appear quite out of place, like a big-city boy who'd lost his way at lunchtime. Checking to make sure no one does see him, he shifts his gaze from a field of horses to a pickup truck passing on the road, then—satisfied that he's alone—he stuffs his fists into the pockets of his leather bomber jacket, bends his head toward the ground and presses forward against the bitter wind, his shoes sinking into the marshy soil with every step.

After passing a weathered barn and piles of junk that look ready to be set on fire, Lefevre ("Le Fever" he sometimes tells new acquaintances when they attempt to pronounce it as his French ancestors did before they came to America) stops at a simple wooden outbuilding hidden out of direct sight from the road. The shelter is wholly unremarkable, built as though it were an afterthought. But an exterior that belies the treasure hidden inside is exactly what he wants. For if all goes as planned, the plants that silently thrive within could deplete the bank accounts of Saudi Arabian oil engineers, New York magazine editors and Oregon grass seed farmers who long to possess them.

Lefevre shoots one more glance over his shoulder then disappears through the door where thousands of seedlings sprout in pots inside his "growing laboratory." The plants are worth enough to Lefevre that he would do anything to protect them, even deny their whereabouts to trusted friends and family.

Beneath the soil filling each pot, Lefevre has inoculated each oak or hazelnut seedling's still young, developing roots with the fungus called *Tuber melanosporum.* Once the trees—which serve as symbiotic hosts to the fungi—are planted in the earth, it is Lefevre's hope that the fungi will spread, creating a subterranean network of filaments that may some day produce the knobby, valuable Périgord truffle. These days, at the famous three-star French restaurant L'Auberge de L'Ill, a whole Périgord truffle coated in foie gras, wrapped in pastry, deep-fried and served in a dark sauce made of more black truffles recently went for 125 euros. Today, that's about $170 for an appetizer.

Lefevre has allowed me to come here with a few caveats—I can't divulge certain details about what I see that would help someone else figure out Lefevre's cultivation methods, reveal the name of the client who owns the land, or, without a doubt, tell anyone the location of this spot. The landowner has already planted his own truffle tree farm toward the back of the lot, so, in exchange for rent, the hopeful truffle farmer granted Lefevre space for his "growing laboratory," which this month holds 5,000 trees recently ordered by a single client, an Idaho developer with plans to build a winery, boutique hotel and truffle grove outside of Boise.

Lefevre starts bustling around the plants like a new parent, noticing inconsistencies in the amount of soil in each pot and pieces of misplaced chicken wire that could rip a pant leg. "Come on guys!" he mutters. "That's not right. I'm going to have to have a talk with them." Even with just three employees, Lefevre seems overwhelmed by his managerial duties. "I'm not a neat freak, but come on!" he says, nudging a cinder block out of the walkway.

While he looks for what's wrong, I focus on what seems right—the seedlings, which from a distance appear uniform and identical. But on closer inspection, some look like sticks while others have small budding leaves, miniature trees that wouldn't survive being stepped on by someone in boots. I take in the details I have promised never to reveal, the way the soil looks, how the trees are arranged, where exactly we're standing.

A man wearing a plastic baseball cap and tinted glasses ducks his head inside the door. Turns out he's Frank, the property owner, a lifelong Oregon farmer who looks more like a truck driver than a connoisseur of one of the most expensive delicacies on the planet, and he learned about truffle growing from a Japanese man on a fishing trip. "So I'm stuck on a boat with this guy for days, and all he can talk about are truffles this and truffles that," he says. "When I got home, I learned about Charlie, who happened to live just down the road." Frank pulls out a color photocopy of a shiny red tractor with a big front loader.

"Check this out," Frank says, sniffing. "It's mine, all mine. Oh yeah. Gonna pick it up in a few weeks."

"Looks nice," Lefevre says politely.

After Frank leaves, I say that Frank doesn't seem like Charles' typical customer, a foodie baby boomer looking for a unique investment scheme. "I make sure all my clients know that this is not get rich quick scheme," he replies. "This is farming. Frank is a farmer."

* * *

"There's something magical about truffles," Lefevre sometimes tells prospective clients. "After you've been around them, you start to smell them when they're not there. They haunt you, and you don't know if you're having a flashback or if it's real, but you crave them like nothing else. The time will come when you will have a truffle that will change your life."

Captivated by the mystique of the Périgord as well as other varieties, Lefevre has dedicated his professional career to cultivating the precious fungi. His business, New World Truffieres, which sells seedlings inoculated with various types of truffle-producing fungi (from Périgord to Oregon black truffles to the white Italian species), consists of two employees; an office in Eugene packed with piles of papers, computers, microscopes, nests of wires, phones and a lemon tree (he likes the scent); and two top-secret growing areas.

New World Truffieres is one of only two companies that sell truffle trees in the United States, and while Lefevre won't reveal how many trees he's sold since he hung his shingle in 2000, he does admit that this year customers ordered a total of 25,000

trees so far—three times the number purchased in all of 2006. His customers pay between $20 and $105 (depending on the truffle fungus and the age of the seedling) for each inoculated oak, hazelnut or other variety of tree, a seemingly miniscule amount, but his most serious customers purchase anywhere from a few hundred to thousands of trees, and that price doesn't include the high cost of establishing a truffle grove. Thus far, however, none of the trees he's inoculated has yielded a single truffle—not the trees planted in Korea, Canada, Texas, Maine or anywhere in between. Yet with little demonstrable evidence that Lefevre can deliver what he's promised, the truffle obsessed continue to call on him, pocketbooks in hand.

"The trees will produce," he tells anyone who asks. "*They will.*"

* * *

A 41-year-old Oregon native, Lefevre never thought he'd work with truffles—or people, for that matter. Growing up in Eugene, Oregon, the youngest of eight children, he dreamed of becoming an astronomer, a solitary path inspired by his father, Harlan Lefevre, a physics professor at the University of Oregon. His mother, Ruth, a homemaker with a master's degree in geography and an avid reader, influenced him in other ways, teaching him the value of an inquisitive mind.

When he was 9, Lefevre went to the local drug store with a dollar in his pocket. Instead of gravitating toward the candy aisle, he discovered sleeves of petri dishes for 50 cents each. Drawn by the sense that something magical happened inside

them, he bought two. Later, in a tree house, he and a friend carefully placed mushrooms they'd picked in the forest inside the dishes.

"I experienced a moment of letdown when nothing magic happened," Lefevre remembers. "I didn't know the proper incantation. I didn't know the formula." At least, not yet.

As a freshman at Reed College, Lefevre took math and physics courses, but quickly discovered that black holes and mathematical formulas weren't nearly as interesting as spawning fish, rare birds and, most of all, things that grew in the dirt. After completing his sophomore year, Lefevre dropped out of Reed. Eventually, he earned a bachelor of science degree in biology from the University of Oregon, where he studied under professor George Carroll, the only mycologist on faculty. Still, during his time at the U of O, Lefevre often felt lost and misdirected. Once, after dreaming about a circle of oak trees—which happens to be one of the few trees that fosters Perigord truffle fungi—he went to a forest outside of Eugene and found a similar circle of trees. He sat in the center of them a few times a week for an entire year, meditating on his future. "I watched the seasons change and watched everything happen without any specific intentions," he says. "There was nothing I was trying to accomplish. It was amazing, and helped me figure things out in a strange way."

On his forays to the woods, Lefevre harvested wild mushrooms, as he'd done since high school, from hard-to-find morels to black and white truffles native to Oregon. "I have always been happily and willingly captivated by the mystique of the rare, elusive, enigmatic, ephemeral, but valuable mushrooms," he once wrote in an

email to me. "I imagine it's a bit like studying leprechauns. They are fascinating in themselves, but there is also a pot of gold hidden somewhere."

It seemed only natural, then, to pursue a PhD in mycology at Oregon State University, where he began studying the matsutake, a mushroom that is highly valued in Japan, and which, even more so than the truffle, resists easy cultivation. Still, he felt uninspired by the thought of committing to an academic career. In 1995, he had a dream that he says, predicted the future.

"There was a bus parked in front of my house," he remembers. "A fish appeared in the air, a silver ethereal ghostly fish. Suddenly I was in the bus and the fish vanishes. The bus turned itself around and started heading down the street toward an amphitheater like the Hollywood Bowl, with lights and a stage. The bus is accelerating. It's going to crash into this bowl, and I thought, I better get in the driver's seat here. Then I woke up." At the time, Charles interpreted the dream as prophetic, meaning that he'd soon be leading a very public life, one he wasn't yet prepared to encounter, and he hasn't changed his analysis since. "At that point I said to myself, are you going to crash or get into the drivers seat?"

As a graduate student, Charles traveled to Uppsala, Sweden, in 1998 to give a presentation on the matsutake at a conference. Forced to sit at a table of Frenchmen at breakfast one day because the American table was full, the group welcomed Lefevre, who wore a nametag, in French. "I had to tell them that I don't speak French, which amused and intrigued them since I had clearly descended from French people. I got to know these two guys during the rest of the conference, and only learned later that they

were the two principal gurus of the French truffle industry." Charles had just accidentally met Jean-Marc Olivier and Gerard Chevalier, scientists and leaders of the modern truffle cultivation movement. In the 1970s Chevalier had developed a highly successful inoculation technique that has inspired all truffle cultivation since—a feat so awe-inspiring to the French that when strangers encounter Chevalier on the street, they ask for his autograph.

Traveling in France a year later, Lefevre visited Chevalier on a whim and found his avocation. "Even though I had no intention of working with truffles at the time, he let slip one of those little details that told me everything I needed to know, should I ever attempt to inoculate trees with truffles." Upon his return to Oregon, Lefevre began inoculating seedlings with the Perigord fungus.

* * *

Inoculating a tree with truffle fungi can be a financially risky, highly specialized and somewhat unpredictable endeavor frought with universal unknowns, the result of hundreds of years of speculation that sowing truffle seeds was absolutely, one hundred percent futile. The ancient Roman natural philosopher, Pliny the Elder, once wrote in his book *Historia Naturalis*, that "truffles are among those things that are born and grow but can't be planted." And Brillat-Savrin wrote, "The origin of the truffle is unknown. We find it, but we do not know how it is born nor how it grows. The most skillful men have busied themselves with it, they have believed that they had

identified its seeds, they have promised that they would sow it at will. Vain efforts! Lying promises! Their plantings have never been followed by crops."

But we've evolved, and truffle cultivation has become less about futility and lying. Well, at least in some cases. Since the 1970s, "truffle farms" or *truffieres* have cropped up across Europe, and more recently, Australia and New Zealand, and many have succeeded in producing truffles, thanks to the method developed by Chevalier. While the French scientist has kept his precise methodology a secret, others, like Lefevre have made informed, educated guesses about successful inoculation techniques.

Today's truffle farming, which starts in labs with microscopes, is a far cry from the first record of cultivation, which happened in the early 1880s, when a French peasant named Joseph Talon realized that the oak trees surrounding his small village, Saint-Saturnin d'Apt, in the Luberon Valley, were the key to truffle production. Talon harvested self-sown seedlings from around truffle producing trees and planted them on his own land—a form of truffle cultivation, but one that didn't involve tinkering with the fungi itself.

His method seemed to work (the town square at Saint-Saturnin d'Apt features a life-sized stone statue of Talon on one bended knee, holding a stone truffle), but didn't attract much attention until 1868 when France's winemaking industry spun into crisis. Phylloxera, insects that feed on the roots of grapevines, gorged themselves on France's bounty. Desperate winemakers turned to the Talon method of truffle cultivation to help eke out a living. The forests of oak trees they planted created the

country's most truffle rich years, the golden age that made the delectable so commonplace that even the peasants were stuffing game with truffles. But after wars destroyed the countryside, history did not repeat itself. Truffle cultivation failed to become an activity for common folk, though it evolved into something more difficult and complicated: an investment in a strange scientific pursuit.

Somehow, word of Talon and his successes spread to the United States. An August 4, 1855 edition of the *Brooklyn Daily Eagle* recorded what might have been America's first bureaucratic consideration of truffle cultivation. "It has been suggested to the Patent Office that measures should be taken to introduce the truffle into the United States. This esculent, which in some respects resembles the mushroom, has been the favorite dish of epicures from the time immemorial to the present day, and yet, strange to say, they have always been scarce and high-priced, few knowing how to raise them, and fewer still possessing the proper knowledge to prepare them for the table."

Fast-forward more than a hundred years, to a time of microscopes and a renewed interest in the mysterious underground fungi and a remote plot of land in Northern California. There, a man named Francois Picart had been tinkering with the Perigord fungi. As a native Frenchman, Picart saw himself as an ambassador of sorts, someone who could spread the joys of the French culinary world to the U.S. and simultaneously make some money off his national cuisine. He'd been raising and harvesting snails, then selling them to a few local restaurants as escargot, but saw more potential in truffle cultivation. He planted a few inoculated trees, and even

though they produced just a few truffles, Picart dreamed of establishing a large-scale *truffiere*, something to ignite American tastes for one of his native delicacies. When he heard about the climate and limey soil just outside of Austin, Texas, he purchased forty-four acres of land near a barren small town called Dripping Springs, applied for a business license under the name Agri-Truffle, and started planting trees.

"I can see the day when we'll have barbecued truffles, dug from our own backyards," he told the local newspaper in 1983. But by the end of the decade, the farm had produced less than a pound of truffles, a fact that Lefevre and other scientists attribute to the harsh, dry climate. Eventually, Picart abandoned Agri-Truffle and retreated to his homeland, a country that seemed ultimately suited to the Perigord, and all cultivation attempts.

But the French haven't been able to maintain their grasp on the taming of the wild truffle, and today, the world's largest truffle plantation, which produces several tons of Perigord truffles a year, approximately 15 to 25 percent of the global supply, flourishes in Spain. True, the Spanish have never really liked truffles (none of the country's native dishes include them), yet the public has slowly come around, fighting centuries of folklore and witchcraft that suggested truffles were the fruit of evil and witchcraft, notions that may have developed in response to the scorched earth brulee that surrounds truffle trees. After all, truffles have little regard for national borders and have grown naturally in Northern Spain for as long as they've grown in neighboring France.

But the cultivation of the truffle? It's come slowly. Initially, many Spaniards earned extra money as wild truffle pickers, but as cultivation methods have improved, those pickers have planted their own *truffieres,* and they easily translate what they've learned in the field into successful harvesting techniques.

Outside of Europe, New Zealand now boasts dozens of successful truffle cultivators. Since 1987, New Zealanders have planted more than one hundred *truffieres* in their country, many of which have begun producing good quantities of the Perigord in the past five years. While New Zealanders have also been experimenting with two other varieties—*Tuber uncinatum*, the Burgundy truffle, and *Tuber borchii*, the Bianchetto—the Perigord garnered a good amount of international attention this year, for the first time. Suddenly, during the hottest days of summer, French and American chefs began smugly listing Perigord dishes on their menus. Astonished diners and restaurant critics quickly learned that down under, winter truffles are blooming and being shipped to the western hemisphere within twenty-four hours of harvest. As FedEx planes make the world smaller, more people seem to be clamoring for a piece of the truffle pie.

* * *

While Lefevre often likes to claim the secret to inoculation is hard to come by—"Fortunately for me, there are no published methods for producing truffle trees that stand a good chance of actually working," he's said. "All of the authors have left out key details. It's an unspoken global conspiracy of silence"—he won't deny that an

increasing number of people are figuring out some version of Chevalier's carefully guarded inoculation technique on their own; either that or they're paying licensing fees for use of a particular technique (A grower in Canada, for instance, employs Lefevre's methodology in return for commission on each tree he sells). But Lefevere claims his technique doesn't play off Chevalier's; he's doing something innovative and effective. And since to him, effective has nothing to do with how many truffles an inoculated tree produces, but rather, how much of one type of truffle mycorrhizae grows on a seedling's tree roots, he may be right. Still, as the man behind the microscope, only Lefevere knows precisely how successful he's become.

Since a truffle's spores are the obvious key to the fungi's reproduction, inoculation seems like it would be a simple procedure, one that requires dumping truffle spores into the soil surrounding a host tree, such as Douglas fir, oak or hazelnut. But just how to get the fungus to take to the roots is the trick. Some growers pulverize truffles and dump the powder around trees, others transplant trees directly into soil that truffles have grown in. The most successful inoculation methods, however, remain buried.

Lefevre won't divulge any details about the inoculation technique he employs, nor will his only domestic competitor, Franklin Garland, who sells inoculated trees and runs his own *truffiere* in North Carolina. Garland began selling trees in 1997 through Garland Truffles, and will only allow that he's developed a proprietary inoculation method, which, in conjunction with his truffle growing method, has

reduced truffle production time from eight to nine years to five or six years. (Lefevre predicts five to seven years for his hazelnut trees and seven to ten years for the oaks.)

According to Garland, about 25 percent of the 150,000 trees he's sold over the years have produced truffles, many of which are Périgords, and he says he welcomes New World Truffieres into the marketplace. "Even though neither Lefevre nor any of his customers have yet to produce truffles," Garland says, "he has given more credibility to the nascent truffle industry in the U.S. simply because now there is competition."

Whether a prospective truffle farmer gravitates toward Garland or Lefevre depends on the kind of businessman they're looking for. In 2003, Larry Turley, a Napa Valley vintner, wasn't sure which company to buy from so he bought 1,000 hazelnut trees inoculated with the Perigord truffle from Garland and 1,000 from Lefevre. When Turley sent samples of each man's trees to three separate labs, Lefevre's trees showed fair amounts of truffle fungi, while Garland's trees showed none.

"Garland is selling used cars, very successfully," Turley says. "He's a really slick guy, whereas Charlie's very straightforward. He's always stood by everything he's sold me." Turley remains skeptical, even about Levfevre's trees. "I'm not counting on anything," he says. "I may have just planted a forest."

Garland claims he doesn't know whether Turley sent the trees to a lab or not, but that he refunded him all of his money "because he was not satisfied."

"He is the only customer out of approximately three hundred who has not been satisfied with our product for reasons other than their own negligence."

Eventually, Garland sent an employee to the vineyard to remove Turley's trees. Turley says he watched the guy pull each tree out of the ground and stuff it in a plastic garbage bag. Three months ago, Turley received a postcard with a picture of Garland holding truffles, truffles, the card said that came from Turley's old trees.

"We destroyed most of these trees since we cannot resale a product once it has been planted elsewhere, but kept some for ourselves in case the issue ever came up again that they did not have the fungus on them," Garland explains. "They are still growing very well."

Indeed, the job of selling a microscopic product that few people understand comes weighted with ethical dilemmas for both Garland and Lefevre.

"I can sell trees to anybody, but not anybody's in a good position to actually grow truffles," Lefevre says. "That creates a continual conflict of interest for me. I tell people what conditions aren't suitable, but at the same time, I let people take their chances."

When a woman in Florida requested some trees, he explained that the climate was too hot for the delicate fungi to succeed. But she'd made a bet with some friends that she could grow anything. Who was Lefevre to get in her way?

There's also the possibility that as truffle farming becomes more prevalent, the allure and price of the once-exotic truffle will significantly decrease. "Undoubtedly supply will meet demand and the price will come down. But no one sees the risk of glutting the market in the next few decades. In the time I've been working with truffles, the price has doubled," Lefevre says.

To date, Lefevre has successfully inoculated trees with nine kinds of truffle fungi from Oregon autumn white truffles (*Tuber oregonense*) to the Burgundian variety (*Tuber uncinatum*), but the Perigord dominates the order forms. After all, why attempt to farm the Oregon truffles that only garner $200 to $480 per pound when you can fetch between $800 and $1500 per pound for Perigords?

That preference holds true in Oregon, too, where people like Aaron Kennel, a 28-year-old, fifth-generation grass-seed farmer in Polk County, long to make more money off their land. Kennel first learned about truffles while watching the *Food Network.* Two years later, he purchased 700 Périgord trees from New World Truffieres and planted them within view of his bedroom, then bought a Labrador retriever puppy and began teaching her to find buried canisters filled with thawed truffle chunks in anticipation of future harvests. While Kennel and some of Lefevre's clients are true farmers, most approach truffle farming as a hobby. "The majority of them are upper middle class people who love the idea of truffles and view them as a lifestyle choice," Lefevre says. Thirty years ago, a similar minority of people postulated that pinot noir grapes could prosper in Oregon—and eventually succeeded, Lefevre is quick to point out.

Still, a fair number of individuals who consider planting Lefevre's trees have never smelled or tasted a truffle. In fact, many of them have just recently learned that truffles aren't made of chocolate—such as Lefevre's second client, a hotelier in his fifties, who drove from his home in San Luis Obispo to Eugene the day he learned that

a truffle was a fungus that one could cultivate for profit. When he arrived in Eugene, he tasted his first truffle on the spot with Lefevre.

New World Truffiere's first client, who, like many of Lefevre's customers, wishes to remain anonymous (in order to protect the location of their *truffieres*), was a truffle novice, too. In 1998, while sharing an office with James Trappe, Lefevre fielded a call from an inquisitive Corvallis resident who'd read a piece about growing truffles in an in-flight magazine and wanted to ask Trappe some general questions. It turned out that the state had banned importing hazelnut trees that year, which meant the potential truffle grower was unable to order inoculated trees from Garland Truffles. Lefevre, who had already been tinkering with truffle inoculation in his spare time, came to the rescue, selling the man 500 trees inoculated with the Perigord fungus. Despite being a graduate student with little business acumen, Lefevre had enough wherewithal to write up a business contract for the transaction.

Starting New World Truffieres required tremendous financial risk; Lefevre provided startup funds, but more importantly, years of hard work with no promise of monetary reward. Lefevre posits that anyone else would have abandoned the project by now. "All of my work with mushrooms and truffles has passion at its core. I had a willingness to live on very little money for a long time," he says. "I'm just fortunate that the money has been there for me to continue doing the work that I love."

Since his first sale, however, Lefevre has sold trees to a famous rock star (who insists on anonymity), Eileen Ford, the renowned founder of the Ford Models Inc., and a Korean prospector, among hundreds of others. And each week, people from around

the world, from Moldavia to Mauritania, contact Lefevre to inquire about his product. While many inquiries never result in a sale, by the time people place an order they trust Lefevre implicitly. Idaho developer Paul Beckman, who has already ordered 10,000 trees, says he placed an order even before meeting Lefevre in person at a Portland trade show. But after their face-to-face conversation, he ordered more trees. "He has an extreme knowledge of the subject, and he doesn't try to sell you anything," Beckman says. "He seems to be offering me assistance."

To further assuage doubt, Lefevre says he's never refused to replace a tree that a customer wasn't happy with and that he always recommends his clients send a sample of their trees to a lab to be tested for truffle fungi. Many, including Kennel, haven't bothered yet. "I don't need to do that," Kennel says. "I trust Charlie."

* * *

I'm driving, heading south, moving away from the city, where tree roots upturn neat chunks of concrete sidewalk to a place where tree roots are sliced and dismantled by heavy-ton machinery, so another machine can follow and drop seeds into rows. Just underneath a thin sheath of clouds, I see a sign that says, "Linn County: Grass Seed Capital of the World," a signal that I've entered Aaron Kennel's territory.

Officially, Kennel's farm lies in Polk County, but county lines don't stop farmers from planting what grows best, and here, at the 45th parallel a place of wet winters and dry summers, grass seed rules. But for the first time in five generations, Kennel thinks grass seed might not be the only crop for his farm (although the family

has experimented with other crops including squash and peppermint). While it took a little convincing, his brother, dad and wife, Sarah, now support his decision to plant a host of trees, supplied by Lefevre, on the farm.

Of the 3,000-acres the family owns, Kennel manages his own eight acres, which sit perched on a bluff that offers long views to the east and a the protection of some rolling hills to the west. Without any visible trees, a house, large white barn, tractors and sloping farmland are visible to any passerby, from the constant stream of Lycra-clad cyclists to neighbors rolling by in pickup trucks. The bold-faced openness makes me feel like I'm meeting someone who has nothing to hide, a fresh and unsettling trait in truffle land.

Kennel appears at the front door of the house wearing three shirts, layered neatly and paired perfectly, as though he'd just stepped out of a clothing catalog, the kind that promotes weekends in the country to someone who lives in a city. In his living room, every pillow seems perfectly positioned, and there's no sign that two young children also inhabit the house. As I take a seat on the couch, Kennel gently closes the curtains on the window looking out toward the road, cutting off the view of the early, dusky sunset and eye contact with anyone on the road, a gesture that makes me think Kennel might know more about the world of truffles than I'd thought.

A cream-colored retriever puppy named Stella bounds through the house as Kennel explains that he was born to live on a farm. "We bought a house in Lincoln," a coastal town of 4,500 people, "and lived there for awhile, but I couldn't stand it," he says. "All the houses were too close together." Stella whines, her tail whacking the

floor, and looks toward the door. When Kennel planted his trees, Lefevre suggested training a truffle dog, as he does with all his clients. Without a dog, Kennel would be blindly raking under trees, just as Oregon harvesters do in the Douglas Fir forests, which could result in an assortment of under- and over-ripe truffles based on the luck of the tine. Kennel chose Stella from one of his dad's litters of puppies specifically because he knew she'd make a great truffle dog.

He shows me the three essential elements of their training regimen: black plastic film canisters with crudely pierced holes in the sides, frozen Oregon black truffles supplied by Jim Wells and little chunks of ham made from deli slices. Kennel slices through a thawing black truffle, which oozes water with each cut, and places the small chunks inside a handful of canisters. Initially, Kennel started a game of fetch with the truffle containers, putting them inside various toys. As Stella became aware that the scent of truffles meant play, he started burying them in the ground.

We step outside into a vast, muddy field that starts right where Kennel's grassy lawn ends. In the distance, farming machinery climbs across the land, too distant to make any sound. Suddenly, I notice small, shrub-like trees evenly spaced for as far as I can see.

"Are these your truffle trees?" I ask.

"Yeah, they've only been out here for two years, so that's why they're so small," Kennel replies.

When I heard the words "truffle orchard," I imagined something different, something that involved shade and ladders. I wasn't expecting a field of mud with green-leafed shrubs.

Kennel bends over and with a small shovel, digs an eight-inch-deep hole into which he drops one canister. Stella is off in the distance, darting from invisible scent to invisible scent, unaware that she's about to do something that will help her become a valuable work dog. Kennel replaces the wet dirt in each hole, and when he's done, neither of us can remember exactly where he put all the canisters. It's as though the earth instantly healed each small wound. Finally curious, Stella bounds toward us, possessed by irrational energy.

"Find the truffle, Stella, find the truffle," Kennel coos.

Instantly focused, the dog begins to follow her snout, which expertly hovers a mere inch above the endless clods of chunky mud. Then she stops, sniffing wildly. She circles the spot, her hind legs creating a circle of paw prints around a central target that can only mean one thing. Kennel bends down and digs away the dirt as Stella wildly darts around his legs. He pulls out a canister wrapped in cloth, and the dog's energy rockets as she realizes that she's earned something valuable.

"Truffle work dogs always get treats," Kennel says. "We have to treat this work as a fun game, otherwise she'll get bored."

Kennel slips her a small piece of ham, which he prefers because it's not messy and is easy to cut into pieces. Without pausing, Stella begins looking for her next treat-maker. But she's not yet free to go.

"Sit, Stella, sit," he says. "I'm trying to get her to sit between each canister just to remind her who's in control."

But Stella understands the game too well, and is already off, sniffing around the small hazelnut and oak trees that could one day produce truffles. She finds every single buried canister. Sometimes, Kennel buries "dummy" canisters without any truffle inside, as a test. She ignores each one.

As a nearly full moon rises above the horizon, a flock of geese cuts across the pink sky. Kennel slowly removes his muddy boots by the back door, hoping that one day, he'll enter the house holding pounds of Perigord truffles instead of canisters filled with oozing Oregon black truffles.

Aaron Kennel's Black Truffle Vinaigrette

2 ounces fresh winter black truffles

1/2 cup extra-virgin olive oil

1/4 cup minced shallots

1 cup dry red wine such as cabernet sauvignon

2 tablespoons Banyuls vinegar or other red wine vinegar

1 tablespoon fresh thyme leaves

Coarse kosher salt

Dice truffles finely. Heat 1 tablespoon oil in small skillet over medium heat. Add shallots, saute 2 minutes. Add truffles and saute just long enough to release their aroma. Don't saute the truffles too long or they'll begin to lose flavor. Place truffle mixture in a small mixing bowl.

Boil wine in a small saucepan until reduced to just under 1/4 cup, about 10 minutes. Add to truffle mixture. Whisk in vinegar and thyme. Whisk in remaining olive oil. Season to taste with salt. Let cool at room temperature.

Excellent served on green salads or drizzled over steak.

The New World

Pressed into the seats of a half-bowl lecture room, one hundred people sit united by a common goal—to steal one of Europe's greatest treasures. Armed with video cameras and laptops, the group has already become cohorts involved in a dangerous heist. It's not even nine a.m.: the sun has yet to burn the fog off the ground outside.

These people want to grow Perigords anywhere else they can make the ground bulge with the delicacy. Most people in the room have dreamed about harvesting hundreds of pounds of Perigords from their own land for months, if not years, but few have had the chance to meet others who share the same fantasy. And now, flanked by a heavily loaded coffee cart and a registration table covered with nametags, landowners from Chile to Oregon, sit poised to learn how to become successful commercial truffle growers.

"I hear North Carolina is a great place to grow truffles," says someone with a drawl.

"Why was the shuttle bus from the hotel so late?" another complains.

"I wish this binder had more handouts," someone says. "I'm used to the corporate world where they overload you with papers."

While the group seeks transparency about the growing process, Charles Lefevre, who brought this disparate group together in a dingy lecture hall at a community college just south of Eugene, Oregon, still hopes he can keep some details of the truffle cultivation process a secret. But at the same time, these people need a solid education in truffle growing. After all, they represent the future.

Lefevre leans forward in his chair, looking slightly anxious. It's the first day of the second annual Oregon Truffle Festival, an event he created with his wife, Leslie Scott, and attendee expectations are running high based on the buzz the Festival received last year. While the weekend-long event features a five-course truffle dinner, a truffle foray, marketplace and cooking demonstrations, the people here have paid between $600 and $1,000 to attend lectures on how to establish a *truffiere*, which includes presentations on dog training, marketing strategies and soil acidity. Some have bought passes for the Truffle Growers Forum, an event designed for people who have already planted truffle trees, while others are novices who dream of hitting the jackpot, and imagine ballooning bank accounts every time they hear the word truffle.

"There are more people here than I thought there'd be," one man says. "You sure look prepared."

"I have to use a tape recorder for stuff like this or I won't remember a thing," replies the woman next to him, who's wearing bright colors and has a tape recorder neatly stacked on a notebook.

Today's festival attendees exude the nervous energy of investors on the verge of writing the big check. A sea of poised pens twitches as the master of ceremonies,

Shannon Berch, a scientist and member of the Truffle Association of British Columbia, descends to the rounded stage. I glance around the room expecting to see the tried-and-true Oregon truffle fanatics clumped in a corner—Jack Czarnecki, John and Connie Getz or any of the members of the North American Truffling Society. But I discover row after row of unfamiliar faces.

"Managing a *truffiere* is like managing an iceberg," Berch begins. "The part you can't see is what will make you sink or swim." Lefevre looks around to gauge reaction from the crowd. "How many people have traveled here from other countries?" she asks. About a dozen people raise their hands. The crowd murmurs.

"Chile," yells one hopeful grower who sits next to his son.

"New Zealand," calls out the festival's keynote speaker.

"Canada," says another. *Spain. Australia.*

While the geographical range appears exotic, it's somewhat predictable. Edible truffles can only grow in certain climates and altitudes, and therefore parts of the world, and the non-Americans in the room represent a majority of those regions with one glaring exception—no one has come directly from France, the birthplace of truffle cultivation.

* * *

"As you might imagine," Lefevre begins, one hand casually resting in his pants pocket, "I'm stretched a little thin this week. But after you've dreamed of something for so many years, to actually see it happen is a wonderful thing. Welcome."

In fact, the idea for an Oregon truffle festival sprouted four years ago, after Lefevre and Scott dined at the Joel Palmer House. In typical form, Jack Czarnecki touted the virtues of Oregon truffles and mushrooms as they ate, but he said something that, for the average Palmer House diner, would have melted into the rest of the dinner conversation like butter. But for the couple, it was a revelation. Czarnecki mentioned that Oregon could easily become the next Tuscany or Provance, especially with a regional truffle festival that would help romanticize the native delicacy. With full bellies and what Scott calls the "truffle glow," a happy state that allows for big dreaming, the couple fantasized about creating that type of festival during the drive home. As the months went on, they became more serious about the idea, and eventually visited Italy to do some research. Finally, they held the inaugural Oregon Truffle Festival in January 2006, and this year, every ticketed event sold out weeks before the doors opened, even the most expensive package, which set participants back $1,025 per person.

Onstage, Lefevre quickly explains the basic science of growing a truffle, the type of biology-textbook overview that could only serve as an introduction. He mentions the dangers of competing fungi that may already be growing in a *truffiere's* soil, and he seems to have grabbed the crowd's full attention with the mention of what could go wrong. But just as important, he says in a soothing voice, is the quality of the tree and the inoculation method that put the fungus on the roots. He pauses, and I expect to hear him explain how at New World Truffieres, quality is a top priority and that Lefevre himself guarantees every single tree he sells—in writing. Just ask anyone,

including his list of satisfied customers, who have yet to find one single truffle, but speak about their New World Truffieres purchases in the type of glowing sound bytes appropriate for an infomercial. But Lefevre doesn't even mention that he himself sells inoculated trees, which seems noble, except for the fact that every single person in the room already knows exactly what Lefevre does for a living. And that's just part of the genius of the Oregon Truffle Festival.

Harshly lit like a crime scene photo, two shriveled truffles pose for their close-up inside a small clear plastic container half filled with Arborio rice. "These came from a fine purveyor in Seattle," Lefevre continues, projecting his voice over an audience that seems to be hanging on his every word. "While they're labeled Perigord truffles and are being sold for $600 per pound, they're actually rotting white truffles." A few people gasp. "And that's the problem. Not many Americans know what to look for when shopping for, or selling, a truffle." That misunderstanding serves as the perfect segue into Oregon truffles, the most underappreciated truffles on the planet, Lefevre says. He explains that the market price for Oregon truffles does not accurately reflect their culinary value—a refrain that will become all too familiar over the course of the weekend. But the crowd seems distracted, still murmuring about the rotting white truffles.

Looking slightly embarrassed, Shannon Berch announces that the community college has double booked the lecture hall. The group will have to go elsewhere for the rest of the day. Like an explorer who has reached an unmapped land occupied by

natives, someone in the hall, one of the future truffle growers in the New World, yells, *"But we were here first!"*

* * *

The group slowly files into another sterile room at the community college, where they'll encounter the thing they now covet for its wildness, invisibility and price per pound—the French black truffle. Prepared by the Lane Community College's culinary students, the potential growers have the chance to dine on a three-course "French Black Truffle Luncheon." For many in the room, this will be their first taste of the delicacy.

I pull up a chair next to Aaron Kennel. "Stella is doing great," he reports. "Really making progress." In fact, he explains, Stella was called to duty just last week when a man in Tennessee, former mycologist Tom Michaels, found a few rotting black truffles under a layer of leaves surrounding the oak trees he inoculated himself seven years ago. Shocked that his experiment had finally come to fruition, Michaels called Lefevre in desperate need of a truffle dog to help harvest his underground crop. A few days later, Kennel and Stella were on a plane bound for Tennessee, where the dog helped find a couple pounds of ripe Perigords.

Kennel produces a small Tupperware container filled with rice and one black French-Tennessee truffle sliced neatly in half. "Nice marbling, huh?" he says. I lean close to the container and inhale.

"I'm getting chocolate milk," I say.

"Well, everyone's different."

Despite his dedication to Stella, Kennel says he's considering getting a second dog for truffle hunting, one with more "play drive," a term that has just been introduced to the Festival attendees by Oregon narcotics enforcement agent Todd Swendson during a presentation on dog training. Swendson, who happens to be seated at our table, waits for the first course to arrive and explains that the more a dog likes to play, the more it will make a good truffle dog. For example, his German Shepard, which has been working as a narcotics dog for years, considers the hunt for cocaine and truffles an exciting game. "As soon as they find a truffle, give them something to chew on," he advises Kennel, "which will shoot their play drive through the roof." He produces a stack of PVC pipes that have been drilled with small holes and filled with traces of either white or black truffle oil. Those sticks serve as truffle hunting foreplay for his dog—a friendly go-fetch introduction to the scent that will inspire hours of work cleverly disguised as fun. (During his presentation, Swendson said he abhorred the use of food to train dogs.)

The first course arrives, and as we pick at our greens, a copyeditor at *The New Yorker*, who's planting truffle trees on some family land in Mendocino, says, "This doesn't have any truffles in it, does it?" We glance at our menus: *Spring Greens with Pomegranate Vinaigrette*. Nope. Culinary students rush around the room with plates in hand and I wonder if they ever thought they'd be serving black truffles to internationals on a Friday afternoon in rural Oregon.

The second course, *Sole Paupiette with Shrimp Farsi in a White Pinot Sauce*, seems mysterious even before we see it. Admittedly, no one at the table knows what *farsi* means. We silently contemplate the implications of *paupiette*, presumably because no one wants to admit their ignorance of the French language to one of our dining companions, Pierre Coustans, a Frenchman who has traveled here from Virginia, where he currently lives with his wife. He plans to plant his first truffle trees soon, he tells us, but already knows the experience will differ from the truffle growing that takes place in France. "There, you see little flies hovering above the ground," he explains, "*mouches de truffes*, which indicates a truffle exists. We will never have those flies in the U.S."

The seafood dish arrives: a rolled form covered in a gooey white sauce. Each person at the table slices into a shrimp roll, then chews with looks of intense concentration. Instantly, confusion ensues.

"It doesn't say truffle on this card," Kennel says.

"Yeah but this is a truffle luncheon," replies a woman from Portland who manages her family's farm in Oregon wine country and is considering planting a new crop.

"Let's ask someone," says the copyeditor. One of the servers, a timid looking girl with thin brown hair, meekly replies that yes, she believes the dish contains Perigord truffles.

"I see little flecks of black!" Kennel blurts out with excitement. "Yep, there are truffles in here."

But no one seems bowled over by flavor, and while I'm more than willing to experience the richness of a Perigord, my imagination only takes me so far.

Eventually, dessert and coffee appears, and around the room, people are smiling and nodding into their dessert flutes. At our table, everyone slowly spoons the white chocolate mousse layered with chocolate ganache into their mouths, like children tasting something new that adults seem to like, but are unsure if they're ready to accept the rhetoric. Finally, murmurs of approval. Everyone tastes truffle, that is, everyone except Coustans. "No," he says, scooping large spoonfuls of the mousse into his mouth. "I'm getting no truffle sensation here." The rest of table looks slightly dejected, like they did when he mentioned the truffle flies. Just one more piece of evidence of American inferiority.

"It's like the emperor's clothes," Leslie Scott tells me the next day. "You can see some people nodding their heads saying, 'Mmm huum this is sooo good,' while others admit they can't taste a thing."

After the luncheon, various presenters continue to ply the crowd with truffle info. In one presentation about truffle marketing later in the afternoon, Todd Spanier, an exotic mushroom purveyor from the Bay area who likes to be called the King of Mushrooms, admits that he'd supplied today's chefs with two handfuls of top-quality Perigords for the luncheon.

"For all those truffles I gave them," he says, "where was the truffle love? If you tasted truffles this afternoon, I'm sorry, but you have no palate for truffles." A few potential growers shift in their chairs. Spanier sees Lefevre in the back of the room.

"That guy must have taken off with them, Charlie. Let's go get him!" he jokes. Spanier pounds his fist into the palm of his other hand. Lefevre shrugs his shoulders and looks uncomfortable as beads of sweat break out on his forehead.

* * *

The next morning, a few attendees look like they may have had one too many truffle martinis (made with vodka infused with Oregon white or black truffles), or simply too much Oregon pinot noir. But it's time to forget about the Oregon truffles and focus on the real task at hand: propagating the French blacks, which may or may not have been tasted yesterday.

Instructors Carlos Colinas, and his wife Christine Fischer, have traveled from their home in Spain to teach this course. They brought their daughter, a bored-looking nine-year-old and the only person at the Festival too young to legally taste a truffle martini. On the white board at the front of the room, she's drawn a series of red trees that start out small, like bushes but get bigger toward the right. Under the roots of the biggest trees, she's placed small black dots, and above the trees hangs a big yellow sun—a child's view of happiness.

While yesterday the course focused on the ideal soil conditions, weather and host plants for a successful truffle plantation, today Colinas and Fischer plan to deconstruct the biology of the truffle. Fischer explains how she and her lab team are hired by truffle growers to test sample seedlings for truffle fungus. It's a tedious process that requires the tester to peer into a microscope for hours that add up to days,

examining a minimum of twelve plants from each lot of six hundred trees. Fischer looks for the development of the ectomycorrhiza, the body of fuzzy tips that show the fungus has successfully propagated. If she sees a minimum of nine hundred ectomycorrhiza tips per tree, Fischer considers the tree successfully inoculated. Then she looks for competing fungi and other contaminants that could prevent the truffle fungi from thriving and actually producing truffles before making her final decision.

"Have your seedlings examined by an outside expert before planting," she tells the seminar attendees. "It's very important." In Spain, the government subsidizes the testing service—for $250, a truffle grower can have ten trees tested. But in the United States, the same examination costs $500.

A man in the back row wearing cowboy boots raises his hand.

"Can you inoculate your own trees?" he asks.

"Let me put it this way," Colinas replies in his thick Spanish accent. "Should you buy your own car or build your own car? We still don't know what triggers fruiting!" Maybe we haven't learned that much since the days of the Romans and their theories about lightning sparking truffle growth.

The couple sets up microscopes around the room, each of which has a scrap of paper next to it describing the specimen under the glass. Oak with *Tuber melanosporum* looks like a close-up of a potato pancake laced with droplets of water. Hazelnut with the *tartufo bianchetto* fungi shows long, yellow fingers reaching into empty space. The potential truffle growers circle around the room, peering into the lenses and burning into their memories the glimpse of an invisible world.

Just as one of the attendees presses his business card into my hand, a card that lists a Saudi Arabian oil company as his employer with an address in Dhahran, a man in a plaid shirt raises his hand. "Why don't we cultivate the Oregon truffle here in Oregon? Why not grow what grows naturally here and not become Mother Nature and alter major things like the PH of soil?"

The room goes silent. Colinas and Fischer look momentarily taken aback.

"Why don't we cultivate the price and the culinary interest in Oregon truffles and not try to play god and alter the earth?" the man continues. "I mean, weren't people dismissing Oregon's pinot grapes thirty years ago just like they're doing now with the truffles?"

"It's an apt comparison," Fischer replies. "But I don't think Charlie has been able to successfully cultivate the Oregon black or Oregon white."

The plaid-shirted man turns out to be Christopher Shockey, who along with his wife recently purchased a farm above the fog-line in Applegate, Oregon, just north of the California border. Recently laid off from his job at Hewlett Packard, Shockey is exploring various methods of earning a living off the land.

When Lefevre arrives, Shockey and his wife corner the festival organizer for an extended conversation, and I imagine they're talking about the possibility of cultivating Oregon truffles.

"What did he say?" I ask Shockey after Lefevre has moved on to answer questions from other attendees. "Will it ever be possible to cultivate an Oregon truffle?"

"Let's just say that I'm skeptical whenever the person providing you with all the information is the one selling you something," he replies.

"But it's just not possible to cultivate Oregon truffles, right?"

"Maybe Charlie just doesn't want to cultivate an Oregon truffle."

* * *

The site of the emperor's-new-clothes Perigord luncheon has been transformed for the Academy Awards of the Oregon truffle scene—the Festival's Grand Truffle Dinner. A field of round tables holds two-hundred-and-fifty-four plates, one for each person who's ponied up the $150 for the five-course dinner. As people stream into the room, table assignments in hand, a string quartet plays on the stage at the front of the room. Because many of the men in suits and women in gowns have been attending other activities at the Festival, the scene feels like the dinner hour on a cruise, where everyone has been traipsing around in bathing suits and flip flops, but now must try to recognize faces painted with makeup and bodies covered in pressed clothing.

Potted evergreen trees strung with tiny white lights separate a series of poster-sized black-and-white photos: Lefevre sniffing a small black truffle with eyes closed and a transcendent look on his face and a close-up of circle of hands cupping truffles. In one photo, John Getz crouches next to his dog, Katie (the pooch that came before Snoopy), in a forest that looks so familiar, I wonder if it's the same spot I visited with him and Connie Getz.

Then, I see the truffle hunting legends themselves. John looks out of his element, like a wild animal that's been domesticated and lost its will to fight, his thinning hair exposed without his usual baseball cap and an ironed dress shirt revealing his permanent slump. Connie, on the other hand, carries herself proudly as John leads her to her seat.

"We didn't want to come to the dinner," John tells me.

"Why? I thought you guys liked eating truffles." I say.

"It's not that, we just didn't want to take up the seats," he says. Connie nods. "But Charlie said we had to be here or it just wouldn't be right."

"Isn't this exciting?" Connie says. "We are sooo happy to be here."

I ask about Snoopy, who I'd heard had been mauled by a pit bull right before a truffle hunt created specifically for collecting the necessary poundage for this dinner. Again, I think of our day in the woods, and how the pit bull that lived across the street from the patch barked aggressively, as though the dog knew we were about to raid the forest of its valuables. If John and Connie were in the same place, I can easily imagine the scene—Snoopy off leash, snarls, raised fur, an uncontrolled bounding across the street, bared teeth, ripping.

"I saved him," Connie says. "Got that big, mean dog away. Imagine that. He's my baby. I just couldn't help myself." That part is harder to imagine, Connie blindly wrestling with a pit bull. But I believe her. Now Snoopy, who John says had been taking to truffle training like a champ, is alive and recovering at home, off the hunt for a bit.

But the incident cost John Getz a valuable day of truffle hunting, which in turn, created additional stress for Jim Wells, "Mr. Truffle."

At 6'1'', Wells stands out in almost any room, but tonight he's particularly noticeable. With a scraggly, mostly white beard that comes to a point halfway down his chest, Wells looks like an old, wise wizard, a Lord of the Rings character in the flesh. Tonight, his hair, a darker version of his beard, is pulled sleekly into a red scrunchie that matches his tie, a departure from his typical tie-dyed t-shirts and rainbow suspenders. Even in Eugene, a town where *Electric Koolaid Acid Test* author Ken Kesey died and dreadlocks sprout like dandelions, Jim Wells is an eccentric.

Wells is the kind of guy who likes to have a cause, a fact he'd made abundantly clear ever since I started plying him for truffle information. But getting direct information from Wells had been difficult from the beginning—he wanted to look me in the eyes and see what kind of person I was before going on record with any facts, telling me he'd been burned by journalists in the past. When we finally met over burritos, he started dissecting the principles of truffle ripeness and maturity like a scientist, unfolding his statements with precision and logic.

Since 1969, Wells has been selling wild edibles, from pears and porcini to watercress and winter squash. He encountered Oregon truffles in the early 1990s, deciding that the industry was too risky and green for any personal involvement, but came across the truffles again about a decade later. He met Charles Lefevre and discovered that the industry had not developed as he'd assumed it would, thanks to

severe raking practices and what Lefevre deemed a severely devalued product. Wells vowed to change things.

But not everyone likes his approach.

"Jim Wells acts like he's god's gift to truffles," says Eric Jones, a mycologist and former mushroom picker, "but he's alienating many commercial harvesters with his attitude. Sure, they're not all angels and are all types of people with varying skill levels. Everyone has room to improve their knowledge. But Wells has done a good job of making them feel alienated and unwelcome."

To explain his case, Wells likes to tell a story. A woman marries into a family and goes to Thanksgiving dinner at her in-laws' house. Every year, she notices that her mother-in-law brings the turkey to the table cut in half, and that it is clear that it has been cooked that way. Finally, one year, she asks, "Why do you cut the turkey in half to cook it?" "That's the way I learned to do it from my mother," the mother-in-law replies. The woman goes to that mother, and asks her why she used to cut the turkey in half to cook it. "That's what my mother always used to do." She goes to that mother, asking the same question. "My oven was too small for a whole turkey to fit into it, so I always cut it in half."

While the story could provide a metaphor for any number of scenarios of human habit, Wells finds it particularly apropos. "Much of how Oregon truffles have been dealt with is the result of devising techniques to minimize losses within a system of mass-market wild mushroom purveying," he explains. "That context itself is the oven. I developed *my* handling procedures to maximize quality via trial-and-success

within a system of specialty food marketing. As long as Oregon truffles are being excavated, bought and purveyed by those who see them as just another wild mushroom, albeit a very expensive one, they will have to continue to mutilate them to fit them in their ovens."

For the second year in a row, Lefevre assigned Wells the task of collecting all the truffles needed for the Festival—fifty pounds total—which covers the special weekend truffle menus at multiple restaurants in Eugene, the Grand Truffle Dinner and Sunday Marketplace, where visitors can purchase fresh black and white truffles from Wells himself. A week before the Grand Dinner, I called Wells to see if he was going to meet the fifty-pound goal. "I don't know," he said. "I just don't know. I'm tapping all of my sources and even turning down orders." He reported pulling all-nighters, hiring extra people to help him grade truffles and driving to remote corners of the state to pick up even the smallest quantities of truffles. He was even starting to buy frozen truffles from other people, just in case.

"What will you do if you don't get enough?" I asked.

"I can't think about that right now," he replied. "The Festival is a means to establish Oregon truffles as world class gem. Therefore, it's critical that all the truffles that people eat in the meals are the best. Without primo truffles there isn't a chance." Of course, in certain dishes and at certain moments, truffles stand out more than others—when shaved atop anything, in desserts and when Wells poses for photos. I knew that as Wells was buying, weighing, sniffing, nicking, sorting and squeezing

every truffle for the Festival, he was thinking about them as pieces of a puzzle for various moments of the three-day event.

"I'm not just a supplier, but a promoter and an educator," Wells likes to say. "It's tricky. Many of these chefs haven't worked with quality truffles in the past. Part of my role dealing with these chefs at some point, gently, creatively, making sure they're not going to use truffle oil. Last year, one of the chefs [at the Grand Dinner] put truffle oil in one of the dishes. We were not happy."

As a team of servers begins to deliver the first course, tuna crudo with celery-anchovy salad and shaved truffle, the emcees strike up a banter. "We've got some people to thank," they say, reading from note cards in hand. "The kingpin," one of the emcees yells. "Charlie *le fever eh*!" Lefevre winces at the mispronunciation, looking like he'd rather be anywhere else, and smiles sheepishly. They continue. "And how about the man who got all these truffles here for you tonight, Mr. Jim Wells!"

At the announcement of his name, he stands, slowly raising his two arms above his head. In each hand, Wells holds impressive truffles: a large black and white in one hand and a single black that must weigh close to half a pound in the other hand. He smiles smugly and turns slowly so each corner of the room can get a good look at his loot. Photographers scramble to his table and the crowd *oohs* and *ahhs*. Camera flashes create a strobe-like effect. "These are the largest Oregon truffles ever found!" one of the emcees yells. A few diners rush over to the table, waiting for Wells to lower his arms so they can poke, prod and sniff the unique specimens.

The din in the dining room just ratcheted up a notch—the first course, which sported little shavings of white truffle overtop delicate slices of raw tuna, just enough pungent, garlicky truffle flavor to pique the palate, has been well received. I see Wells leave his table, where a few people are fondling Oregon's largest truffles, and head for the kitchen. I follow, hoping to see how he's managing the people who could make or break the reputation of Oregon truffles: five local James Beard-award-winning chefs, including the self-proclaimed truffle master of the West Coast, Philippe Boulot.

Notably absent? Jack Czarnecki. When I first saw the chef lineup I read it twice, thinking that somehow I'd missed Czarnecki's name. As a major player in the first year's events, and as the only chef in the country who finds his own truffles, I wondered how the festival organizers could have possibly failed to invite him. But even without the Czarnecki persona in the kitchen tonight, such a vast mixture of experience and personality in one room would surely create some heat. But as soon I push through the swinging doors, I sense calm. The cavernous kitchen, which is divided into rooms by white walls and stainless steel appliances, feels like a hospital, with harsh florescent lighting and absolute cleanliness. A few servers move swiftly through the rooms without saying a word. I walk through another set of doors, where, in complete silence, a team of white-coated prep cooks hover over rows of small white plates mounded with Dungeness crab salad. A few people stand on the periphery, arms folded, watching, as the black truffles mysteriously appear. Hunched over so their faces hover just inches above each plate, a handful of cooks begin to shave the truffles onto the crab salad in swift, precise motions. The scene isn't complete without

Philippe Boulot. With his coat rolled up to the elbows, the chef whispers something to one of the truffle shavers, closely watching her every movement. I know that not a single sliver of truffle will be misplaced on any of these two-hundred-and-fifty-four plates.

In another room of the kitchen, where a large pot boils unattended, Jim Wells and a white-coated sous chef for Portland chef Greg Higgins, are smelling a few white truffles that Wells produced from a small, crumpled paper bag that was stuffed inside his suit coat pocket. Greg Higgins and his team are in charge of the next course, a fingerling potato and truffle timbale.

"I saved this one for you," says Wells, producing a white truffle the size of a vending machine rubber bouncy ball. He smiles and waits for a positive reaction from the sous chef.

"Looks pretty good," the guy replies. Without taking his eyes off the truffle, he pulls out a small knife and carefully begins removing small concentrations of soil from divets in the truffle's surface. Wells sees me watching.

"Do you remember how to properly clean a truffle?" he asks me, sternly.

"Well, last time you showed me how to clean a truffle," I say, "you used running cold water and a soft toothbrush."

"Did I?" he says absently as he watches pieces of dirt landing on the steel countertop. "We must have been in a hurry."

Behind us, rows of servers carrying loaded trays begin marching through the kitchen. I see that the mounds of crab salad have been garnished with something

green, which shows off the slices of deeply marbled, black truffles. I'm drawn to the procession, thinking of how the creamy coolness of the salad might work with a ripe truffle. As I'm leaving the kitchen, I look back and see the sous chef, alone at a table covered with flecks of dirt, trying to persuade a trial timbale to retain form outside of its small metal mold. The shape won't hold.

* * *

The dining room has started to generate its own heat, as though it were on a path toward self-combustion, a strange combination of the critical and celebratory. As each course arrives, over two hundred people morph into food critics, poking and prodding their food, examining color, texture, smell and presentation, hoping to momentarily understand the elusive truffle. At my table, a local winemaker pours the fruits of his labor for a diverse group, including a state senator and his wife, a photographer and a festival volunteer with frizzy hair who goes by June Bug. Cheeks flush. Glasses empty before becoming magically refilled. Conversation veers wildly. Mr. Truffle's table sends up a loud cheer.

Philippe's course arrives like a jolt. As the fourth course, the final savory flavor before dessert, everyone expects a climax, the ultimate Oregon truffle experience, the one that will allow create a platform for a heated, dessert-course debate concerning the ranking of the native truffles when compared to their European counterparts. Most of these people long to take a stance and have paid for this Grand Dinner so they can do just that, both over dessert and for years to come.

A small tucked leg of *poussin* sits elevated over a thin sauce, the celeriac *mousseline*. We all dismantle the dish unceremoniously, with the ravenousness of Roman kings.

"I'm not tasting truffle," the winemaker says, attempting to reveal the emperor. Others protest.

"You haven't dug in far enough," someone replies, as though the winemaker merely lacked the work ethic of a diligent miner. "Keep going. You'll get it."

He concedes a few minutes later, but reluctantly. "Yeah, there's more here than I thought." He sighs.

The *poussin* has height because it's stacked on top a thick, dark layer of truffle-port compote, which each diner can only discover after some aggressive meat cutting. I remember the first time I asked Boulot about Oregon truffles and his impassioned outburst. Ironic that now, by merely pressing the *poussin* onto the compote, he's become on Oregon truffle booster. And there's nothing about Boulot's dish that hints at sabotage. But I can't help but notice the extraordinary amount of truffle compote on each plate, and wonder if Wells dug deeper than his fifty-pound requirement to enhance Philippe's product.

Later, I'd learn something that would have destroyed the evening, had it been revealed—Boulot enhanced his dish with a non-Oregon truffle, which, had he been cooking in his native country and had pronounced a dish Perigord but used another truffle variety, would be a crime worthy of jail time. At first, I suspected the worst, that the chef had been out to prove that Americans didn't know truffles and never

would. But it turns out Boulot was duped. His buyer showed him a mysterious Italian truffle and Boulot liked the brown color and subtle smell. For $800 per pound, the French chef bought what he considered a kind donation to the Oregon Truffle Festival, something that would gently enhance his dish, pushing forward the reputation of both his cooking and the Oregon black truffle. No one would know the difference. When Boulot revealed his secret weapon to Wells, the buyer took the mystery truffles to a few mycologists the day before the Grand Dinner and uncovered the truth. Boulot had paid an extraordinary amount of money for *Tuber himalayense*, a truffle commonly lumped into the category "Chinese." Boulot had served a Chinese truffle at the Oregon Truffle Festival.

At the moment of discovery, Wells says that Boulot exclaimed, "*Sacrebleu*!" But instead of throwing the truffle in the trash or confronting the seller, Boulot pushed forward as planned, creating a dish that many diners were calling their favorite out of all five courses.

* * *

At some point between finishing Boulot's course and being told by the winemaker at my table not to drink coffee after dinner because it would ruin my palate for the rest of the night, I find myself gravitating toward three truffles sitting delicately on the edge of a round table, the three that Wells had held up earlier for the crowd. John and Connie Getz sit a few feet away, leaning close to each other. Charles Lefevre is making the rounds, looking embarrassed as people ask him to sign their menus from

the evening. I hear Wells telling a journalist from Canada, *"Nobody else could have done this but me."*

I press forward, longing to have a private moment with these specimens, the poster truffles for this year's festival and the symbols of the ongoing work of a small group of people who believe in the possibility of change. As I get closer to the trio, I realize that one of the black truffles is wrapped in thick, beige rubber bands, which appear to be holding it together. Each piece was gently placed back in its correct spot to create a strange version of the original.

"Jim, what happened to Oregon's largest black truffle?" I ask. "It looked fine a few hours ago."

"It was never fine," he says. "I sent it to a photo shoot in New York City, to a magazine called *Details* that was covering the world's greatest luxury foods. While I gave them specific instructions on how to refrigerate and ship this particular truffle, they seem to have chosen to ignore my orders. By the time they sent it back to me, it was rotten." I pick up the truffle, an ugly Frankenstein composed of disintegrating parts brought to life by Wells, the mad scientist who had held the truffle in his hand in just the right way, *sans* rubber bands, when he posed for the cameras. With my fingers grasping the familiar, warty roughness between strips of rubber, I bring the truffle up to my face toward my nose.

"I recommend that you not do that," I hear Wells say from a far off place, as though he's an echo reverberating inside a long, dark, earthy passageway that could lead nearly anywhere, from a glorious marble-walled cave to a disappointing dead

end. But the truffle is calling me, asking me to inhale its essence—only then will I truly understand. I close my eyes and inhale, drawing the truffle through my nostrils and into the caverns of my head in one even breath. Instantly, the smell knocks me back, and I feel as though I've sunk into a murky bog, a place where ancient ribcages pierced with arrowheads mix with thousands of years of decay. And I do understand. This show pony, the truffle that would make festival attendees drop to their knees in adulation, was mishandled and misunderstood by a cruel world. It reeked of demise. It returned home from the outside battered and scarred, but to its proud parents, this truffle still deserved proper respect, even if rubber bands were needed to make it work.

* * *

A few weeks later, I'm sitting shotgun in Jack Czarnecki's Subaru where heat blasts from the vents to counter the cool, early morning air. We're waiting for Chris Czarnecki, Jack's youngest son, who is currently being groomed to take over the Joel Palmer House and become a fourth-generation restaurant owner. The three of us are going to hit a newly-discovered winter white truffle patch, a Douglas Fir stand owned by Jack's physician, whose given him permission to truffle hunt in exchange for a few dinners at the restaurant.

"I was surprised you weren't at the Truffle Festival," I say.

"Yeah, well, I lost a few of my favorite chanterelle patches to logging operations this year," he says, "and I just don't want to contribute to that type of destruction by promoting Oregon truffles." He stares straight out the front window of

the car, gripping the wheel with both hands. He takes a deep breath and glances toward Chris' front door, which remains closed.

"But I have to say," he suddenly blurts out, "I saw an article this week that really got me going and made me think twice about the whole thing. It was that one in *The New York Times* about the guy in Tennessee who grew the Perigords on his land."

"You don't like the fact that he cultivated them?"

"No, that's all well and good, but the way the writer gushed over Perigords? That truffle continues to be completely overrated and to see it in print yet again? I mean really, it's all about reputation. What did Bertrand Russell say about things being relative? Well it's all relative, to be sure. I've thrown out a challenge to one of my food writer friends to do a real blind taste test with the Oregon truffles. I know we can destroy these misconceptions once and for all," he says, looking flustered.

"I'm sensing that you'll be back at the Festival next year," I say. Czarnecki sucks his breath through his teeth, as though he wants to tell me something, before shrugging.

I want to tell him about the Franken-truffle, the result of what can happen when the outside world pays too much attention to the Oregon truffle, but I keep quiet. He already knows. The front door swings open and Chris bounds out of the house, looking like he just rolled out of bed, in pants and heavy boots leftover from when he served in the army in Iraq.

Later, after four backbreaking hours in the woods (which produces four pounds of winter whites and spring whites), Chris and I will wait at the car talking about how

we wish we were eating lunch. Then we'll pause, listening for the sound of a man who can't stop raking and doesn't want to leave.

Higgins' Potato Timbale of Oregon Truffles & Chevre

1-1/2 lbs. potatoes, peeled and diced

12 oz. chevre, crumbled

4 eggs

1-1/2 c. half and half

4 oz. black and white Oregon truffles, sliced

Salt and pepper, to taste

1 c. sugar

1 T. black pepper, coarse grind

2 T. balsamic vinegar

In a medium saucepan cover the potatoes with salted water and cook till tender. While the potatoes are cooking combine the sugar with ¼ c. of water in a small heavy bottom saucepan. Cover loosely and bring it to a boil over medium high heat. Continue cooking till the syrup takes on a rich golden brown color (10-15 mins.) Remove from the heat and add the balsamic vinegar and black pepper, taking care as you add it to cover the pan quickly to avoid being splashed by the hot syrup.

Pour enough of the warm syrup into each custard cup to just cover the bottom. When the potatoes are cooked through and tender remove them from the heat and drain well. Put the potatoes through a ricer or food mill and combine them with the chevre, truffles and half and half. Mix evenly. Whisk in the eggs and season the mixture to taste with salt & pepper. Fill the custard cups evenly with the potato mixture and place them in a baking pan.

Add hot water to the pan to create a *bain marie* and cover it tightly with aluminum foil. Bake at 350° F until just set, for 40-45 minutes. Remove from the oven and uncover, allowing the timbales to rest in the water bath for 10-15 minutes. Slip a thin knife around the inside edge of the timbale and invert it onto a plate. Remove the cup and garnish the timbale with salad greens, crumbles of chevre and freshly shaved truffle slices.

Yields 6-8 timbales

The Undiscovered

After the Truffle Festival, I feel lost. Overwhelmed by cream sauces and wine lists, I had lost touch with something important. So I decide to do some digging. Because I live within a one-hundred-mile radius of the majority of members of the North American Truffling Society, I can join any member of the public at one of the monthly truffle forays. All you have to do is show up. That's how I find myself an hour outside of Corvallis, Oregon, past a small airstrip surrounded by fields, through the town of Alsea, population 1081, over the car-sick-inducing Mary's Peak and down nine miles of twisting washboard, watching a handful of members of the North American Truffling Society huddle around a bend in the road.

In the early moments of the field trip, I realize that everyone else is holding the standard long, wooden handled rake topped by four slightly curved tines, the kind I'd seen Jack Czarnecki and John Getz grip for hours at a time. In addition to a rake, I do not have: a wicker basket with a handle, pocket-sized logbook and pencil, small wax paper bags (for storing truffles and if needs-be, mushrooms, without causing them to get slimy as they would inside a plastic bag), gloves, a knife, an identification book and a true sense of our motivations as a group.

Sylvia Donovan, whom I'd met at the truffle potluck, hands me a small hand rake with just three tines, a tool that must serve as her backup. "You're going to need this even though we're not going to find anything today," she says as she digs through her wicker basket, looking for something that she never finds. "Driest year since I started going on these field trips five years ago. I'm surprised anyone showed up today." But about twenty people have assembled for the hunt, including Trufflemaster Matt Trappe, the leader of all Saturday forays.

As Trappe counts heads and explains that in a few hours, we'll meet back here at the bend in the road for lunch ("we're hoping everyone brought their own supplies for that part," he mutters), Donovan slips into the woods, pushing through a green underbrush covered in a fine layer of brown dust. The other truffle hunters scatter just as quickly as they'd gathered, a tiny army clad in L.L. Bean clothing and practical shoes, innocuous even as they deftly wield sharp rakes. Just twenty feet from Donovan, who delicately pushes aside sticks and runs her hand over tree roots, a 79-year-old man and his teenaged grandson bend over a small hole in the ground, the kind you'd step on without thinking twice during a pit stop just off a hiking trail. "Nope," the elder advises his progeny. "See those spider webs inside the hole? Keep moving." Just like Getz, this man knows to look for places where animals may have dug for a taste of a truffle. He also seems to know that when the holes look like they were made more than few days ago, it's wise to assume the truffles in that patch have already been consumed. The grandson nods intently. "Sure thing, Grandpa, looks old to me, too."

As quickly as everyone gathered, they have dispersed; I see only a few people in the forest, but can hear the distant sound of branches cracking. "I found something!" Donovan yells, beaming into the palm of her glove. Grandpa and grandson hustle to her side despite a thick barrier of dead tree branches. "Well, I'll be damned," the grandpa says, peering over her shoulder. "A *Hysterangium*? Well, I never."

"I can't believe I found one just like that!" Donovan says, breathless with excitement. I peer over her shoulder, anxious to see a truffle that hasn't been shaved, diced or stuffed into a rich dish. She pulls a pocketknife from her wicker basket and cuts the grayish white, nickel-sized lump in half. The olive-green interior looks soft and rubbery, marbled with small white veins emanating from one side. "*Hysterangium separabile*, I'd guess," she says, gently pushing the two halves together and slipping the truffle inside a wax paper sandwich bag. Immediately, she starts scanning the ground with her eyes. Where one truffle grows, others follow.

I start seriously inspecting the dirt. "Whoa, cool, we totally found one," I hear the grandson say from behind a Douglas Fir. Staying focused, I grip the rake in my hand until I see a patch of ground pockmarked by small holes. My rake tugs at the earth, ripping through small roots and uncovering a web of spidery white filaments, other types of subterranean fungus that I want to believe sustains a truffle. Just as I'm reminding myself that all truffle fungi are invisible to the naked eye, I spot a tiny lemony-yellow pellet. I pluck it from the hole with my bare hands. It feels spongy between my fingers and smells faintly like suntan lotion.

I stumble through the dusty brush, over logs and between branches strewn with sap, gently cradling my find in my palm until I reach Grandpa, who seems somehow trustworthy. "Look!" I say. "It's a truffle right?" The old man sniffs. "Sure is, a *Truncocolumella citrina.*" I feel baffled, yet surprisingly proud. The *citrin* part of the name seems appropriate, with its citrusy color and tropical scent. But most likely, the name has nothing to do with how the truffle looks or smells—just consider the *Tuber* classification for truffles, which has nothing to do with tubers or potatoes but simply describes a type of fungus.

"Well, what do I do with it?" I ask.

"Donate it to science," he replies. "That's why we're here. Every time we find a truffle we don't want to keep, we give it to Matt and he takes it back to the lab."

"He wants to look at it under a microscope?"

"He wants to see if you've made a new discovery," he says. "I'll never forget the first time I found a truffle they'd never seen before. Named it after me, if you can believe it. That's when I realized why I like coming out here. There's so much about nature we don't know."

I let my little pea of a truffle roll into his open wax paper bag and felt satisfied. Sure, my truffle already had a name, and it wasn't going into any omelets, but somehow, I'd just made my first contribution to science. Underneath my feet, possibilities spread out like translucent creatures in deep crevices on the seafloor—undiscovered objects waiting to be found.

* * *

As soon as Sylvia Donovan said the line, I knew she'd attract some followers. "I dreamed about this spot," she announces in a forest outside of Sweet Home, Oregon, a town that may have better fit its name before fast food chains and car dealerships soured the main drag. "I swear it's like I've been here before," she says. "They were bulging out all around. The truffles. They were everywhere."

"She's amazing," a gruff voice behind us mutters. "There's something about her methodology."

It's my second NATS foray, and again, I'm holding Donovan's spare rake and another borrowed item: a canvas tote bag adorned with buttons, coins and sparkly paint that was given to me by a guy who'd just moved here from Illinois. He seemed hungry to delve into the forest, and his stash of bags and baskets made it seem like he expected to find an abundance of truffles. I wanted to squash his hopes of a delicious dinner peppered with local truffles by telling him tales of what he'd really find—a rainbow of non-edible truffles that become lab material. But I couldn't do it, because despite my experience on the last foray, I felt optimistic. Why wouldn't I find edible truffles today? The thought had pulled me into the forest, but once I was off the road, I felt lost.

Then I saw Donovan's small frame moving slowly through the woods, just moments before she mentioned her dream. Her words drew five of us, but we all maintained our distance, pretending to be following our own dreams as we scoured the ground, looking for animal signs and big bulges under the dirt. But by watching the

group, it's obvious that each of us is ready to pounce; as soon as Donovan finds the spot revealed by her subconscious, we'd descend to "help" her uncover a treasure trove.

Among the sparse and thin fir trees, which suggest that area was logged sometime during the past fifty years, a large deciduous tree sprouts from the forest floor like an unstoppable weed, each branch protruding directly from the ground, a floral bouquet tied with a tight underground root system. "A filbert," Donovan says just loudly enough so that those of us skirting her personal space can hear. It's obvious that she's accustomed to becoming a pied piper during NATS outings. Filbert trees, otherwise known as hazelnuts, host a few types of truffle fungi, making them favorites for cultivators hoping to propagate the Perigord and other European varieties. In fact, Charles Lefevre once told me that many of his clients justify planting truffle farms that may not fruit with a surprising consolation: "At least we'll have hazelnuts." "I hear that line more times than you'd believe," Lefevre said. But in Oregon, which grows 99.9 percent of the country's hazelnuts, the trees also grow wild, just like this one.

"I found one!" Donovan yells and within seconds, an even larger crowd has gathered around her kneeling figure to witness her find. "Oh good for you! Good for you!" says one woman, who has started scanning the ground, looking for a spot to start digging. And she's not the only one. Suddenly everyone within earshot is looking down, propelled by a strange combination of competitiveness and hope. I watch as Donovan carefully removes the soil from around a golf ball-sized white truffle, but she quickly slips it into her basket, unconcerned with its species, genus or family. They'll

be time for analysis later. And even though I want to examine the truffle, hold it close as I inhale slowly and deeply, I decide to keep my distance, an appropriate sign of respect. Donovan keeps digging with her characteristic caution—carefully scraping aside a minimal layer of duff with her rake before smoothing it back over with garden-gloved hands.

We continue like this, a small group pacing around Donovan and watching her find truffle after truffle, until some hands become cold and numb and interest wanes. Frustrated by my empty sparkly bag, I wander until I see a small dirt path, an overgrown former logging road that leads to the parked cars, which sit on the edge of steep hill lined by bushes covered in shriveled blackberries. As I walk along the path, I see large patches of freshly overturned earth, not moguls like I saw with the Getzes, but deep crop circles created by someone who obviously wasn't concerned with replacing the duff. They look professional, like someone was cleaning out the forest with a knowledge of how to earn money from its fruits.

Ahead of me I see a large man deftly moving through the underbrush. He's wearing dirty tan-colored clothes and gripping a large paper bag that's been rolled into a soft, carrying case. Instantly, I know that he's done the heavy mining. I pick up my step, trying to get close to him. I need to know two things: what he's harvested and if he'll be earn money for whatever's in the bag. After all, up until now I've failed to connect with a real truffle hunter (aside from John Getz, who claimed he didn't sell them anymore). But this man is moving quickly.

As we reach the clearing, the trees give way to a sharp, metallic blue sky and glints of sunlight reflected from side mirrors and polished metal. I notice an old truck topped with a dirty cab, the kind of vehicle you might see parked at remote campgrounds on unmapped roads. It looks held together by wire—worn, battered and loved, like someone's permanent home, the shell for a mobile person. In the passenger seat, a wrinkled woman with wiry gray hair bobs her head in sleep. And while I thought I was fresh on the heels of the suspected truffle hunter, I stand alone. I vow to wait for as long as it takes to confront him. I need to know why he unearths the unripe and the overripe, why he's willingly contributing to the cheapening of the Oregon truffle. I want to know if he's thought about training a dog, about learning about the various culinary uses for the Oregon truffles. But there's something about the truck, where the woman still sleeps, that makes my questions seem misplaced.

NATS members begin to trickle out of the woods, the least successful first. They pull out peanut-butter-and-jelly sandwiches and tortilla chips and start to talk about things like tooth jelly fungus and rhizopogons (otherwise known as "pogies" among the group), a type of fungus that produces "false truffles," which look like real truffles until you cut them open and examine the interior. But I keep my cold hands in my gloves and scan the forest for the stranger. Finally, he emerges, head to the ground as he shuffles across the road.

"Hey wait," I say, moving toward him. "Are you a truffle hunter? Do you sell the truffles you find in the woods?"

He averts my eyes and steps past me, to the truck. The woman wakes and looks startled.

"No," he says softly. "I wouldn't do that."

And then he's gone, puttering away in the decomposing truck with a woman who could be his wife or his grandmother.

"I can't believe this," I say to the nearest person, who happens to be Donovan, who has just emerged from the forest wearing a satisfied grin. "That guy had to have been a truffle hunter, but he denied it when I asked."

"Oh that's Sam," she says, matter-of-factly. "He probably just didn't want to talk about it."

Only then do I realize that while I'd been staring at the forest, a gauzy layer of clouds had covered the sun, casting a strange muted light over the scene. Without light or shadow, the division between what lives above ground and what lives below had become muddled. There was no separation.

Truffle Tart with Stilton and Stinging Nettles

You can use white or black, French or Italian truffles for this. Also any aged blue cheeses, such as Roquefort or Gorgonzola can be used instead of Stilton, and spinach can be substituted for the nettles. If you use fresh nettles, be sure to handle them with gloves until they have been cooked.

1 small onion, finely diced

1 garlic clove, minced

1 tablespoon thinly sliced fresh truffles (canned may be used, but use the juice in the custard preparation)

2 cups fresh stinging nettles or spinach

2 tablespoons butter

Salt

½ cup milk

½ cup heavy cream

2 eggs

1 prebaked 9-inch pie crust

5 ounces Stilton cheese, crumbled

Preheat the oven to 450° F. Sauté the onion, garlic, truffles, and nettles or spinach in the butter for 1 minute over medium heat, then cover and cook over low heat for 5 minutes. Remove lid and stir. If greens are not completely wilted, cover and cook until they are. Salt very lightly.

Meanwhile, beat the milk, cream, eggs, and, if using canned truffles, 1 tablespoon truffle liquid.

Place the truffle mixture on the bottom of the pie crust, spreading it evenly. Then sprinkle the Stilton over the mixture. Cover with the milk mixture, submerging all the cheese under the liquid.

Bake the tart for 10 minutes, then reduce oven to 350° F. and bake for 20 minutes more. Check for doneness by piercing with a fork, which should come out clean. Let rest for 15 minutes before serving. This tart can be cooled to room temperature, refrigerated, then reheated for 7 minutes in a 325° F oven before serving. Serves 6.

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Works Cited

Alford, Katherine. Caviar, Truffles and Foie Gras: Recipes for Divine Indulgence. San Francisco: Chronicle Books, 2001.

Arora, David. "The Way of the Wild Mushroom." Wild. Fall 1999 Vol. 52:4.

Black, Jane. "Cultivating a Mystique." The New York Times. 1 March 2006: F1.

Brillat-Savarin, Jean Anthelme. The Physiology of Taste. Trans. M.K.F. Fisher. Washington D.C.: Counterpoint Press, 1999.

Burkhard, Bilger. "The Search for Sweet." The New Yorker. 22 May 2006: 40-48.

- - -. "Mushroom Rush; The Search for an Elusive Delicacy." The New Yorker.

20 Aug. 2007. 62-.

Burros, Marian. "Food for the 80s is Decidedly American." The New York Times. 11 Jan. 1984.

Civitello, Linda. Cuisine and Culture: A History of Food and People. Hoboken, N.J.: Wiley, 2004.

Child, Julia, and Louisette Bertholle, and Simone Beck. Mastering the Art of French Cooking. New York: Knopf, 1983.

Cole, Leslie. "The Truth About Truffles." The Oregonian. 24 Jan. 2006: FD01.

Czarnecki, Jack. A Cook's Book of Mushrooms: With 100 Recipes for Common and Uncommon Varieties. New York: Artisan-Workman, 1995.

Duane, Daniel. "The Great Oregon Truffle Hunt." Bon Appetit Mar. 2006: 104-111.

Fabricant, Florence. "The Invasion of the Chinese Truffle." The New York Times. 15 Feb. 1995: C3.

Fountain, Henry. "Science Watch." The New York Times. 25 Aug. 1998: F4.

Gladwell, Malcolm. "The Bakeoff." The New Yorker. 5 Sept. 2005.

Glain, Stephen. "Truffles in the Sand." Gourmet. May 2007: 68-72.

Hara, Tatsuro. Method of Producing an Artificial Truffle. Sun Food Co., Ltd., assignee. Patent 4592913. 28 Nov. 1984.

Harmon Jenkins, Nancy. "White Truffle Fever Makes the Season Glow." The New York Times. 24 Dec. 1997: F5.

Hunting, Jill. "Sniffing Around." Bark Sept./Oct. 2006: 55-59.

Kunzig, Robert. "Black Gold." Discover, 2000.

Kurlansky, Mark. Choice Cuts: A Savory Selection of Food Writing from Around the World and Throughout History. New York: Ballantine Books, 2002.

Lichfield, John. "The Truffle Kerfuffle: Mystery Mushroom Vanishes." The Independent. 15 Dec. 2007.

Marin, Anna B. An Analytical and Sensory Evaluation of the Aroma Volatiles of Tuber Gibbosum. Diss. Oregon State U, 1985.

Macfarquhar, Neil. "Beneath Desert Sands, An Eden of Truffles." The New York Times. 14 April 2004.

O'Neill, Molly. "Coveted, French, and Now in Tennessee." The New York Times. 28 Feb. 2007.

- - -. "In Pursuit of the Wild Truffle, Let Your Nose Be Your Guide." The New York Times. 8 Nov. 1989: C10.

Moskin, Julia. "Just Purse Your Lips and Whisper 'Truffle.'" The New York Times. 11 Feb. 2004: F2.

Jaros, Patrik. The Joy of Truffles. Koln: Evergreen, 1998.

Patterson, Daniel. "Hocus-Pocus, And a Beaker of Truffles." The New York Times 19 May 2007.

Patterson, Rod. "When it Comes to Truffles, Dan Wheeler is Not a Man Who Trifles." The Oregonian. 8 March 1990.

Pepin, Jacques. "Buried Treasure." The New York Times. 10 Nov. 1991: 6.

Picart, Francois. Truffle: the Black Diamond: a historical, botanical, agricultural, economic and culinary perspective of *Tuber melanosporum*, the edible black mushroom and gourmet's delight. United States: Agri-Truffle, 1980.

Price, Asher. "Truffles in Texas? Turns Out It's a Trifle Too Tricky." Austin American-Statesman. 11 July 2005.

Schwaner-Albright, Oliver. "Georgia Gold Mine." The New York Times. 7 Nov. 2004: T1.

Sullivan, Walter. "Truffles: Why Pigs Can Sniff Them Out." The New York Times. 24 Mar. 1982: C7.

The North American Truffling Society, Inc. The Cookbook of North American Truffles. Corvallis: The North American Truffling Society, Inc., 1987.

Toussant-Samat, Maguelonne. A History of Food. Cambridge, MA: Blackwell

Reference, 1992.

Trappe, Matt, and Frank Evans and James Trappe. NATS Field Guide to Selected North American Truffles and Truffle-like Fungi. 2nd ed. Corvallis: The North American Truffling Society, 2006.

Trappe, James M. "The Orders, Families, and Genera of Hypogeous Ascomycotina (Truffles and Their Relatives)." Mycotaxon Vol. IX, No. 1 (1979): 297-340.

- - -. and Chris Maser. "Ectomycorrhizal Fungi: Interactions of Mushrooms and Truffles with Beasts and Trees." Mushrooms and Man, 1977.

- - -. and Daniel L. Luoma. "The Ties that Bind: Fungi in Ecosystems." The Fungal Community: Its Organization and Role in the Ecosystem. Ed. George C. Carroll and Donald T. Wicklow. New York: Marcel Dekker, Inc., 1992.

Wheaton, Barbara Ketcham. Savoring the Past: The French Kitchen and Table from 1300 to 1789. Philadelphia: U of Pennsylvania Press, 1983.