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AGAINST TERROIR

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We hear that Dom Perignon could taste a single grape from each arriving tub and know immediately by the taste where it had come from, and exactly how it should be blended with other grapes for the perfect champagne.¹ Brillat-Savarin tells us that Roman gourmands could taste Tiber fish and know whether they had been caught ‘between the bridges’ (i.e. in town) or lower down the stream.² This indissoluble bond between *place* and *taste* – a strong-as-steel yet nearly transparent strand which only a true connoisseur can perceive – is commonly referred to by its French name, *terroir*. I will argue here that it is nonsense.

I’ll list my conceits and other shortcomings straightaway. I’ll use the first person, not the polite and side-stepping academic third-person: there will be no ‘One can deduce then that...’ This is a personal polemic born of my own experiences (and lack thereof) and I leave to the reader to decide if my arguments are convincing enough to merit the third person. My fond memories of food from childhood are of strawberry-rhubarb pies and homemade pizza in Rochester, not chocolate soufflé in the city or Rockefeller oysters at Montauk. I have an underdeveloped palate: whether a cause or a result of my culinary tastes, I don’t know.

In my research I have been geographically limited to the places I’ve visited for work. Despite living in the gateway to the Apennine mountains, Perugia, I do not chase off on weekends to hunt for the lost tribe of the one true original breed of zucchini. I am not some kind of foodie Indiana Jones. I have a decent salary but not one that has allowed me to do jet-set research from California to small mountain towns in forgotten regions of France. I have not toured vineyards with their titled, eighth-generation owners who

lament the ‘commercialization’ of the wine industry. In writing this paper I have had to make do with the perhaps inadequate tools of soil maps, interviews with less-than-famous agronomists, and common sense. I don’t believe in that old story about Parmentier’s guarded potato field, I don’t believe in a free lunch, and I surely don’t believe in *terroir*.

TERROIR, P.D.O., AND PARMESAN

Is there ‘a relevant and possibly vital connection’ between a specific place and the food that comes from it?³ A question which calls for a rhetorically positive response, an emphatic and holy ‘Yes.’ Most definitions of *terroir* begin with an argument that seems to make good sense: every place has a certain combination of variables – soil composition, rainfall and annual light exposure, and climate are among the most often cited – that together give food from that locale a distinctive taste. Vidalia onions are sweet because of their low-sulphur soil, Orvieto Classico wines incorporate minerals from the tufa rock they grow on, and so on. *Terroir* has been so thoroughly accepted as a concept that it may be enforced legally: the European Union’s system of PDO products allows member states to define areas of production for certain traditional foods, outside of which it is illegal to use the protected name of origin, with its nation-specific acronym appended like a noble title.⁴ These food items are officially sanctioned limited monopolies – the acronym stands for ‘Protected Denomination of Origin.’ Many of these will be familiar to the reader: White Stilton PDO, Champagne AOC, and Chianti Classico DOCG are just a few examples. This is *terroir* in its purest form: nature ‘translated’ into taste.

If this is true, than my test food product, Parmesan cheese (formally, Parmigiano-Reggiano DOP) can only taste like real Parmesan cheese when the milk that it is made from comes from a small zone in northern Italy. This zone of production was determined by the Consortium which organizes marketing of the cheese; its *Disciplinare*, or rules of production, have the force of

law.⁵ Official literature from the Consortium which promotes Parmesan cheese describes the mineral composition of the Po River's alluvial plain and the fact that cows whose milk is turned into these 85-pound wheels eat only fodder grown inside this zone, hence the distinctiveness of Parmesan's tangy taste.

	<i>Terrain</i>	<i>Altitude</i>	<i>Soil Type</i>	<i>Annual Solar Radiation</i>	<i>Snowfall</i>	<i>Km to Heavy Industry</i>
<i>SITE A</i>	Mountainous	604 M above sea level	Eutric Cambisol	5090 MJ/M ²	100–300CM	42
<i>SITE B</i>	Mountainous	690 M above sea level	Eutric Cambisol	5028 MJ/M ²	100–300CM	50
<i>SITE C</i>	River Valley	57 M above sea level	Haplic Luvisol	5138 MJ/M ²	20–50CM	1.6

Figure 1.

I'll now apply empiricism to terroir. Look at the three sites described in Figure 1 by their terroir-variables: which two sites will make identical-tasting Parmesan cheese? Comparisons of all the important factors reveal that sites A and B will likely have the same terroir: their soils are the same, they are both high, in mountainous spots, with lots of sun and precipitation and a slightly colder climate. They are also both relatively far removed from heavy industry, which might compromise the purity of the agricultural products that come from these sites. In reality, it is site B, the village of Corniglio in the mountains south-west of Parma, and site C, in a suburb of Parma, which supposedly share the same terroir, as both are within the DOP boundaries for Parmesan cheese. Site A, apparently a perfect match for Corniglio, is 100 kilometres south: the mountain town of Norcia, which sits on a plain high above Perugia and is known for its excellent cheeses.

A quick glance at Figure 2, based on the official European Union

soil map⁶ for northern Italy (with the boundaries of the official Parmesan production area superimposed in black) disabused me of any credence I still gave terroir. The production zone is far from a homogeneous area of similar soil types, something which is not hard to believe given that Parmesan's home territory goes from the right bank of the Po to high up in the Apennines: the boundaries for the most part simply follow provincial confines, themselves mostly arbitrary. Superimpose almost any map on the zone enclosed by this black line – from annual average rainfall to wind to botanical composition of meadows – and you'll find that terroir is hard to find. If it exists at all, it does not stay within that black line.

‘WHAT’S YOUR DENOMINATION OF ORIGIN, BABY?’

Terroir enthusiasts, uncomfortable with these facts, will hedge their bets with vague references to a ‘cultural component’ to the concept: terroir is not simply a reductive science of coloured maps and tables of numbers. ‘Traditions’ and ‘local practices’ (I’m unclear about the difference) are also important. This reminds me of a



Figure 2.

game I play with people I meet who ask me my sign (Italians are great believers in the horoscope): I make them guess and Gemini is usually between their fifth and seventh answer. 'But what is your ascendant star?' they'll ask. 'Virgo.' 'Ah, well that explains it.' Your theory having failed miserably, you simply add another, even more inscrutable variable to the mix. This variable is the cultural component of terroir: it proves equally disappointing.

You can count on the word 'tradition' appearing in any literature produced by people selling one of the EU's PDO products. You can't make a wheel of Parmesan cheese outside of that black line (the confines of the official production zone) because, you are told, it won't taste like the ones made inside it. The agronomic and climactic conditions are special (malarkey – see above) and the people involved in the production use techniques handed down from their forbears, thus meriting special protection against copycats who will produce a shoddy imitation of the 'real thing.'

It's difficult to get any hard dates on the beginning of Parmesan cheese production but the Benedictine monasteries probably began exploiting cows for their milk around the year 1000; previously cows had been draught animals, and only sheep and goats had been milked. The monks, who controlled much of the territory around Parma and Reggio Emilia, used their tenants' milk to make an excellent cheese, one that by the year 1349 was famous enough for Boccaccio to refer to it in the *Decameron*; it is fitting that the mountain in his imaginary land of plenty (ever a peasant's dream) was made of Parmesan cheese. Cooks sat on top of it and cooked macaroni in capon broth and rolled cheeses down the hill when they were done. In the sixteenth through eighteenth centuries the main producers of Parmesan were the large abbeys (who were still major landholders) and the local nobility. Of course, they were not 'producers' in the strictest sense, but rather controlled production. Greater standardization came only with the twentieth century and the birth of the Consortium.

Does what we eat today resemble the cheese of centuries

past? Not really. Most obviously, it isn't black. While today even the dyes used to put a type of proprietary barcode on the wheels must be made out of casein (guides to the factories warn that any foreign material will alter the proper ageing and potentially ruin the cheese), Parmesan cheeses were covered in black wax until 1964. In the 1800s rust mixed with oil was used, later even lampblack with grapeseed oil. Our modern cheese is also straw-coloured, a novelty in more than seven centuries of Parmesan cheese-making. The Consortium's official history of the cheese notes that the tradition of flavouring and colouring the cheese with saffron persisted at least until 1940.⁷ Pushing back further in the chain of production, salting is done today in large vats into which sea salt is dumped: one of the reasons that the cheese was able to be made in abundance in Parma was the presence of the salt mines in nearby Salsomaggiore. One has to wonder if there is a difference in the mineral content of these two kinds of salt; terroir enthusiasts would be forced to answer in the affirmative.

While milk is still not pasteurized in the modern process, the level of hygiene is undoubtedly higher. This is a good thing, but it also means that contaminants which gave traditional cheeses their flavour – I wonder about ashes from the fires underneath the cauldrons, tin from the insides of buckets in which milk was collected – are no longer part of the process. While 75 per cent of forage must be from within the black line, it is probably much different from what the cows of yesteryear ate: in the past cows grazed on semi-wild meadows and were fed a mix of hay and straw, maize and maize roughage, legumes other than soy, and elm leaves from trees grown in intensive perennial polycultures.⁸ They are now either confined in buildings or allowed to graze on plant species mixed to provide for optimal milk production.

Australian scientists studying soil composition and plant mineral uptake in vineyards found that irrigated water brings with it minerals, which then change soil- (and therefore, plant-) chemistry in the irrigated area.⁹ The lead-author commented that

‘if you look into [terroir] from a scientific point of view, irrigation, fertilizer and so forth have a marked impact and would largely destroy the ability to trace the wine back to the soil.’¹⁰ In addition to fodder, the *Disciplinare* does not specifically permit, but does not forbid, sodium chloride, sodium bicarbonate, dicalcium phosphate, calcium carbonate, magnesium oxide, glycerol, as well as other vitamin supplements. The *Disciplinare* allows supplements permitted by Italian law, thus giving the green light to these common feed additives. Did a farmer in the 1650s use these chemicals? The Consortium’s rules also specifically permit both alfalfa and soybeans, both of recent introduction to bovine diets in northern Italy. Greenpeace has called for an explicit ban on GMO soybeans, which have not been officially outlawed for fodder by the Consortium.¹¹

Perhaps most significantly, the cows themselves have changed. Whereas before the dominant breeds were the Alpine Brown and the Reggiana Red, today production relies on black and white Holsteins. Hundreds of years ago, farmers needed a cow that could split its energy between milk, meat, and traction. Now only the quantity of milk is important. Chemical analyses confirm what the ‘rebel’ consortium¹² of traditional Parmesan producers insist: the milk, the raw material of cheese, is quite different in its content of proteins and short-chain fatty acids that give the final cheese its taste.¹³ So much for ‘preserving tradition’.

THE BLACK LINE PEPSI CHALLENGE

The black line of the Parmesan cheese production area is arbitrary: it does not reflect similarity in agro-climactic characteristics. The producers – corralled like so many bovines within it and its strictures – after having in the last century radically changed the age-old process of making Parmesan cheese, have now outlawed any innovation. The result is a cheese that is better: it has a consistently excellent taste, is safe to eat, and has been that way now for at least a half a century. But I hold that this same cheese could be

made hundreds of miles south near Norcia. An enterprising young couple using fresh milk and artisanal techniques could replicate that cheese. Or an experienced cheesemaker in Vermont. Or a company in Wisconsin.¹⁴ I was heartened to see a recent series of essays about great cheese that didn't necessarily have a long past.¹⁵ I would be willing to sponsor a cheese taste-test, a sort of Pepsi challenge. Would a panel of experts be able to taste the Po's alluvial soil, the wooden paddles used to stir the hot milk? I doubt it.¹⁶ And even if they could, what would that mean, that only experts could tell the difference? Losing my bet I would still win: if only highly trained experts can tell the difference, than the difference is not important.

This last point is significant. Terroir is often accused of being élitist. This is no surprise: it is. It is perfectly appropriate to me that the bible of terroir, a book which purports to explain fine wines by examining the geomorphic conditions of their place of origin, 1) had a list price of \$300, and 2) is now out of print. A \$300 book?¹⁷ Terroirists' élitism is also obvious in their disdain for the 'entrepreneur.' An entrepreneur is anyone who sells a product: thus even peasant producers are entrepreneurs, not only Robert Mondavi. When food appreciation comes to be linked to factors that, as we have seen, are not necessarily part of a food's taste, we can recognize the attempt at drawing social boundaries so well described by another Frenchman, Pierre Bourdieu.¹⁸

This is an old game. As I'll show below, the widespread use of terroir to enforce social boundaries is relatively recent, but the idea of 'good taste' as a skill to be developed, not something intuitive in everyone, is quite old. Food historian Massimo Montanari describes how the Italian urban élite in the seventeenth century used this concept – taste as something *learned*, knowledge *not to be shared* with everyone – to distance themselves from the richer elements of the peasantry.¹⁹ There is much talk about educating the common folk about terroir, initiating them in its mysteries: this smacks of snobbery to me. Though wine-tasting classes make terroir seem

democratic, there's always someone who can afford more wine than you, better wine, and visit the vineyards that are faraway and out of reach of the average person.

Those who make wine and insist that 'it's not about the money' are usually those who have lots of money in the bank. Nobility is a euphemism, in many cases, for descendants of brigands, usurers, and abusive landlords; these descendants, while much concerned about the origins of their wines and cheeses, have edited their ancestors' brigandage and latifundism out of the family history. Parmesan cheese's past – one it shares with every other food product from the countryside – is one of exploitation. Hasia Diner, in her important work on emigrants and their food, describes how Italy's poor only rarely ate cheeses and cured meats. As Diner says, 'All over the peninsula, the poor made the food, saw it, knew how to assess its quality, but could only eat what those in power allotted.'²⁰ Peasant artisans made these products' antecedents, but it is the supreme irony that they rarely actually tasted them. The so-called *cucina povera* (cuisine of the poor, or peasant fare) was not the healthy, hearty meal of pasta topped with Parmesan cheese – one a farmer was happy to come home to after a hard day in the fields – rather it was a diet based on monotony and malnutrition which historians connect to deficiency diseases and their associated short life-expectancies.²¹

Philip Whalen, discussing terroir in Burgundy, suggests that while the concept dates back to the seventeenth century, the true popularizers of the term were not gourmands like Brillat-Savarin, but rather regional notables: 'French civic leaders sought to galvanize regional pride, appease political anxieties, stimulate economic trade, stabilize gender roles, and promote a "healthy" and "virile" national outlook.'²² This 'applied folklore', which shifted attention from the open-field peasant to the now-respected *vignerons* (grower vintners), masked social problems and economic divisions. When one thought about the countryside, the correct image was not Jules Bastien-Lepage's *The Haymakers* (exploitation,

exhausted peasant labourers – Figure 3)²³ or, worse still, Giuseppe Pellizza da Volpedo's *The Fourth Estate* (rural syndicalism – Figure 4)²⁴ but, rather, pacific Arcadian paintings of vineyards and stacked cheeses, a Brueghelian image of happy peasants, content with their lot and their terroir.

This reactionary regionalism glorified rural values as courageously resisting contemporary trends, very much a current use of terroir.²⁵ Whalen places this effort in the period between the wars: it is perhaps not surprising that the French AOC system, on which the current European PDO scheme is based, was developed in 1934. If there is one happy side to terroir, it's that these days the



Figure 3 (left). Jules Bastien-Lepage, Les Foins, oil on canvas, 1877. (Paris, Musée d'Orsay.)



Figure 4 (below). Giuseppe Pellizza da Volpedo, El Cuarto Estado, 1901. (Milan, Civica Galleria d'Arte Moderna.)

producers are often the owners, as small cooperatives are important for many PDO products. Emilia-Romagna, Parmesan's home, was a hotbed of socialism in the nineteenth century; its economy is to this day dominated by cooperatives.²⁶

FOR TERROIR

Several caveats are in order before I conclude. That tradition is partially or even wholly an invention of the present is not a new theme.²⁷ Nor is the argument that terroir is an élitist idea: Rachel Laudan's brilliant dissection (vivisection?) of the concept was published in 2004.²⁸ In writing this essay, I have become polemical and probably gone too far. Last year I visited a Slow Food presidium in Trapani, Sicily, which makes salt by hand. I had written a long essay beforehand to deliver at a conference in Trapani, an essay which raised similar questions about this handmade salt. But when I saw the young men from the cooperative shovelling salt (which, as Mark Kurlansky reminds us, is a rock, the only rock we eat), I reconsidered my opposition to philological food, food that tries to invent its own tradition by forgetting the unsavory parts of its history. All these men had relatives who had worked in the salt flats, and all were part-time farmers who were trying to make a living selling 'hand-made traditional sea salt'.

When I have children I'll pretend there's a Santa for a while; I'm willing to do the same to help people that piggyback on the vacuous concept of terroir in order to make an honest living. I'm suspicious of the local food movement as just another means of distinction, and I have serious doubts about local food being less energy-intensive.²⁹ That said, I would support terroir-as-local food to jump-start local economies, put more money in the pockets of the primary producers, and preserve heirloom breeds of animals and varieties of plants that would otherwise be lost.

What I don't want is a new culinary nobility. I come from a republican tradition, from a country that espouses (and very occasionally practises) democracy. I grimace when I see a dairy

product whose label proclaims it the 'King of Cheeses'. We should not be in thrall to the imagined finery of foods with false pedigrees, ennobled by the equivalent of the divine right of kings (of emperors?). I've focused on Parmesan cheese in this example, but one could apply this to other PDO products, especially wine.³⁰ In their *Atlas of Experience*, Louise Van Swaaij and Jean Klare tickle us with imaginary maps of countries like Knowledge, where the Forest of Curiosity is near the Bay of Wisdom.³¹ We find, however, no river, mountain pass, or fertile plain named 'terroir.'

Believing that someone can taste the difference between two grapes grown a hundred yards apart is like believing in virgin birth: the latter we can ascribe to faith in something greater than us. Do we want to cut the same philosophical-theological slack to terroir? I think we should ask for its birth certificate, and be dissatisfied with laws that prescribe culinary frontiers and pretend to describe boundaries of (good) taste. As Massimo Montanari reminds us, all of our food traditions have a past: that of a successful innovation. There are many wonderful food products to try and enjoy, with wonderfully subtle differences, but we should let taste and nutrition decide what's good to eat, not culinary mythology.

Place can be important in taste. It can sometimes be very important. But not that important.

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NOTES

1. Patrick Forbes, *Champagne: The Wine, The Land, and The People* (London: David & Charles, 1967), 114. The author quotes Dom Grossard, Dom Perignon's contemporary at the Abbaye of Hautvillers. Forbes was for some time a director of public relations for the champagne producer Moët & Chandon. In a personal communication, former *Gourmet* wine editor Gerald Asher noted that 'it is not until Henry Vizitelly's *History of Champagne* (London,

- 1882) that we see the first references to Dom Perignon in wine literature. I don't think it a coincidence that the book was published after the Grandes Marques of Champagne, based on broad blending, really got going in the U.K. after the introduction of dry Champagnes in the 1860s. It became commercially expedient to promote the idea of blended Champagnes as superior to the single village wines that had been popular until then.'
2. Brillat-Savarin, Jean-Anthelme. *The Physiology of Taste*. Translated by Anne Drayton (London: Penguin, 1994), 47.
 3. Amy Trubek, *The Taste of Place: A Cultural Journey into Terroir* (Berkeley: University of California Press, 2008), xiii.
 4. The PDO system is governed by European Council Regulation No.510/2006 of 20 March 2006. PDO is based on the French AOC system, which was created in 1935 but was originally intended as an anti-fraud measure: it only specified that products with locales in their name must have been made there, without prescribing production rules. The system has been under attack from Australia and the US as unfair protection of domestic products; see Michael Handler, 'The WTO Geographical Indications Dispute', *The Modern Law Review* 69 (January 2006), 70–80.
 5. Consorzio del Formaggio Parmigiano-Reggiano (CFPR). 'Disciplinare di produzione del formaggio parmigiano-reggiano.' 29 August 2011. CFPR website, http://www.parmigiano-reggiano.it/consorzio/disciplinare_produzione_vigente_2011/disciplinare_produzione.aspx, accessed 10 February 2012.
 6. This is a radically simplified map based on the European Soil Bureau Network's (European Commission), Soil Atlas of Europe (Luxembourg: Office for Official Publications of the European Communities, 2005), 66. This map, freely downloadable (http://eusoiils.jrc.ec.europa.eu/projects/soil_atlas/download.cfm), shows the radical heterogeneity of the official Parmesan production zone.
 7. Mario Zannoni, *Il parmigiano-reggiano nella storia* (Parma: Silva Editore, 1999), 39. Zannoni gives half a gramme of saffron per hectolitre as the dose in 1940.
 8. Zannoni, *Il parmigiano-reggiano nella storia*, 36. Alfalfa has been in Italy for centuries, but its widespread and intensive use in cattle feed is relatively recent. The author notes that the use of alfalfa and clovers in pastures is a product of the policy of autarchy of the Fascist *ventennio* (1922–1943). For the use of tree leaves in forage for bovines, see also Henri Desplanques' *Campagne ombre: Contributo allo studio dei paesaggi rurali dell'Italia centrale* (Perugia, Italy: Guerra: 1975).
 9. Graham Green, Erick Bestland, & G. Stewart Walker, 'Distinguishing sources of base cations in irrigated and natural soils: evidence from strontium isotopes', *Biogeochemistry* 68 (2004), 199–225.

10. Erick Bestland, Personal Communication. Associate Professor of Earth Sciences, Flinders University, 27 February 2012.
11. Greenpeace's call for a no-GMO Parmesan elicited a press release from the Consortium stating that GMO soy is not used anyway, but it is not specifically banned in the rules that govern Consortium members. (CFPR). 'Non ci sono ogm nel parmigiano-reggiano. Il Consorzio risponde a Greenpeace.' CFPR press release, 22 June 2007. CFPR website, http://www.parmigiano-reggiano.it/area_stampa/2007/sono-parmigiano-reggiano-consorzio-risponde-greenpeace.aspx, accessed 24 February 2012. For a discussion of GMO products in many of Italy's PDO products, see Mordenti & De Castro, 'Genetically modified organisms and typical food-products in Italy' in: *In the Wake of the Double Helix: From the Green Revolution to the Gene Revolution: Proceedings of an International Congress*, eds. Robert Tuberosa, Ronald Phillips, and Mike Gale: 627–633 (Bologna, Italy: Avenue Media, 2003).
12. The Associazione Nazionale Allevatori Bovini di Razza Reggiana has their own registered trademark and proposes their cheese as one that is more 'traditional.'
13. Gian Battista Castagnetti et al., 'Aggiornatmento sulla conoscenza delle principali caratteristiche chimico-fisiche e tecnologie del latte di alcune razze locali (Reggiana e Modenese) nella produzione del parmigiano reggiano', *Atti della Società Italiana di Buiatria XXXII* (2000): 251–260. Castagnetti underlines the relative significance of breed vs. the relative insignificance of soil type on the organoleptic qualities of the resulting milk. For the chemical basis of taste in cheese, see also Harold McGee's *On Food and Cooking* (London: Scribner, 1984), 40–53.
14. American cheesemakers, often of Italian origin, have been happily copying Italian cheeses (including Parmesan) since the late 1800s, longer than many winemakers have copied French wines. Will they have developed their own terroir in their almost one hundred year experience? See Loyal Durand Jr.'s 'Cheese Production in the American Dairy Region', *Economic Geography* 24 (July 1948), 217–230.
15. Harry West et al., 'Naming Cheese', *Food, Culture & Society* 15, no.1 (March 2012): 7–41.
16. Indeed, this has already been done with wine. In 1976 an international jury (made up only of French judges, to boot) in Paris gave top prize to American red wines over French ones. It seems that the *je ne sais pas* in French wine is not terroir but rather *un grand effort d'imagination*. See Taber's *Judgment of Paris: California vs. France and the Historic Paris Tasting that Revolutionized Wine* (New York: Simon & Schuster, 2005).
17. James Wilson, *Terroir: The Role of Geology, Climate, and Culture in the Making*

- of *French Wines* (Berkeley: University of California Press, 1999). Prices on Amazon.com ranged from \$129 used to a new copy for \$1,777.82 (not including the \$3.99 for shipping and handling).
18. Pierre Bourdieu, *Distinction: A Social Critique of the Judgment of Taste*. Translated by Richard Nice (Cambridge, MA: Harvard University Press, 1994).
 19. Massimo Montanari, *Cheese, Pears, and History in a Proverb*. Translated by Beth Archer Brombert (New York: Columbia University Press, 2010).
 20. Hasia Diner, *Hungering for America. Italian, Irish, and Jewish Foodways in the Age of Migration* (Cambridge, MA: Harvard University Press, 2001), 34.
 21. Gillian Riley, *The Oxford Companion to Italian Food* (Oxford: Oxford University Press, 2007), 149.
 22. Philip Whalen, "A Merciless Source of Happy Memories": Gaston Roupnel and the Folklore of Burgundian *Terroir*', *Journal of Folklore Research* 44 (2007), 21–40.
 23. Jules Bastien-Lepage's *Les Foins* (The Haymakers), oil on canvas, 1877, Paris, Musée d'Orsay.
 24. Giuseppe Pellizza da Volpedo's *El Cuarto Estado* (The Fourth Estate), oil on poplar, 1901, Milan, Civica Galleria d'Arte Moderna. The painting was originally called 'The Path of Workers'.
 25. Amy Trubek, 'Incorporating Terroir: L'Affaire Mondavi Reconsidered', *Gastronomica* 4, no.3 (Summer 2004), 90–99.
 26. See the chapters 'Co-operation Italian Style' and 'The Emilian Model and the Socialization of Capital' in John Rastakis' *Humanizing the Economy: Co-Operatives in the Age of Capital* (New York: New Society Publishers, 2010).
 27. See Richard Handler and Jocelyn Linnekin, 'Tradition, Genuine or Spurious', *Journal of American Folklore* 97, no.385 (1984): 273–290.
 28. Rachel Laudan, 'The French Terroir Strategy, and Culinary Modernism', *Food, Culture, & Society* 7, no.2 (Fall 2004): 134–144.
 29. See both Andrew Potter's *The Authenticity Hoax: Why the 'Real' Things We Seek Don't Make Us Happy* (New York: Harper Perennial, 2010) and James McWilliams' *Just Food: Where Locavores Get It Wrong and How We Can Truly Eat Responsibly* (New York: Little, Brown and Company, 2010) for discussions of, respectively, local food as a means of elite distinction and local food as not necessarily less energy-intensive.
 30. Robert Ulin argues that the Bordeaux region's paramount position in the wine world is due more to history and politics than terrain. Robert Ulin, 'Invention and Representation as Cultural capital: Southwest French Winegrowing History', *American Anthropologist* 97, no.3 (1995): 519–527.
 31. Louise Van Swaaij and Jean Klare, *The Atlas of Experience*. Translated by David Winner (New York: Bloomsbury, 2000).