Introduction



Why Cheese?

I do not often eat cheese; I simply do not like it. How I came to earn a diploma as cheese-taster in 2006 and became a member of ONAF (the Italian Organization of Cheese Tasters, Organizzazione Nazionale Assaggiatori di Formaggio) is part of my intoxicating engagement with cheese-making as a bittersweet by-product of studying dairy-farming, and with dairy-farming in the first place as a fundamental alley to complicating the self-image (and stereotype) of bergamaschi – people from Bergamo – as being 'mountain people'. I pursued this interrogation for some time with particular zest, being bergamasca myself.¹ When I started doing fieldwork in the valleys north of Bergamo in 1997, I found that my hosts – then supporters, among many other things they did and said, of the infamous Lega Nord² – were actually talking mostly about cows, mostly in dialect. I understood them because these people talked my own dialect, Bergamasco, from which I had been actively alienated by my own parents in fear of the social stigma that it still bears.³ Since then, I have been following the cows, so to speak.

I coined the notion of 'skilled vision' in order to make sense of how cow-talk seemed to be an encompassing way of articulating presumptions about animal beauty, moral integrity, economic savviness, and feeling 'at home' in the world (Grasseni 2004). In a book entitled *The Reinvention of Food* (in Italian, 2007a), I focused on the meaning of 'reinvention' for the social actors engaged in transforming local foods into heritage foods. I suggested that reinventing local foods is a process of 'calibration': redefining and interpreting tradition in the face of multiple pressures and encroachments – from mutually entrenched technologies and audit cultures, as well as from a globalizing market that encourages branding. More recently, I have worked with alternative food provisioners in northern Italy, analysing their networks and their relationship with local producers, including cheese-makers (Grasseni 2014a).

What does all this mean to someone who does not even like cheese? To begin with, I can claim the privilege of an alien point of view coupled with intimate participation. As events unfolded that momentously changed the fortunes and fame of the families and friends who hosted me as a student at the end of the 1990s, I could focus not only on the sensory substances and textures that were pivotal to them, but also on their representations and their logics. Eventually, this gave me the gut feeling that the reinvention of food is actually something hardly palatable: perhaps this ultimate sense of alienation filtered the lyrical but hard-nosed clinging of people, politics and very real interests to something we can call 'our own' – something that, were we not in ever-campanilistic Italy, one could call a national consciousness.4

My first visit to Val Taleggio as an ethnographer dates back to the summer of 1997 as part of my Ph.D. in anthropology at Manchester University. As 'prefieldwork', I spent three months with a family of dairy farmers on the upper pastures of their mountain community. In 1998, as part of my training at the Granada Centre for Visual Anthropology, I went back to repeat the experience and produced a film about mountain dairy-farming, Those Who Don't Work Don't Make Love. Living together with one family of mountain dairy breeders for six months during two consecutive summers, I personally experienced their work routines, struggles and joys both in their village family house and in their mountain lodgings. During my summer stays I took part in and filmed milking and cheese-making in both the village stable and the stations on the high pastures. I filmed the daily toil with the cows in the shed, I took part in hay-making on the fields around the village and on the high pastures, I shared and prepared meals, made beds and played with the children, helped leading the cows uphill to the next station . . . After this intense acquaintance with the daily and seasonal practices of just one family – and their socio-professional network of visitors, clients, friends, consultants, customers and apprentices – for another six winter months between 1998 and 1999 I took up residency in the village of Vedeseta and met the other breeders and cheese-makers of the valley, whose farms and enterprises I visited. I also met the rest of the population – Vedeseta then counted about 250 inhabitants and Val Taleggio as a whole about 800. It would have been impossible not getting to know practically everyone: ageing pensioners and school kids, teachers and housewives, clerks, builders, lumberjacks and factory workers. I frequented the very active parish church, the municipality, the dairy co-operative and the marching band.

At this stage I also conducted 'shadowing' observation with technicians of the agricultural trade union (Coldiretti), the breeders' association (APA) and the experts of the breeders' association of the Italian Brown Breed (ANARB). In other words, instead of conducting interviews or visits by appointment, I took part, as an observer, in some of their routine tasks. Accessing farms and cheese-making facilities together with the relevant professionals meant observing

farmers' interactions with them, witnessing debates, negotiations, complaints and gossip. While APA and ANARB technicians were mostly interested in animal husbandry, Coldiretti offered ampler consultancy, including on how to improve or set up farmers' cheese-making facilities and practices. I recorded some of the conversations for later analysis and filmed their working environments for my record. During my shadowing of experts I was then given detailed explanations, for example on the rationale of breed 'improvement' for an intensified but 'quality' milk production that would favour the national cheese-making economy. What is most relevant, I also listened to the explanations they gave to farmers. Residential fieldwork in the village resulted in my Ph.D. thesis and monograph (2009). This book builds on these previous insights but moves beyond them.

From 2002 to 2011 I was based at Bergamo University and the geographical proximity to my fieldsite facilitated continuous updates, correspondence and feedback visits to the cheese-makers of Val Taleggio. Taking a four-month cheese-tasting course organized by the chamber of commerce in 2006 - professional training for practicing cheese-makers - allowed me to reconnect with or meet new contacts, sharing with them a classroom experience that was at once relevant to and removed from their practice. I participated as guest speaker in 2006 in the valley's cheese festival, the Sagra dello Strachitunt, and collaborated with the nascent Ecomuseum of Val Taleggio. Through engagement with the Lombard Ecomuseums network, I visited similar projects in other valleys in Piedmont and Lombardy. I participated in the Slow Food international biennial food fair, the Salone del Gusto, of 2004 and 2010, first as ethnographer (videoing the Strachitunt presentation) and then as member (participating in the farmers' happening Terra Madre, visiting the valleys' Ecomuseum exhibit and actually selling the newly established Slow Food stracchino all'antica). Locally, I updated myself with yearly visits to the valley cattle fair and with follow-up conversations, emails and dinners with long-standing cheese-operators in the valley (entrepreneurs, cheese-makers, refiners, technical advisors, cooperative members and their families, buyers and market-stall vendors). Some of these conversations were recorded and transcribed, some were annotated in my fieldnotes.

In the meantime I had two children. I found myself breast-feeding at book presentations of local historians, attending community feasts and religious commemorations, or simply visiting families at home, exchanging experiences and views on entrepreneurship and motherhood. At some point I stopped counting the days and months, events attended and press clippings accumulated, as well as the hours of footage, interviews and soundscape – not to speak of the photographs and emails received and sent, particularly while I began spending most of my time abroad again in 2011. I was no longer thinking in terms of amassing data, of carefully selecting information to craft an article or book chapter. My ethnography ceased to be extractive. I was following events as they unfolded, trying to distil a logic, keeping a record of illuminating

anecdotes – moments of insight – waiting for some kind of closure. The EU concession of the Protected Designation of Origin (PDO) to Strachitunt in March 2014 is the end point that I artificially chose for events and agencies that still laboriously unfold, with no lack of dramatic turns as people continue to fight with by now old enmities.

What I offer is an ethnographic investigation of ordinary activities and discourse both back- and frontstage of this arena. Cheese is here the chosen pivot of broader epistemologies that are acted on the ground, mediating personal, local and scalar levels of agency. The protagonists' enterprise is both heroic and banal. It is eventually about making a living and celebrating this fact *as if* it made sense. The concepts they mobilize – *patrimonio*, *tipicità*, *eccellenza* – speak to cheese as they could speak to other foods, to food heritage as to other heritage items. It is cheese in this case, because cheese is a marker of cultural heritage in these mountains. By making it, tasting it, naming it, selling it, eating it and celebrating it, the entrepreneurs, farmers and administrators of Val Taleggio found a way of talking about their valley as a community, and to lay claim to cheese denominations as a form of cultural property. Cheese is therefore here eminently a political conduit.

It is also of course so much more than that. The nitty-gritty of hygiene regulations and animal husbandry form the normative, milky and environmental substance of cheese-making. As we will see, for local cheese-makers it is important to determine the pedigree of their cheeses, including which Bergamasque valley produced which cheese in the sixteenth century. The convivial significance of sharing a plate of polenta and hunted birds is a multi-layered social performance. All of these topics and moments make up the ethnographic substance and the unruly detail of what people do for, about, and through cheese.

To make sense of it all, I use here two main metaphors, one of drama and one of war, conflated in one conceptual image, that of the arena. The war metaphor underlines how the reinvention of cheese as a heritage item is a process to which many competing actors concur: key local producers, influential food activism groups, local and regional decision-makers, and media figures. The drama metaphor highlights how the power relations and the strategic interactions among them are played out as political and cultural performances, which allows them to claim moral representation and political responsibility for an entire community. The war of the cheeses is certainly opportunistic and strategic like all wars, but, as any drama, it unfolds through powerful symbolic moments – both individual and choral – at once orchestrated and heartfelt by all involved. Precisely because of its intrinsically strategic character, however, the reinvention of cheese as heritage is an ongoing and dynamic process: it is constantly repitched and reperformed in relation to the actors' reciprocal repositioning.

"Positions and position-takings" (Bourdieu 1993: 30) happen within 'fields of heritage production' (Di Giovine 2014: 89) which juggle the social production

of recognition with the very serious business of making a living, namely the social reproduction of the relevant actors, qua protagonists in the commodity arena. The concept of the arena indicates 'either a battleground or a stage or theatre' (Buijtin et al. 2013: 16). Through the trope of the drama, the book lingers on the linguistic and symbolic practices that turn a 'community of practice' into an 'imagined community', the subject and owner of heritage food as a patrimony, and of its *tipicità*. Recent heritage studies analyse the transition, in the language and practice of the heritage complex, from an expectation of communities 'bearing' cultural heritage to one of 'participating' in it (Adell et al. 2015: 8). Quite the other way round, here I unveil 'the mercurial, idiosyncratic processes of identification experienced by individuals in a mobile, globalized and uncertain world' (Adell et al. 2015: 9) as they become implicated in 'the intricacies of heritage governance at different levels of agency' (Adell et al. 2015: 14). The war trope allows me to dwell precisely on the 'arena of everyday life', on the idiosyncrasy of individual and collective engagements, and on the rhetorical and practical ways in which people balance pragmatically authenticity and anachronism, opportunism and sincere identification in food as a repository of their identity. Appadurai has taught that the politics of authenticity and the politics of connoisseurship are but some of the forms that 'politics', understood as 'the link between regimes of value and specific flows of commodities', can take (1986: 57). His use of the word 'arena' pertains specifically to how 'large scale exchanges' interact with 'more humble flows of things': 'in the politics of reputation, gains in the larger arena have implications for the smaller ones' (Appadurai 1986: 20). I approach the production of value for heritage cheese as a pivotal moment that brings politics to the fore and aligns social actors in relevant ways.

I am humbled by the task of bringing to synthesis over fifteen years of evolving scenarios. I have opted for an experimental narrative structure: the book is divided in three parts, each pivoting around key ethnographic scenes: a public speech given in 2006 by a local cheese entrepreneur, the official 'audition' for the concession of the PDO geographic indication to Strachitunt cheese in 2010, and a convivial meal in a mountain retreat involving Slow Food activists, myself and a local cheese-maker in 2013. The ethnographic settings will bring to relief the personal dilemmas and collective vicissitudes that unfolded over time. Each event marks a significant passage in the political and cultural dynamics that allowed a limited number of breeders, cheese-makers and refiners of a small mountain enclosure to obtain a PDO for their valley, namely for Strachitunt cheese. This is the story of how Val Taleggio lost cultural ownership of its Taleggio cheese, fought for a cheese of its own, and won Strachitunt (while rediscovering *strachì* – a humble transhumant cheese – in the process).

The goal of the book is to investigate the discourse and practices that turn food into heritage. By highlighting the key interpretations and performances of cheese as patrimony (patrimonio) and as a bearer of tipicità, I offer an ethnographically grounded theory of how cheese is reinvented, namely used as 'heritage' to leverage the glocally induced plight of local cheese-makers and mountain communities. The book shows how turning cheese into heritage (in other words, reinventing it) only works as a result of active and continuous intervention, including commercial tactics, symbolic politics and the pervasive performance of a culture of gastronomic discernment (gustatory, sensorial, historical, genealogical, geographic, agronomic and culinary).

Part 1, The War of the Cheeses, elaborates on the joined aspects of guardianship and reinvention, in the cultural mobilization of food as heritage. Economic rivalries, moral manoeuvring and political alliances are the protagonists of the intertwined histories of neighbouring mountain communities whose entrepreneurs and administrators choose divergent paths to 'valorize' their cheeses as 'patrimony'. Small and fiercely territorial PDO geographic indications coexist with other forms of self-safeguarding of other niche productions in the same area. Some opt for the distinction of hard-core authenticity, with marketing support of associations such as Slow Food. Others make use of more malleable quality certifications such as the commercial trademarks bestowed by local chambers of commerce. Others linger between quantity and quality, caught in the chasm. Each agenda is pursued by local politicians, entrepreneurs and activists who skilfully trade in the most viable currency of the moment (PDOs, Presidia Slow Food or chambers of commerce protocols) to articulate and claim their perceived right to the cultural ownership of 'their own' product. Chapter 1 explains how claiming control of a cheese as patrimony of a locality falls nothing short of advocating sovereignty for it. Chapter 2 in particular introduces and compares the cases of three significant neighbours of Val Taleggio's Strachitunt: Bitto, Branzi and Formai de Mut. Partly or entirely produced in the Bergamasque mountains, the destinies of these cheeses intertwine with those of Strachitunt, Taleggio and stracchino, tracing a complex geography of strategic choices, commercial alliances and political skill.

In Part 2, We the People of Val Taleggio, I shift focus from upland cheeses to transhumant ones. It is in the context of transhumance that the cheese called strachì in Bergamasque dialect by Bergamasque transhumant herders originates and eventually translates into stracchino and achieves the distinction of the PDO as 'Taleggio'. I will explain how Taleggio cheese failed its valley of origin – Val Taleggio - in the eyes of its residents and entrepreneurs. An unexploited 'patrimony', a lost 'typicity', Taleggio cheese looms large in the resentment of the people of Val Taleggio, who feel forgotten by history and marginalized by the current economy. Caught in the chasm between the 'quantity economy' of cheap lowland cheeses and the 'quality economy' of exclusive upland cheeses, the cheese-makers of Val Taleggio tried everything, from renaming the valley's cheese as 'Taleggio of Val Taleggio' – which they were prevented from doing – to reinventing Strachitunt as the valley's own cheese and claiming a PDO for it. A

consortium of dairy-farmers and cheese merchants was established as early as October 2002 to request a PDO for Strachitunt. It took them more than eleven years to obtain it, as it was registered as an EU-wide PDO trademark in March 2014.

In Chapter 3 I provide an explanation of why Strachitunt can be considered a post-transhumant reinvention of a cheese-making tradition that historically connected alpine pastures and lowlands, providing an ethnographic contextualization of the historical evidence provided by local researchers. In Chapter 4 I comment on the peculiarities of Italian food politics and the key role played by geographic indications – and especially PDO – in supporting food economies. The ethnographic scene with which I close, the public audition for a PDO Strachitunt held in Val Taleggio in October 2010, shows how local and political actors compete and sometimes converge to define heritage food in the contemporary market, speaking at once to national and European regulators, as well as to potentially global competition. Cast as distant and inscrutable, these agencies nevertheless magnify and heighten very local but very real animosities.

In Part 3, Dulcamara's Senses, I plunge into the sensorium of cheese, analysing the performance of locality and the language of its consumption. I look at the cultural meaning of cheese through the performance of those who make and sell it and the showcasing of its consumption in tourist venues, professional fairs and ecomuseum installations. In the description of a single moment of elaborate conviviality, I convey the ritual and symbolic value of food beyond exchange, to decipher how food is used politically even at the table. I use the name of an opera character in Donizetti's L'Elisir d'Amore to obliquely point at the bittersweet aftertaste of the reinvention of cheese – indeed, of the taste of heritage. Dulcamara is a charlatan, selling his love potions to 'rustic' peasants. His own name – Dulc-amara, the bittersweet poison – betrays the contradictory sensorium of the potions whose virtues he extols to the populace.

In the case of Strachitunt, both the actual cheese and the long-drawn sagas of their makers are double-layered, sweet and sour at once. Heralded as the dairy 'excellence' of Val Taleggio with both gustatory and moral suasion from a number of paladins (initially Slow Food, then the valley's own Ecomuseum), Strachitunt delivers its PDO perhaps too late, leaving the unsurpassed protagonists of its reinvention as veritable kings of a ghost valley. Both chapters show ethnographically how the performance of authenticity is elicited and extracted. In Chapter 5 I revisit my own apprenticeship as a cheese-taster alongside the valleys cheesemakers, and I follow the performance of street theatre and interactive videoinstallation that were set up in the Ecomuseum Valtaleggio as part of its effort to boost tourism and the cheese-making industry in the valley. In Chapter 6, the discourses and practices of relocalization will be analysed from the point of view of the actors themselves: I recall and comment on an elaborate lunch with Slow Food activists, cheese-makers and local tourist entrepreneurs, during which

some key political struggles around the reinvention of a potentially competing Slow Food presidium for stracchino are voiced, performed and negotiated. Performance is fundamental to the reinvention of cheese both in closed-door negotiations and in strategies for public communication: I use my involvement in the local Ecomuseum and participant observation at fairs and educational presentations of Strachitunt to highlight the ambivalent and prescriptive nature of the roles of those involved: tourists, residents and cheese-makers alike.

Calibrating Cheese

In Developing Skill, Developing Vision (2009), I maintained that, among the dairy smallholders of the Lombard mountains, skill and 'practices of locality' are mutually co-constitutive. I described how their skilled practice of animal husbandry is not ahistorical but rather intimately connected with a regime of agricultural counselling, hence with local and translocal politics of food. I initially focused on how this translates into local and translocal 'skilled visions', prescribing and enacting certain ways of looking at cattle (Grasseni 2007b). Following the cows, and their milk, I turned to investigate the transformation of cheese-making – particularly its spaces and timescapes – in my fieldsite. During several years of observation, I witness how upland cheese-making was driven from high-pasture domestic mountain huts to HACCP-run creameries. Hazard analysis critical control point (HACCP) is a self-monitoring method employed in food production protocols to enforce hygiene and safety requirements at every stage of the process. It is a management tool visualized in a flowchart that assesses and monitors the risk of occurrence of specific hazards during the production cycle (Grasseni 2009: 145). Mandatory HACCP was introduced with Directive 43 of the European Economic Community for all European commercial food producers in 1993, as a precursor to the establishment of a European Food Safety Authority in 2002 (with Regulation n. 178), to guarantee the free circulation of safe food within the European Union. The introduction of HACCP was but one of the many ways in which artisan cheese was being repositioned within the global forces of a 'field of production' (Bourdieu 1993). This entailed a potent incept of 'audit cultures' (Strathern 2000), which had momentous effects on high-pasture cheese-making. I began to observe its effects at the end of the 1990s and I referred to the consequent adjustments of local cheese-making as a process of calibration (Grasseni 2007a: 61-90).5

Reinventing cheese means calibrating its 'ecology of production', an apt phrase which I adopt from Paxson (2012), to the increasing pressures to standardize procedures, environments and operations. But it also entails a symbolic calibration, namely its transformation from a perceived 'traditional' yet everyday foodstuff to a distinctive item of 'food heritage' (Grasseni 2011; Di Giovine 2014). Further, it

means that production systems must be *calibrated* to normative and commercial expectations that have purchase both on international economic circuits and on very local arrangements. This does not mean that the alpine cheeses I am talking about have suddenly begun to sell on international markets - though some of them do, and have done for some time. Rather, it means that they have to be entirely refashioned as if such potentiality was at hand. The arena they choose as audience, although in practice very local, is symbolically, rhetorically and normatively global.

Moreover, the expectation that tradition has unexploited potential, that it is a resource deserving of development, calls for added value to be made evident and relevant not only to consumers, but to 'communities' at large. Entire localities are thus called into play in the moral labour of identifying with, and properly exploiting, one's 'heritage' (patrimonio). In Italian this process goes under the name of patrimonializzazione (roughly translatable as 'heritagization'). 'Patrimonializing' alpine cheese entails that a number of social actors (not only dairy farmers, cheese-makers or refiners but also public administrators, consumers' associations and tourist entrepreneurs, for instance) cooperate to identify, describe, study, safeguard, extol, reproduce and market specific items of tangible and intangible heritage. Patrimonio is often described as a common wealth – a patrimony in fact, which is handed down (patrilinearly, presumably) from generation to generation. It thus pertains to autochthonous residents or at least to a community that identifies itself as largely unchanged over time. To the risky rhetoric of autochthony (Kalb 2004; Geschiere 2011), patrimonialization adds a 'metaphysics of sedentarism' (Malkki 1992) that, even in a realm that is not usually considered 'political', introduces some serious frictions and dilemmas. For example, it requires the identification of *borders* for specific production areas of as many traditional products.

This runs counter the very tradition that is being invoked in the making of mountain cheese as an item of food heritage: the alpeggio. Alpeggio or monticazione is connected to though not identical with cattle transhumance. Transhumant trails could extend over hundreds of kilometres and be used in a seasonal cycle. Transhumance has evolved over time and it is now virtually extinct in northern Italy – at least in the form described by historian Fernand Braudel (1995) in his The Mediterranean at the Age of Philip II.6 Nowadays only very few herders move all the way from peaks to lowlands and these tend to be mostly sheep-flocks. Transhumance was only one of often highly professionalized forms of seasonal migration that could integrate the income of alpine families: for example maleonly winter migration would be based on exercising salaried professions in urban areas, including the development of guilds of carpenters, lumberjacks, smithies, builders, decorators, stonemasons and carriers (Viazzo 1989).

In Val Taleggio, practices that were historically a ticket for the outside world are currently a powerful symbolic device for marketing locality. The Republic of Venice's governor Antonio da Lezze desolately observed in the sixteenth century how

these valleys don't enjoy revenue of any sort . . . They do not reap wheat nor corn, but most of these people travel the world, to Italy, mostly to Rome and Venice, keeping themselves busy trading goods, working in inns, or as coppersmiths, tinkers etc. They do not return to their homeland but once every two or three years, staying only for six months (da Lezze [1596] 1988: 508)

Among such itinerant crafts were metal-working, logging and carpentry, which made their bearers professional seasonal migrants. Cheese-making and dairy-farming were residual, subsistence activities unless mobilized for transhumance. Connecting with the outside world, for example in the form of transhumant farming, was part of the local repertoire. Only the clueless stayed behind, firmly rooted in their turf, as the normative imaginary of geographical indications currently prescribes. So goes da Lezze: 'Those who stay in the village are poor people, and tend their own cattle, the richest having up to 25 cows. These, at winter, descend to the Milanese plains. . . . In Taleggio there are 500 cattle, 100 among horses and mules, 200 sheep' (da Lezze [1596] 1988: 510, 512).

Now that local cattle are few, there is no need to descend to the Milanese plains to feed them. By converse, *alpeggio* is the summer grazing season spent by cattle (and occasionally goat) herds on the high pastures, which are covered by snow during the harsh mountain winters. Often the word 'transhumant', referring to cattle, is used for the *alpeggio*, even though this generates confusion, as cow breeders take only short summer trips to the closest higher pastures. Notably, *alpeggio* entails more limited cattle movement than original transhumance trails – which took place practically all-year round, following fixed routes and visiting well-stocked stations. The *alpeggiatori* are mostly mountain farmers who drive herds from the village stables to the upper pastures, while they make hay in the meadows around the village to stock up for winter.

Pastures in the high grounds could be actual collective property of a community, with formal covenants regulating access and obligations to maintenance work. Some of these regulations – *statuti* or *regole* – would be granted to individual communities by a higher authority, for instance a duke or other feudal sovereign. Even when the high pasture land was held as a 'common', access to it is historically highly regulated, as land and grass are key economic and ecological resources (Netting 1981: 89). Crucially, with long-distance dairy transhumance gone, the families of cheese-makers eventually settled down in the richer plains, investing in large-scale dairy creameries, leaving the bothersome business of making upland cheese during the *alpeggio* to the (other) mountain people. This contextualizes Val Taleggio within a complex scenario of competing and partly

overlapping cheese productions, each claiming distinction for their tradition, and the urgency of survival for their communities of producers.

In the following chapters, I will speak mostly of Val Taleggio's Strachitunt cheese, but I will also discuss other cheeses, all originating from the same area of northern Italy: the Lombard mountains and plains. These are Bitto, Formai de Mut, Branzi as well as Taleggio and stracchino (see Table 1). Their divergent histories and uneven fortune put the uniqueness of Strachitunt in perspective. We should imagine these upland and lowland cheeses as complementing Strachitunt in a geography of opposites: the cooked and the raw, so to speak. All of them originate from a tradition of transhumant cheese-making straddling peaks and plains, summers and winters, fresh grass and hay, craft and industry. Made in the high-altitude summer pastures at the head of the Bergamasque valleys, Bitto, Formai de Mut and Branzi triangulate different versions of one ideal-type upland cheese: cooked, fat, round-shaped, matured, high-prestige, yellowish 10-kilo wheels with a brushed-hardened crust similar to that of Parmesan or Grana. On the other hand, Taleggio and strachi are respectively the PDO and non-PDO evolution of fresh, uncooked, square, whitish, soft, flowery-crust slabs of two kilos at most, made for common consumption and cheap markets. Alpeggio or upland cheese is for the discerning and the affluent. Lowland cheese by contrast is the unassuming by-product of transhumance: what we know about the origins of Taleggio and stracchino is that it was cheese made by transhumant mountain peasants who could not even afford to heat their cows' milk and would curdle it at milking temperature, hastily (all'infretta), in their makeshift abodes, on the trail of available grass (Jacini 1882: 27).10

Within this geography of opposites, Strachitunt of Val Taleggio marks a veritable shift: technically, it is a raw milk cheese, worked a munta calda, namely while still warm immediately after milking. It is a double paste cheese, obtained from layering cold curd from the night before with warm curd freshly renneted. Strachitunt is a blue cheese (formaggio erborinato), namely it develops moulds inside the paste, which give it specific aromas and taste. Dry-salted and aged for 75 days, it is pierced twice during maturation, twenty days after casting and again after a fortnight. This allows the development of blue moulds without inoculation, as a result of interaction with the maturing environment. As a raw strachi, Strachitunt would belong to the family of lowland cheeses like Taleggio or stracchino. But as an aged, cylindrical, and heavy wheel it positions itself among nobler upland cousins. Matured even longer than Bitto PDO (at least 75 days versus the 70 days of Bitto), Strachitunt is produced all year round and not just in *alpeggio*. Triangulating Taleggio and *strachi*, it adds a modern zest for uniqueness to the tectonic of the raw and the cooked, and combines it with the European obsession with pedigree: claimed as an upland, aristocratic precursor of Gorgonzola itself (just as strach) of Val Taleggio is claimed to be the precursor of Taleggio), it is the rawest of the raw: a natural blue cheese. That is, it is an



Bitto PDO. Author's photograph, Salone del Gusto Slow Food, Turin 2010.



Slow Food Presidium Bitto Storico. Author's photograph, Salone del Gusto Slow Food, Turin 2010.



Formai de Mut dell'Alta Valle Brembana PDO. Courtesy of Associazione Principi delle Orobie.



Formaggio Tipico Branzi. Courtesy of Associazione Principi delle Orobie.

Table 1. Photographs of Bitto PDO and Slow Food Presidium Bitto Storico, Formai de Mut dell'Alta Val Brembana PDO and Branzi.

uncooked cheese made with raw milk and manipulated in such a way as to allow natural moulds to penetrate and nest in the fault lines between two curds from subsequent different milking days, layered like lasagne.

This reinvention is only one, possibly *the* most successful and hard-fought, of many other attempts to achieve the ever-elusive goal of using cheese to leverage systemic issues of local importance: branding, development, ultimately survival. The reinvention of cheese engenders conflicting agendas, which could not easily be comprehended without an understanding of a common terminological choice and its implications, namely that of defining local products as *tipici*. This is a distinctive cultural strategy to claim that certain foods are not only place-based (as



Stracchino all'Antica delle Valli Orobiche, Presidio Slow Food. Courtesy of Slow Food Italia.



Stracchino di Vedeseta, Cooperativa Sant'Antonio di Vedeseta, Val Taleggio. Courtesy of Casarrigoni.



Strachitunt PDO. Courtesy of Casarrigoni.

Table 1, cont. Photographs of Slow Food Presidium Stracchino all'Antica delle Valli Orobiche, Stracchino di Vedeseta, and Strachitunt PDO.

they are claimed to carry 'the taste of place', Trubek 2008), but are also distinctive of specific 'practices of locality' (Grasseni 2009), namely routines, expertise and skills that emerge both as a form of functional adaptation to specific natural and material conditions, and as historical and cultural diversifications: some community of practitioners went one way, others chose differently under slightly different circumstances.

On the one hand this is achieved by marketing an entire sensorium related to cheese: hence not only its taste, but its visual appearance in packaging and commercial documentation. One the other, cheese sells the whole of a locality: the history and the community of practice from which it derives its *tipicità*. With the expression 'authentic anachronism', Guntra Aistara conveys the syncretic coexistence of elements of authenticity, nostalgia and fake in the foodscapes of postsocialist Latvia (2014). In our case a post-transhumant theatre of 'authentic anachronism' is not directly aimed at a tourist audience but rather to a

commercial one. Marketing the cheese sensorium entails important processes of calibration, not only of the cheese itself - its recipe, working environment and tools, visual identity and organoleptic features – but of its own cultural and natural environment. Landscape and communities are enrolled in a collective effort to communicate the unique and distinctive characteristics of their cheese – and of an entire 'mountain cheese experience', but the calibration of this unique image to a discerning clientele is not exempt from conflicts of interest and petty competition. The result is an extremely diverse scenario of recipes, exceptions and idiosyncrasies.

Post-transhumant Timescapes

Val Taleggio was thinly populated in 1998. It is now alarmingly depopulated. The village of Vedeseta that I describe in *Developing Skill*, *Developing Vision* (2009) counted 281 inhabitants in 1998, and had 216 residents in 2014, having lost a further 30 per cent. In its golden era - the sixteenth and seventeenth century - Val Taleggio was populated by more than five thousand people (Arrigoni 1983).11 Val Brembana, the wider mountainous area of which Val Taleggio constitutes a branch, is the Lombard mountain area that has suffered the highest depopulation in the last thirty years – hosting nowadays a population of 43,000 scattered over 38 municipalities: 29 of them count less than 1,000 inhabitants; 19 are under 500 residents each (Comunità Montana Valle Brembana 2000, 2006).

Consequently, Val Brembana recently featured as the recipient of an EU intervention, project PADIMA, 'Policies against Depopulation in Mountain Areas', together with analogous areas in France, Norway, Spain and Sweden. The main measure suggested as 'strategy to increase the attractiveness of mountain areas' was to develop an integrated 'new economy'. 'Marketing the territory' (marketing territoriale)12 should mean promoting a 'patrimony' that so far has failed to perform: the alpine landscape, the 'strong local cultures', but especially its prodotti tipici.¹³ The idea of branding heritage is of course not new, and in the rest of this book I explain how rethinking the economy in the Italian mountains today is not just a question of marketing but of political imagination. The promotion of regional food economies involves business entrepreneurs, area administrators and local notables, and includes the collaboration (and sometimes competition) with relatively new social actors: most notably in this case the Slow Food association but also more or less participated institutional projects for local development such as ecomuseums.

Europe-wide, heritage foods are at the centre of active strategies of territorialization, locating gastronomic knowledge in as many distinct practices of locality (Bowen 2011; Chrzan 2007; West 2013b). Heather Paxson's book on the

renaissance of artisanal cheese in the United States argues that American cheesemakers live by 'a tradition of invention' - echoing Hobsbawm and Ranger's 'invention of tradition'. This book articulates a different thesis, which pertains to Italy and to European ethnographies of food more specifically, namely that the politics of food designations is neither an invention of tradition nor a tradition of invention, but a reinvention of food within a specific 'field of production' that includes heritage and place-based names as major force fields. These articulate and shape both the marketability and political capacity of food to mobilize resources and passions, to foster conflict and suggest alliances. Their outcome, in the marginal rural areas of the northern Italian Alps, may determine the very serious business of economic viability and even demographic survival for a whole mountain community.

Crucial to the field of production is the issue of standardization. How much diversity is allowed in contemporary global food systems? How should it be measured, monitored and valued? What are the accountability tools for it? Calibrating cheese to a 'global hierarchy of value' (Herzfeld 2004) means negotiating and enforcing protocols of production. They will feature heavily in the debates and diatribes analysed in this book. One of the most contested issues regards their area of pertinence – the geographical boundaries within which protocols should be enforced. The other regards the matter of cheese-making, milk: its treatment, quality and provenance.

The work of Bruno Latour has eloquently connected the history of microbes with the disciplining of the French public and the establishment of hygiene as an issue of public safety (1987). In the United States, Heather Paxson has identified the current 'renaissance' of artisanal craft cheeses as a 'post-Pasteurian' phenomenon (2012). A post-Pasteurian stance, she explains, is not 'anti-Pasteurian'. For the cheese-makers, it means allying oneselves with microbes to cultivate ad-hoc ecologies of practice: the cheese-maker tries to actively select and cultivate benign microbic strands. Possibly, these will enhance the cheese taste as much as its safety.

However, if American practitioners weave together artisanship and a discourse of skilled coexistence with tricky natural organisms (Paxson 2008), especially in the United States there is heightened awareness of the risks involved, both in terms of food contamination and of the economic ruin that would strike craft dairies, should they release dangerous microbes in their inventory. As Paxson (2012) contends, after having coined the 'assistance to comply' line of self-monitoring for industrial concerns, the Food and Drug Administration in particular has developed a peculiarly watchful attention on the risky business of consuming and transforming raw-milk cheese, which is somewhat contradictory. In Ireland, Colin Sage has eloquently remarked the disproportion of attention to risk factors in the case of raw milk and cheese, compared with the neoliberal attitude of encouraging 'self-monitoring' on the part of large agribusiness

concerns (2011). In this political and economic context which straightforwardly privileges industrial food production and takes it as a golden standard against which to assess artisanal workshop practices, 'post-Pasteurian' cheese cultures move beyond the Pasteurian hygienist agenda of microbes' eradication, and articulate a stance of subtle if marginal resistance to the accompanying agenda of social sanitation.

In Europe, hygiene regulations are also a pressing matter for artisanal cheese-makers, especially in the mountains. Raw milk's characteristics are variable. They depend on climate conditions, on the environment of the animals producing it, and on their nourishment. Gambera and Surra (2003) specify that while there are exceptions allowed for matured cheese (aged for over sixty days), European regulation does create problems for artisanal producers of fresh cheese, because pasteurization does alter the dairy properties of milk, as it reduces its natural bacterial flora and destroys some enzymes and proteins. It thus inevitably alters the final organoleptic of the product, as well as obviously introducing costs and logistic issues, especially to mountain cheese-makers.¹⁴

Despite these difficulties, the 'reinvented' cheeses covered in this book are raw milk cheeses. This is especially pertinent to Strachitunt, the main protagonist, and to the stracchino of which I talk in Part 3 - while the upland cheeses are cooked – not only because of their organoleptic qualities, believed to be superior, but as a sure means to limit the range at which milk can travel. Raw milk Strachitunt, and raw milk stracchino, are curdled a munta calda, namely while still warm from the milked cows. The imperative to make cheese with warm milk without reheating it determines per se the very short distances it can travel. It can move from a shed to a creamery, even from a village to another within the same valley, but it cannot travel afar. In the present conditions of compliance with strict regulations about the hygiene of the creameries, raw milk cheese is sedentary by definition - an ironic result, considering that stracchino is a transhumant cheese. As noted before, in 1882 Stefano Jacini in his parliamentary investigation on 'the state of the art of Italian agriculture and the conditions of the rural class', states that 'the word stracchino derives from the small soft cheeses produced during the journey from the mountain to the lowland and vice versa. These malghesi make it swiftly in their resting stations, with milk from tired cows after their long journey'. Stràc means 'tired' in Bergamasque dialect, hence strachì, the Bergamasque word for stracchino.

I watch my 1998 film *Those Who Don't Work, Don't Make Love* and see my host Guglielmo, born 1932, plunge his hairy arms elbow-deep in the curd he is cutting. Both cauldron and curd-slayer are made of copper – and they are unchanged since I witnessed him brushing them daily and covering until next use for the first time, at the end of the 1990s. In the film, he is working in an unpaved mountain abode – kids, tourists and myself walking in and out of the dairy without much care for changing out footwear . . . I ask myself: Is the raw-

milk stracchino and Strachitunt cheese made by Guglielmo's ungloved hands 'post-Pasteurian'? Or is it rather, quite honestly, pre-Pasteurian?

Asking this question is a risky move. It may be read as simplistic, or as yet another way of casting rural cheese-makers as backward inhabitants of ahistoric eras. Tourist brochures systematically do so: presenting them as authentic specimens of timeless tradition. Less benignly, agricultural consultants also argue that family-run businesses with just a few cows and goats are remnants of preindustrial times and should be encouraged to die out. And they routinely are, either through unsustainable requests for audit paperwork and structural requirements, or by monetary incentives to cull small herds and pack up business: a practice infamously known as abbattimento - culling - as productive livestock are sent to the abattoir because their husbandry is uneconomical or simply uncompetitive.

John Agnew has noted how certain geographical areas become associated with essential attributes of time, relative to other geographical 'blocks': thus 'modernity, confused by some with the United States, becomes a social model to which other 'less developed' societies can aspire' (1996: 31). Within a stereotypically 'backward' Italy, hence, Alpine dairy farmers would appear even more exotic and 'primitive'. Marginal cheese-makers and family farmers feel that they are indeed the survivors of an era: prematurely culled, persuaded into bankruptcy or cornered into foreclosure.

When I first began to do fieldwork on alpine dairy-farming at the end of the 1990s, the newly ratified EU hygiene standards for cheese-making on the upper pastures were a hot topic. In Lombardy, the latest hygiene regulations about milk and cheese production was the regional decree (DPR) number 54 of 14 January 1997, which established stringent conditions for the kind of mountain infrastructure where upper-pasture grazing takes place. Cheese-making should take place in tiled environments with running water, toilets and hot-water showering facilities. At the time, data presented by the Region admitted that 72 per cent of the active mountain structures used for making cheese upland did not have toilets. Only 28 per cent had running water and in 48 per cent of cases, byproducts such as whey were dispersed in the surrounding environment. This was also possible because the *alpeggio* was a residual practice, only kept alive by small herders transforming less than 300 litres of milk a day in 38 per cent of cases, and between 300 and 600 in 47 per cent of cases. Only 11 per cent of alpeggiatori transformed more than 1,000 litres per day and only in 45 per cent of cases was milking carried out with mechanical means, while only in 51 per cent of structures there were separate rooms for conserving and maturing cheese. 15

I was present when these data were announced on 16 March 1999 in Lecco at the Chamber of Commerce Auditorium. The open debate was aimed at creating consensus among farmers, union operators and local administrations on the regional guidelines for the application of European regulations in dairy-farming and especially cheese-making. At the conference, everyone was well aware that

traditional *alpeggio* did not abide by the ideal conditions of DPR 54/97 – which simply ratified, with delay, the 1992 EU regulations 92/46 and 92/47 which established the use of HACCP self-control protocols, laboratory analysis of milk for somatic cell counts and bacterial content, and the minimum structural preconditions of cheese-making workshops. These had to be abided by to authorize the direct sale of cheese – an authorization that cheese-makers usually referred to as obtaining 'the blue stamp' (*il bollino blu*), an identification code for product traceability.¹⁶

Some operators of the farmers union and technical advisors would confide to me that they were expecting these measures to expedite a 'cull' and a 'pruning' that was long due, in the interest of 'natural selection', to finally drive out of business those stingy old herders who would not fit a bathroom in their baita¹⁷ or, worse, would have it fitted with funding aid and then not use it! Fifteen years later, the 'natural selection' seems to have largely taken place, and most of the active cheese-makers have a 'blue stamp' for selling their production. In the year 2000, the total number of farms with cattle stock in Lombardy was 19,704 with 1,610,678 livestock units; in 1990 it was 34,920 with 1,960,565 units and in 1982 49,832 farms with 2,082,665 cattle. In the 2010 agricultural census, the number of farms with cattle was down to 14,718 with 1,484,991 cattle. 18 Since cattle herding in Lombardy is prevailingly a dairy-farming activity, I would confidently take this as an indication of a consistent trend to consolidate farms, decreasing the number of businesses and increasing the herds. At the same time the number of cattle also decreased altogether since, thanks to 'genetic improvement', a dairy cow nowadays produces more than double the amount of milk she could produce in the 1980s (cf. Grasseni 2007c).

The ageing president of the Associazione per la Valorizzazione degli Alpeggi gave a heartfelt speech at the 1999 conference, ending up in tears but eliciting little sympathy and quite a few sniggering comments from an overly male, working-age and practically minded audience. He denounced the context-blindness of the regulation of food production and its structural requirements, predicting that it would lead to the outright extinction of the few traditional practitioners left in business: milking their cows by hand under the rain directly in the mountain meadows. He made a plea for the goodness of sterilizing cheese-making tools in boiling whey as it is customary practice in those stations that do not have running water facilities. Very few listeners felt that those practices had intrinsic value and deserved special concessions. His younger colleagues were figuring out how the new legislation would impact their businesses, computing the costs, networking and lobbying on the spot to receive funding aid with the help of unions and public administrations.

The majority expected that a number of concessions would be made to allow for time to implement these ameliorations, and major exceptions (*deroghe*) were indeed made for dairy stations in the upper mountain pastures. The regional

government followed up with a number of extensions (regional government decree DGR n. VI-42036 of 19 March 1999). Concessions included untiled concrete floors and walls (as long as they would be washable), doors and windows in the workshop (as long as they could be protected by nets and robust enough to impede the access of animals), and non-stainless steel tools (as long as easily washable and noncorrodible). The regional government also introduced the regulation of maturing cheese for a minimum of 60 days for cheese made in alpeggio, specifically as one additional concession to DPR 54/1997, as a measure to naturally ensure that cheese maturation would lower its pH and thus set in an antibacterial self-cleansing. The same concession is made to cheese made with milk whose bacterial charge is higher than 100,000 units per millilitre, as well as for milk with high somatic cell counts (more than 400,000 per ml – a usual indicator of ongoing inflammations or infections, typically mastitis). Despite the lenient regulation and accommodating for exceptions and delays, the widespread feeling among mountain smallholders was and remains that of being a population on the brink of extinction. Some used the expression of being 'Indians without reservations' to capture the essence of feeling left behind and at the margins of a society striding forth on an accelerated path.

Marginality itself can be harnessed as a cultural resource through the poetics of heritage, recasting animal husbandry and cheese-making in the mountains as much more than a residual practice. At the public presentation of the oral history book Bergamini (Carminati and Locatelli 2004), roughly translatable as 'The Cheese Makers', the local entrepreneur and leader of the Consortium for Strachitunt cheese of Val Taleggio also broke down. He was perhaps overcome by the enormity and rapidity of the transition from the lifestyle of his parentsin-law, who stored cheeses in stone huts astride a stream to keep them fresh in the summer, to his own, a 'modern' business man negotiating with international buyers, producing innovative hybrids such as stracchino marinated in Sicilian wines, and winning prizes at national events such as Cheese at Bra, the Slow Food Salone del Gusto, or the Cibus International Food Exhibition in Parma. All the more though, he was claiming 'tradition' as the repository of skill and legitimacy to be 'reinventing' it.

Bergamini is the name historically given in Lombardy to transhumant dairy farmers - allegedly, as the name goes, mostly coming from the mountains of Bergamo. Transhumant herders were necessarily also skilled cheese-makers, as they would transform their milk in their seasonal stations, taking their herds from the upper pastures in the Lombard Alps for the summer grazing season to their lower reaches along the rivers Ticino and Adda. Bergamino in Italian means cheese-maker. To be a bergami, in the local dialect, in Val Taleggio means not just being a cheese-maker, but crucially to be someone on the move with one's herd. Long-range transhumance being practically extinct, shorter-term, shorterdistance summer stays on an alp or high pasture - namely the alpeggio - are

increasingly rediscovered as mountain practices that add value to upland cheese, which can claim the 'taste of mountain grass' (Huseby 2012).

Alpeggio is often claimed as the common heritage of the dairy breeders of the Bergamasque valleys and proudly celebrated by local historians and research centres (centri studio) such as the one that published Bergamini, the abovementioned volume with testimonies from the twenty-one last witnesses of this way of life in Val Taleggio. This calls for a different timescape altogether, neither pre- nor post-Pasteurian, but rather one of 'structural nostalgia' (Herzfeld 2005: 147): a lost time of plenty of which successive generations reminisce. While we do not have evidence here that the previous generation in turn had been reminiscent of a more wholesome era before themselves, the reference is granted because of the collective performance of present witnesses as relics of pristine times, and of modern entrepreneurs as true heirs to those. This is after all precisely the cultural work of heritage as harnessing history (in particular, a nostalgic perception of history as natural repository of lost values) as a form of value-addition.

To instruct a case for a very small PDO for Strachitunt cheese involving only four municipalities, and to preside over it for eleven years could look like megalomania. But the arguments between neighbouring villages and competing family enterprises look different, in the realization of the gravity of their local effects. This book shows how, for the few hundred people involved, the cause of obtaining a Europe-wide protected denomination for Strachitunt was believed to make the difference between becoming a dying valley or following in the footprints of other niche producers, such as the 'Bitto rebels' (Corti 2012), namely heritage cheese-makers who had fought bitterly, and commercially won, against larger consortia. As we shall see in Part 1, the Bitto diatribe illuminates the politics of large geographic indications favouring industrial concerns and intensive dairy-farming, a style of animal husbandry that has determined the demise of dairy-breeders in Val Taleggio. This was a veritable war, a war of the cheeses, and each economic actor involved fought for their livelihoods with the resentment that only history's losers can have.¹⁹

Memory of course plays an important part in imagining futures — both collective and individual, both real and fictional, both resistant and hegemonic. In no case does the anthropologist simply voice the underdog. I am aware that I played a part in these processes, for example when I was called upon to draw a community map for the newly established Ecomuseum of the valley. More importantly, my own conversations and interactions with local actors, including publications in Italian that were read and presented in the valley, probably contributed to the local reflections on the meaning and implications of 'reinventing' Strachitunt. This book offers an ethnographic long-take of the sometimes conflicting voices and agendas that contributed to determine which strategies of reinvention and icons of locality became in turn viable: supportive local administrations, well-established entrepreneurs, food activists, international buyers,

local historians, social workers with political ambitions . . . The overall result is a skilful and precarious reinvention of the everyday, often dependent on selling ambivalent notions, including the very concept of community. Within a 'food heritage' framework, some ambitious local administrators and entrepreneurs, far from solving local conflicts, have succeeded in using the language of dairy 'excellence' as a springboard, hopefully for the valley and certainly for their own political careers and economic viability. However, reading the Strachitunt PDO story as a mere social construction of a geographical indication would be diminutive of the 'ecologies of sentiment' (Paxson 2012) that underwrote this epic. Similarly, it would be misleading to read the struggle of the Val Taleggio producers to obtain a prestigious geographical designation as a mere result of neoliberal governmentality exercised through the food heritage complex: as we shall see, neoliberal accountabilities can be readily embraced by enthusiastic actors.

I will now present the reader with a palette of six cheeses, six cases of which Strachitunt is one: Bitto, Formai de Mut, Branzi, Taleggio, strachino and Strachitunt. Each represents a peculiar arrangement of institutional alliances, tactics and tools that were variously assembled and harnessed to validate some aspect or dismiss some other, within an ongoing politics of distinction that is key to market survival. Their value is articulated in the language of patrimonio and tipicità and is consistently applied to upland cheese as opposed to lowland cheese.

Notes

- 1. For ethnographic analyses of the self-stereotypization of mountain people as 'hard', in the Italian Alps, see the monographs The Hard People by Patrick Heady (1999) and The Bounded Field by Jaro Stacul (2003).
- 2. Lega Nord is a political party, especially popular in northern Italy since the 1990s, which participated in the Berlusconi-led coalition governments. On the racist and xenophobic rhetoric of Lega Nord see the work of Lynda Dematteo (2007), who has notably also worked on northern Italian entrepreneurs and their expansion in Romania in the 1990s (2009: 68-72). The rhetoric of sovereignty and autochthony of Lega Nord and the economic imaginary of northern Italian small and medium enterprises are closely tied with each other, but beyond the scope of this work. On northern Italian political subcultures and their fundamental link to economic practice and institutional tactics see the work of political scientist Patrizia Messina (2006).
- 3. On the renaissance of Bergamasco dialect in the town of Bergamo see the monograph Living Memory by Jillian Cavanaugh (2009). My book focusses on the valleys and plains just north and south of the town of Bergamo. A note on language: Cavanaugh opts to use bergamasco as an adjective, as in 'bergamasco women'. I prefer to use the gender-neutral 'Bergamasque' as an adjective, to refer to people, valleys, cheese, etc. So for example I will refer to the Alpi Orobie as 'the Bergamasque Alps'. I only use bergamasco as a noun, for the dialect, and bergamaschi as a plural noun for the population of the province of Bergamo, thus maintaining the original uses for bergamasco and bergamaschi as in the native language.

- 4. On the symbolic discourse of national identity in relation to folklore in Greece, see Herzfeld (1986) and, by converse, Herzfeld (2009) on the social construction of locality in Rome. On the politics of naming cheese in Greece, see Petridou (2012).
- 5. I derive the notion of calibration from the science-historical work of Otto Sibum on Joule's experimental definition of the mechanical equivalent of heat (Sibum 2003). Sibum shows how mastering the use of the period's thermometers to achieve a precise measurement of temperature was a craft, rather than a black-boxed procedure. This art was mastered, in the Northwest of England where Joule was operating, by brewers like himself.
- 6. Braudel (1995), vol. 1, pp. 85–99. See especially the map of European transhumant trails on page 98, which involves the southern ridge of the Italian Alps.
- 7. On the distinction between *alpage* and transhumance see Jones (2005).
- 8. See for example the fourteenth-century 'Statutes and Ordinances' of Val Taleggio and Averara in Upper Val Brembana, of 1358: Lions Club Valle Brembana 1980.
- 9. The magnifica comunità (magnificent community) of Fiemme, in Trentino, boasts one of the most ancient statutes for the collective self-management of the local forests. The comunità's website publishes the current regulation, which absorbs and adapts the 'privileges' of the 'neighbours' that were first conceded by the local bishop with a 'pact' in 1110 (http://www.mcfiemme.eu/).
- 10. 'I malghesi producono caci di mediocre qualità, ma sanno confezionarli mercantili, e li smerciano facilmente quasi tutti in prossimità dei luoghi di produzione. Il vocabolo stracchino, che oggi ha ricevuto un'applicazione molto estesa, deriva dai piccoli formaggi teneri che quei malghesi, nel loro viaggio dalla montagna alla pianura e viceversa, sogliono confezionare all'infretta nelle stazioni di riposo, col latte delle mucche stracche per il lungo viaggio' (Jacini 1882: 27).
- 11. Val or valle means 'valley', and I prefer to use the autochthonous names Val Taleggio, Val Brembana etc. rather than resorting to inversions (Taleggio valley, Brembana valley). This will only be done occasionally for added emphasis or to clarify a point.
- 12. See http://www.euromontana.org/en/project/padima-policies-against-depopulation-inmountain-areas/, last accessed 15 January 2015.
- 13. Maria Grazia Pedrana, project PI for IREEAALP (Istituto di Ricerca per l'Ecologia e l'Economia Applicata alle Aree Alpine), quoted in Fabio Paravisi, 'Fuga dalla Val Brembana. L'Europa studia il caso', Corriere della Sera 8 August 2012.
- 14. Pasteurization is a thermic treatment aimed at destroying pathogens. According to Gambera and Surra 2003: 147, the thermic treatment of milk regulated by Directive EEC n. 46 of 1992 (acquired in Italy as DPR 54 of 1997) ranges between pasteurization at 63°C for at least 30 minutes or instant pasteurization at 95°C, but other combinations of temperature and length are also used (the most common is 72°C for 15 seconds, or 'flash pasteurization' for 4 seconds at 85°C).
- 15. Conference: I prodotti caseari d'alpeggio. Convegno-esposizione linee guida della Regione Lombardia per l'applicazione della normativa nazionale (DPR 54/97). Lecco, 16 March 1999.
- 16. As per law 283 of 30 April 1962 and decree 155 of 26 May 1997.
- 17. Baita is the name commonly used in Lombardy to define a stone mountain abode, nowadays used exclusively during the alpeggio (summer grazing season), but previously commonly used for hay barns, cow-sheds and human habitation.

- 18. Quinto Censimento dell'Agricoltura Italiana, ISTAT 2002: Tavola 1.7 Aziende con allevamenti secondo le principali specie di bestiame: http://www.census.istat.it/index_ agricoltura.htm. Sesto Censimento dell'Agricoltura Italiana, ISTAT, 2012: 'Censimento dell'Agricoltura in Breve' http://censimentoagricoltura.istat.it/inbreve/?QueryId=675& lang=it&graph=&subtheme=5&cube=DICA_ALLEVAMENTI#.
- 19. In Il mondo dei vinti, a collection of 270 interviews gathered in the mountains of Piedmont, historian Nuto Revelli gives a vivid portrait of the demise of the mountains - 'the world of the losers' - losing out both to intensive agriculture and to invasive tourism, both to the ills of modernization and to the assumption that casts them as marginal and residual to growth and progress (Revelli 1977).