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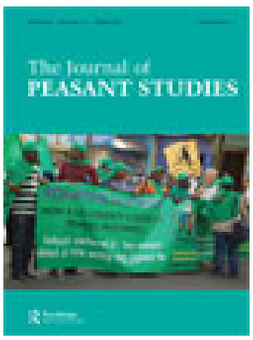

The Journal of Peasant Studies

ISSN: 0306-6150 (Print) 1743-9361 (Online) Journal homepage: http://www.tandfonline.com/loi/fjps20

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To cite this article: Dominic Glover & Glenn Davis Stone (2017): Heirloom rice in Ifugao: an 'anti-commodity' in the process of commodification, The Journal of Peasant Studies, DOI: 10.1080/03066150.2017.1284062

To link to this article: http://dx.doi.org/10.1080/03066150.2017.1284062

Published online: 19 Apr 2017.

The Journal of Peasant Studies, 2017
http://dx.doi.org/10.1080/03066150.2017.1284062

Heirloom rice in Ifugao: an 'anti-commodity' in the process of commodification

Dominic Glover and Glenn Davis Stone

We analyse the marketing of 'heirloom rices' produced in the Cordillera mountains of northern Luzon, the Philippines, as the commodification of a historical 'anti-commodity'. We contend that, historically, rice was produced for social, cultural and spiritual purposes but not primarily for sale or trade. The Ifugaos were able to sustain terraced wet-rice cultivation within a system of 'escape agriculture' because they were protected from Spanish interference by the friction of terrain and distance. 'Heirloom rice' is a boundary concept that enables social entrepreneurs to commodify traditional landraces. We analyse the implications for local rice production and conservation efforts.

Keywords: anti-commodity; terraced wet rice; Ifugao; Philippines; heirloom rice; escape agriculture

Introduction

In this paper we argue that the marketing of 'heirloom rices' produced in the Cordillera mountains of northern Luzon, the Philippines, represents the commodification of a historical 'anti-commodity'. We develop our argument as follows. First we describe the marketing of Cordillera heirloom rices outside the Cordillera region, particularly in North America. Until recently these traditional rices produced in the terraced pond-fields of the Cordilleras were non-commodities because they were produced for purposes other than commerce, including consumption as well as cultural and spiritual uses. But we further argue that they were anti-commodities (Hazareesingh and Maat 2016b) in that they were a major feature of a system of 'escape agriculture' (Scott 2009). Wet rice does not possess the defining features of 'escape crops' identified by Scott (2009); indeed it epitomises the style of agriculture practised by Southeast Asia's classic '*padi* states' from which escape agriculturalists fled. However, we contend that Cordilleran terrace rice production was part of an escape livelihood in the circumstances that prevailed during the Spanish occupation. We emphasise the overriding importance of what Scott (2009) termed 'the friction of terrain' and 'the friction of distance', while also drawing attention to the specific, locally adapted biological characteristics of the traditional rice varieties grown in the highlands, which made them uniquely adapted for cultivation at higher elevations.

We argue that the recent efforts to develop national and export markets for traditional rices are transforming these varieties from anti-commodities into commodities. Commodification bestows the traditional highland rices with new characteristics and entails the adoption of new cultivation, harvesting and processing methods. It also connects the rices to a greatly extended network of stakeholders, much larger than the one that sustained them

previously. Commodification for export has been adopted by social entrepreneurs as a deliberate strategy to preserve the landscapes, rice varieties, farming practices and ways of life that were maintained for several centuries by Cordilleran peoples. At the same time, the commodification of heirloom varieties as a strategy to create new, economically sustainable livelihoods for Cordillera farmers necessarily entails changes in the rice production system, meaning that there is an inherent tension between conservationist and innovative aspects of the trade in heirloom rice. To help make sense of this tension, we interpret the emerging trade in heirloom rice varieties as an attempt to commodify native rice in a socially and ethically responsible way, which seeks to maintain the rice varieties' connection to a specific community of producers even while putting the rice into long-distance networks of trade. We employ the concept of *commoditisation potential* to help explain how this balancing act is attempted (Manno 2012).

We argue that viewing heirloom rices as historical anti-commodities that are currently undergoing commodification offers a helpful perspective on the complex social and economic development transitions currently underway in the Cordillera Central. Many aspects of the ways of life that produced the heirloom rices, as well as the cultivation and landscape management practices associated with them, have passed into history and will not return. Today, local communities are more interested in engaging with outsiders – while attempting to maintain some degree of control in the engagement – than in escaping their influence or keeping them at bay. Alongside food and livelihood security, tourism has emerged as a new motivation for preserving the historic rice terraces. The continued cultivation and marketing of heirloom rice varieties on the terraces intersects with these different motives in various ways. This leads us to identify the novel category 'heirloom rice' as a social construction which is being deployed as a pragmatic response to contemporary development challenges in the particular setting of the Philippine Cordilleras. In this paper, we frame heirloom rice as a *boundary object* that facilitates the commercial trade in Ifugao native rice varieties (Star and Griesemer 1989), and 'heirloomness' as a type of *credence quality*, which is unverifiable directly by the consumer but can attract a price premium in the market (Darby and Karni 1973).

This paper is based on periods of ethnographic fieldwork carried out between 2013 and 2015 by the authors and local assistants in the municipalities of Kiangan, Banaue and Hungduan, Ifugao province, in the Cordillera Administrative Region (CAR) of northern Luzon, the Philippines. The fieldwork included interviews with key informants, transect walks, participant observation and a survey of rice farmers' seed choices. In this paper we present and discuss a qualitative analysis of our observational data, which was recorded in interview and field notes and digital photographs.

Native rice in Ifugao

The rice terraces of Ifugao province in the Philippine Cordilleras constitute a world-famous human-made landscape and tourist destination, cherished by Filipinos and foreign tourists alike. The terraces and their associated irrigation infrastructure create stunning arrays of level pond-fields for cultivation of rice (and root crops) and aquaculture (Figure 1). Five clusters of terraces in Ifugao province were inscribed in 1995 on the UNESCO[1] list of World Heritage monuments as a cultural landscape of outstanding beauty and global significance. Rice terraces are found across the CAR, which includes Ifugao, Mountain and

[1]The United Nations Educational, Scientific and Cultural Organisation, Paris, France.

Figure 1. Rice terraces in Banaue, Ifugao. Photo credit: Dominic Glover.

Kalinga provinces (Figure 2). Hundreds of rice varieties are grown in these terraces; most distinctive are the traditional highland cultivars, adapted to higher elevations, which are typically low yielding, aromatic, tall, low tillering,[2] and morphologically diverse. These landrace rices are long-season varieties cultivated just once each year, the characteristic which gives them their name in Ifugao: *tinawon*, literally meaning 'once-a-year'. Except at the highest elevations, these landraces have in recent decades been joined by, or in many cases replaced by, modern, short-season, lowland varieties, which are often grown twice a year (Sajise et al. 2012).

In recent years, social entrepreneurs have begun to export rice landraces grown in Ifugao, Mountain and Kalinga provinces for sale to niche markets in Manila and overseas. This movement has been led by Eighth Wonder, a company that imports and markets rice grown in the Cordillera rice terraces to consumers in North America. The company's founder, former US Peace Corps volunteer Mary Hensley, launched the company in 2005 as a social enterprise aiming to bring 'sustainable and culturally appropriate' economic opportunities to rice farmers in the Cordilleras. Eighth Wonder partners with RICE,

[2]Tillers are the shoots of rice plants that have the potential to produce panicles (ears) filled with rice grains.

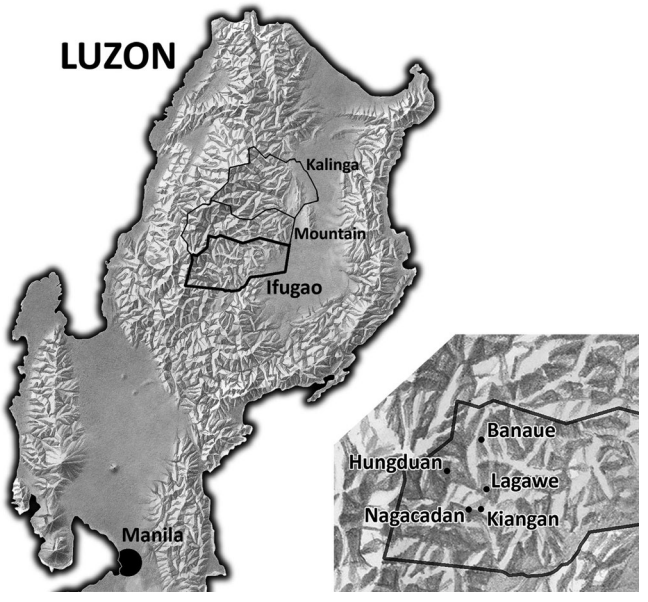

Figure 2. Northern Luzon, the Philippines, showing the main locations mentioned in the text.

Inc.,[3] a Philippine non-profit, non-governmental organisation (NGO) established at the same time by Filipina Vicky Garcia, which supports Cordillera rice farmer cooperatives to produce and process *tinawon* rice for Eighth Wonder. Together these organisations comprise the Cordillera Heirloom Rice Project (CHRP). In Ifugao, the CHRP works with the Rice Terrace Farmers' Cooperative (RTFC), based in Banaue (Druguet 2010; Sekimoto and Augustin-Jean 2012; Eighth Wonder n.d.a).

Separately, an initiative called the Heirloom Rice Project (HRP) was begun in 2014 by a consortium of research and development institutions, led by the International Rice Research Institute (IRRI, Los Baños) and funded by the Philippine Department of Agriculture. The HRP is an initiative under the Consortium for Unfavorable Rice Environments (CURE), which focuses on the problems of rice cultivation in low-potential, mainly rainfed areas (IRRI 2016). The HRP is being financed in the context of Philippine government policies oriented towards the achievement of national self-sufficiency in rice[4] as well as recurring public and official anxieties about threats to the sustainability and integrity of the Ifugao rice terraces and their World Heritage status. IRRI's leadership of a project that aims to conserve and promote traditional rice varieties appears to contradict the Institute's historical leadership of the Green Revolution, which explicitly aimed to replace traditional cultivars and cultivation practices (Cullather 2010). This reversal seems to reflect a new approach by IRRI to agro-ecologies in which Green Revolution-style intensification efforts have failed historically, as well as an adjustment to a more difficult funding environment for the type of work IRRI has done in the past (Stone and Glover 2016).

[3]RICE stands for Revitalize Indigenous Cordilleran Entrepreneurs.
[4]See for instance the IRRI–DA–PhilRice Food Staples Sufficiency Program (FSSP) (IRRI 2015a). Formally, the HRP is a sub-project of the FSSP (IRRI n.d.).

Like the CHRP, the HRP aims to conserve heirloom rice varieties in the CAR, partly by helping small-scale heirloom rice growers to sell their grain in export markets (*IRRI News* 2014). As well as encouraging *in situ* conservation, the project aims to 'restore' landraces that are near extinction, partly by improving the quality and availability of heirloom rice seed. The HRP is working on a community seed registry that will record community ownership of the seeds and help to secure formal plant variety protection (PVP) rights for the community over their heirloom varieties. The project researchers are also gathering evidence to support an application for formal geographical indicator (GI) protection for Cordillera heirloom rice varieties (Sekimoto and Augustin-Jean 2012). The HRP and CHRP partners are cooperating together in the Cordillera region, while the HRP's remit extends to heirloom rice varieties cultivated in other parts of the Philippines, specifically in North Cotabato, Mindanao (Department of Agriculture 2015; *IRRI News* 2015).

Our analysis of the CHRP and HRP helps us to bring to the surface a number of important issues and dynamic tensions that confront the partners involved. We do not explicitly compare or contrast the two projects; though we recognise that they are distinct, they also overlap in terms of partners and stakeholders, especially with respect to their activities and interactions with rice farmers on the ground in Ifugao. In this paper we focus in particular on the emerging tensions between conservation on one hand and commodification on the other, which are exemplified and encapsulated within the concept of 'heirloom rice'. We interpret heirloom rice as a social construction that facilitates the cooperation between the CHRP and HRP partners and enables the commodification of what was formerly an anti-commodity. To lay the foundations for our argument, in the next section we introduce the concept of the anti-commodity.

Commodities and anti-commodities

Arguably, the history of agricultural development under colonial regimes has devoted disproportionate attention to commodities and commodification – in other words, the commercial products and production processes that were chiefly of interest to the colonial powers: crops such as coffee, tea, jute, indigo, cotton, rubber, and spices. Recent scholarship has begun to focus on the ways indigenous populations and farming communities responded to commodification with strategies designed to defend their cultural and food sovereignty and resist incorporation into colonial frameworks of commerce and culture. Some of this scholarship has focused on the crops and farming systems that emerged in the shadow of, or under pressure from, the power of the state.

Within Scott's (2009) analysis of the centrifugal forces that have shaped the populations and cultural forms of the mountainous fringes of the lowland *padi* states of Southeast Asia, the strategy of 'escape agriculture' has an important place. Escape agriculture describes a type of mountain farming designed to keep the power of extractive lowland states at arms' length. Scott describes escape agriculture as inconspicuous and 'illegible', making it as resistant as possible to surveillance, monitoring and appropriation by state authorities. Escape agriculture typically involves low-intensity cultivation of a broad range of crops in combination with hunting, fishing and foraging. This diverse mixture of activities supports flexible and mobile lifestyles that spread risk. Swiddening epitomises this type of farming. Escape agriculture prioritises crops that thrive at higher elevations and in marginal soils, are relatively easy to cultivate, are often inconspicuous, have low value per unit of weight or volume, mature quickly, and are easily stored in the ground for extended periods. Roots and tubers such as yams, taro and sweet potatoes epitomise escape crops in that they are nearly 'appropriation-proof' (Scott 2009, 195–96).

Another strand of recent scholarship has conceptualised the crops grown by colonial subjects and indigenous peoples for their own purposes – including communities within as well as those menaced by nearby colonial states – as 'anti-commodities'. Hazareesingh and Maat (2016a) define an anti-commodity as

> an enduring form of production and action in opposition either to actual commodities and their existing functions, or to wider social processes of commodification, rather than simply a momentary form of protest or reaction. It refers to a range of local productive processes associated with values other than the purely economic, that are either maintained from the past or originally created to confront the various modes of commodification, primarily but not exclusively unleashed by European colonial hegemonies. (Hazareesingh and Maat 2016a, 6)

This definition emphasises the function of anti-commodities as practical, material, everyday expressions of resistance to commodification, historically under colonial systems and more generally through exposure to (emerging) networks of (international) commerce and trade. A key contrast is that anti-commodities are produced principally for subsistence and food security whereas commodities are produced principally for the market (or as Marx put it, for exchange value rather than use value). It is important to note that an anti-commodity, as defined in the literature cited here, is not merely a non-commodity or a product that is yet to be commodified. An anti-commodity, as the term is used here, can be identified by its function as a tool or vehicle of a livelihood strategy that is designed to resist domination and appropriation by the state or by foreign colonisers.

The anti-commodity concept has been explored and elaborated in various ways by scholars. It has been applied to the (re)appropriation of existing commodities through processes such as selection and cross-breeding that transform them into subsistence crops that support local/indigenous livelihoods; rice in West Africa and *desi* tobacco in India provide examples (Richards 2016; Sinha-Kerkhoff 2016). Some authors have applied the anti-commodity concept to local forms of cultivation that aim to defend local agro-ecological vitality and resilience, in the face of colonial drives towards monocultural production of cash crops such as cotton (Hazareesingh 2016). The concept has also been applied to traditional crops that have not been commercialised despite opportunities to do so, but instead preserved over many years as markers of identity and social status. Rice among Arab traders in East Africa supplies an example of this type (Gilbert 2016). In general, anti-commodities have been portrayed as crops that are cultivated to protect local interests and cultural values, in contrast to the production of agricultural commodities, which are shorn of local meanings, defined by their economic value and destined for (often foreign) markets. In that respect, the cultivation of anti-commodities might nowadays be portrayed as an expression of the food sovereignty or alternative food movements (Hazareesingh and Maat 2016a).

It is important to note that anti-commodities and commodities are not necessarily different crops in a given setting. Anti-commodities may resemble commodities in various superficial respects, rice being a good example of a crop that may be grown for local survival or for sale and export (Maat 2016; Richards 2016). A complex of biological, social and material characteristics determines whether a given crop functions primarily as a commodity or an anti-commodity, and in some cases a crop may straddle the categories, for example a product that is primarily an anti-commodity may have a residual role in trade in some circumstances (Maat 2015). The occasional use of an anti-commodity in trade remains compatible with Scott's (2009) conception of escape; as he explains, only in extreme situations would the non-state hill societies seek to isolate themselves completely from the lowlands; normally they would aim to sustain their independence while engaging in trade with the lowlands, where possible, on mutually advantageous terms.

Moreover, the production of anti-commodities may in practice be complementary to commodity production, forming part of a 'shadow economy' which, while it may be overlooked by policymakers and by conventional economic measurement, plays in reality a vital role in enabling the commercial trade to operate (Curry Machado 2016). This complementarity may amount to dependence, for example when commodity production depends to an unacknowledged degree on local communities that feed agricultural labourers and plantation workers with anti-commodities. Again, the same generic crop might feature as both commodity and anti-commodity, albeit in the form of different cultivars and within different farming systems; the interaction between commodified lowland rice and uncommodified upland rice in colonial-era Sumatra offers a relevant example. The upland rice was a vital subsistence crop for the indigenous population, whereas lowland wet rice was a commodity of interest to the colonial government and planters. Though the colonial administration encouraged lowland cultivation within government schemes in order to produce more rice for export, indigenous farmers often preferred to maintain upland rice cultivation for their own food security while planting other, more lucrative crops for sale, such as rubber and coffee. The co-existence of commodified and uncommodified rice in colonial Sumatra reflects the degree to which agricultural commodity production depended on the subsistence crops grown by the indigenous population to feed themselves (Maat 2015). This example calls to mind the observation by Marxist historians that capitalists might not go to the trouble and expense of commodifying products, and proletarianising their producers, if they were able to achieve their goals without having to shoulder the full costs entailed in the social reproduction of the labour force (Glassman 2006).

The Cordilleras as non-state space

Scott (2009) himself remarks on how well the peopling of mountainous northern Luzon fits with his thesis regarding the peopling of 'Zomia' or the Southeast Asian *massif*, which was driven by centrifugal forces exerted by the *padi* states of the surrounding regions. Evidence suggests that people migrated away from the coasts, initially to avoid raids by slave traders and, from the sixteenth century onwards, with much greater urgency, farther into the mountains to get away from Spanish colonists. While the Spaniards provided the motivation for migrating, the geography of the Cordilleras supplied 'friction of terrain' which created effective refuges from Spanish interference: rugged hills, isolated, steep-sided valleys and dense forests that made navigation and movement difficult and dangerous for outsiders. The hill society that emerged in this environment resembles in various aspects the 'escape social structures' described by Scott (2009): a society made up of small, dispersed, relatively egalitarian and acephalous, rivalrous groups, with an oral rather than written history and a reputation for wildness (e.g. headhunting; Rosaldo 1980), practising a mixture of crop cultivation (including swiddening), livestock raising, hunting and agro-forestry (Acabado 2012a).

The Cordilleras served as an effective refuge until the late stages of Spanish colonial rule in the late nineteenth century Philippines. Notwithstanding a few military and religious expeditions that penetrated briefly into Ifugao territory during the nineteenth century, the Spanish never fully controlled the area. They only established a small garrison in Kiangan, which lies on the more accessible south-eastern fringes of the mountains, as late as 1793 (Figure 1). The valley of Banaue, which nowadays serves as an accessible and increasingly urbanised centre for tourists visiting the various terrace clusters of Ifugao, was not visited by Europeans until 1868 (Acabado 2009; Phelan 1959; Acabado 2016; Scott 1982). Even as late as the Second World War (WWII), Japanese general Tomoyuki Yamashita chose the isolated

valleys of Hungduan for his tenacious last stand; the area proved to be such an effective refuge in 1945 that it took weeks of fighting to flush him out.

Ifugao terrace rice cultivation as escape agriculture

Terraced wet rice seems to be excluded by definition from Scott's (2009) concept of escape crops, since it entails cultivation on fixed plots that are conspicuous and susceptible to appropriation. After all, wet rice is the signature crop of the lowland *padi* states from which mountain peoples are thought to have been seeking to escape. Highland wet-rice is labour intensive (especially compared to the roots and tubers Scott identifies as ideal escape crops), requires continual attention during a season of four to five months, and must be stored after harvest in granaries, which need to be protected. The terraced pond-fields themselves are elaborate pieces of infrastructure, requiring regular maintenance and periodic repair, which tie farmers to a fixed spot season after season. Terrace rice cultivation therefore seems incompatible with Scott's construction of escape agriculture, and indeed Scott treats wet rice as the antithesis of escape agriculture. However, our interpretation shows the Ifugao rice terraces to be a key component in a system of escape agriculture.

Until recently, the rice terraces of Ifugao were accepted to be 2000–3000 years old, representing an indigenous development by an isolated population whose ancestors migrated into the area thousands of years ago. Historical research held that Luzon had been populated by successive waves of migrants arriving from various, uncertain points of origin in Southeast Asia, with each wave pushing its predecessors progressively farther from the coasts and lowlands and up into the hills and mountains. This model implied that the cultural and technological differences observable between the different groups of peoples that occupied the hills, valleys and lowlands during the Spanish period were original and primordial (Beyer 1955).

In the past half century this 'waves of migration' view has been challenged by various scholars, though it survives in popular accounts, including school curriculums (Acabado, Martin, and Lauer 2014). The cultural differentiation between hill and lowland peoples, and among hill tribes, is now thought most likely to have emerged *in situ* under the steady influence of demographic, agro-ecological, political and economic factors (Keesing 1962; Dozier 1966). Scholars have debated whether immigrants into the mountains would have brought a tradition of wet rice cultivation with them from the lowlands or learned it from people who already inhabited the area; likewise, they may have developed the technologies of terrace construction and upland irrigation systems themselves or learned them from an established population. A plausible history describes a movement of people from the Magat valley into the area that is now Ifugao, bringing with them wet-rice cultivation practices as well as rice varieties that proved to be suitable for growing at higher elevations (Keesing 1962; Acabado 2012b). Linguistic evidence indicates that the techniques of terraced pond-field construction were known to proto-Cordilleran speakers several thousand years ago (Reid 1994).

Recent archaeological scholarship, including radiocarbon dating, suggests that terraces excavated in highland sites near Kiangan, Hungduan and Banaue date back only to the period after 1585, following the first arrival of Spanish colonists in the Philippines.[5]

[5]Some Ifugaos resist the revisionist short history. For example, current Ifugao congressman and former provincial governor Teddy Baguilat recently demanded that researchers provide evidence to support their claim that the terraces are only a few hundred years old (*Manila Bulletin* 2015).

Some terrace cultivation probably existed at lower mountain elevations thousands of years ago; however, historical and archaeological evidence suggests that there may have been a substantial expansion of the terraces that began around 400 years ago, marked especially by the spread onto steeper slopes at higher elevations. This would have been driven by a sharp population increase, requiring more food and supplying more labour with which to grow it. The obvious explanation for this demographic change is an influx of migrants fleeing from Spanish encroachment in the lowlands (Acabado 2009, 2012b).

A rapid expansion of the terraces would indicate a considerable dynamism and technological sophistication among the 'Ifugaos' (incorporating newcomers) in response to the new threat posed by the Spanish invaders. Indeed, the encounter with the Spanish seems to have produced significant changes in the structure and culture of Ifugao society, including a greater degree of social stratification. Moreover there is evidence of significant, ongoing contact with the lowlands, including exchange of trade goods and supply of slaves (Acabado 2009; Acabado, Martin, and Lauer 2014; Håkansson 2014).

As we noted above, Scott conceptualises escape agriculture as a type of farming that is adaptive for people trying to stay out of reach of the state. Under extreme pressure from state coercion, escape agriculture might equate to precarious lifestyles of foraging and surreptitious crop cultivation conducted in extraordinary secrecy or remoteness. Scott offers the example of the 'hiding villages' of the Karen under the draconian oppression of the Burmese (Myanmar) army as such a limiting case; or examples of weak hill peoples opting for lifestyles of almost complete isolation on mountain ridges. However, Scott also explains that the centripetal and centrifugal forces exerted by states create many shades and graduations in the zone between full incorporation into the state and complete isolation from it. Many real-world cases occupy this grey zone, and Scott offers examples of accommodations reached between *padi* states and hill peoples at the point where the factors that made the mountains good refuges (friction of terrain, friction of distance, and so on) made it impractical or uneconomical for the state to try to subjugate non-state peoples. Scott's examples include cases where hill tribes demanded tribute from valley dwellers they were able to threaten, or agreed to provide tributes to lowland powers in return for protection from other lowland powers that menaced them. Trade between upland and lowland peoples was quite a normal state of affairs, and might at times create relationships of mutual dependence that encouraged cordial co-existence and cooperation. In this trade, hill peoples might exchange commodities including slaves and high-value forest products (such as medicinal herbs) for lowland goods and items imported from foreign lands.

Scott's purpose was to delineate escape agriculture and its associated crops as ideal types, and to clearly distinguish them from the agriculture of the *padi* states, which was based on cultivation of wet rice in lowland areas. But the essence of his thesis is simply that escape agriculture is a type of farming which suited communities that were trying to keep state power at arm's length. Arguably, the Ifugaos were sufficiently secure once they reached their 'mountain fastnesses' that they could carry on a relatively settled existence because the Spanish colonial state did not present an immediate, existential threat. As noted above, Spanish power was not extended into the mountains until the late eighteenth century and then only in the tenuous form of a garrison in Kiangan. The other valleys and iconic rice terrace clusters of the Ifugaos – in Banaue, Hungduan, Batad, Mayoyao and other locations – were even more remote and inaccessible. Indeed, they did not come within reach of state power until the twentieth century. Even Nagacadan, which lies very close to Kiangan as the crow flies and is now connected by a good road, may have been largely inaccessible to the Spaniards. At the time of this writing, the construction of a new road will make it possible to travel by motor vehicle from Nagacadan to Hungduan,

a journey that was only possible on foot in the year 2015. This will make it possible for the first time to travel by car from Kiangan to Banaue via Hungduan.

In short, an accumulation of ethno-historical, linguistic and archaeological evidence suggests that the basic mechanisms of escape described by Scott (2009) applied to the Cordilleras in general and Ifugao in particular: a population expansion in the mountains, driven by the pressure of a predatory Spanish incursion beginning in the sixteenth century. The Ifugaos' practice of wet-rice cultivation on elaborate terraces is theoretically compatible with the general concept of escape agriculture, in a situation where population pressure made some form of intensive, settled crop cultivation necessary and geographical isolation made it possible. The Ifugaos could afford to tie themselves to terraced wet-rice cultivation because they were protected by very strong 'friction of terrain and distance'. In their mountain retreats they were sufficiently isolated from Spanish interference that they did not need to limit themselves to livelihoods of hunting, foraging and surreptitious crop cultivation. They continued to trade with the lowlanders as mountain communities had before the Spanish arrived (quite possibly in an atmosphere of mutual wariness and mistrust) (Scott 2009; Phelan 1959; Håkansson 2014). Other aspects of the Ifugao livelihood fit without difficulty into the escape concept, including the cultivation of taro, yams and sweet potatoes in combination with pig rearing, hunting, agro-forestry and swiddening on upland slopes (Acabado 2012a).

Ifugao native rice as a historical anti-commodity

It is clear that, historically, the Ifugaos were trading with lowlanders but it is very unlikely they traded rice. This follows in part from the fact that the *tinawon* varieties, which account for the bulk of rice produced on the terraces, are intrinsically low yielding; they could not have produced a substantial surplus for sale or exchange (Conklin 1980; Andam 1995). In fact, Ifugao communities (particularly poorer households) have been found to obtain more than half of their carbohydrates from sweet potato (*camote*) rather than rice, in spite of the fact that rice cultivation is significantly more labour-intensive (Brosius 1988). The notion that intensive wet-rice cultivation on terraced pond-fields was an evolutionary development in technology, which replaced swiddening, can confidently be rejected. Instead, the two systems have long been practised sided by side, and they remain complementary and dynamic aspects of a 'broad-spectrum lifeway' that includes cultivation of irrigated and rainfed crops, aquaculture, hunting and foraging (Acabado 2009, 2012a).

Aside from being used for food, rice played important roles in feasts and in spiritual rituals that provided structure and meaning to the Ifugaos' existence (Brosius 1988). A myth records that the Ifugao native rices were given by the sky gods in exchange for the secret of cooking with fire, and that the gift was bestowed with the condition that the Ifugaos diligently perform an annual cycle of rice rituals that would ensure a good harvest (*Rice Today* 2014). It is interesting to consider the cultural and religious significance of rice as a prestige crop in the light of the theory that the earliest terraces may have been built for taro rather than rice. Apart from being relatively easy to cultivate (as noted above), taro appreciates wet soil conditions and can be cultivated in gently flowing water, making it an alternative crop to wet rice in the same pond-fields. Taro also has evident religious significance for a few of the hill peoples of the Cordilleras because it features among the appurtenances of Ifugao ritual practitioners (*mumbaki*). If farmers introduced rice after taro the principal driver may have been population pressure – a requirement for more food combined with the labour needed to cultivate more intensively – but the reasons may not have been purely economic. Rice cultivation may also have come

to be practised for reasons of social solidarity, economic status, ritual and cultural identity, and not exclusively for survival (Acabado 2012b; Keesing 1962; Håkansson 2014; Brosius 1988).

In summary, we feel confident in identifying terraced wet rice in Ifugao as a type of anti-commodity that was cultivated within an overall livelihood strategy defined by a determination to evade the power of the Spanish state and keep the people of the lowlands at bay. Rice was grown for subsistence, for rituals and as a signifier of social status, but not for trade.

Heirloom rice in the course of commodification

Scott (2009) carefully affirms that his model for the peopling of hill zones does not apply to the post-WWII period, principally because modern 'distance demolishing' technologies such as paved roads, bridges, motorised vehicles, telegraph and telephones have aided states to extend their authority over previously inaccessible mountain areas. The relationship between Ifugaos and the Philippine state, between uplands and lowlands, has changed decisively and irrevocably. The mountains are now involved in global exchanges of trade, migration and tourism. The Ifugaos have been incorporated into the cash economy and engage in income-generating activities and economic migration. This dynamic is creating demographic changes and new types of agriculture and land management in the mountains, signified in the spread of vegetable gardens and associated changes in the management of watersheds and woodlots (*muyongs*), alterations in the distribution of water through the landscape, and the neglect, abandonment or conversion of rice terraces (McKay 2003; Acabado 2012a; Castonguay et al. 2016; Bantayan et al. 2012; Dizon et al. 2012).

These transformational processes have been underway for many years and by now are already firmly entrenched. The Spanish were ejected from the Philippines in 1898, with American assistance. The US strategy encouraged Filipinos' nationalist aspirations while sustaining American hegemony over the islands. The Cordilleras were fully incorporated within the US-dominated colonial state by the late nineteenth century. In mid-century, WWII brought troops and violent conflict right to the Ifugaos' backyard. General Yamashita's last stand in Hungduan confirmed the utility of the region as a zone of escape but also illustrated how the escape strategy had become less tenable in the mid-twentieth century. The fighting brought foreign troops into the mountains together with their vehicles, weapons, radios and other military equipment. After the war the Philippines became an independent state. By the time Harold Conklin arrived in Banaue in 1961, many aspects of Ifugao culture were beginning to undergo rapid change, including the agricultural systems he recorded in beautiful detail in his *Ethnographic Atlas of Ifugao* (1980). In the post-war years, rice cultivation in the mountains has been subject to interventions from national and international 'development' programmes. The Philippines became a crucible of the Green Revolution in rice, with the creation of IRRI at Los Baños. Later the Philippine Rice Research Institute (PhilRice) was established at Muñoz, with a mission to pursue rice research in the country's national interests. However, the technical approaches adopted by IRRI and PhilRice have proved to be only marginally relevant to the highlands. Local people around Banaue recall that an IRRI research outpost was present in the area for several years as part of an effort to develop modern, high-yielding rice varieties that could thrive at higher elevations, but none was released.[6]

Some modern, lowland rice varieties are successfully cultivated today at lower elevations in Ifugao, such as Kiangan and Lagawe. The new varieties are higher yielding

than traditional types, but much more dependent on fertiliser and pesticides (Sajise et al. 2012). Delivering these inputs in areas of low relief is easy enough, but on steep hillsides this can only be done on foot and with great effort (Figure 3). The modern varieties are typically short-season types that can be grown twice a year, so they can be used to produce a surplus and may be grown not only for food but also as commodities for sale. However, at higher elevations, the robust and locally adapted but low-yielding, long-season, native rices are still the only cultivars that can be grown successfully. The native rice types continue to be valued and cultivated by the indigenous populations of the montane provinces and are used for subsistence, for cultural and religious purposes and, in case of need, barter or trade. Considerable genetic diversity of varieties has been maintained up to the present, but in some locations, such as places that are more accessible by road or more influenced by modern agricultural extension services, the genetic diversity of landraces in farmers' rice seed portfolios is being undermined (Sajise et al. 2012).

Against a backdrop of multi-dimensional socio-economic, cultural, institutional and technical change, the CHRP and HRP are attempting to preserve unique rice varieties and conserve heritage landscapes by creating new livelihood opportunities and bringing greater prosperity to rice cultivators in Ifugao, Mountain and Kalinga Provinces. Their shared strategy is particularly interesting because it is attempting to commodify selected varieties of native rice that used to function as anti-commodities rather than tradable goods. The conceptual transformation from anti-commodity to commodity is not of academic interest only, but also has practical significance. We use this lens to consider challenges and tensions confronted by the CHRP and HRP at present and in the future.

Marxian theory of political economy begins with the transformation of objects into commodities. In this tradition, the 'fetishisation' of commodities detaches tradable goods from the labour that was used to produce them (Marx 1967 [1867]). An object acquires economic value through exchanges, and its status as a commodity is therefore not fixed but contingent and contextual; the object may shift from commodity to non-commodity status and back again (Appadurai 1986). Social relations, spatial and temporal conditions, and the materiality of objects all contribute to the determination of commodity status and value in particular circumstances and contexts. The 'commoditisation potential' of an object is a function of social and material factors and relations that jointly determine how readily it can be made into a commodity, or how strongly it resists commoditisation. Among other factors, an object may be more difficult to commoditise if its valuation depends heavily on its links to a particular context or community (Manno 2012).[7] In the next section, we argue that 'heirloom rice' is a novel concept that facilitates the commodification of Ifugao native rice, but that it does so in a manner that nevertheless seeks to retain and valorise its special connection to a particular people, place, landscape and culture.

[6]See Sajise et al. (2012). We have been unable to confirm the facts behind our informants' claim. However, the Pinoy Rice Knowledge Bank, which is run by PhilRice on behalf of the Department of Agriculture, lists only six registered varieties that are officially designated for 'cool elevated' cultivation; all of these are long-season varieties of at least 131 days' duration and all except one are described as having a 'hard' eating quality, with only one having the more desirable 'soft' eating characteristic. All six are noted to be susceptible to several pests and diseases. Only one of these varieties has the designation NSIC (standing for National Seed Industry Council), indicating that it was registered after 1992. The other five bear the pre-1992 designation PSB (for the former Philippine Seed Board). Alongside their code numbers, these six varieties also bear the names of locations in the CAR, implying that they are cultivars that were collected in those areas in the first place. See Pinoy Rice Knowledge Bank (n.d.).

[7]Manno (2012) uses the term 'commoditisation' rather than 'commodification'.

Figure 3. Steep, narrow rice terraces in Batad, Ifugao. Photo credit: Dominic Glover.

The category 'heirloom rice' facilitates commodification

From the start, the CHRP has built itself around the novel category 'heirloom rice'. The framing of some crop varieties as heirlooms rose to prominence in the mid-1990s (Jordan 2015; Carlisle 2015). The quality of 'heirloomness' is an example of a *credence quality*, a feature that affects the price of a good but which is not directly testable or verifiable by the consumer either before or during use (Darby and Karni 1973). In food markets, qualities such as 'heirloom', 'heritage', 'organic' and 'fair trade' are all credence qualities that can attract a price premium. Credence qualities like these need to be verified by process standards and traceability measures, and represented to consumers through advertising and labelling (Reardon et al. 1999). While some foodstuffs can be sold largely on credence qualities alone, heirloom foods are characteristically also marketed on their taste and eating properties (*experience qualities* rather than credence qualities).

The original heirloom foods were fruits and vegetables such as apples and tomatoes, whose distinctive shapes, colours and flavours make them charismatic (Jordan 2007, 2015). The market for heirloom rice grains was pioneered by California-based Lotus Foods, founded in 1995, which trades in rice from several Asian countries other than the Philippines. Lotus Foods advertises the heirloom characteristics of its rice varieties among other credence qualities, such as the *terroir* of a specific place and the ecological

credentials of water-saving System of Rice Intensification (SRI) cultivation practices, which it brands as 'More Crop Per Drop' (Lotus Foods n.d.). By contrast, Hensley and Garcia chose to put the heirloom concept at the very centre of the CHRP.

Eighth Wonder's marketing establishes the heirloom character of Ifugao *tinawon* varieties by explicitly linking them to the particular history, terrace landscape, people and cultivation methods of the Cordilleras. The company's website and promotional materials refer specifically to the rice terraces in photographs, advertising slogans and descriptive text (Druguet 2010). Hensley and Garcia chose to focus exclusively on landraces that were grown in Ifugao, Mountain and Kalinga provinces before the Green Revolution, and only grain produced using traditional methods on the rice terraces. These criteria led them to exclude traditional varieties grown on the productive lowland paddy fields around the Kalinga capital, Tabuk, even though some varieties grown in that area were pre-Green Revolution traditional varieties. The CHRP also excludes upland rice varieties grown on swiddens, even though most if not all of these are highly likely to be traditional, ancestral varieties.[8] In this manner, the socio-cultural and agro-ecological rootedness of the heirlooms is valorised in a way that directly challenges the highly 'disembedded' regime of Green Revolution rice production and trade (Stone and Glover 2016).

Alongside the basic heirloom characteristic, both the CHRP and HRP mention a number of secondary features including the distinctive cultivation methods (which are essentially organic, though uncertified as such due to the costs of certification), aroma, and nutritional composition of *tinawon* and the other rice varieties in their catalogue. Socially responsible consumption is another credence quality consumers are invited to buy, namely the idea that their purchase will support the economic survival of endangered terrace rice farmers and the conservation of a threatened World Heritage landscape (Sekimoto and Augustin-Jean 2012; Druguet 2010). However, these are not the defining features of Hensley's and Garcia's construction of 'heirloomness', and their primary motivation is not to entertain the palates of North American gourmets but to exploit the rising market for food credence qualities as a means to help preserve the traditional germplasm and terrace cultivation methods of the Cordilleras. We note in particular that the historical anti-commodity status of the *tinawon* rices is itself presented as an important aspect of their heirloom identity: customers are informed that this is a type of rice that has been produced and consumed in the Cordilleras for generations, which has never previously been available to purchase (Eighth Wonder n.d.b).

The HRP defines heirloom rices as cultivars that have been 'handed down for several generations through family members and grown by small landholders in their ancestral farms' (IRRI n.d., 1). Though this definition is a little looser than the one used by Eighth Wonder, in practice the HRP is influenced by the approach of the CHRP partners working on the ground in Ifugao, including RICE Inc. and the RTFC.

The heirloom concept is practically useful to the CHRP and HRP because it reifies and simplifies categories of rice, in contrast to local classifications and categories that are complex, contextual, sometimes ambiguous and often the subject of disagreement. For example, there are dozens of local landraces, each of which may have an individual, local name, which may be modified by a colour (e.g. red or white) or other feature (e.g.

[8]Several interviews and personal communications, Eighth Wonder and CHRP leaders. Swidden farming has long been practised in Ifugao and other parts of the Cordilleras alongside terrace agriculture. Hensley and Garcia regard swidden farming as a destructive, unsustainable practice, but this is not necessarily the case (Conklin 1957).

hairy, designating awned varieties, or hairless). Each native rice variety belongs to one of two general categories, glutinous (sticky) or non-glutinous, which are grown for different purposes and processed differently. Moreover, ways of classifying and naming rice varieties in Ifugao are often highly localised, differing between municipalities or locations, and occasionally between individuals. A cultivar regarded as native in one valley might be recognised as an introduced variety in a neighbouring area – and consequently a non-native, non-traditional variety in that valley, not a 'rice of the ancestors'.

Many people we spoke to used terms such as 'heirloom', 'tinawon' and 'native' more or less interchangeably, but in fact the classification of local rice types is quite complex. For example, one key informant stated firmly that aroma is a key characteristic of all *tinawon* varieties, but explained that there are some rice types traditionally grown in Ifugao that are non-aromatic.[9] The term *tinawon* is widely used as shorthand for the authentic native rices of the Ifugaos, but the portfolio of rice varieties widely grown in Ifugao includes a distinct class known as *pinidwa* ('second crop'). These are characteristically short-statured, lowland, tropical *indica* varieties, whereas the tall *tinawon* types are typically *japonicas* that are adapted to the cooler, temperate climates encountered at higher elevations. While the *tinawon* varieties are slow-maturing cultivars planted in the long dry season, the *pinidwas* are early-maturing varieties typically cultivated in the wet season (Andam 1995). In principle the *pinidwa* varieties can produce two crops per year ('double cropping'), like modern rice varieties, yet in practice they are typically planted only once annually. Although these *indica* cultivars are characteristic of the lowlands, they were an established part of the seed portfolio in the mountains several decades ago (Conklin 1980) and are not necessarily treated locally as recent introductions to the area. A farmer we interviewed, who took pride in preserving traditional varieties and cultivation methods, planted both *tinawon* and *pinidwa* types and regarded both kinds as traditional, native rices of the Ifugaos, which he called heirlooms. He even stated that in the past he had produced a *pinidwa* type for the CHRP.[10]

Other widely grown cultivars are known (at least to older generations) as introduced varieties, yet they too are now regarded as established varieties in the local seed portfolio. An example is *Oklan* (also known as *Oakland*), which older informants remembered being grown for the first time in the 1970s.[11] The wide acceptance of these varieties contrasts with the way more recent arrivals are explicitly recognised as novelties, which nonetheless may be incorporated into the seed portfolio without much fuss. We observed an example of this process during fieldwork in July 2015; we encountered a mature woman in Hungduan transplanting a recently introduced lowland variety into a plot of land in the valley bottom, in preparation for the forthcoming wet season (Figure 4). She recounted that she had received the seed the previous year from a nephew who lived in the neighbouring, lowland province of Nueva Vizcaya. Having had a good result with the variety in the previous wet season she had decided it was worth planting a second time.[12]

Our interviews also uncovered local disagreements in varietal classification; for example, some of our respondents insisted that the variety *Mina'angan*, widely grown in Hungduan, could only be red because in fact the term *mina'angan* means red; others, however, allowed that there is such a variety as *Mina'angan White*. We also met farmers

[9]Interviews, RTFC manager, Banaue.
[10]Interview, rice farmer in Hungduan.
[11]For instance: interview, rice farmer and her sister-in-law in Hungduan.
[12]Interview, rice farmer in Hungduan.

Figure 4. A woman transplants a new lowland variety in Hungduan. Note that mature rice in surrounding fields is waiting to be harvested. Photo credit: Dominic Glover.

who insisted that *Oklan* was always white and others who said that they planted a red *Oklan* (*Oklan Mina'angan*).[13] To some extent, the confusion of names reflects the real profusion of diverse and non-uniform varieties found in the highland areas. For example, rice varieties that seem to be related may come in hairy and hairless types that are easy to distinguish in the field, for obvious reasons, but once the hulls have been removed from the grain it may take deep expertise to see a difference between their grain sizes, shapes or colours (Figure 5).

'Heirloom rice' as a marketing category collapses this complexity into a singular concept that can appeal to consumers at the same time as it conveys a novel meaning back to the farmers producing the rice (Sekimoto and Augustin-Jean 2012). The concept of 'heirloom rice' thus functions as a boundary object – a semantically flexible concept around which different communities of knowledge and practice can gather in a common

[13]Interviews, rice farmers in Hungduan. The apparent contradiction might be explained by recalling that colour classifications may refer either to the hull (husk) or bran (pericarp) of the rice grain, with the former being a salient feature of the plant in the field while the latter is relevant during milling and consumption. The rice grain itself (endosperm) is always white in colour.

Figure 5. Several *tinawon* rice varieties classified by the Cordillera Heirloom Rice Project (CHRP) as *Tinawon White* (l to r): *Inawi* w/ awn [hairy]; *Imbu'ucan* w/ awn [hairy]; *Isamfulo*; *Inawi* [hairless]; *Dona'al*. Photo credit: Dominic Glover.

enterprise, in spite of potential differences in their perspectives, interests and understandings (Star and Griesemer 1989). The heirloom concept also reifies and purifies a fluid, dynamic and contextual set of local meanings and categories into a neat, legible, standardised category of *tinawon* heirloom rice, enabling this locally rooted object to travel beyond Ifugao and the CAR.

The CHRP needs to ensure that the rice grains put into high-value markets meet an acceptable level of quality and uniformity, a major challenge that has occasionally been a point of friction with growers (Sekimoto and Augustin-Jean 2012; Druguet 2010). Eighth Wonder relies on negotiated agreements with groups of farmers to ensure that it can source sufficient rice of the correct types and qualities. The coordinator of the local farmers' cooperative, RTFC, meets with groups of farmers ahead of each growing season to settle on production targets. Individual growers pledge to produce certain amounts of one or more of the 17 *tinawon* landrace varieties that the CHRP has selected for export (although no formal contracts are issued). In order to market these rices in North America, the CHRP needs to establish recognisable consumer products and brands; this requires the creation of a few discrete and standardised categories, which may be used to label a range of grains that consumers would find impossible to distinguish. Different *tinawon* varieties are common in different municipalities; however, the RTFC needs to consolidate bulk shipments from the whole province, to meet Eighth Wonder's requirements. The marketing category of 'heirloom rice' helps with this consolidation. For instance, the CHRP uses the umbrella category of '*Tinawon White*' for the distinct varieties *Imbu'ucan* (hairy), *Isamfulo*, *Inawi* (hairy and hairless) and *Dona'al* (Figure 5).[14] Other Ifugao *tinawon* rice types are bulked by the CHRP in

[14]Samples of these varieties were classified under the category *Tinawon White* at the RTFC headquarters in Banaue during our fieldwork in 2014 and 2015. At the time of writing (March 2016), the *Tinawon White* available to purchase from the Eighth Wonder website comprised the *tinawon* varieties *Donnal* [sic], *On-Ongan*, *Innawi*, *Batnol* and *Ayyuhip*.

a similar manner, including some that are mixed with varieties from Kalinga province (Druguet 2010).

Imposing order on the confusing diversity of rice landraces is also a key strategy for the HRP, subsumed under its remit of pursuing rice science and capacity building. The IRRI-led project is trying to define varieties with much greater precision for marketing purposes, and to meet consumer expectations for identity, purity, quality and uniformity. The project has begun by collecting samples of 47 landrace rice varieties from RICE Inc. farmers. The collected varieties have been screened agronomically and genetically at IRRI's trial plots and laboratories in Los Baños. The researchers aim to identify, and so reify, the distinctive characteristics of each variety so that these may be refined and purified through careful seed selection and multiplication. A sample of promising rice varieties has been presented to project stakeholders, including representatives of RICE Inc. and the RTFC, at workshops whose aim was to identify and select a small number of cultivars considered to have market potential as 'heirloom rices'. The collected varieties have been screened for disease resistance to rice blast and bacterial blight, and chemically analysed to identify any special nutritional properties or health benefits they may have, such as anti-oxidant content. This work is ongoing and the criteria used by the project to identify candidate varieties for commercial development have not been disclosed. Some of the native rices are expected to make the cut, while others will not; the ones that are selected for further attention will undergo processes of definition and purification that will extricate them from the confusion of farmers' local, contextual categories and transform them into standardised commodities that make sense to consumers, as brands. It remains to be seen how the HRP will navigate the relationship between the genotypic and phenotypic diversity found within the traditional rice varieties and generic marketing categories like 'Tinawon White'.

The approaches chosen by both the HRP and the CHRP show that the category of heirloom rice is not just a new name for traditional rice varieties but a new thing in itself. Heirloom rice represents a purified, ordered category of rices capable of appealing to consumers' sensibilities and meeting their expectations, including product criteria of uniformity, trait stability and quality, which have been created for the market by scientific and bureaucratic intervention in a traditional rice system. The intervention is actually changing the rice production system in order to preserve its key characteristics and its genetic diversity, while creating new commercial opportunities for small-scale rice growers in an 'unfavourable rice area' of the Philippines (IRRI 2015b). In the next section we review some of the challenges encountered during the transformation of a historical anti-commodity into a commodity.

Heirloom rice commodification creates challenges

The marketing of heirloom rice faces the challenge of making *tinawon* rice varieties into a tradable good while maintaining their cultural and geographical 'embeddedness' (Stone and Glover 2016). The CHRP and HRP are taking advantage of the heirlooms' commoditisation potential, which derives from their ready transferability and transportability to distant markets as well as the fact that their rarity makes them somewhat excludable (i.e. they can be enjoyed exclusively by only a few people). At the same time, however, the heirloom identity seeks to valorise the special connection between the rice varieties and the people and culture of the rice terraces of Ifugao, which is a feature that may be associated with low commoditisation potential (Manno 2012). Some readers may be reminded of the circulation of 'inalienable possessions', whereby objects may change hands while somehow

retaining their unbreakable link to their original owners, the 'paradox of keeping while giving' (Weiner 1992).[15] In a sense, the marketing of heirloom rice is trying to accomplish such a balancing act, whose success depends on the willingness of the rice growers to commercialise their crop, and consumers to pay a premium primarily for credence qualities.

Beyond this conceptual challenge, the commodification of traditional rice varieties poses various practical challenges, whether for a social enterprise like the CHRP, a government-supported programme like the HRP, or the small-scale farmers and processors themselves. To start with, in order to engage in the production of high-quality heirloom varieties for the market, small-scale rice farmers and local processors have to accommodate new requirements that affect their procurement of seeds and their methods of cultivation, but principally the stages of harvesting, threshing and storage.

In the traditional rice harvesting practice, rice panicles (ears) are cut from the plants one by one, tied together in tight bundles that may be gripped in one hand (Figure 6), and stored in a traditional wooden granary on stilts (Figure 7). Bundles would be taken from the granary as needed and the rice would be pounded by hand in a mortar, as part of a daily household routine. This system is still practised by local farm households (Figure 8). Under the new system of production for sale, alternative methods of processing, transport and storage are required. The paddy may be harvested in the traditional way, by panicles, or in a modern fashion by cutting the stalks lower down. The paddy is then threshed, manually or mechanically, soon after cutting (Figure 9). The resulting grain is put into sacks for further processing and the heavy sacks need to be carried to the mill; this makes it desirable to have easy access to a convenient track or road. The CHRP-supported farmers' cooperative, RTFC, operates a small mill at its premises in Banaue (Figure 10), or farmers may use another local mill. The milled grain is again stored in sacks and transported by road. The rice grain needs to be inspected to ensure that it conforms to the expected standards of purity. New retail packaging is being trialled for sales of heirloom rice to local tourists and consumers in Manila. As a tangible sign of this new value chain emerging, the RTFC is in the process of upgrading and expanding its facilities in a new, accessible roadside location on the road south of Banaue, which will enable it to cope with the processing, storage and consolidation of larger grain shipments (Figure 11).

Changes in the local agro-ecology are another factor which makes it hard to stick to pre-Green Revolution cultivation methods. For example, the rice terraces are now widely infested with an invasive species of snail, for which no traditional remedies existed, and an invasive rat species which is drawn to the aromatic heirloom varieties (Castonguay et al. 2016). The rat problem is partly a consequence of a breakdown in the pre-Green Revolution practice whereby farmers used to synchronise the planting of aromatic rices across an area, which made rat predation more diffuse and therefore less serious for individual farmers. Local informants say that the development of indigenous, non-chemical counter-measures against rats and snails has been hampered by the ready availability of chemical pesticides, although these are only partly effective and not everybody uses them. To support farm cooperative members, RICE Inc. runs workshops to demonstrate non-chemical solutions to these new agro-ecological problems. This is a notable example of new methods being required in order to preserve or recreate the credence qualities of heirloom rice that would have been present as a matter of course a generation or two ago.

Some local activists are concerned that the heirloom rice projects are undermining the local attachment to native rice varieties, since farmers have an incentive to grow them for

[15]We are grateful to Amber Huff for pointing out this connection.

Figure 6. Typical bundle of harvested *tinawon* rice. Photo credit: Dominic Glover.

Figure 7. Traditional Ifugao house/granary on stilts. Photo credit: Dominic Glover.

Figure 8. Young woman pounds rice by hand. Photo credit: Dominic Glover.

Figure 9. Women threshing rice by hand. Photo credit: Dominic Glover.

Figure 10. The Rice Terrace Farmers' Cooperative (RTFC) rice mill, Banaue. Photo credit: Dominic Glover.

Figure 11. Construction work on new premises for the Rice Terrace Farmers' Cooperative (RTFC), located on the road south of Banaue towards Lagawe. Photo credit: Dominic Glover.

the export market rather than consuming the grain themselves. These activists complained that farmers have started to sell their traditional, native rices and use the proceeds to purchase cheaper, generic lowland rice grain for consumption at home (Licnachan 2015).[16] On the other hand, it is also argued that the willingness of foreigners and city dwellers to pay a premium for heirlooms has renewed the farmers' appreciation of their native rice varieties and traditions, and assigned a tangible monetary value to them (Sekimoto and Augustin-Jean 2012).

Potential concerns that the CHRP and HRP might usurp the rights of the indigenous communities and dispossess them of their ancestral rice varieties are probably overblown. The CHRP has not sought to obtain proprietary rights over *tinawon* varieties, while the HRP is seeking to protect the farmers' rights through PVP and GI registrations. It is notable that the HRP has been able to proceed only after securing formal consent from the indigenous communities in the affected areas, whose rights are protected under Philippine law.

The HRP's work to characterise the traditional rices collected from Ifugao at the molecular level promises to be very interesting, and possibly challenging to conventional assumptions about the genetic composition of the local rice varieties. As we have discussed in this paper, rice germplasm is mobile and there is a good chance that farmer selection, breeding and seed exchange may already have incorporated lowland and highland genetics into new locally adapted varieties. This is plausible and has happened in West Africa, for example, where inter-specific hybrids of African and Asian rice varieties were discovered in farmers' fields (Nuijten et al. 2009). In fact, early reports indicate that the rice varieties screened by HRP scientists have been found to include genetic material from both *indica* and *japonica* origins (Vera Cruz and De Luna 2015). The detailed results of the genetic analysis carried out by the HRP have not yet been published, but discoveries of this kind would confirm that the rice varieties grown in the mountains have been purposefully selected and bred over many years by indigenous farmers. Such findings would call for the indigenous farmers' skillful development and ownership of the germplasm to be acknowledged, but might also challenge naïve conceptions of native rice varieties as merely ancient cultivars that have been passed down the generations without alteration.

Conclusions

Liz Carlisle in a recent article credits Eighth Wonder with:

> a shift in the status of heirloom rice – and in the status of the farmers who grow it. As recently as a decade ago, restaurants in Manila shunned terrace rice in favor of lowland and imported varieties. In effect, they regarded terrace rice as 'poor people's food'. But in the past few years, chefs in faraway places … have bestowed accolades on Cordillera rice, and the product has steadily gained prestige. (Carlisle 2016, 14)

This revaluation of the native rice varieties of the CAR has been accomplished through the deployment of heirloom rice as a novel concept to establish a market niche. The heirloom concept is at the heart of a niche marketing strategy that is attempting to commercialise the rice while simultaneously asserting and protecting its special attributes and especially the ownership of the local community. Eighth Wonder is using the heirloom concept to

[16]For example, several personnel of Save the Ifugao Terraces Movement (SITMo), a local NGO.

build a bridge between characteristics of low commoditisation potential (e.g. rootedness in place and culture and tradition) and characteristics of high commoditisation potential (as ordinary rice grains they are easily excludable, transferable, standardisable, depersonalised and transportable) (Manno 2012).

We believe it would be a mistake to interpret the marketing of heirloom rice as a simple case of capitalist 'accumulation by dispossession' (Glassman 2006). In this case, a coalition of a social enterprise, an NGO and farming communities has attempted to use commodification as a strategy to benefit disadvantaged rice-farming communities in the CAR. The initiative has attracted support from government, leading to the involvement of public research organisations that are focusing for the first time on the preservation and development of traditional rice varieties and cultivation methods. As a token of resistance to the commodity as fetish, Eighth Wonder aspires to put heirloom rice varieties into distant markets while sustaining their connection to the specific people, culture and landscape where they were grown. One can interpret this as an attempt to accomplish commoditisation within an ethic of 'care and connection' rather than economic exploitation (Manno 2012). However, this is not an easy trick to pull off. The change in the production system from cultivation of anti-commodities to the production of commodities entails an extensive transformation of agro-ecological and cultural systems of the CAR that are intricately linked (Vandergeest 2008). This is the tightrope that the CHRP and HRP are trying to walk across.

The Ifugao rice terraces are cherished as a feat of technological ingenuity and engineering skill, and celebrated as a major tourist attraction. As a result there is a widely shared desire to preserve and protect the remaining terraces, along with a widely shared anxiety about their current dilapidation and their long-term survival. But the economic system and socio-cultural institutions and practices that created the rice terraces have already disappeared, and they are not likely to return. The problem is that the farmers whose grandparents practised escape agriculture now want to escape agriculture, and the question is whether this can be checked by the commodification of the anti-commodity rice. For the terraces to be preserved into the future, new institutional and economic frameworks will be required, with sustainable livelihood options at their heart. Agricultural production may be part of this framework alongside other components.

Tourism is likely to remain one of these components, and the touristic value of the rice terraces is boosted to some unquantifiable degree by their status as a World Heritage site. The World Heritage designation depends heavily on the terraces continuing to be used for rice cultivation, even though it is possible that the terraces may have been built originally for taro or other crops. The World Heritage listing is at risk due to UNESCO's concerns about the abandonment of terraces and inadequate maintenance of irrigation infrastructure.[17] Some local activists argue that the conversion of rice terraces to other uses, such as vegetable cultivation, is a reasonable and legitimate response to changed circumstances. According to the head of the Save the Ifugao Terraces Movement (SITMo, a local NGO), in traditional Ifugao land management the rice terraces have always been regarded as productive zones of the landscape, which are available for economic exploitation, whereas it is the forests and woodlots (*muyongs*) that have been protected by restrictions on how they may be used. Now, the UNESCO World Heritage designation imposes conservation rules on the terraces themselves.[18] This 'museumisation' of the terraces may easily conflict with existing institutions of land use and efforts to

[17]Between 2001 and 2012 UNESCO classified the Ifugao rice terraces as 'in danger'. See UNESCO (n.d.).
[18]SITMo chief executive, pers. comm.

support the development of realistic new livelihood options for local people (Guimbatan and Baguilat 2006). This dilemma is familiar to development scholars from other cases where remote, bureaucratic and elite demands for landscape conservation may conflict with local conventions of resource exploitation and ambitions for a better life through agrarian technological change (Li 2008; Vandergeest 2008).

In this complex situation the effort to commercialise heirloom rice is designed to preserve the rice terraces while offering better livelihood opportunities for the farmers and their communities. In this paper we have identified heirloom rice as the key to this enterprise, representing a novel category of rice produced in the Ifugao rice terraces, which facilitates the conversion of a historical anti-commodity into a commodity. This is creating new opportunities but also paradoxical constructions, whereby the rice and its surrounding culture are being changed in order to preserve them. This represents an accommodation to a new reality in which a historical pattern of anti-commodity production in a context of escape agriculture has given way to a new regime of economic livelihood that is linked to networks of migration, tourism and trade. Heirloom rice serves as a boundary object, a concept that binds together traditional rice varieties with cultivation methods, a landscape and people in order to represent them to distant consumers while also reflecting these ideas back towards the rice farming community of Ifugao itself. To be successful in the long term, heirloom rice must be a sufficiently large and flexible concept to allow innovation and adaptation of local livelihoods, not just conservation.

Acknowledgements

We are grateful to the many farmers and other key informants who agreed to be interviewed for this research. For particular assistance and insights we are grateful to Marlon Martin, Bugan Vanessa Paredes, Bugan Jacqueline and their colleagues at SITMo; Jacy Moore; Dandy Umhao; Stephen Acabado of UCLA and his collaborators in the Ifugao Archaeology Programme; Vicky Garcia, Mary Hensley, and Jimmy Lingayo of the CHRP; Nollie Vera Cruz and Aileen Lapitan of IRRI and the HRP; Jovy Camso of Mountain Province Agriculture Department; Esther Licnachan of the National Council of Indigenous Peoples, Ifugao; Raymundo Bahatan of the Provincial Department of Agriculture, Ifugao; Esther Humiding; Adrien Salazar; and Gene and Aurora Hettel. Finally, we thank Amber Huff (IDS) for helpful comments on an earlier draft of this paper.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This publication was made possible through the support of a grant from the John Templeton Foundation initiative 'Can GM crops help to feed the world?' The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the John Templeton Foundation. Additional funds came from the ESRC-funded STEPS Centre at the University of Sussex, UK, under grant number ES/IO21620/1.

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