

## JEWISH GHOSTS, KNACKERS, TOMMYKNOCKERS, AND OTHER SPRITES OF CAPITALISM IN THE CORNISH MINES

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### INTRODUCTION

The Cornish were so stereotypically associated with hard rock mining during its golden age in the American West that one joking definition of the word 'mine' was 'a hole in the ground with a Cornish man at the bottom'.<sup>1</sup> A mine was the intersection of natural geological features (a hole in the ground) and cultural ethnic ones (the Cornish man at the bottom). For the Cornish, too, what it meant to be Cornish stood at the intersection of ethnicity and geology, nature and culture. The Cornish diaspora turned their ethnicity into a claim on technical expertise in hard rock mining that in the nineteenth century made a Cornish miner a necessary adjunct to mines all over the world.<sup>2</sup> Nor was the claim entirely ungrounded. Cornwall was the place where hard rock mining was pioneered in all its aspects; not merely technical, but also financial and even superstitious ones. The institutions associated with Cornish mining went wherever Cornish miners went, which is to say, everywhere and anywhere there was a hole in the ground, for the Cornish were a very migratory people.<sup>3</sup> Cornish identity was a very saleable commodity, a set of claims of expertise over hard rock mining, that guided the movements of the Cornish throughout the world.<sup>4</sup>

In this article I am concerned with the superstitions of mining, specifically folkloric ideas about Jews and Fairies and Jewish fairies in Cornish mines. I am also interested in the changing social ontology that underlies these beliefs, including changing forms and formulations of anti-Semitism, as well as changing notions of nature and economy,

from medieval to modern Cornwall that underlie these superstitions.<sup>5</sup> But, in a move that will surprise no one, I will argue that these beliefs are embedded in technical and financial and other institutional aspects of their mining context. Part of this context is the rise of Cornish-style capitalist modernity. It includes changing ideas about nature and exchange that would bring dead Jewish miners to life as nature spirits, and then later, banish them from nature to the hazy supernatural half-life of folklore.

Cornish mining developed and spread with capitalism, or rather, was developed and spread as a specific local form of capitalism, a 'culture of capitalism'. This culture of capitalism included both things we now tend to think of as technical and natural, those relating to industrial production, as well as those social and non-natural things we think of as being essential to capitalist exchange, such as specific forms of capital and wages. But it also included things that were not so immediately pragmatic and utilitarian, things that belonged not to the natural world of brute facts, but some other world of beliefs and stories. These beliefs and stories involved certain kinds of spirits, specifically the ghosts of Jewish miners who were also fairies. In this article I will bracket specific problems of causation between these seemingly different and incommensurable worlds of production, exchange, and superstitious ideology, because such problems are vexatious and possibly artefactual, and simply discuss each sort of thing alongside all the others. The story is interesting enough, I think, to tell it in an unprincipled and eclectic way.

Viewed in retrospect, then, Cornish 'mining culture' included what we capitalist moderns think of as purely technical matters, involving the socialization of nature, a labour process of production determined by the natural realities of hard rock mining, in which the Cornish were key innovators.<sup>6</sup> Cornish mining culture also included matters we think of as purely conventional or social, matters of exchange such as indigenous methods of adapting this labour process of production to capital. In Cornwall, innovations in the organization of production and exchange included both unique methods in recruiting capital (the cost book system)<sup>7</sup> and unique wage contract systems (the tribute system). According to this common sense view of capitalism production is divided from exchange as nature from culture. Both of these things, production and exchange, however, stand together in our common sense view as a kind of natural, real 'base' to a superstructural category of interesting but basically unreal things we call the supernatural. In this case, this includes beliefs in spirits and supernatural agents, spectral 'others', associated with the production process.<sup>8</sup>

The Cornish culture of capitalism included all these different kinds

of things, and this culture proved able to move along with Cornish miners wherever hard rock mining was to be done. In terms of production, Cornish miners of the diaspora came to be known as 'Cousin Jacks', and Cousin Jacks were found in mining communities across the New World.<sup>9</sup> A hole in the ground could not be dignified with the term 'mine' anywhere in the world unless a Cousin Jack miner was at the bottom of it. Ethnic identity and skill were one in the figure of the Cousin Jack miner. In matters of exchange, too, the cost-book system and the wage systems of Cornish mines, piecework systems like the tribute system, which shared risk between labour and capital, were introduced elsewhere in Britain and all over the world throughout the nineteenth century.<sup>10</sup> Lastly, Cornish mining spirits followed Cornish miners throughout the world, creating an Atlantic 'faerie diaspora' that mirrored, or even exceeded, the real one.<sup>11</sup> Here, I trace the mutations in Cornish identity and self-definition and the identity of their spectral others in relation to changes both in the labour process and the valorization process of capital.<sup>12</sup>

But first, I need to introduce the basic folkloric narrative that I am trying to locate in terms of a changing culture of capitalism. I am going to give a short overview of this story. It begins in the sixteenth century with Cornish tanners alleging that the most ancient miners, what are usually called 'the old men', were Jews; in the nineteenth century, as mining moves underground, so do these mining Jews, but they become associated with ghosts and fairies called 'knackers' in the process; lastly, as these miners take their ghosts to the mines of the new world, they adopt the Ellis Island name of 'Tommy knockers' and their Jewish ethnicity disappears.

### GOING UNDERGROUND

First of all, there is the problem of Jews becoming miners, then ghosts, and then fairies, in Cornish mining. It is frequently claimed that beliefs in underground mining spirits are basically universal, and there may be something to this.<sup>13</sup> This is usually linked to the universally uncanny experience of the 'anti-world' of mining, the subterraneanness and danger of mining leads to all manner of superstitions, just as it is often said that sailors, vulnerable to the whims of the high seas, are very superstitious. The simplicity of the analysis does not mean it is wrong. If it is true it would be simply the natural, technical aspect of mining that is relevant to the analysis: when you go underground, perhaps deep underground as with hard rock mining, you begin to establish different, and opposed, norms for behaviour compared to that which exists above ground, and perhaps opposed belief systems. Taboos appear that oppose the surface world to the mining world, such as bans

on whistling, the presence of women, making the sign of the cross, and so on, common amongst later Cornish miners.<sup>14</sup> Maybe it is just because mines are frightening, dark and dangerous. It could be as simple as that.

Now, Cornish tanners have had beliefs about 'others' involved in production, called 'the old men' and often identified with 'Jews' and sometimes 'Saracens', long before mining itself went 'underground'. The immediate evidence for these predecessors was the wooden picks and shovels found in streaming (mining in streams), which were attributed to 'Jews' just as the ruins of old smelting houses (called 'Jew's Houses'), old styles of ingots, old mining works and in general all evidence of older styles of mining by 'the old men' (earlier miners using different technologies) were summarily attributed to Jews or Saracens.<sup>15</sup> However, it was only when mining went underground, a move from streaming to lode mining, that these Jews moved from temporally displaced deceased predecessors, the old men, to spectral contemporaries, nature spirits or ghosts. But they remained Jews. As Ghosts, they were uncannily both predecessors and contemporaries, ghosts of dead Jewish miners. Just as their technology (same function, different substance) was both similar and different, so too they were themselves present and absent, self (miner) and other (Jew). In the old world, these ghosts remained the ghosts of Jews even as they were assimilated to the world of fairies. In the new world, they ceased being Jews and ceased being fairies, and moved from being the anonymous spirits of the old men to being the spirits of the recently dead miners, specifically, those that died mining. Presently, they ceased to be anything at all, and died the second death of all spirits in a disenchanted world.<sup>16</sup>

So the Jews became by turns ghosts, fairies and then nothing at all. But how did the old men, the anonymous mining predecessors, come to be identified with Jews? And why are the Jews always imagined as *workers*? We find 'Jews' as spectral others (whether natural predecessors or supernatural contemporaries engaged in the same activity as the self), in Cornish mining from the very start. As Victorian commentators historicized and naturalized these Jewish miners as real historical Jews, the fact that these were Jewish *workers* bothered them a great deal. By the nineteenth century, 'Jew' and 'Worker' were supposed to be non-intersecting sets. Therefore, Folklore must have 'got it wrong'. Victorians offered rationalizations of the Cornish beliefs that insisted that the Jews must have been involved in Cornish mining not as *producers*, that is, as engaged in the *labour process* of mining (that is, the actual concrete technical process of work), as the Cornish stories implied. Rather, the story goes, because they were Jews, they

must have been involved in the tin industry as merchants and usurers, in the *valorization* process (under mercantilism, this would presumably mean advancing risk capital against future earnings, and in general the buying, selling and smelting of the tin).

All of this assumes that when these stories arose an essentially capitalist working class of 'tanners' could be distinguished from the other 'tanners' who engaged in other aspects of the process. The folklore makes no distinction, just as everyone is a tanner who has to do with tin on any level, so we find spectral 'Jews' from the 'point of production' all the way to the market, where the Victorians felt Jews would more properly 'belong'. My argument here is not only that the earlier system did not have a clear distinction between production and non-production, workers and others (capitalists, for example, or merchants), but further, that the relevant distinction is a similar one, based on the distinction between a natural economy of farming (against which miners in Cornwall seem to have always opposed themselves, even if, as is likely they engaged in it 'part time') in which the product is an immediate use-value, and the 'unnatural economy' of mining, in which everyone who is engaged is only interested in the product as an item to be exchanged for money. Hence, it makes sense for everyone involved to stand to the 'natural economy' of the farmers as 'Jews' to 'Christians', money to useful things.

### RISK: WEALTH AND DEATH

So, in this article I am interested in the supernaturalization of the stories of Jews so that Jewish miners come to be nature spirits. I am also interested in how Jews ever got to be involved in Cornish mining at all. And lastly, I am interested in how Jewish spirits are associated with different kinds of risk in mining. Roughly, Jewish spirits, called 'knackers', are good omens, guardians of natural wealth, indicating the presence of ore, lucky strikes and mother lodes, in Cornwall. In the new world, they are no longer imagined as Jews, or fairies, and they no longer guard wealth. These new spirits, the Tommyknockers, instead are often the ghosts of miners who died from mining accidents, and they are portents of the risk of death.<sup>17</sup>

As mining becomes specifically capitalist and moves underground, the 'Jews' are assimilated to the world of ghosts and faeries, and begin to be called 'Knackers', 'Knockers' or 'Tommy knockers'. While the earlier 'Jews' were indicators, I suggest, of a 'unnatural' economy of mining, a whole trade that ran all the way from the Cornish stream-works to London, every link of the chain being at once an act of production and exchange, in the capitalist period production comes to be opposed to exchange within this unnatural economy (which is still

opposed to the natural agrarian economy in which it is embedded).<sup>18</sup> In a productivist ideology of capitalism, the production process is imagined as being a relatively natural metabolism between nature and culture, but fettered and subordinated to an entirely unnatural logic of exchange.<sup>19</sup> The erstwhile spirits of exchange come to be associated with production *within* exchange, or production *for* exchange, nature spirits who represent the sorts of risks inherent in a labour contract that involves both natural variables and contractual ones. Accordingly, the spirits move from being associated with exchange to being associated with material production and material wealth, that is, the presence of lodes.

This brings us to a third change: the personalities and moral character of the spirits varies with the nature of the wage contract system. Miners working tribute systems (a species of internal contract piecework system in which the wage is directly proportional to production at some rate of shillings paid to pound value of ore raised), who therefore share the risk of the capitalist and have an interest in finding ore, have different views of the nature of spirits than those who work an simple time based system.<sup>20</sup> In the former, the spirits tend to be associated as signs or portents of wealth, in the latter, they are signs or portents of danger.<sup>21</sup> In the former, they express a category of risk with components that are both natural (the whereabouts of lodes) and conventional (the contract struck that month), accordingly the spirits themselves are hybrids, nature spirits and the ghosts of Jews. In the latter, with a time based contract, the spirits express the only variable that is likely to interest a miner working on the clock: danger and death. The category of risk associated with the supernatural does not change, but the question is what the risk is, wealth or death, spirits of wealth (tributing) or spirits of danger (time wages). The spirits become more malevolent as the miner's relation to production is increasingly alienated.

### ALL ABOARD: COUSIN JACKS AND TOMMYKNOCKERS IN THE NEW WORLD

The last change in the spirit world is simply the one in which all the Old World associations are lost, and these spirits, now called 'Tommyknockers', move into every mine with the same authority as the Cornish miner, losing all attributes of fairies and Jews.<sup>22</sup> As the Cornish move to the New World, Cornish identity in the New World becomes essentially an expression of technical experience.<sup>23</sup> Cornish immigrants not involved in the Cornish pastime of hard rock mining quickly assimilate; those involved in mining retain ethnicity since this ethnicity is a claim on essentialized technical experience and skills.<sup>24</sup>

Just as Cornish farmers and fishermen generally disappear into other ethnicities in the New World, so too their associated spirits (Piskies, Spriggans, associated with farmers, mermaids associated with fishermen) disappear. But the tenacity of Cornishness as a category of production ('Cousin Jacks') is identical to the tenacity of the mining spirits, who are also associated with production. The Tommyknockers come to control the mines on a supernatural plane as the Cousin Jacks do on the natural plane. Even non-Cornish ethnic miners can be found with Tommyknocker stories.<sup>25</sup>

Now that I have told the story in outline, I should like to go into a little more detail about each of these transitions.

### JEWES

'An ancient story I'll tell you anon,  
Which is older by far than the days of King John;  
But this you should know, that that red-robed sinner  
Robb'd the Jew of the gold he had made as a tinner.'<sup>26</sup>

Stories of Jewish miners appear with the very first narrative reports about Cornish tin-miners, generally called tanners, dating from the late sixteenth and early seventeenth centuries. In any area in which mining has been pursued over long historical period, at any point in history, contemporary miners are going to encounter evidence of previous workings, what are generally called 'Old Men's works', the mining predecessors generally being called 'the old men'. In Cornwall, however, from the very start, these old men are identified with Jews. The very first chapter of the first description we have of the Cornish tanners is entitled 'Of the working [of] Tinworks by the Saxons which tanners call Jewes working.'<sup>27</sup> The evidence of these Jewish predecessors itself was empirical, the presence of working implements in old works made not of iron, but of wood. In this period tanning was primarily for stream tin (stream works), and not mined deep underground. Our earliest author, Thomas Beare writing in 1586, disagreed with the tanners, believing that the old men were not Jews, but another heathen people, perhaps Saxons (I have modernized the spelling for the convenience of the modern reader):

It appears by working of our tanners in Cornwall that the Saxons, being heathen people (when they inhabited our country) were skilful workers and searchers for black tin, which in those ancient days wrought not with spades and working tools made of iron as we have now in our time but all

of the hart of oak, they as got their tin and their blowing houses hard by their works and so made it white, for proof whereof diverse workers of our time have found their shovels, spades and mattocks made all of oak and holm in diverse and sundry places as they have searched for tin in old waste ground they have found white tin blown likewise. . . . But whatsoever they were either Saxons or Danes or any other nations our tin workers . . . call and term their places by the name of the working of Jews.<sup>28</sup>

Thomas Beare disagreed with the tanners that the earlier miners had been Jews, on the grounds that it did not make sense historically: first, all Jews were exiled from England in 1291, second, they were never granted any liberty to search for tin, and third, they never showed any interest in leaving cities.<sup>29</sup>

This account is paralleled a generation later in Carew's *Survey of Cornwall*, of 1602. Echoing a tanners' myth ('a strong imagination') also mentioned in Beare's account to the effect that the distribution of tin is the result of Noah's Flood,<sup>30</sup> Carew goes on to explain the way in which stream and moor tin lead to tin lodes, and the correspondingly different methods of working tin. Under this rubric he adds:

(The Cornish tanners) maintain these works to have been very ancient, and first wrought by the *Jews* with pickaxes of Holm, Box and Hart's Horn: They prove this by the name of those places yet enduring, to wit, *Attal Sarazin*, in English, the *Jew's offcast*, and by those tools daily found amongst the rubble of such works. . . . There are also taken up in such works, certain little tools heads of brass, which some term thunder-axes, but they make small showing of any profitable use.<sup>31</sup>

Some such story about Jewish involvement in Cornish mines is repeated in every subsequent account, and Beare's doubts notwithstanding, it is transposed from a belief of the tanners to a historical fact by the nineteenth century. But even as the Jewish tanners are transformed into a historical fact, there remained something potentially bothersome about the story, summed up in the apparent oxymoron 'Jewish workers'. Nineteenth-century anti-Semitism could easily see Jewish involvement in the financial end of the tin works, perhaps in the 'natural' Jewish role as usurers and merchants, but certainly not working (unless they were slaves!). Some accepted the alleged fact of Jews in Cornwall, suitably emended from diligent workers to usurious merchants. The natural historian Borlase seems to be the first to

emend the account to see British workers exploited by Romans or Jews (the former engrossing the mines under direct supervision, the latter acting, like the Phoenicians and Greeks before them, in a more indirect mercantilist fashion) always on the basis of natural historical evidence, never referring directly to folkloric evidence.<sup>32</sup>

In one of the workings here were lately found, about eight feet under the surface, two slabs, or small blocks of melted tin, of about twenty eight pounds weight each, of a shape very different from that which for many years has obtained in Cornwall; as they have no stamp on them, probably as old as the time when the Jews had engrossed the tin manufacture in the time of King John.<sup>33</sup>

So by their coins, sepulchres, and sacrificial instruments found in and near the ancient tin-works, (whither nothing perceivable could tempt them, but the riches of those mines) it is as apparent that the Romans worked those mines, or at least with their soldiers superintended the workmen. At this time the Britons had likely little or no property; they were working miners under their conquerors, but what regulations they were subject to is uncertain.<sup>34</sup>

By the nineteenth century, such accounts are continued, partially with reference to folkloric traditions. For example, Hunt's account of 1881 accepts the reality of the Jews, but stresses that they were not workers, but merchants:

Tradition informs us that the Christian churches upon Dartmoor, which are said to have been built about the reign of John, were reared by the Jews. Once, and once only, I heard the story told in more detail. They, the Jews, did not actually work in the tin streams and mines of the Moor, but they employed tanners, who were Christians; and the king imposed on the Jew Merchants the condition that they should build churches for their miners.<sup>35</sup>

Others accepted Jewish workers, but added that they were enslaved under the Romans. Still others, notably the linguist Max Muller, insisted that this was a 'verbal myth', like many others, a 'disease of language' resulting from false etymology.<sup>36</sup>

There is hardly a book on Cornish history or antiquities in which we are not seriously informed that at some time or other the Jews migrated to Cornwall, or worked as slaves in the Cornish mines. Some writers state this simply as a fact requiring no further confirmation; others support it by that kind of evidence which Herodotus, no doubt, would have found sufficient.<sup>37</sup>

Using the new methods of philological science, Muller explained away each of these verbal myths as mutations of ordinary words. Offering a true 'natural history' of discourse, Muller grounds these myths in an appropriately geological metaphor, explaining that languages change by a *metamorphic process*, which

consists chiefly in this, that words, as they cease to be properly understood, are slightly changed, generally with the object of imparting to them once again a more intelligible meaning. This meaning is mostly a mistaken one, but the word in its new dress and with its new character is frequently made to support facts and fictions which could not be supported by other evidence.<sup>38</sup>

Using philological arguments and verbal metamorphic processes, he dispenses with the Jewishness of such alternate places names as *Marazion* and *Market Jew*, as well as the Jews of *Jew's Houses* and the Saracens of *Attal Sarazin*, finding instead English reinterpretations of opaque Cornish etymologies: 'Thus vanish the Jews from Cornwall.'<sup>39</sup>

From all these varied responses we see that, one way or another, the Jewish tanners were turned into creatures commensurate with historical fact and natural history, most especially the latter, their behaviour was brought into line with the canons of 'natural' occupations for Jews according to nineteenth-century anti-Semitism. Beginning with the natural historians of the eighteenth century and continuing into the nineteenth century, in elite accounts, the behaviour of the Jews of Cornwall is made concordant with beliefs about the stereotypical position of Jews within a European economy, and the Jews are historicized and taken from a mythic or folkloric order into a natural, historical order. The result of these historicizations is that the Jews are reconciled with natural history, and the Cornish Jews are either explained away or their customs and habits reconciled with notions of appropriate Jewish behaviour.

What was it that is so distressing about 'Jewish workers' that caused some to turn them into ante-diluvian merchants? The problem

seems to be not so much the territorial incongruity of Jews in Cornwall, but rather that these Jews appear rather insistently as figures involved in *production* and not *exchange*. Nineteenth century political economy and industrial capitalism differs from mercantilism in that the structure of industrial relations clearly is divided into two great spheres, one of production, one of exchange. Production was understood to be human technical interaction with nature, 'industry', while exchange was understood a largely conventional world of purely social forms, 'the market'. As involvement with production came to be a general measure of social worth, those spheres of the economy more distant from production, for example finance capital, were increasingly seen as unnatural and parasitic fetters on the real source of social wealth and thence social worth, production. This particular set of ideologies that links social worth to natural, material production is generally called productivism. The emerging productivist narrative of anti-Semitism places the figure of the Jew squarely in the parasitic world of exchange, and freeborn Britons in the intrinsically valuable role of production.

Anti-semitism changes as the interpretation of the economy does: nineteenth century anti-semitism was not medieval anti-semitism. Later rationalizers, living within a productivist universe, insist that what this account 'must' mean is that the Jewish tinner, a non-productive figure of monetary exchange and usury par excellence, among other things, was involved in mining as a mercantile interest, not as what we would now call 'immediate producers'. But as we will see, the only constant factor in the figure of the Jewish tinner and his later supernatural form is that he is a figure of production.

But in these earliest accounts, before the Jews follow the miners underground and become sprites or ghosts, it seems we have a rather different opposition at work, embedded in a different understanding of economic relations, a mercantilist one in which production or technical aspects of labour process are not discretely separated and mediated once and for all from the social, conventional, economic aspects of exchange. In short, the opposition between industrial *production* (implying a uniquely identifiable group of productive workers) and monetary *exchange* (implying a group of owners, shareholders, merchant interests in opposition to the former group), is not easily identifiable and has no relevance to this distinction. This is partially because the different groups involved in tin production cannot be easily opposed to other another, and all activities involving tin, both 'production' and 'exchange', fade one into the other, forming a whole 'trade' of tinning. Different 'technical' aspects of the trade, from getting the tin, and processing it, and smelting it, and so on, are distributed across different groups mediated by a series of relations of

monetary exchange as well: tanners dig for black tin and sell it to smelters who smelt it and sell it to tin merchants and so on. A tinner, then, is anyone engaged in the 'trade' of tinning from start to finish. The prototype definition offered by Beare is someone who by themselves does 'the whole trade', that is, takes the tin from the ground to the market, doing everything by himself. But under this definition, Beare complains, there would be few if any tanners. He then follows the tin-working from the ground all the way to London, and finds all those along the way to be tanners.<sup>40</sup>

Nor is there a divide in industrial organization at this stage between workers and owners at the point of production. A given tin concern is divided into shares called doles, at a rate of one dole per participant. The contributions of partners in the concern is at this point measured not in money, but in labour, each dole representing the labour of one participant, and at the same time, representing a right to one share of the wealth realized by that work.<sup>41</sup> This labour can be given in kind or via a representative who stands in for the owner of the dole for the entirety of the year. In turn, one who is working the right or dole of another can put in another form of labourer, a day labourer called a Spaliard, to replace his labour on a daily basis.<sup>42</sup> The relationship between labour and capital does not oppose adventurers or owners in the aggregate to workers in the aggregate, but rather, each share represents both an obligation to labour and a right to the proceeds, and each wage contract essentially involves *delegating* the labour represented by a single dole to some other worker over a longer or shorter period of time.<sup>43</sup> The captain, in latter-day mines exclusively representative of capital, a manager, is ambiguous in function at this period, likely reflecting a highly uneven situation on the ground during the period, with enterprises ranging in size from small partnerships to large enterprises with something more clearly resembling an emergent capitalist form of organization. According to Beare, the captain must be a tinner working a dole, appointed by his fellows, and effectively acts as a representative of the mining group, dealing with the sale of tin, and equitable division of proceeds, which includes some managerial functions like assigned spales (fines) for missed work.<sup>44</sup> According to Carew, writing not long after, the captain is a figure found exclusively in quasi-capitalist larger mines where there appears to be one adventurer with many shares: 'If the worke carrie some importance, and require the travaille of many hands, that hath this name, and they their Overseer, whome they term their Captaine.'<sup>45</sup>

With the exception, perhaps, of these larger concerns, the organization of production does not serve to identify any specific group of people who resemble labour or capital, and the main form of

exploitation of surplus value at this period is mercantilist, involving advances of risk capital to working miners for subsistence by smelters, black tin merchants or white tin merchants. Therefore, the primary way that surplus value is realized is, in effect, usury, and this happens at each stage in the production and exchange process.<sup>46</sup>

So if the image of the 'Jewish tinner' is not keyed to a productivist opposition between material production, that is, industry, versus exchange, that is, the market (as it would be, for example, in National Socialist ideology), this is because the opposition between 'production' and 'exchange' is not 'visible' under this pre-capitalist social formation. Instead, we find spectral 'Jews' attending the entire tinner's trade from production to market (Jewish wooden tools, Jewish smelting houses and Jewish ingots), but most especially in the production end. What then does the figure of the 'Jew' oppose itself to?

My best guess is that the Jewish tinner is the opposite of the Christian peasant. The activity of the tinner, understood as every branch of the tin trade from production to market, is opposed to agricultural activities as unnatural to natural economy in the Aristotelian sense. That is, the goal of a natural economy, such as farming, is not value (expressed in the money form) but use-values (often immediate consumption). For such an opposition to exist it is not necessary for farming or mining to be exclusive full-time occupations or unchanging status, rather, it is much more likely that prior to industrial capitalism tinning was a side activity engaged seasonally: 'Each year, with spring ploughing and lambing past . . . [a farmer-miner] would set off each day from about the middle of April . . . [and] toil in the shallow trenches which represented his workings until July or August when the call of the harvest would return him to full-time work on his farm.'<sup>47</sup> Farming differs from tinning as activities, in that the one has as its goal production of immediate use-values, production leads immediately to consumption, whereas the other production leads to exchange, the tinner desires money, not tin, unlike the farmer. Hence, all aspects of the tin trade exist under the sign of money, they are all related to exchange in that their goal is exchange and not consumption. As Beare and Carew make clear, the tin trade is shot through with usury as well at each link in the chain. Moreover, since norm is based on the economy of use-values, whose ends, human needs, are qualitative and finite, the economy of the tanners seems unnatural in that its ends, money, is measured quantitatively and infinite. Hence, we will see, the figure of the devil comes to be associated with tin-work as a figure of uncanny productivity. But it is more particularly the local tanners who must distinguish themselves and their activities from those of 'normal' Christian farmers. Other aspects

of the subculture of the tanners reported by Beare, including an 'anti-language' called 'tinner's language' and various rituals expressive of solidarity, indicates that tanners and tin-work were at that time opposed as a marked activity.<sup>48</sup> Presumably this is why the tanners claimed that the original tanners must have been Jews, because in a late medieval form of anti-Semitism, Jews were in effect not merely signs of usury, but money-oriented ('monetized') economies in general, including both what we later think of production and exchange.

The figure of the Jew, then, sums up and condenses the opposition between a 'Christian' natural economy, consisting primarily of diverse agricultural and pastoral labour processes that are united by a common teleology of autarchic subsistence, use-values produced for consumption, over and against an equally various set of 'Jewish' labour processes that are each performed not for use-values but as part of exchange. The former appears as a 'Christian' way of life, the latter 'Jewish'.

### GIANTS

This would have been the case in the pre-modern period, in which involvement in the monetary economy would have been more anomalous. The tanners of Beare's period are forced to view themselves and their activities from the perspective of the hegemonic viewpoint of non-monetized peasant subsistence activities, standing as outsiders, 'Jews' to the backgrounded and unremarkable status of 'Christian' peasants.<sup>49</sup> By the nineteenth century we encounter a series of stories in which the tanners are represented by a positive figure, Jack the Tinkeard (or Tinker), who stands in opposition to farmers who are identified with a race of pre-human Giants. The giants of these stories seem to represent undifferentiated agricultural labour expressible in strength as opposed to skilled labour represented by Jack the Tinker.<sup>50</sup> Jack the Tinker is a kind of culture hero who comes to Cornwall from a land far away in a mythic time when Cornwall is inhabited by Giants. The land Jack comes from is also inhabited by giants, but these giants are tanners, unlike the farmer giants of Cornwall. Indeed, these far away giants seem to have been taught to engage in tinning by certain 'wise men' (Bottrell calls them 'merchants') who engage in what is a fairly obvious form of mercantilist exploitation:

He was bred in a country more than a month's journey to the East . . . [H]e well remembered . . . living on the moors amidst the hills with a company of men, some called them giants, who streamed for tin in those cold regions, where the hills were covered with snow a great part of the year. Merchants from a

city at no great distance, often came to the moors to purchase tin, and they brought the tinner's tools and food in exchange.<sup>51</sup>

In this land [whence Jack came] there were many giants, who digged for tin and other treasures . . . Many, many more strange things did the tinkeard tell. Amongst other matters, he spoke of wise men who came from a city at no great distance from this land of tin for the purpose of buying the tin from the giants, and they left them tools, and other things, that the diggers required in exchange.<sup>52</sup>

The Cornish giants, by contrast, are dumb, strong, and use only the simplest of implements, knowing nothing of money, tin or tools. Jack is forced to teach them over and over how skill and dexterity will beat strength, and how the raw materials that surround them can be converted into wealth by skill: 'Tom [the Giant] won the prize in all games in which brute force was more required than science: the tinkeard was always the victor in such as depended more on dexterity and trained skill than mere strength.'<sup>53</sup> The Cornish giants are figures representing a kind of natural economy, they are ever satisfied with what they have, and see no reason to aspire for more, they clearly represent agricultural workers and farmers. These giants both do not 'know tin', and their desires are simple, limited ones that can be satisfied without recourse to monetized economies:

'Look here you, Jack,' says Tom [the giant]; 'whatever could possess the old fools of giants to heap up such a lot of black and gray mining-stones against the wall? wherever could they have found them all?'

Jack carefully looked at the stuff thus laid bare, clapped his hands together, and shouted—

'By the gods, it's all the richest tin!'

Now Tom, poor easy-going soul, 'didn't know tin;' so he could scarcely believe Jack, though Jack had told him that he came from a tin country.

'Why, Tom,' says Jack, 'thee art a made man. If these banks are all tin, then there is enough to buy all the land, and all the houses, from sea to sea.'

'What do I care for the tin; haven't I all a man can desire? My lands are all stocked with sheep and horned cattle. We shall never lack the best beef and mutton, and we want no better than our honest homespun.'<sup>54</sup>

In fact, Tom and his wife find this whole notion of unlimited wealth, represented by the discovery of a form of wealth, tin, that was not immediately useful, but of unlimited value, to be extremely upsetting: 'Tom and Jane professed to treat lightly the discovery of the tin, it was clear that they thought deeply about it, and their thoughts spoiled their appetites. It was evidently an accession of wealth which they could not understand.'<sup>55</sup> Tom's notions of wealth are rooted in immediate use values, not monetized in terms of exchange value. Moreover, this autarkic wealth of use-values is reckoned in having sufficient quantities of simple foods and goods, beef, mutton and homespun cloth, not unlimited quantities of qualitatively different goods, fancy foods clothes purchased with tin at market that Jack will teach them to desire by the end of the story.<sup>56</sup>

Aside from being simple in their tastes, ignorant of tin and generally suspicious of money, the giants are also quite strong, a feature which again opposes them to skilled workers like Jack the Tinker. Their first combat illustrates the principle that skill beats strength, though Tom believes that Jack is the devil:

The tinkeard showed Tom that he had no cloven foot, and told him that it depended more on handiness than strength to conquer with the single-stick; and that a small man with science could beat a big man with none. The tinkeard then took the clumsy bar of the gate from Tom, gave him his own light and tough blackthorn, and proceeded to teach him to make the easiest passes, cuts &c.<sup>57</sup>

Throughout the nineteenth century agricultural activities and physical strength defined occupations that were the bottom of any Victorian labour hierarchy. The properties that made an agricultural worker were natural properties that humans shared with animals, primarily physical strength and undifferentiated labour, while those that made a skilled industrial worker were those properties, skill and technique, that had to be learned and separated humans from animals. Such an opposition that opposed raw animal physical strength with agricultural workers ('farmers') and skill and dexterity with skilled industrial workers ('miners') is found across variety of skilled occupations on both sides of the Atlantic.<sup>58</sup> These included sets of occupational myths by which skilled workers defined themselves over and against the undifferentiated, purely quantitative labour and strength of agricultural workers and unskilled workers called 'Navvies'.<sup>59</sup> These Cornish stories that oppose the Tinner culture hero Jack the Tinker to the simple and strong Tom the Giant resemble Paul

Bunyan myths of Western extractive industries, which, as Nancy Quam-Wickham shows,

reveal the folk and class values of Western workers, values that downplayed physical prowess in work processes reinforcing workers' belief in skill as the most important and distinctive attribute of a competent, successful, and manly worker. Paul Bunyan, for all his superhuman strength, often failed in his efforts to harvest the wealth of the forests or bring in a successful producing oil well. In both settings, Paul's actions often become blunders, and his persona borders on buffoonery.<sup>60</sup>

The older occupational mythology that opposed Jewish tanners implicitly to Christian farmers seems to revolve around the opposition of ends between a labour process whose goal is an 'artificial' goal of money (tanning, associated with Jewish predecessors), and one whose goal is a 'natural' economy of directly consumable use-values. The newer occupational mythology of Jack the Tinker also features a culture hero, a mythic predecessor, who comes from far away to civilize Cornwall, bringing with him changes not only in production (tanning and all manner of other skills), but also newer concepts of limitless consumption based on money and the market. Both of these innovations are confusing to the old order (the natural agricultural economy of farmers represented by Tom the Giant), who cannot see how skill can defeat raw undifferentiated strength, any more than they can understand a world of limitless desire, both in quantity and qualitative differentiation, brought by monetary forms of wealth. In this mythic world, it is the farmers' turn to feel a bit out of place, assimilated to a dying race of stupid giants imagined from the perspective of a civilizing process wrought by a tinner culture hero.

#### KNACKERS

If eighteenth and nineteenth-century elites showed a tendency to rationalize, historicize and naturalize the Jewish tanners as being creatures that could be understood in the terms of a 'natural history', the miners themselves went in the opposite direction, 'supernaturalizing' the Jews by assimilating them to other forms of supernatural alterity. By the arrival of the natural historians and Wesleyanism to Cornwall, elite and lay accounts, the account of the parson or the historian and the account of the tinner, begin to move in opposed epistemic directions, towards naturalization and towards supernaturalization, respectively, always with a sideways glance at the

other.<sup>61</sup> As one tinner told the folklorist Bottrell in the late nineteenth century: 'I know the strangers . . . and grand learned folks like our [parson], don't believe in [spirits] we [call] knackers workan in the bals [mines], and say that the noise, made by these old ghosts of tanners, is caused by water oazin out of a lode and drippen into a pit.'<sup>62</sup>

Ironically enough, with the advent of a unified concept of nature as a relatively monolithic, homogenous entity opposed to human artifice, *nature* spirits themselves would be banished from the realm of *nature*, replaced with natural explanations in elite accounts or banished to the realm of the supernatural in lay accounts.

As mining went from streamworks to underground lode works, and as the structure of the mines became more or less a recognizably capitalist sort of venture, the Jews of the mines also changed, they came back to life. Moving from being mythic old men knowable only through their tools and works, they came to be supernatural presences, and attracted to themselves all manner of supernatural attributes of ghosts, demons, and fairies. In the earliest period the 'old men', predecessors in the mining world, presented themselves only indirectly through material signs of their work, old tools, old mines, each of which was uncanny in the sense that they both resemble and differ from the tools and works of contemporary miners. The miners themselves were 'other' in two senses, that they were definitively dead and gone, and that they were ethnic 'others' who differed from miners in that they were Jews, but were similar in that, like miners and unlike peasantry, they were related to the unfamiliar and uncanny world of exchange.

We hear little of these Jews until the nineteenth century, when they reappear, sometimes through the same material signs, wooden tools, as before, but now they have followed the miners underground, and they have become associated with supernatural, spectral alterity. They are still dead, but not gone. For they are present in different spectral forms, assimilated in different ways to different forms of 'supernatural' presence, including ghosts, fairies, supernatural evils as well as empty superstitions. This oft-cited passage from Charles Kingsley's novel *Yeast: A Problem*, shows the ways in which all these different features of fairies, Jews, ghosts and the devil (supernatural evil and hell) had become bundled together by the nineteenth century:

'Well, sir, I got into a great furze-croft, full of deads (those are the earth-heaps they throw out of the shafts), where no man in his senses dare go forward or back in the dark, for fear of the shafts; and the wind and the snow were so sharp, they made me quite stupid and sleepy; and I knew if I stayed there I should be frozen to death, and if I went on, there were the

shafts ready to swallow me up: and what with fear and the howling and raging of the wind, I was like a mazed boy, sir. And I knelt down and tried to pray; and then, in one moment, all the evil things I'd ever done, and the bad words and thoughts that ever crossed me, rose up together as clear as one page of a print-book; and I knew that if I died that minute I should go to hell. And then I saw through the ground all the water in the shafts glaring like blood, and all the sides of the shafts fierce red-hot, as if hell was coming up. And I heard the knockers knocking, or thought I heard them, as plain as I hear that grasshopper in the hedge now.'

'What are the knockers?'

'They are the ghosts, the miners hold, of the old Jews, sir, that crucified our Lord, and were sent for slaves by the Roman emperors to work the mines; and we find their old smelting-houses, which we call Jews' houses, and their blocks of tin, at the bottom of the great bogs, which we call Jews' tin; and there's a town among us, too, which we call Market-Jew—but the old name was Marazion; that means the Bitterness of Zion, they tell me. Isn't it so, sir?'

'I believe it is,' said Lancelot, utterly puzzled in this new field of romance.

'And bitter work it was for them, no doubt, poor souls! We used to break into the old shafts and adits which they had made, and find old stags'-horn pickaxes, that crumbled to pieces when we brought them to grass; and they say, that if a man will listen, sir, of a still night, about those old shafts, he may hear the ghosts of them at working, knocking, and picking, as clear as if there was a man at work in the next level. It may be all an old fancy. I suppose it is. But I believed it when I was a boy; and it helped the work in me that night. But I'll go on with my story.'<sup>63</sup>

As this story shows, in the process of becoming spirits, the erstwhile Jews, now called 'knockers' or 'knackers' (after the sounds which form their main sensory manifestation), and their wooden tools, become associated with virtually every form of supernatural alterity, all forms of superstition and 'old fancy' are all rolled into one story. First and foremost, the knockers are cosmological others, associated here with the fires of hell. Elsewhere they are indirectly associated with the devil who shows uncanny levels of productivity with his wooden tools in one Cornish song which goes 'Here's to the devil with his wooden pick and shovel, digging tin by the bushel, with his tail cock'd up!'<sup>64</sup>

Importantly, this rather famous quote occurs in the midst of a conversion narrative, and the Knockers are associated with all the forms of supernatural alterity and false belief that are opposed to the righteousness of Wesleyanism (and, indeed, the sort of superstition that both Wesleyan supernaturalism and elite naturalism tended to eradicate). That is, they are not merely supernatural agents of the devil, they also stand ambiguously for phantasms conjured up by fancy and superstition as opposed to the beliefs of right religion. The narrator, a Cornish miner, goes on to make this connection between Knockers and the devil, as well as superstition in general, clear:

'And I shook like a reed in the water; and then, all at once a thought struck me. "Why should I be a coward? Why should I be afraid of shafts, or devils, or hell, or anything else? If I am a miserable sinner, there's One died for me—I owe him love, not fear at all. I'll not be frightened into doing right—that's a rascally reason for repentance."<sup>65</sup>

As well as being associated with the devil, knockers or knackers are predecessors who are contemporaries, that is, ghosts. However, they are not the named, known individuated familiar ghosts of the recent dead, they are a tribe of ghost of prior inhabitants, collective and unknown. They are also humanized attributes of animistic nature, like fairies.<sup>66</sup> Like other fairies, these Jewish-fairy hybrids live in liminal spaces opposed to the everyday world, underground in mines. Mines are both spatially inversions of the normal world, resembling other haunts of fairies like piskies or pixies associated with meadows, swamps, wastes and unenclosed and uncultivated land, 'places frequented by goats', the natural world beyond the cultivated world of nature.<sup>67</sup> Knackers are fairies here in their guise as 'nature spirits'. Knackers are also associated with inscrutable signs of prior inhabitants, the ancient mines of the old men, who worked them before Noah's Flood are analogous to the stones and ruins raised by giants that are haunted by spriggans and bukkas.<sup>68</sup> Lastly, knackers, like all fairies, guard treasure.<sup>69</sup>

In genre, too, knackers are like other fairies and spirits in being epistemic others: unlike flesh and blood 'natural figures', persons who are as at home in face to face contact as they are in reports and gossips about them, fairies can be encountered in first person unlaminated narratives only indirectly, through signs such as noises or their tools. Their special haunt is narrative. They can be seen only through the eyes of others, in narratives that are always laminated by quotation, hearsay, and tradition. As narrative others, they are ever guests in the

speech situation, only at home in the narrated situation. As evidentiary others, they are never at home in eyewitness account, only indirectly perceptible in evidentiary modes from auditory, to circumstantial, to hearsay. As epistemic others, they are doubtful figures between belief and disbelief, fact and fancy, very much unlike normal flesh and blood humans. This quality of fairies, their distance from narrative and epistemic directness, is itself one of the strongest motifs of the fairy narratives themselves. Fairies hate visual contact, they hate prying and spying, universally punishing, often by blinding, those who seek a more direct epistemic contact than that afforded by narrative. At the same time, they also punish those who narrate them directly. In fact, much of the activity of fairies in stories is devoted to ensuring the epistemic and narrative indirectness of stories about fairies.<sup>70</sup> An early commentator on the Tommyknockers, Fisher Vane, stated this as well as anyone before or after:

Of course you've heard of the tommyknocker. But have you ever *seen* one? Not on your life! Like their spirit kinfolk the gnomes, kobolds, pixies, imps and sprites, tommyknockers are invisible to adult mortal eyes. And in the nature of things, adult mortal eyes are, in the main, the only eyes that go underground. Wherefore, since members of this mischievous wing of the fairy race live nowhere else but underground, and never venture into the light of day, only by their deeds and noises do we know them.<sup>71</sup>

As Vane notes, Knockers and Tommyknockers fall well within this set of behaviours, they are known mostly through their sounds, and they dislike direct visual contact with humans. The first story I want to relay is the most famous, the story of Tom and the Knackers.

### TOM AND THE KNACKERS

The setting of the story of Tom and the knackers is an uncanny old mine, or *bal* as mines are called in Cornwall, associated with the 'old men' who worked it before Noah's flood, which is swarming with knackers and other kinds of fairies, including spriggans – who are associated with old men's works, abandoned ruins, old tools and treasure.<sup>72</sup> Tom is a skilled miner from another district, familiar with the natural end of mining, but unfamiliar with the supernatural end, for he does not know how to treat the spirits. His failure to engage in reciprocity with the mines' spirit leads him into financial failure until he fixes the situation through the supernatural mediation of a conjuror.

[Tom Trevorrow] went to Santust [St Just] to look for a job and found work in Ballowal. Most people have heard of that queer old bal [mine], that was worked before The Flood, they say. There the old men's works, weth their deep open coffans (pits) may still be seen, just as they left then, only wash'd and run'd in a good deal one may suppose. That old bal, everybody in Santust will tell 'e, have always been haunted with knackers. And the burrows, in crofts and cleves around, are swarman with them, and weth spriggans, wherever anything belongan to the old bal was buried. There these sprites keep everlastan watch, though all the old men's tools or treasures may be gone to rust, earth, and dust. One don't often see them, 'tis true, but only break ground near them and they'll show their ugly faces, as many have known to their cost.<sup>73</sup>

Tom is a skilled miner, and not merely some unskilled refugee from the declining agricultural sector fit only for menial tasks requiring more strength than skill. More specifically, Tom is a tribute worker, working a tribute contract places him at the apex of the labour hierarchy in the Cornish mines. Working tribute contracts means that he contracts to take a part of the mine, called a pitch, on a piecework system for a given period of time. At the end of this period the tributer is paid in terms of a fraction of the value of the ore he raises to the surface, or 'grass', expressed in a number of shillings to the pound of the value of the ore. In effect, a tributer has an interest in the work lacking in other wage contracts, and assumes part of the risk of the adventurer by agreeing to calibrate his pay to the ore he produces. Pay becomes uncertain, and work for such workers has some of the gratifying properties of a game whose results and rewards are uncertain. This is important to all the knacker stories, because knackers are spirits who only appear to one class of miner, the elite, skilled miners who work on tribute contracts.

Tom settles into his new job and his new life in Saint Just, and it is not very long before he hears the knackers working the mine when working alone. The knackers are presented as being engaged in parallel work with the tanners, to the extent that, no longer 'old men' with 'wooden picks and shovels', they have kept pace with all the latest advances in mining technique, and have even learned the most recent methods of blasting!

Tom had heard the knackers workan, away at a distance, all the time he had been there, and took no notice of their noise,

but now that the boy stopped home, they came nearer and nearer every day, till he cud hardly hear the sound of his own tools with the din and clatter of theirs. As far as he could judge by the sound they were only two or three yards off, in the level close behind him, carryen on all sorts of underground work. Some appeared to be wheelan, some showlan, others boran; he could even hear them swab out their holes, put in the tampan, and shut (blast) like a pare (company) of regular tinner. Shuttan wasn't in vogue in their time, but they've learnt et.<sup>74</sup>

While Tom is a skilled tinner in the natural end of the trade, he does not know how to deal with the supernatural knackers, and he offends them:

One night . . . Tom got quite savage to hear their confoundan clatter, with their squeakan and tee-hee-an in a mockan way, if he made false strokes, or a clumsy blow; and being a devil-may-care sort of fellow, he, without thinkan of anything, throwed back a handful of small stones, towards the spot where they seemed to be workan, and called out at the same time without stopan or lookan up, 'Go to blazes, you cussed old Jews' sperrats; or I'll scat (knock) your brains out, ef you aren't gone from here.'<sup>75</sup>

The knackers cause a small shower of stones in return, and when he begins to eat, they warn him in what sounds eerily like a children's rhyme that he can hardly make out because of their distant, squeakin voices:

'Tom Trevorrow! Tom Trevorrow!  
Leave some of thy fuggan (food) for bucca (a sprite),  
Or bad luck to thee, to-morrow!'<sup>76</sup>

Of course he does no such thing. He eventually falls asleep, when he wakes, he sees the knackers. Some of the features of knacker physiognamy is not only spriggan-like (size, for example), but also, possibly, stereotypical of Jewishness as well:

But when he waked up all was quiet. He rubbed his eyes, and lookan away in the end, where it was nearly dark, he seed scores of knackers restan on their tools. They were miserable, little, old, withered, dried-up creatures—the tallest of them no

more than three foot six, or there away, with shanks like drum-sticks, and their arms as long or longer than their legs. They had big ugly heads, with grey or red locks, squintan eyes, hook noses, and mouths from ear to ear. The faces of many were very much like the grim visages on old cloman jugs, so Tom said, and more like those of brutes than Christians.<sup>77</sup>

This section of the mine is said by the other tinner to be the most haunted, called 'Buckshaff', so-called because 'a black buck goat, or a bucca in the shape of an, was seen to go down there, but never found below'.<sup>78</sup> From the moment Tom does not heed the reciprocity requested by the knackers, they are always working against Tom, causing a cave in that nearly kills him and also causes him to lose all the tin he had won on tribute, as well as his tools.<sup>79</sup> He has to go on 'subsist' (money advanced against future wages). Tom is further degraded from being a tributer to a tut-worker, that is, from someone whose wages are based on a percentage of the value of the ore to someone who works for a set amount per fathom driving shafts and clearing valueless 'country rock'. The knackers continue to torment him, and they drive him back to Lelant where he came from, no better off than when he left. Worse, his luck remains so bad that he is forced to take up agricultural work, a fate worse than death or the workhouse in the eyes of a skilled tinner. The narrator of the story comments that 'He had to work to the farmers for a long spell, and, as we all know, every tinner would just as soon go to the workhouse, or union; and for my part I'd rather be tied to a Bull's tail, and suffer the rest, than do either one.'<sup>80</sup> Tom's wife uses the money she makes from her knitting to hire a pellar (conjurer) with which to drive off Tom's bad luck, and Tom goes back to mining work and in general his fortunes change for the better.<sup>81</sup>

In the story of Tom Trevorrow, the knackers or mining spirits are assimilated to the world of fairies. The folklore collections of the late nineteenth century generally produce a neat typology of these creatures, which are divided into distinct groups, roughly corresponding to different occupational groupings they normally have dealings with or the types of places they haunt. According to these typologies, each class of fairy stands as a relevant other to a specific occupational grouping, each has a specific sort of locale or haunt, and each engages in a specific form of relation ranging from benevolent to malicious exchanges with humans.<sup>82</sup>

Each form of fairy creature represent an inversion of the occupational universe of nineteenth century Cornwall, for each form of occupation there is a fairy other: piskies and spriggans are associated with male agricultural and female domestic work, the unmarked

category, mermaids with sailors and fishermen, and knackers with miners. Correspondingly, spatially there is a complementarity, so that spriggans haunt landscape features that are associated with ancientness, piskies with wildness and unenclosed or waste land (and have a loathing of the sea), mermaids with the sea. The knackers are associated with the state of being underground, which is the opposite of the normal state of being 'at grass', above ground. In this sense they are like the piskies, who inhabit the space beyond the enclosed fields of agriculture. But knackers particularly haunt those underground places that are associated with predecessors, 'mines worked before the Flood'. This makes them resemble spriggans, who are associated with ancient above ground ruins and rocks associated with giants as well as, occasionally, holes in the ground.

In this story, the relations of knackers with humans is one of refused reciprocity. The miner is working a tribute pitch, and the knackers demand a tribute themselves, a small one, which he refuses. Having refused this tribute, his own tribute pitches and luck fail. This association with tribute pitches is crucial, for the knackers, like spriggans, guard wealth, but they guard wealth of a very specific kind: wealth in its natural form, ore.

Knackers are 'hybrid race between ordinary ghosts and elves'.<sup>83</sup> They are liminal between two systems of alterity. On the one hand, they remain connected to the Jews of the earlier miners, on the other, like other fairies they are perceived to be connected to other forms of alterity, especially nature. This double alterity is expressed in their relationship to wealth. Knackers are insistently associated with productive lodes, therefore they are surefire guides to paying tribute pitches. A tribute pitch makes wealth a function both of the universe of exchange and the universe of production, culture and nature. If 'Jewish ghosts' are spirits of exchange, it might be said that fairies are nature spirits par excellence, and therefore spirits of production, human interaction with nature. This hybrid of the nature spirit and figure of exchange expresses to some extent the way that wealth and risk for a miner working a tribute pitch is both a function of contract (exchange) and the position of lodes, natural wealth, in the rock (production).

As the story of Tom Trevorrow makes clear, the knackers are not simply underground spirits, they are occupational spirit others for miners, who bleed into other categories of fairies in the same way a human worker, like Tom, might move between different occupations. But knackers are not simply spirits of mining, they are spirits who are really relevant only to a certain class of miners, those working a tribute contract. That is, those whose wage contract makes their wages a function of risk, both natural and social. Just as the tribute wage

contract itself is in part an expression of a contract between humans, the miner and the mine captain, the stories of knackers make the success of a tribute contract simultaneously the product of a similar contract with nature in the form of the knackers. In the story of Tom Trevorrow, it is simple use-values in the form of food that Tom should exchange for success in mining, but in the next story I want to discuss, the miners make a separate tribute contract with nature in the form of the knackers, who assume a passive role similar to mine adventurers. The moral of the story again is one in which greed and the desire for infinite gain leads to a refusal of reciprocity, breaking the contract with the spirits. The story begins:

At Ransom Mine the 'Knockers' were always very active in their subterranean operations. In every part of the mine their 'knockings' were heard, but most especially were they busy in one particular end. There was a general impression that great wealth must exist at this part of the 'lode'. Yet, notwithstanding the inducements of very high 'tribute' were held out to the miners, no pair of men could be found brave enough to venture on the ground of the 'Bockles'. An old man and son, called Trenwith, who lived near Bosprenis, went out one midsummer eve, about midnight, and watched until they saw the 'Smae People' bringing up the shining ore. It is said they were possessed of some secret by which they could communicate with the fairy people. Be this as it may, they told the little miners that they would save them all the trouble of breaking down the ore, that they would bring 'to grass' for them, one-tenth of the 'richest stuff', and leave it properly dressed, if they would quietly give up this end. An agreement of some kind was come to. The old man and his son took the 'pitch', and in short time realized much wealth. The old man never failed to keep to his bargain, and leave a tenth of the ore for his friends. He died. The son was avaricious and selfish. He sought to cheat the Knockers, but he ruined himself by so doing. The 'lode' failed; nothing answered with him; disappointed, he took to drink, squandered all the money his father had made, and died a beggar.<sup>84</sup>

The knacker or knocker spirit is a hybrid other, a specifically capitalist spirit both having elements related to exchange and production, exchange value and use value, expressed in its dual identity as ghost of Jewish miner and underground nature spirit. But the function of these spirits as guardians of wealth is particularly to guard wealth in its

natural form, the riches of the earth, ore and not money, their tappings are always a positive sign, not of danger but of wealth, of the mother lode or an impending lucky struck. And, as nature spirits, they express the element of risk involved in certain wage contract systems, the tribute contract where wages are functions both of natural and social variables. In these stories they are presented as a separate group with which a miner working a tribute pitch must make a separate tribute contract, a contract with the underground spirits of the rock that parallels the contract he made with the captain of the mine 'at grass'.

In the new world, tommyknockers lost *most* associations with elves and fairies as well as Jews, instead being associated with the ghosts of dead miners.<sup>85</sup> As they made this transition, they became less like mischievous, occasionally helpful spriggans and piskies guarding the wealth of the earth, and more like omens, hunches and ghosts, signs of danger and death.

### TOMMYKNOCKERS

To finish this story, we must follow the knackers and the miners they haunted to the New World. The Cornish knackers were the only Old World mining spirits to get on board the boats to America. When they arrived, like many immigrants they changed their name, to 'tommyknockers', and cast off their Jewish ethnicity and associations with fairies. Thus restyled, they were soon found in every mine, even those unpopulated by the people who brought them, the Cornish miners, themselves now known as 'Cousin Jacks'. Of the dozens of kinds of mining spirits in the Old World, all were stay-at-homes but the knackers, who proved as mobile as the Cousin Jacks themselves. In fact, the tommyknockers in the New World outlived their Old World predecessors, the knackers.<sup>86</sup>

The tommyknockers ruled the supernatural world of hard rock mining in much the same way that the Cousin Jacks ruled the natural world of mining. Just as the Cornish associated their ethnicity with skill in mining, monopolizing skilled positions in the hard rock mines of the New World and their techniques and terminology came to dominate the labour process of mining, so their spirits came to have authority over all the hard rock mines, no matter who worked them.<sup>87</sup> If, as a common Western American adage had it, 'a mine is a hole in the ground with a Cornishman at the bottom', then presumably any spirits in that hole would also be Cornish. Tommy knockers and knackers in both Cornwall and the New World even keep pace with the changes of technology of mining, like the Cousin Jacks themselves.<sup>88</sup> By contrast, the other European immigrants who entered the mines of the New

World were primarily unskilled in hard rock mining and from agricultural backgrounds.<sup>89</sup>

In this process, of course, both the Cornish and their spirits changed to adapt to new circumstances.<sup>90</sup> The nature of these mining sprites changed too, no longer indicating rich lodes of ore and 'lucky strikes', but rather the presence of danger. They also left behind their associations with Jews as well as fairies, and came to be associated with the ghosts of dead miners more generally.<sup>91</sup> A good representative of this change is Anthony Fitch's poem 'Tommy Knockers':

'Av you 'eard of the Tommy Knockers  
In the deep dark mines of the West,  
Which Cornish miners 'ear?  
An' 'tis no laughin' jest.  
For I am a Cornish miner,  
An' I'll tell you of it today.  
The knock-knock-knock of the tiny pick,  
As we work in the rocks and clay.

...  
Pick, pick, pick.  
'As some one be'ind us knocked?  
Pick, pick, pick—  
No, 'tis the souls of dead miners locked,  
For they're locked in the earthen wall,  
Those that found death down there,  
And 'tis the knock-knock-knock of their pick  
W'ich makes on end stand our 'air.

An' we leave the 'aunted place,  
For we won't work w'ere they be,  
An' w'erever we 'ear them knockin'  
We sure will always flee.  
For it means w'oever hears it  
Will be the next in line,  
For the pick-pick-pick of the Tommy Knockers  
Is the last an' awful sign.<sup>92</sup>

With a tributing system of wage contract, like that common in Cornwall and found for a time also in various New World mines, the risk assumed by the miner is a function of both natural and conventional factors. On the one hand, since the miner is paid a proportion expressed in shillings to the pound of the value of all ore he raises, natural features of the mine, such as the presence or absence of

lodes and the unevenness of the distribution of ore in lodes add a significant element of chance to his wages. On the other hand, since the specific rate of tribute (in shillings to the pound of the value of the ore) itself is a negotiation, another kind of game, between worker and manager, the risk is partially constituted in cultural, conventional, terms. Risk then is related to wealth, fantasies of lucky strikes and mother lodes, and it is generated on the basis of variables both natural and conventional. The hybrid nature spirit (knacker) who is also a spirit of exchange (the ghost of a dead Jew) expresses the hybrid nature of the risk they superintend. However, with change to hourly wage contract systems, this game element is removed. If workers have any interest in the ore they are raising now, it is primarily in the form of 'high-grading' (stealing the richer ore to process at home).<sup>93</sup> Primarily the risk associated with mining is no longer a matter of wealth, it is purely a matter of personal safety. With this change, knockers lose all associations with guarding wealth and come to be assimilated to a different branch of mining superstition, omens or hunches.<sup>94</sup> At the same time, the knockers come to be precisely the ghosts of miners who have died as a result of cave-ins.

But these mining spirits had other functions before they died out, perhaps a victim of electrical lighting, perhaps a victim of changing modern notions of nature. The Cousin Jacks staked their claims to skill by identifying their ethnic essence with technical expertise underground, and the natural empire of Cousin Jack was identical to the supernatural empire of the Tommyknocker underground. But where the Cousin Jacks made their claim to authority over production on ethnic grounds by identifying ethnicity with technical authority, they had sharp competition from the Irish workers, who, it was said, controlled mines by their ethnic knack at politics above ground much as the Cousin Jacks ruled it below ground by their technical skill. Mines soon became divided between Cousin Jack mines and Irish mines, and conflicts that produced these divisions were sharp. Not all of the danger in mining, then, was natural. The last ghost story I want to tell, collected by Caroline Bancroft in Colorado in 1945, expresses these ethnic conflicts over the labour markets of mining.

Up on Jones hill on the way to Nevadaville is the prize Seuderberg mine. Back in 1868 a man by the name of Connelly who was a great co-getter had a quarrel with a Cousin Jack by the name of Gleason over the end line. Gleason had a tribute pitch on the Prize and Connelly was leasing the Seuderberg . . . One night when Gleason was climbing the shaft after the day's work, Connelly leaned over

the collar and shot him. Connelly never paid for his crime as these mines were in the Irish end of town and all Connelly's compatriots refused to testify against him. Gleason's body fell to the bottom of the shaft, was shattered to bits and his spirit roams the Prize mine to this day demanding that justice be done. No Cousin Jack who understands the language will work there because they can't bear his beseeching them to do something about his case.<sup>95</sup>

In this final story, the mining ghosts have moved from being anonymous ethnic others, the ghosts of dead Jews, to named ghosts of the ethnic self, a murdered Cousin Jack named Gleason, both in very different ways expressing the relationship of ethnicity to production. Now the ghosts of named Cornish miners could become a sign of the ethnic processes by which the Cornish were *banished* from mines.

### CONCLUSION

In the Old World, the Cornish had been involved in various occupations—mining, farming and fishing—but in the New World, the Cousin Jack was a hard rock miner. Those Cornish in the New World who were not hard rock miners in effect (it might be argued) ceased to 'be Cornish'. This reformulation of Cornish ethnicity, involving claims to a monopoly of technical mining skills, was especially addressed to the Irish, who were felt to have political powers outside of the point of production that gave them unfair advantages over the naturally more qualified Cousin Jacks.<sup>96</sup> In the same way, Cornish folklore had been populated with a complex otherworld that mirrored the features of this world, primarily consisting of fairies, each fairy type of which corresponded to some sector of the normal world, in particular occupational types. The knockers were merely one fairy among many in the Old World. But just as Cornish farmers and fisherman either became Cousin Jack miners or became lost 'in a sea of Britons' in the New World, so the knockers were the only fairies to get on the boat, and as they did, they left their fairy identity behind. Tommyknockers were, temporally as well as geographically, far-removed from their erstwhile 'Jewish' ancestors.

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Jamie Saris, Jane Schneider, Rupert Stasch, Lawrence Taylor, Donna Young, for encouragement and comments on various drafts. Ronald James deserves special thanks for both inspiring this paper with his own work as well as helping me with comments and generous provision of materials I did not otherwise have access to.

#### NOTES AND REFERENCES

1. Cited in Ronald M. James, 'Defining the Group: Nineteenth-Century Cornish on the North American Mining Frontier', in Philip Payton (ed.) *Cornish Studies: Two*, Exeter, 1994, pp. 40-1.
2. James, 1994, pp.40-1; Ronald D. James, 'Knockers, Knackers and Ghosts: Immigrant Folklore in the Western Mines', *Western Folklore*, 51: 2, 1992, 153-71; D. Mindenhall, 'Choosing the Group: Nineteenth-century Non-mining Cornish in British Columbia', in Philip Payton (ed.), *Cornish Studies: Eight*, Exeter, 2000, pp.40-53; Sharron Schwartz, 'Creating the Cult of "Cousin Jack": Cornish Miners in Latin America 1812-1848 and the Development of an International Mining Labour Market', 1999, available at: <http://www.projects.ex.ac.uk/cornishlatin/workingpapersandbibliography.htm>; Philip Payton, *The Cornish Overseas: A History of Cornwall's Great Emigration*, Fowey, 2005.
3. This is clear both from the period sources as well as the secondary literature, for example George Henwood in his mid-nineteenth century portraits of Cornish miners discusses the mobility of the Cornish, attributing it primarily to temperance and resulting parsimony: 'Thousands, by abandoning the glass, have been able to secure the means of emigration, and after a few years in Australia or California return with a competence, or remain in the colonies as wealthy settlers; their mining experience being there turned to good account. Many mines in Cuba and South America are managed by Cornish agents and worked by Cornish miners' (George Henwood, *Cornwall's Mines and Miners*, edited by Roger Burt, Truro, 1972, p. 69). Henwood notes that the Cornish are found as managers and skilled labourers in mines 'in Cuba, Mexico, Lima, Coquimbo, Jamaica, Australia, Isle of Man, Ireland, Yorkshire, and Wales' (Henwood, 1972, p. 129), also pp. 165-6. The secondary literature on Cornish migrations is vast; I have found the above cited articles from the series *Cornish Studies* to be particularly useful, and references there, as well as the web page 'The Cornish in Latin America' (<http://www.projects.ex.ac.uk/cornishlatin/index.php>), and references there.
4. James, 1992, 1994; Schwartz, 1999.
5. By 'social ontology' I mean implicit or explicit cultural assumptions and presuppositions underlying explicitly articulated beliefs about what sorts of entities, things, forces and agents populate the social universe, such as, for example, the division of the universe into natural, preternatural and supernatural forces, the allocation of technical expertise and skill to the

- natural world and the allocation of beliefs about spirits to the supernatural universe, and so on.
6. James, 1994; Schwartz, 1999, and references there.
  7. On tributing see John Rule, "'The Perfect Wage System?'" Tributing in the Cornish mines', in John Rule and Roger Wells, *Crimes, Protest and Popular Politics in Southern England, 1750-1850*, London, 1997, pp. 53-65; see also the essays in Roger Burt (ed.), *Cornish Mining: Essays in the Organization of Cornish Mines and the Cornish Mining Economy*, New York, 1969. On capital recruitment and contract systems in other British extractive industries see Paul Manning, 'Welsh Rocks and English Money: Ideologies of Divisions of Language and Divisions of Labor in Nineteenth Century Welsh Slate Quarries', *Comparative Studies in Society and History* 44:3, 2002, pp. 481-510; 'Owning and Belonging: a Semiotic Investigation of the Affective Categories of a Bourgeois Society', *Comparative Studies in Society and History* 46:2, 2004, pp. 300-25; 'The Streets of Bethesda: the Slate Quarrier and the Welsh Language in the Welsh Liberal Imagination', *Language and Society* 33:4, 2004, pp. 469-500. Schwartz, 1999, helpfully demonstrates the ways in which each of these elements encountered resistance to their attempted transplantation, and the ways in which the 'skill' of the 'Cousin Jack' was also a partially mythological creature.
  8. For an anthropological discussion of the division, see Philippe Descola, 'Constructing Natures. Symbolic Ecology and Social Practice', in P. Descola and G. Pálson (eds), *Nature and Society. Anthropological Perspectives*, London, 1996, pp. 82-102; for the treatment of production as a natural category opposed to exchange under capitalism, see Moishe Postone, 'Anti-Semitism and National Socialism', in Anson Rabinbach and Jack Zipes (eds), *Germans and Jews Since the Holocaust*, New York, 1986, pp. 302-14; for the separation of natural and supernatural, an authoritative discussion is Katharine Park and Lorraine Daston, 'Unnatural Conceptions: the Study of Monsters in Sixteenth and Seventeenth-Century France and England', *Past and Present*, 92, 1981, pp. 20-54; Lorraine Daston and Katharine Park, *Wonders and the Order of Nature 1150-1750*, New York, 1998.
  9. James, 1992, 1994; Schwartz, 1999, and references and discussion there. The origin of the ethnic term 'Cousin Jack' as applied to Cornish miners in the new world is often taken to be a joking reference to nepotistic hiring practices combined with creatively expansive reckoning of kinship so that all of Cornwall were reckoned cousins, see for example, Caroline Bancroft, 'Folklore of the Central City District, Colorado', *California Folklore Quarterly*, 4, 1945, p. 319; Wayland Hand, 'The Folklore, Customs and Traditions of the Butte Miner', *California Folklore Quarterly*, 7, 1946, pp. 174-5. According to Schwartz, 1999, p. 33 n1: 'There is no clear consensus on how the Cornish miners acquired this name, but evidence seems to point to the mines of Devonshire in the eighteenth century, where migrant Cornish miners sought work. The term "Cousin Jack" is also thought to have been used to express an

- "otherness", the Cornish considering themselves a distinct people with specific mining skills that they jealously guarded.' See also Payton, 2005.
10. Burt 1969; Schwartz 1999.
  11. James, 1992, 1994.
  12. The analytic division of the process of production into a labour process and a valorization process is from Karl Marx, *Capital*, Volume 1, Translated by Ben Fowkes, London, 1990, pp. 283ff. The labour process can be thought of as the process of production of use-values, useful products, a process which varies according to the nature of the product to be produced, and the valorization process, which, very roughly, happens simultaneously under capitalism, but follows production under mercantilism, is the process of extracting surplus value ('exploitation'), which has consequences for the labour process.
  13. For example, Hand, 1946, pp. 2-3; James 1992, p. 154.
  14. Including bans on the presence of women, making the sign of the cross, and whistling, along with various hunches and omens. For details see Hunt, 1916, pp. 349-52; Wayland Hand, 'California miners folklore: Below ground,' *California Folklore Quarterly* 1, 1942, pp. 134-44; Bancroft, 1945, pp. 322-36; Hand, 1946, pp. 11-25. However, we cannot immediately assume that such customs and beliefs are not also comparable to other ritual expressions of solidarity detailed from above ground streaming miners by Thomas Beare in 1586 (T. Beare, *Bailiff of Blackmoor 1586*, edited by J. A. Buckley, Camborne, 1994, pp. 60-4) and more generally in Western extractive industries by Nancy Quam-Wickham, 'Rereading Man's Conquest of Nature: Skill, Myths and the historical construction of Masculinity in Western Extractive industries', *Men and Masculinities* 2:2, 1999, pp. 135-51. For comparative purposes see for example the opposition between the Christian above ground and the underground world of the devil in Bolivian tin mines, interestingly, the sign of the cross is banned underground both in Cornish and Bolivian tin-mines, see June Nash, *We Eat the Mines and the Mines Eat Us*, New York, 1979, p. 7. Propitiatory clay figures of Tommyknockers in California mines (Hand 1942, p. 128; James 1992, p. 168) also resemble the propitiatory clay figures of the devil, or *Tio*, pictured as a 'gringo supervisor' in Bolivian tin mines, see June Nash, 'The devil in Bolivia's nationalized tin mines', *Science and Society* 36:2, 1972, pp. 224-5; Nash, 1979, pp. 4, 7, 190-4). Whether any of the historical 'gringo supervisors' in the Bolivian mines were members of the Cousin Jack diaspora is unclear from the existing historiography, although there were of course many Cornish in nineteenth-century Bolivia.
  15. The material evidence of the wooden tools and ruined structures of the 'old men' are probably the single most insistent thread that connects these different strands of folklore together, being part of almost every old world account from 1586 to the nineteenth century. In addition to Beare (1586), Carew (1602), Kingsley (1853), Bottrell (1870-1880) cited below, natural historians like W. Pryce, *Mineralogia Cornubiensis: A Treatise on Minerals and Mining*, London, 1778, p. 68 and William Borlase, *The Natural History*

- of Cornwall, *Additions*, Oxford, 1758, p. 20, make mention of wooden tools. In the mid Nineteenth century too, Henwood discusses theavings of the 'old men' in various mines, including their wooden tools, Henwood, 1972, p. 109, 161-2, 178, 193-7. The works of the 'old men' are called by various names, including 'Attall Sarazen' (which Pryce glosses as 'Saxons or Jews offcast', Pryce, 1778, p. 316), 'coffin' ('workings all open like an intrenchment', Pryce, 1778, 318), 'learys' ('emptiness', Pryce, 1778, p. 324) and 'old men's workings' (Pryce, 1778, p. 325). The names given them in Beare's and Carew's day and later (Jew's houses', being the most common name for an old ruined smelting house) associated the old men with Jews and Saracens (see below), while according to Henwood in the mid nineteenth century old men's workings are also called 'Piskies pits' (Henwood, 1972, pp. 195-6), associating the 'old men's workings' with a variety of fairy. The folklore texts regarding the old men in are not simply verbal, but exist in a close intertextual relationship with material artefacts, a relationship missing in the New World.
16. Schneider's discussion of fairy beliefs in the New World focuses on the way that these spirits embody an ethnic of reciprocity opposed to capitalist rationalization of exchange (the spirit of capitalism). See J. Schneider, 'Spirits and the Spirit of Capitalism', in E. Badone (ed.), *Religious Orthodoxy and Popular Faith in European Society*, Princeton, 1990, pp. 24-54 (Ronald James gives a similar account that locates fairy-like traits of knocker spirits in notions of reciprocity with nature and notions of a limited good (James, 1992, pp. 167-70)). The story she tells, which is slightly different from the one I am telling, the death of nature spirits is related to the rationalization of exchange, beliefs about nature, and the general disenchantment of the world associated with modernity (on which, see also Park and Daston, 1981; Daston and Park, 1998). We have here a case in which the spirits *are themselves* spirits of capitalism. The final fate of the spirits in this paper is documented in James Baker, 'Echoes of Tommy Knockers in Bohemia, Oregon, Mines', *Western Folklore*, 30, 1971, pp. 119-22.
  17. James, 1992, pp. 168-72.
  18. Natural and unnatural economy is used here in a broadly Aristotelian sense, where a natural economy is one founded on 'natural wealth', that is, use-values (and where use values are produced for consumption, and any exchange has as its final goal consumption) as opposed to a exchange based economy (where use-values are produced in order to be exchanged). On the various senses of 'natural' in Aristotle I have relied on the discussions in James Murphy, *The Moral Economy of Labor: Aristotelian Themes in Economic Theory*, New Haven, 1993; Scott Meikle, *Aristotle's Economic Thought*, Oxford, 1995. Aristotle's notions of wealth involve a sense of autarkic self-sufficiency of use-values which corresponds broadly to the peasant agriculturalist ideology I am reconstructing here.
  19. Postone explains the naturalization of labour and production in productivism as follows: '[B]ecause labor . . . constitutes the relationship between humanity and nature, it serves as the standpoint from which

- social relations among people can be judged: Relations that are in harmony with labor and reflect its fundamental significance are considered socially 'natural.' The social critique from the standpoint of 'labor' is, therefore, a critique from a quasi-natural point of view, that of a social ontology. It is a critique of what is artificial in the name of the 'true' nature of society.' Moïshe Postone, *Time, Labor and Social Domination*, Cambridge, 1993, p. 65; for a discussion of productivism in relation to another British extractive industry see Manning, 2002, 2004.
20. On tributing see Rule 1997; Burt 1969. The natural historian W. Pryce gives one of the earliest detailed accounts of tributing (whether the working of whole mines on tribute or the working of parts of mines on tribute pitches, W. Pryce, *Mineralogia Cornubiensis: A Treatise on Minerals and Mining*, London, 1778, pp. 187–9. Pryce is also the first to explicitly note the game-like or gambling-like elements involved in this system of wage contract: 'It is an aphorism in mining, that "a Tinner has nothing to lose"; but upon tribute or searching for tin upon the mere strength of his labour, he puts himself in the way of fortune, to enrich himself by one lucky hit.' Pryce, 1778, p. 175; 'The spirit of adventure hath many times so prevailed among the lower people, that very large sums have been won and lost by this manner of gaming [tributing], much to the injury of the cashiers, who can have no recompense from poverty and rags.' Pryce, 1778, p. 192. For the element of risk and the interest and game-like qualities generated by piece-work systems in general see M. Burawoy, *Manufacturing Consent*, Chicago, 1979. On the linkage between the change in the wage system and change in beliefs, see James 1992, pp. 171–2.
  21. James, 1992, pp. 167–74.
  22. James, 1992.
  23. James 1994; Schwartz 1999.
  24. Mindenhall, 2000.
  25. Baker, 1971, pp. 121–2; Lydia, Fish, 'The European Background of American Miners' Beliefs', in Kenneth Goldstein and Neil Rosenberg (eds), *Folklore Studies in Honour of Herbert Halpiter*, Newfoundland, 1980, p. 157; James, 1992, p. 161.
  26. Robert Hunt, *Popular Romances of the West of England*, New York, 1916, originally published in 1865, p. 341.
  27. Beare, 1994, p. 1
  28. Beare, 1994, p. 1.
  29. Beare, 1994, p. 1.
  30. Beare, 1994, p. 97. The story is recounted by natural historians like William Borlase, 1758, pp. 149 ff. In folklore of the nineteenth century, any ruins or dwellings built 'before Noah's flood' are persistently associated with the haunts of spirits (see below).
  31. Richard Carew, *The Survey of Cornwall*, London, 1602, I.8. Original emphasis, but I have modernized the spelling.
  32. For Greeks and Phoenicians, based on classical references, see Borlase, 1758, pp. 160, 189, for Jews see Borlase, 1758, p. 190.

33. Borlase, 1758, p. 163.
34. Borlase, 1758, p. 189.
35. Hunt 1916: 342.
36. Max Muller, 'Are there Jews in Cornwall? A riddle and its solution', *MacMillan's Magazine*, Volume 15, November 1867, Cambridge, pp. 484–94, p. 493.
37. Muller, 1867, p. 484.
38. Muller, 1867, p. 484.
39. Muller, 1867, p. 491.
40. Beare, 1994, pp. 6–8. Since the status of tinner carried with it a number of legal consequences, specifically whether one was under the jurisdiction of stannary courts. Lewis shows considerable flux in the definition of this term ranging from a narrow one limited to manual labourers to one comprising the entire trade, throughout the later middle ages, G. R. Lewis, *The Stannaries: A study of the English tin-miner*, Boston, 1908, pp. 96ff. The definition of 1588, immediately after Beare's writing, 'divided all tanners into two classes. In the first were manual labourers, "spaliers" and "pioneers;" these were not to sue or to be drawn into any foreign [i.e. non-stannary] jurisdiction for the trial of any case whatsoever, save matters concerning land, life, and limb. The other class comprised those gentlemen who had some share in tin works, or who received toll tin as lords or farmers, men who converted black tin into white, or who were necessary for the getting of tin, such as colliers, blowers, carpenters, smiths, tin merchants . . .' (Lewis, 1908, p. 99). Note that the second group is a mixed grouping of what we might now think of as 'productive' and 'non-productive' elements.
41. Beare, 1994, pp. 6–8, 58–60; Explicitly in Carew, 1602, p. 13, a dole is basically a measurement of labour obligation first and foremost: 'The worke thus found and bounded, looke how many men doe labour therein, so many *Doales* or shares they make thereof, and proportionately diuide the gaine and charges.'
42. Beare, 1994, pp. 6–8, 56–7; the spaliard according to Beare works by the day to save a working tinner from a fine for absence from work called a 'spale' (pp. 7, 58–60); the practice is mentioned in Henwood's account of the mid-nineteenth century as 'spoling', Henwood, 1972, p. 166.
43. Carew's account is the first place we find the term 'adventurer' applied to tinning. For Carew the term 'adventurer' (as opposed to tinner) is defined by delegating one's labour obligation on a dole by dole basis, *not* by ownership of shares or doles *per se* (since working tanners also have these): 'These partners consist either of such Tanners as worke to their own behoofe, or of such **aduenturers** as put in hired labourers. The hirelings stand at a certaine wages, either by the day, which may be about eight pence, or for the yeere, being between foure and sixe pound.' Carew, 1602, p. 10. By the time of later natural historians like Pryce or Borlase we have a clearer delineation between of a confrontation between capital and labour in the form of a collectivity of adventurers and a collectivity of workers, respectively, mediated by captains (Borlase, 1758, pp. 175ff;

Pryce, 1778, pp. 173ff). However, there are still important differences from the understanding prevailing under industrial capitalism. Even at this stage the wealth divided amongst the adventurers according to doles is expressed in terms of natural wealth (ore) and not money, as it would be under a truly capitalist form of organization (Borlase, 1758, p. 175). There arose around this time a distinction between in-adventurers, local adventurers who could contribute their quota of duties in materials or in labour, as opposed to out-adventurers, living at a distance, who contributed their quotas in money only and were not in daily attendance at the works (Pryce, 1778, pp. 174, 315). The latter more closely resemble the nineteenth century adventurer, though the distinction continues in some form in Cornish mining into the nineteenth century.

44. Beare, 1994, pp. 58–60.
45. Carew, 1602, p. 10.
46. Carew, 1602, p. 16–17.
47. I. Blanchard, 'The miner and the agricultural community in Late Medieval England', *Agricultural History Review*, 1972, p. 100. It is not until Carew's time that we begin to have evidence that a general neglect of agriculture by the mining population has begun to appear (Carew, 1602, p. 19).
48. For the customs of the tanners, most of which involve pranks and practical jokes, see Beare, 1994, pp. 60–4. The 'tanner's language' is an playful occupational language that expresses solidarity through tabooing certain words referring to animals (owls, foxes, hares, cats and rats) which must be referred to using kenning terms of the tanner's language (respectively 'broadface', 'long taylor', 'long yeer', 'rooker' and 'peeper'); the penalty for misuse is that the offender must buy a gallon of ale to be consumed convivially (Beare, 1994, p. 63–4). On anti-languages in general see M. A. K. Halliday, 'Anti-languages', *American Anthropologist* 78, pp. 570–84.
49. For comparison of other cosmologies that seem to oppose monetized to non-monetized domains of economy, the Bolivian tin-mining cosmologies explored by Nash, 1972, pp. 221–32; Nash, 1979. For an interpretation of this material see Michael Taussig, *The Devil and Commodity Fetishism in South America*, Chapel Hill, North Carolina, 1980; see also the papers in J. Parry and M. Bloch (eds), *Money and the Morality of Exchange*, Cambridge, 1989.
50. In Bottrell's account he is alleged to have mastered most trades and handicrafts. W. Bottrell, *Traditions and Hearthside Stories of West Cornwall*, Newcastle upon Tyne, 1970. Originally published in Penzance in 1870, p. 18.
51. Bottrell, 1970, p. 18.
52. Hunt, 1916, p. 63.
53. Bottrell, 1970, p. 19.
54. Hunt, 1916, pp. 66–7.
55. Hunt, 1916, p. 67. In Bottrell's version, Tom the Giant is much more insistently obtuse, refusing to account anything as wealth that is not immediately useful to the owner: 'I don't care for the tin and trash: all et's good for es to buy land, and havn't I got more acres, miles, of land already

- than I can tell what to do weth; all stocked with the finest cattle. We shall never want for beef nor mutton, nor need we better clothing than our honest homespun.' (Bottrell, 1970, p. 22); 'But I tell thee, Jack, I don't care a cobbler's cuss about any more tin. As I have asked thee before, what need one wish for anything more than we have got?' (Bottrell, 1970, p. 27); 'Whatever could the ould giants do with such lumber' says Tom, 'I'd rather have one of my cows than all the glistening things in this hole,' (Bottrell, 1970, p. 28).
56. Hunt, 1916, pp. 68–9. In this respect Tom's notion of wealth is the same as Aristotle's, as opposed to a modern capitalist notion of wealth, see Meikle, 1995, pp. 43–67.
  57. Hunt, 1916, p. 61. The tinkeard then repairs all the pots in the house, and shows how to string a bow thought unstringable but by strength using skill rather than raw strength (what appears again to be sleight of hand) (p. 62), brings the horticultural arts to Cornwall by planting the first garden (p. 64), and shows Tom how to use a knife to slaughter animals (instead of the rocks Tom had been using (p. 65)). Bottrell's longer version (1970, pp. 181–6) details these and far more examples of Jack's skills, and Tom's brutish stupidity.
  58. On the opposition between 'farmers' and 'miners' in the Western industries see Hand, 1942, p. 147; Hand, 1946, p. 164; Quam-Wickham, 1999, pp. 135–151.
  59. Not only did skilled miners insist not being confused with farmers, but also with unskilled labourers called Navvies, who engaged in tasks that superficially resembled their own. See Henwood, 1972, p. 66; Manning, 2004, pp. 533–5, 544 n.10, 545 n.14.
  60. Quam-Wickham, 1999, p. 146.
  61. Park and Daston, 1981; Daston and Park, 1998.
  62. W. Bottrell, *Traditions and Hearthside Stories of West Cornwall*, Penzance, 1870–1880, Volume 2: p. 185, cited in James, 1992, pp. 165–6; on the hostility of Nonconformists (Wesleyans and Quakers) to these beliefs see also W. Bottrell, *Traditions and Hearthside Stories of West Cornwall, a Facsimile Selection*, Lampeter, 1989, p. 116; Henwood, 1972, pp. 125–30; 138–43.
  63. From C. Kingsley, *Yeast: A Problem*, Chapter 13: A Village Revel, 2003, available at: (<http://www.gutenberg.org/dirs/1/0/3/6/10364/10364.txt>). Originally published in 1853.
  64. W. Bottrell, *Stories and Folklore of West Cornwall*, Penzance, 1880, p. 165; Courtney 1973, p. 132. Interestingly, one place this song occurs is in a Cornish version of the Rumpelstiltskin story (Hunt, 1916, pp. 243, 245), a story of uncanny levels of female productivity in weaving achieved with supernatural aid, for an interpretation of which see, J. Schneider, 'Rumpelstiltskin's bargain: folklore and the merchant capitalist intensification of linen manufacture in early modern Europe', in A. Weiner and J. Schneider (eds), *Cloth and Human Experience*, Washington, DC, 1989, pp. 177–213.
  65. Kingsley, 2003, *ibid.*

66. Schneider, 1990, on these two characteristics of being 'prior inhabitants' as well as contemporary nature spirits.
67. Bottrell, 1989, 152; goats, like fairies, are associated with 'moors, or among carns and in other out-of-the-way places', and fairies therefore sometimes take the guise of goats whose habitats they share (Bottrell, 1989, pp. 37-8). For the haunts of Cornish fairies, Bottrell, 1989, pp.32-4, 49.
68. Spriggans (and other fairies) are associated with ruins (Bottrell, 1970, p. 59), underground places and holes (Bottrell, 1989, pp. 40, 99, 103, 151); Bukkas 'keep to old ruined castles' (Bottrell, 1880, p. 30). Haunted locations associated with Antediluvian architecture (Bottrell 1970: p. 52); 'They say that there are still to be seen about Trewe the remains of old bals which had been worked before the Flood.' (Bottrell, 1970, p. 72).
69. "I wish we could but catch a spriggan, a piskey, or a knacker," says Capt. Mathy one night, "ef one can but lay hands on any of the smale people unawares before they vanish, or turn into muryans (ants), they may be made to tell where the goold es buried." Bottrell, 1970, p. 74; also Bottrell, 1989, pp. 151-2.
70. Virtually all stories of fairy ointment revolve around this, Bottrell 1989, pp. 92-103; Bottrell 1970, pp. 207-14; Hunt, 1916, p. 84, pp. 109-13, 120-126; for stories of inquisitive humans being punished for spying on knockers, see Hunt, 1916, p. 88, Bottrell 1970, pp.76-8; for punishment for talking about fairies, see Hunt 1916, p. 97.
71. Fisher Vane, 'Spooks, Spectres and Superstitions in Mining', *The Mining Journal*, 30 May 1937, p. 5. I'd like to thank Ronald James for making this article available to me.
72. Bottrell, 1989, pp. 104ff; Bottrell 1870-1880, Volume 2, pp. 186-93.
73. Bottrell, 1989, p. 104.
74. Bottrell, 1989, p. 105.
75. Bottrell, 1989, p. 105.
76. Bottrell, 1989, p. 105.
77. Bottrell, 1989, p. 106.
78. Bottrell, 1989, p. 107.
79. Bottrell, 1989, pp. 107-8.
80. Bottrell, 1989, p. 108.
81. Bottrell, 1989, pp. 108-9.
82. Some good examples of these typologies see Hunt, 1916, pp. 79-83, Bottrell, 1870, pp. 74-9; Bottrell, 1880, pp. 193-4; Bottrell, 1989, pp. 151-3; M. A. Courtney, *Cornish Feasts and Folklore*, New Jersey, 1973, originally published in 1890, pp. 120-9. Bottrell rather strongly denies that knockers are part of the fairy tribe, though he mentions them in this context, regarding them to be a 'hybrid race between ordinary ghosts and elves' (Bottrell, 1880, p. 193).
83. Bottrell, 1880, p. 193.
84. Hunt, 1916, pp. 90-91; Bottrell, 1870, pp. 76ff.
85. James, 1992, p. 168.
86. Fish, 1980, pp. 157-169; Baker, 1971; James, 1992, pp. 170-1.
87. Fish, 1980, p. 157; James, 1994, pp. 40-44.

88. Fish, 1980, p. 165.
89. Fish, 1980, p. 157.
90. James, 1992, pp. 154, 159.
91. Hand, 1946, pp. 3-7; James, 1992, p. 168.
92. Cited in Hand, 1946, pp. 4-5.
93. Interestingly, the last gasp of the tommyknockers is as a children's tale to cover the sound of high-graded ore being broken up in the basement at night. See Baker, 1971.
94. Bancroft, 1945, pp. 322-6, 329-33; Hand, 1942, pp. 129-30; Hand, 1946, pp. 4-7, 13-17; Fish, 1980, p. 160; James, 1992, p. 171.
95. Bancroft, 1945, p. 327. Cornish ethnicity was often expressed most palpably in linguistic terms, knowing how to speak 'Cornish' (in this case not the Celtic language, by then extinct, but presumably the dialect and perhaps the Western mining jargon to which the Cornish contributed disproportionately) as opposed to 'English' (presumably a more standard dialect) was often taken to be a guarantee vouchsafing possession of the skills of hard rock mining, Bancroft, 1945, pp. 318-22; Hand, 1942, p. 147; Hand, 1946, p. 175; Fish, 1980, p. 157; James, 1994, pp. 34-6. For a parallel mobilization of ethnic and linguistic difference as a sign of difference of technical competence in the same period, see Manning 2002, 2004; see also Quam-Wickham, 1999, pp. 143-4.
96. 'The Cornish may have been the experts underground, but the Irish could be proficient politicians on the surface . . . The Cornish could outcompete the Irish in the mines, but above ground Irish political organisation could defeat Cornish ambitions.' James, 1994, p. 41. This ideology of ethnic complementarity between the Cornish claim on *natural* technical skills *underground* as opposed to Irish *social* political power *above ground* again shows the process of naturalization of ethnicity with which I began.

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EDITOR'S NOTE

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*Cover illustration:* Virginia Woolf at the age of twenty.  
Photograph by G. C. Beresford (reproduced courtesy of the National Portrait Gallery).

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