

Myths, Miners, and Agricultural Communities

By JOHN HATCHER

THE nature of the interdependency of the various sectors of the medieval economy is an interesting and important topic of investigation, and a substantial literature already exists in which historians have attempted to reconstruct composite national and international economic developments. Less attention, however, has been devoted to the analysis of interrelationships between agriculture, industry, and trade on the local level, and the progressive increase in our knowledge of the particular estates, regions, industries, trades, and even individuals which comprised the medieval English economy now makes such analyses potentially fruitful, if complex, exercises. In recent years the links between agriculture and industry have perhaps received most attention, and new light has been thrown upon many rural industries, including textiles, pottery, glassmaking, and mining, both from the perspective of their demands upon local agriculture for raw materials and foodstuffs and from that of the relationship between landholding and industrial employment.¹

I

Dr Blanchard's forthcoming work on the British lead industry in the later Middle Ages is especially welcome since it promises to concern itself with these matters, and also to reveal further examples of the phenomenon of local land rents, boosted by non-agrarian pursuits in the vicinity, moving against the general trend. Notwithstanding, his recent article on the lead miner in a period of acute industrial depression, stimulating though it is, cannot be allowed to masquerade unchallenged as a microcosm of the medieval miner.² The intention of estab-

lishing a model applicable to miners of all minerals is intimated in the title and is constantly re-emphasized thereafter in phrases such as "it is thus the purpose of this essay to investigate the relationship of mining and agricultural activity"; furthermore the belief that such a mission has been successfully accomplished is concisely expressed in the phrase, "The picture of the medieval miner that has thus emerged," which introduces the final paragraph.³ If further confirmation of the author's intention is required it is provided by the odd reference to the stannaries of south-west England. We are thus being asked to replace what Blanchard terms the prevailing "legal" and "economic" archetypes of the medieval miner with a stereotype forged from the limited evidence supplied by records of lead-mining in the fifteenth and sixteenth centuries.

It has been necessary to establish clearly the aims of Blanchard's article because the purpose of this note is to demonstrate, using evidence drawn mainly from the stannaries, that the characteristics of the lead miner and of his relationship with the agricultural community, at least as they have been described to us, may have stronger claims to singularity than to universality.

There were many fundamental differences between the lead and tin mining industries of medieval Britain, a number of which were especially pronounced in the century and a half after the Black Death. The production of lead at this time was not only far less than that of tin, by weight as well as by value, it was also far more widely dispersed: whereas lead was mined in at least a dozen English and Welsh counties, to say nothing of the deposits in the

¹ For textiles see in particular E. M. Carus-Wilson, 'Evidences of Industrial Growth on some Fifteenth Century Manors', *Econ. Hist. Rev.*, 2nd ser., IV, 1951; for pottery see H. E. J. Le Patourel, 'Documentary Evidence of the Medieval Pottery Industry', *Medieval Archaeology*, XII, 1968, pp. 110-11, 122-3; for glassmaking and other forest crafts see J. Birrell, 'Peasant Craftsmen in the Medieval Forest', *Agric. Hist. Rev.*, 17, 1969.

² 'The Miner and the Agricultural Community in Late Medieval England', *Agric. Hist. Rev.*, 20, pt 2, 1972.

³ *Ibid.* pp. 94, 104.

Isle of Man, Scotland, and Ireland,¹ tin was extracted in Cornwall and Devon alone. The inevitable result was that lead fields usually operated on a far smaller scale than tin fields and employed far fewer workers, a fact which emerges clearly from Blanchard's article as well as from the works of other historians of lead-mining communities. In the Mendip lead fields, for example, according to surviving records there were only 44 miners at Ubley in the 1430's, a mere 5½ tons of lead were produced at Priddy in 1457-8, and Chewton in the 1540's, with a mining community of little more than 60, appears to have produced not more than 18 tons of lead per annum.² Even in Derbyshire, which undoubtedly contained the most productive lead mines in Britain, the important Wirksworth fields rarely appear to have produced more than 30 tons of lead in the fifteenth century and usually managed barely half this figure.³ A wide range of evidence from other British fields suggests that the Mendip and Derbyshire output and employment figures were, if anything, higher than average.⁴ In fifteenth-century Cornwall, on the other hand, annual tin output, although depressed, rarely sank below 350 tons, and before 1430 and after 1490 averaged almost 500 tons; whilst in Devon output which had averaged 50-60 tons before 1450, rose to more than 100 tons by the end of the century.⁵ Furthermore, within Cornwall the bulk of the tin was produced in just two of the four

stannary districts, and within Devon Dartmoor was the sole source of tin. It is also significant that a ton of tin was worth on average at least five times as much as a ton of lead,⁶ and that it came almost exclusively from the "streaming" of alluvial deposits rather than from true mining.⁷

It was inevitable that such pronounced differences in scale between lead- and tin-mining in the later Middle Ages should have resulted in marked dissimilarities at almost every stage of their respective structures. Thus we find that in stark contrast to the picture drawn by Dr Blanchard of lead mines owned and worked by wealthy free miners with large landholdings and sufficient resources to supply the ore smelters with credit,⁸ the organization of the stannaries, particularly in Cornwall, was highly capitalistic with both a marked division of labour and a marked division between capital and labour. Immense power was wielded in the stannaries by small groups of merchant tanners, and the work force was composed of what at first sight appears to be a confusing miscellany of labourers—full-time and part-time, permanent and casual—in the form of free tanners working their own claims alone or in partnership, and labourers working either for a fixed wage, a share of the product, or some combination of the two. The ownership of the tin works was similarly diverse, with owners consisting of lone prospectors, partnerships of working tanners, partnerships of

¹ In addition to the references given by Blanchard (*ibid.*) see W. J. Lewis, *Lead Mining in Wales*, Cardiff, 1967, pp. 3-4; A. Raistrick and B. Jennings, *A History of Lead Mining in the Pennines*, 1965, xvi-xviii.

² Blanchard, 'The Miner', pp. 96 n, 99; J. W. Gough, *The Mines of Mendip*, rev. edn. Newton Abbot, 1962, p. 65. Owing to the possibilities of evasion and fraud these figures should be taken as minima.

³ A very approximate calculation based upon the formula and figures given in I. S. W. Blanchard, *Economic Change in Derbyshire during the later Middle Ages* (London Ph.D. thesis, 1967), pp. 273-4, 307. Unfortunately Fig. iv (Blanchard, 'The Miner', p. 105) is not as enlightening as it might be: we are not told how the money received from the sale of ore rendered for the payment of lot and cope has been turned into loads/dishes, and we are given no indication of the size of the load/dish or the amount of smelted lead it would produce; furthermore one is invited to view the load and the dish as equal measures, whereas it is generally assumed that there were 9 Derbyshire dishes to a Derbyshire load.—Blanchard, *Thesis*, p. 274.

⁴ Lewis, *Lead Mining in Wales*, pp. 29-38; Raistrick and Jennings, *op. cit.*, ch. 3 *passim*; Blanchard, 'The Miner', p. 99.

⁵ G. R. Lewis, *The Stannaries: A Study of the Medieval Tin Miners of Cornwall and Devon*, Cambridge, Mass., 1908, p. 253; J. Hatcher, *Rural Economy and Society in the Duchy of Cornwall, 1300-1500*, Cambridge, 1970 p. 289.

⁶ In the fifteenth century the price of lead in pigs appears usually to have fluctuated between £3 and £5 per ton, and that of block tin between £20 and £30 per ton. For lead prices see J. E. T. Rogers, *A History of Agriculture and Prices in England*, 7 vols., Oxford, 1866-1902, iv, p. 488; Blanchard, *Thesis*, pp. 284, 288 n.; tin prices are discussed in my forthcoming book *English Tin Production and Trade before 1550*, (Oxford).

⁷ Lewis, *Stannaries*, pp. 1-7; A. K. H. Jenkin, *The Cornish Miner*, 3rd edn, 1962, pp. 41-5, 54-61.

⁸ The unusual phenomenon of credit flowing from miners to smelters is stressed in Blanchard, *Thesis*, pp. 298-9.

tinners with one or more members contributing hired labour or money in place of personal labour, and merchant tinners, many of whom as individuals or more commonly in partnership owned numbers of tin works and exploited them using hired labour. Quantification is not an easy task, but there can be no doubt after studying stannary documents of the fifteenth century that a substantial proportion of tin works were owned by entrepreneurs and worked by hired labour, and that shares in a substantial proportion of the remaining tin works were held by persons who contributed only capital or hired labour rather than their personal labour. The importance of wage labour is attested in a wide variety of sources, not least the stannary court rolls in which, after the Black Death, the number of cases concerning the employment of labour was exceeded only by cases involving debt.¹

It must be stressed, however, that this contrast may have been exaggerated by imperfections in the sources for lead-mining, at all events it is clear that it was not always so sharply drawn. In more prosperous times, such as the early fourteenth and the later sixteenth centuries, parts of the lead-mining industry also possessed the characteristics of capitalist enterprise.²

II

On the question of the relationship of the miner to the agricultural community Blanchard seeks once again to drive us from one intemperate generalization to another; namely

from one in which all miners are assumed to have been completely divorced from landholding to one in which the typical miner was a substantial landholder who devoted a little of his time to mining each spring, and consequently had no need to purchase foodstuffs: "farmers to whom mining was an insignificant sideline."³ In practice neither position is supportable. Blanchard's opening remarks concerning the errors of previous historians of mining who are held to have assumed "that the miner or quarryman lived an alienated existence from the rural society in which he resided" has all the symptoms of being a classic example of Aunt Sally erection.⁴ A superficial perusal of lead-, coal-, and tin-mining literature written from the mid-nineteenth century onwards, including that cited by Blanchard, reveals that historians have invariably drawn attention to the fact that many miners were part-time husbandmen and many husbandmen in mining regions were part-time miners.⁵ It must be admitted, however, that it is only in recent years that the precise relationship between mining communities and landholding has been tackled systematically. Furthermore it is patently false to assert, as Blanchard does in his concluding paragraph, that such a lack of specialization was typical only of the Middle Ages or pre-industrial England, and that it gave way to a distinct division of labour as the centuries passed. On the contrary a mass of evidence from the seventeenth century to the time when Maitland was writing, and even beyond, attests the fact that the miner-cum-farmer and the farmer-cum-miner continued

¹ Some of the matters discussed in this paragraph have received attention in previous histories of the stannaries; detailed references and supporting arguments will be found in ch. III of my forthcoming book.

² For example, Gough, *op. cit.*, p. 56; R. H. Tawney (ed.), Introduction to T. Wilson, *A Discourse upon Usury*, 1935, p. 50; Raistrick and Jennings, *op. cit.*, pp. 63, 182-90; J. W. Gough, *The Rise of the Entrepreneur*, 1969, pp. 133-4.

³ 'The Miner', p. 98. ⁴ *Ibid.*, p. 93.

⁵ For the medieval and Tudor miner and landholding see *inter alia*: J. U. Nef, *The Rise of the British Coal Industry*, 2 vols., 1932, II, pp. 135-6; Gough, *Mines of Mendip*, p. 12; Raistrick and Jennings, *op. cit.*, p. 182; Gough, *Rise of the Entrepreneur*, p. 146; J. Thirsk (ed.), *The Agrarian History of England and Wales*, IV, 1967, pp. 12, 20, 31, 76, 107; Lewis, *Stannaries*, pp. 186-8; *Victoria County History: Cornwall*, I, 1906, pp. 525, 559; J. F. Willard, W. A. Morris and W. H. Dunham (eds.), *The English Government at Work, 1327-36*, Cambridge, Mass., 1950, III, p. 94; L. F. Salzman, *English Industries of the Middle Ages*, 1913, p. 70; H. P. R. Finberg, *Tavistock Abbey: A Study in the Social and Economic History of Devon*, Cambridge, 1951, pp. 71, 177-8, 182; A. L. Rowse, *Tudor Cornwall, Portrait of a Society*, 1941, p. 61; W. G. V. Balchin, *The Making of the English Landscape*, 2: *Cornwall*, 1954, pp. 48-50; C. Gill (ed.), *Dartmoor: A New Study*, Newton Abbot, 1970, p. 106; J. Hatcher, 'A Diversified Economy: Later Medieval Cornwall', *Econ. Hist. Rev.*, 2nd ser., XXII, 2, 1969, pp. 217, 224; Hatcher, *Rural Economy and Society*, pp. 31, 93-4, 168-9, 222-3, 234; for the involvement of leading landholders and burgesses in the tin trade see *ibid.*, pp. 225-52.

to be a major element in mining communities, and that much of the labour force, particularly in the stannaries, continued to be casual in nature and composed of fishermen, women, and children, and smallholders seeking to supplement the income from their farms.¹

But it is fallacious to proceed from the proven fact that many miners possessed some land to the conclusion that mining communities were self-sufficient as far as their food supplies were concerned. Given the now extensive literature on the subject, there can surely be no doubt that in all but the least prosperous eras major mining communities exerted a powerful influence on the local and regional land market, an influence which usually manifested itself through the demands of those communities for both land and food. Whether we are dealing with medieval Cornwall, seventeenth-century Derbyshire, eighteenth-century Cornwall, or the north Pennines in the eighteenth and nineteenth centuries, it is indisputable that many miners, although attempting to satisfy part of their food requirements from infertile smallholdings upon which they grew vegetables and perhaps a little grain, and moorland pastures upon which they kept an animal or two, depended upon the market for a substantial part of their subsistence. The very fact that freedom from tolls was one of the most common of the ancient privileges granted to miners emphasizes their dependence upon the market for purchases of necessities. Although there may well have been some within these communities who were self-sufficient, this net result cannot be disputed.

Blanchard, it is true, is mainly concerned

with the century and a half following the Black Death when "conditions of falling population and a slack land market prevailed". But, once again, his penchant for generalization leads him into error, for even within this unique era in documented British history it is manifest that the experience of the small acutely depressed lead-fields of Mendip or Wirksworth cannot be taken as typical of the mining industries as a whole or used to cast doubt on the relationship established for the Cornish stannaries and the regional land market in the overpopulated years of the early fourteenth century. And what are we to make of Blanchard's claims for the self-sufficiency of the fifteenth-century Derbyshire miners when we learn that, at least from the latter part of this century, it became customary to permit poor lead miners with only a few dishes of ore to dispose of them before they were measured in order that they might provide themselves with food and drink?² Certainly population decline produced a discernible shift in many mining areas away from mining and into farming—in these more spacious times mining was more likely to have been pursued from choice rather than necessity; indeed, the exercise by many of a preference for farming rather than mining was one of the major factors in the unhappy performance of the extractive industries in the fifteenth century. But this much having been acknowledged, there was a world of difference between say Penwith and Kirrier or Blackmore stannary and Wirksworth in the early fifteenth century. Wirksworth, one of the largest lead-fields at this time, probably gave employment to no more than 200 miners,³ whilst on Penwith

¹ For references to miners and landholding from the seventeenth to the twentieth centuries see *inter alia*: N. J. G. Pounds, *The Historical Geography of Cornwall* (London Ph.D. thesis, 1945), pp. 311–13; J. Rowe, *Cornwall in the Age of the Industrial Revolution*, Liverpool, 1953, pp. 28, 225; Jenkin, *The Cornish Miner*, pp. 271–3, ch. vi *passim*; Rowse, *Tudor Cornwall*, p. 61 n.; J. Hawkins, 'On the intercourse which subsisted between Cornwall and the other commercial states of Antiquity: and on the state of the Tin-trade during the Middle Ages', *Trans of the Roy. Geological Society of Cornwall*, III, 1824, pp. 113–4; *Agrarian History of England and Wales*, IV, pp. 493, 756. For an excellent detailed account of the demands of lead mining communities for both land and foodstuffs see C. J. Hunt, *The Lead Miners of the Northern Pennines in the Eighteenth and Nineteenth Centuries*, Manchester, 1970, ch. vii, viii.

² Blanchard, *Thesis*, pp. 282, 298.

³ There are numerous ways of estimating the number of miners at Wirksworth between 1417 and 1432 from the information given by Dr Blanchard, although all of them are extremely inaccurate. For example, if one assumes, following Blanchard ('The Miner', p. 100) that the average income of the miner was 15s. to £2, then with the current price of lead at 8s. per load (Blanchard, *Thesis*, p. 288 n.) and current annual production at between 100 and 200 loads ('The Miner', fig. IV) then one could estimate the workforce in round numbers at

and Kerrier stannary there were substantially more than 3,000 tanners and a further host of ancillary workers: charcoal-burners, carpenters, smiths, smelters, carters, chandlers, mine owners, money lenders, tin dealers, ale-house keepers, etc.¹ Is it to be wondered at that a community of this size exercised a major influence upon the rents on neighbouring manors and stimulated commercial agriculture? Such a conclusion is emphasized by the knowledge that in 1377 the total recorded adult population of the hundreds of Penwith and Kerrier, excluding tanners who were exempt from taxation, was less than 8,000.² Even in the depths of the fifteenth century depression this stannary found work for well over 1,000 tanners each year.³

Certainly there was a seasonal ebb and flow in mining activity in the stannaries, with perhaps the periods of most intensity concentrated between early spring and late summer, but this is not to say that there was not a significant level of year-round activity. In this the climate of the south-west must have helped, with mild winters and abundant rainfall ensuring a plentiful supply of the water essential for streaming so that lengthy periods of enforced idleness resulting from frost or drought were rarely encountered. In late medieval Cornwall the stannary courts met at three-weekly intervals throughout the year, and in the early fourteenth century no less than 31 separate coinage sessions were held between early November 1305 and 21 September following at Lostwithiel, Bodmin, and Truro, while in 1303 in Devon more than 20 coinage sessions were

held at Chagford, Ashburton, and Tavistock between January and September.⁴ It is also clear that there was a sizeable body of permanent tanners—at least in Cornwall. The richer tin works no doubt justified as continuous an exploitation as possible; similarly the larger tin works with extensive capital equipment consisting of complex series of conduits and adits together with pumps, tyes, and ruddles, would certainly have required constant supervision and maintenance, and it would scarcely have been worthwhile completely to reconstruct them each year.⁵

In the second half of the sixteenth century, when production was usually lower than at the turn of the fourteenth century and the early sixteenth century, it is manifest from the comments of a wide range of observers that much tanning in Cornwall was a year-round activity, and that permanent tanners, both hired and independent, constituted a very substantial proportion of the total work force—indeed for some observers they were the only group worth considering at length.⁶ Furthermore from the multitude of labour cases contained in late-medieval stannary court rolls it is apparent that contracts lasting a number of months or even a year were not uncommon. Yet once again we must beware of generalization, for it is clear from Devon stannary records that the industry of this county operated on a far smaller scale than that of Cornwall: its organization was less specialized and less highly capitalized, its individual units of production were generally far smaller, and furthermore the overwhelmingly prepon-

between 40 and 110. Or, alternatively, if one assumes that the output per man was usually 1–2 tons of ore per annum (Blanchard, 'The Miner', pp. 98–9) then at approximately 4 loads to the ton (Blanchard, *Thesis*, p. 274) one could estimate the workforce at between 12 and 50. Yet another method is to multiply the receipts from lot and cope, a toll of the thirteenth dish, by 13; then as receipts varied between £2 14s. 2d. and £10 between 1417 and 1432 (*ibid.*, p. 307), and income per head can be assumed to have been 15s. to £2, one could estimate the workforce at between 17 and 170.

¹ Hatcher, *Rural Economy and Society*, pp. 31–2. ² Pounds, *Historical Geography of Cornwall*, p. 90.

³ In the mid-1460's, when Cornish tin output was at its lowest point, the farm of tribulage dues was £7 5s. od., equivalent to almost 900 persons at 2d. per head, taking no account of the manifold evasions or farmers' profits.

⁴ P.R.O. E. 101.261/1, 260/24.

⁵ Some stream works employed upwards of 50 labourers, and the discharge of silt and rubble from a series along a valley sometimes even threatened major harbours such as Lostwithiel, Fowey, Falmouth, and Plymouth. —P.R.O. SC.2.156/26; *Registers of Edward the Black Prince*, 1346–1365, 4 vols. (1930–3), ii, 110, 121, 156; C. Gill, *Plymouth: A New History*, Newton Abbot, 1960, p. 21.

⁶ See, for example, Beare's account of the stannaries, written in 1586 (B.M. Harleian MS. 6380, especially fos. 6–8, 56–9), and that of Carew, written about the same time (*The Survey of Cornwall*, 1769 ed., pp. 10–11).

derant element in its work force consisted of occasional and short-term labourers.¹ The Devon industry was also far more seasonal than that of the neighbouring county: between 1445 and 1449, for example, only 5 to 13 per cent of the annual tin output of Devon was produced between Michaelmas and late June, whilst in Cornwall the comparable figure was 25 to 35 per cent.²

The degree to which the occasional miner or tinner depended upon the market for his sustenance is obviously a matter of conjecture and must have varied widely according to individual circumstances, nevertheless it would be unwise to argue that only those who devoted the major part of the year to this activity purchased foodstuffs and drink. The numbers employed in the Cornish stannaries were such that labour had to be attracted from considerable distances, and relatively few could have enjoyed the advantages of commuting daily from home. It is also probable that many occasional tanners did not hold substantial amounts of land, and that others were landless and drifted from fishing, farm labouring, building, and other manual work according to the season and the demand for their services. Furthermore even those with adequate landholdings would hardly have been willing or able to migrate to the stannaries complete with all their sustenance, particularly towards the close of the farming year.

But if this evidence is not direct enough a brief inspection of the extensive Cornish documentation—manorial, stannary, legal, etc.—will show that what is logical in principle is also demonstrable in practice. Late fourteenth- and fifteenth-century stannary court rolls, for example, reveal a mass of cases involving the sale to tanners and mine owners of foodstuffs and other necessities, ranging from semi-luxury items such as pepper, wine, and oysters, to meat, and through to the pedestrian basic grains, vegetables, salt, and, of course, ale. We can also identify the general dealers who

stocked a wide range of goods, encompassing woollen and linen cloth, canvas, wood, salt, meat on the hoof and salted, as well as grain and vegetables. Finally, to make a more general point, but nevertheless a crucial one for this subject, the greater part of the vast sums which were required to finance the tin industry each year, and which proceeded via a chain of credit from London and foreign tin dealers through local merchant tanners to individual labouring tanners, was designed to provide the latter and their families with basic necessities before tin was sold or even produced.³ There is really no need to draw analogies from other periods but it would be a pity to ignore Carew's observations on "times past", presumably the first half of the sixteenth century, when because of the importance of tinning tillage "came farre short of feeding the Inhabitants mouthes, who were likewise supplied weekly at their market from those places [Devon and Somerset], with many hundred quarters of corne and horseloades of bread."⁴

III

Thus there was a stark contrast in the fifteenth century between the Cornish stannaries and the lead fields of Wirksworth. Indeed, considering the slowness of the mining activities of the latter, far from attempting to draw a general conclusion from the correlation between lead output and arable rents from 1417 to 1432, one is tempted merely to marvel that such a correlation should have existed at all—even one so stunted and so localized as not to have affected Brassington manor, a mere four miles or so distant. But when one does attempt to examine the correlation, one finds that there are a number of specific points at which Blanchard's own explanation is open to question. In his anxiety to demonstrate that the causal link between rents and mineral output was not the conventional one exerted by miners' demands for foodstuffs and land, Blanchard adduces some dubious arguments

¹ Salzman, 'Mines and Stannaries', p. 94, Lewis, *Stannaries*, p. 187; H. P. R. Finberg, 'The Stannary of Tavistock', *Transactions of the Devon Association*, LXXXI, 1949.

² P.R.O. E. 364/82, memb. E; E.364/85, memb. B.

³ A detailed exposition will be found in my forthcoming book.

⁴ Carew, *The Survey of Cornwall*, p. 19. Cornish tin production in the early sixteenth century, although at a peak, was little higher than at the turn of the fourteenth century.

from the limited sources at his disposal. The determination of the precise influence that mining exerted on rents is an extremely complex problem to unravel, particularly in a period of low or declining population, but whilst not wishing to argue that in this particular instance the demands of miners for food and land did lead to increased arable rents, an examination of the validity of Blanchard's assumptions that they did not is called for.

To support the contention that miners were not "stimulating the commercial production of grain by their purchases and causing rents to rise à la Ricardo" we are told that the toll of Wirksworth's weekly market and annual fair "steadily dwindled in size", and that this is "suggestive at least of dwindling commercial activity within the manor."¹ For a number of reasons it is strange to find declining market tolls being used to determine the absence of purchases of foodstuffs by the Wirksworth miners. In keeping with many fifteenth-century financial records, receipts from tolls appear to have suffered from inadequate supervision and imperfect rendering of accounts; as Blanchard himself has remarked on Derbyshire tolls in another work "between 1425-75 many people evaded tolls with alleged exemptions," and he has concluded that "the decline between 1425-75 may be viewed as more administrative than real."² But there is really no need for speculation of this sort. The evidence of declining tolls can be summarily dismissed; it is irrelevant because Derbyshire lead miners and lead merchants were explicitly granted exemption from all tolls and market dues.³

To support the contention that the explanation of the correlation between rents and lead output "does not seem to lie in the migration of people into the manor in response to profitable opportunities for the production of lead," we are told that Wirksworth manor possessed reserves of vacant land and that the amount of arable land in occupation seems to have de-

clined between 1417 and 1432.⁴ In this context it is important to realize both that the extent of the fluctuations in lead output in the first half of the fifteenth century was inconsiderable, and that such fluctuations took place at a level far below previous peaks. The improvement between 1412 and 1434 was, in fact, no more than a "slight recovery," and only "rarely was the value of lot and cope half as high as its level of £13 6s. 8d. in Richard II's reign and often it was very much less"; furthermore, even the output of Richard II's reign was probably substantially below that of the early fourteenth century and little more than a fifth of that of the second decade of the sixteenth century.⁵ Thus it is scarcely surprising that a slight recovery in a severely depressed industry operating on a small scale in a period of population decline exerted a less than dramatic influence upon a land market suffering from a severe and progressive contraction in demand. But Blanchard's novel hypothesis that the increased rents of this period resulted from the imposition of a "lordly tax" administered through a means test rather than from an increase in the demand for the holdings,⁶ if applied to the national land market with strict though admittedly bizarre logic, would be expected to have produced sharply increased rents throughout England in the century and a half after the Black Death as a consequence of the substantially enhanced real wages enjoyed by the mass of the people.

IV

Finally there is the miner himself. From the detailed examples given by Dr Blanchard it is clear that he would see the miners of fifteenth-century Derbyshire and early sixteenth-century Mendip as men of virtual yeomen status, amongst the richest in their villages, with 35 to 50 acres of arable, sizeable flocks grazing on extensive pastures, and other interests and responsibilities ranging from juror to money lender.⁷ However, it seems most unlikely that

¹ Blanchard, 'The Miner', p. 102. ² Blanchard, *Thesis*, pp. 341-2.

³ Brit. Mus. Add. MS. 6682, f. 68 (quoted Lewis, *Stannaries*, p. 164). See also *Cal. Pat. Rolls 1485-94*, pp. 69-70; Lewis, *Lead Mining in Wales*, p. 33.

⁴ 'The Miner', p. 102. It is not made clear why Blanchard chooses to limit the discussion to arable land and exclude pasture.

⁵ Blanchard, *Thesis*, pp. 287-8, 307.

⁶ Blanchard, 'The Miner', p. 104.

⁷ *Ibid.*, pp. 96-8.

a man of such substance would actually perform personally the hard physical labour of mining, and that "each year, with spring ploughing and lambing past, he would pick up his basket of tools, don his leather 'bradder', and set off each day from about the middle of April to the hills overlooking his farm to grub for ore."¹ It was natural that men such as these, along with men of even greater substance, should have become involved in the production of ore, but as mine owners or lessees, and as ore dealers or smelters, rather than as labourers. The experience of the stannaries has taught us that the mere possession of a mine, ore, or smelted metal need not imply that the possessor was a labouring tinner,² and furthermore that only a small proportion of labouring tanners appear on the coinage rolls and court rolls.³ The scale of operations in late medieval Derbyshire and Mendip was, as we have seen, far smaller than in the south-west, but it seems likely that beneath men such as John Philips jr,

Thomas de Waterhouse, and John Helot there existed a scarcely recorded but nevertheless significant body of labourers and sub-tenants who, along with younger sons and relatives, actually produced the ore. Such a state of affairs, which appears to have existed in some lead-fields before the Black Death, and was certainly the norm from the later sixteenth century onwards, would remove one further support from Blanchard's hypothesis of the self-sufficiency of mining communities.

But we must not go too far in drawing analogies from tin-mining. Whilst the fecundity of stannary documentation may help in providing comparative information on mining, Dr Blanchard's evidence of lead-mining in a period of depression is a salutary warning against excessive generalization, both on conditions within different mining industries, and on conditions within the same industry at different points in time.

¹ Blanchard, 'The Miner', p. 100.

² Hatcher, *Rural Society and Economy*, pp. 235-52.

³ In the first decade of the fourteenth century when approximately 2,000 Cornish tanners were assessed to pay tax, no contemporary coinage roll contains more than 200 names; and at the close of the fourteenth century when the Cornish mining population was perhaps more than 5,000 strong, less than 2 per cent of this number appeared each year on coinage rolls.

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