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The Migration of Labour into the Glamorganshire Coalfield (1861-1911)

By BRINLEY THOMAS

(1) THE POST-WAR CONTRACTION.

THE phase of the depression experienced in the coal industry in the last three years has been accompanied by an abnormally large mass of unemployment in the coalfields. The Report of the Industrial Transference Board concluded, on the basis of the information available in June 1928, that "it would be unwise if any figure below 200,000 were taken as the permanent surplus in the industry."¹ Of this total the South Wales and Monmouthshire coalfield was responsible for 55,000, Durham 40,000 and Scotland 25,000. The Report emphasised the serious fact that the unemployment is "frozen" by its close concentration in or about the coalfields in areas of comparatively small extent. Industrial development within these in the past has been highly specialised. In the inland districts many large communities, e.g. the Rhondda in South Wales, with a population of some 162,000, are dependent on one industry only—the coal industry . . . the future of large sections of the population if they remain in these areas is most precarious."²

It is true that the number of workers on the colliery books rose during 1929.³ Moreover, within its limits, the labour transference scheme has been operating effectively, the number transferred from all the depressed mining areas in 1929 being 32,000⁴; but its significance can well be over-estimated. A solid mass of unemployment still remains,⁵ much of which cannot be touched by any transference scheme, and it is probably safe to prophesy that the industry will contract still further before it reaches stability.

¹ Cmd. 3756, 1928, p. 8.

² P. 15.

³ The number of wage-earners in the South Wales and Monmouthshire coalfield increased from 169,400 in March 1928 to 180,400 in March 1930. (*Ministry of Labour Gazette*, April 1928 and 1930.)

⁴ *Report of the Ministry of Labour for 1929* (Cmd. 3579, 1930), p. 16.

⁵ In the four Labour Exchange areas comprising the Rhondda Urban District the average percentage of unemployed on the registers (*Local Unemployment Index figures*) for January to May 1930 was 33.8 per cent.

It may not be unprofitable to examine the pre-war growth of population in those districts which are now burdened with "pockets" of surplus labour. This inquiry will be limited to the county of Glamorgan in the period 1861-1911, paying special attention to the volume and direction of the migration.⁶

(2) DISTRIBUTION OF POPULATION IN THE IRON PERIOD.

Recent research has shown that, in the first half of the nineteenth century "in general, the evidence for any strong influx into coal-mining is not plentiful. A large part of the new labour required by the expansion of the industry probably came from the natural increase of a notoriously prolific section of the population."⁷ At that time coal was not yet king in South Wales. The latter part of the eighteenth century had seen the establishment of the famous iron-works which soon extended from the locality of Merthyr Tydfil to Blaenavon, along the northern and north-eastern fringe of the coalfield—a development which in its early stages gave rise to a remarkable migration of iron-workers from the Midlands.⁸ Between 1830 and 1847 the make of iron in the area increased by 150 per cent.⁹ and in the latter year South Wales produced over a third of the total British pig-iron output of 1,999,608 tons.¹⁰ Prior to the 'fifties the working of coal was for the most part a mere subsidiary to the iron, tin-plate and copper works.¹¹ Population had thickened on the "hills"—the northern and eastern outcrop of the Lower Coal Series—where ample supplies of ironstone, good smelting coal, furnace sandstone and limestone co-existed, and on the sea-board in and around Swansea. Taking Merthyr Tydfil,¹² which was in 1851 the largest town in South Wales and the centre of the iron industry, we find that of the 35,093 persons of twenty years and upwards enumerated there in that year, only 9,120 (about 25 per cent.) were born within the town, and 4,146 in Glamorganshire (beyond the limits of Merthyr

⁶ For a treatment of the subject mainly from the geographical standpoint see A. E. Trueman, "Population Changes in the Eastern part of the South Wales Coalfield," *Geographical Journal*, 1919, pp. 410-19, and D. Lleufer Thomas, "The Geography of the South Wales Coalfield and its Influence on Population" (Paper read at the British Association (Geography Section), Cardiff, August 24th, 1920, reprinted in *Welsh Housing and Development Year Book* (Cardiff) 1921).

⁷ A. Redford, *Labour Migration in England, 1800-50* (1926), p. 49.

⁸ See T. S. Ashton, *Iron and Steel in the Industrial Revolution* (1924), p. 199.

⁹ J. H. Clapham, *An Economic History of Modern Britain* (1926), p. 426.

¹⁰ H. Scrivener, *A History of the Iron Trade* (1854), pp. 123-7.

¹¹ See H. Stanley Jevons, *The British Coal Trade* (1915), p. 102.

¹² See 1851 *Census Returns*, 1852-3, LXXXVIII, Pt. 2, p. 892.

Tydfil); 21,827 (or 62 per cent.) originated outside the county, and of these 14,189 or about two-thirds came from the four neighbouring Welsh counties of Carmarthen, Brecknock, Pembroke and Cardigan. It is significant that as many as 2,330 were of Irish birth, most of whom had been driven from their country by sheer starvation during the great potato famine of the 'forties. In the second half of the century the export trade in the smokeless steam coal of the valleys was to displace the iron industry as the dominant element in the economic life of Glamorgan. It was in virtue of this phase of its development that the county became one of the most densely populated parts of the country.

Though the population of Glamorgan had grown by 227 per cent. (from 70,879 to 231,849) between 1801 and 1851, the density in mid-century was still only 253 persons per square mile, compared with 259 in Cornwall and 289 in Somerset.¹³ In the fifty years prior to 1911 its population registered an increase of 253 per cent. (from 317,752 to 1,120,910), and that of England and Wales 80 per cent. (20,066,224 to 36,070,492). The outstanding factors characterising the period were the enormous demand for the unrivalled "Welsh smokeless,"¹⁴ consequent upon the great expansion in the use of steam, especially for navigation, the paramount influence of the railway¹⁵ in making the coalfield accessible from all parts of the country, the relative decline of the inland iron industry, the tendency for Siemens steel and tin-plate works to localise near the sea-board, and the depression in agriculture.

(3) THE STATISTICAL DATA AND THE METHOD APPLIED.

The accompanying table represents an attempt to estimate, from the birth-places statistics of the censuses, the extent of migration from other counties into Glamorgan during each decade. The method¹⁶ used requires some explanation. The number of natives of each county in England and Wales, of Scotland and of Ireland enumerated in Glamorgan is given for each census year. In order to estimate how many of these en-

¹³ See A. Redford, *op cit.*, p. 12.

¹⁴ An interesting account of the early efforts made by one of the pioneers to demonstrate its unique qualities, e.g. to the French Ministry of Marine, is given in J. E. Vincent, *Life of John Nixon* (1900), pp. 131-144.

¹⁵ The South Wales Railway was opened between 1850 and 1859. In 1862 the total mileage (including lines worked) of the Great Western and West Midland Railways was 1,104. (E. T. MacDermot, *History of the Great Western Railway* (1927), pp. 863-5.)

¹⁶ I am indebted to Prof. Bowley for valuable advice regarding the application of this method.

tered the county within a given period of ten years, it is necessary to ascertain what proportion of the people enumerated in the first year survived: this is done by using the mean death rate¹⁷ for that decade in the different age-groups in the Registration County of Glamorgan (excluding the wholly rural District of Gower).

The process may best be described by taking as a concrete instance the case of Devonshire. At the beginning of the period, in 1861, there were 6,101 people living in Glamorgan who were born in Devon. In order to gauge the proportion who would be alive in 1871, we reduce this total by a percentage (13 per cent.) based on the 1861-70 mean annual death rate of the age-group 35-45 (i.e. 13 per 1,000). The remainder is subtracted from the number of Devonians enumerated in the county in 1871, giving a figure of 400 (to the nearest hundred) newcomers in 1861-71. The next step is to apply the 1871-80 mortality-rate of the age-group 45-55 (i.e. 17 per cent.) to those who survived, and that of the age-group 25-35 (i.e. 10 per cent.) to the 400 who arrived in the previous decade: the sum of the two lots of survivors is then subtracted from the number of Devon-born people enumerated in 1881 (13,526-4,410+375), and we are given 8,700 new arrivals from that county in the years 1871-81. This process is applied for the whole period to every county or group of counties. A rough guess has to be made at the age-composition of those returned in 1861—the initial figure: the choice of the age-group 35-45 is considered to be least objectionable. The fact that migrants to the coalfield were for the most part young people is held to justify the application of the death-rate of the age-group 25-35 to the newcomers of each decade.

The results afford some indication of the gross movement inwards every ten years. It is fully realised that the method

¹⁷ The statistics supplied by the Decennial Supplements to the Annual Report of the Registrar-General of Births, Deaths and Marriages: 1875, xviii, Pt. II; 1884-5, xvii; 1895, xxiii, Pt. II; 1905, xviii; 1914-16, viii.

The actual figures are as follows:

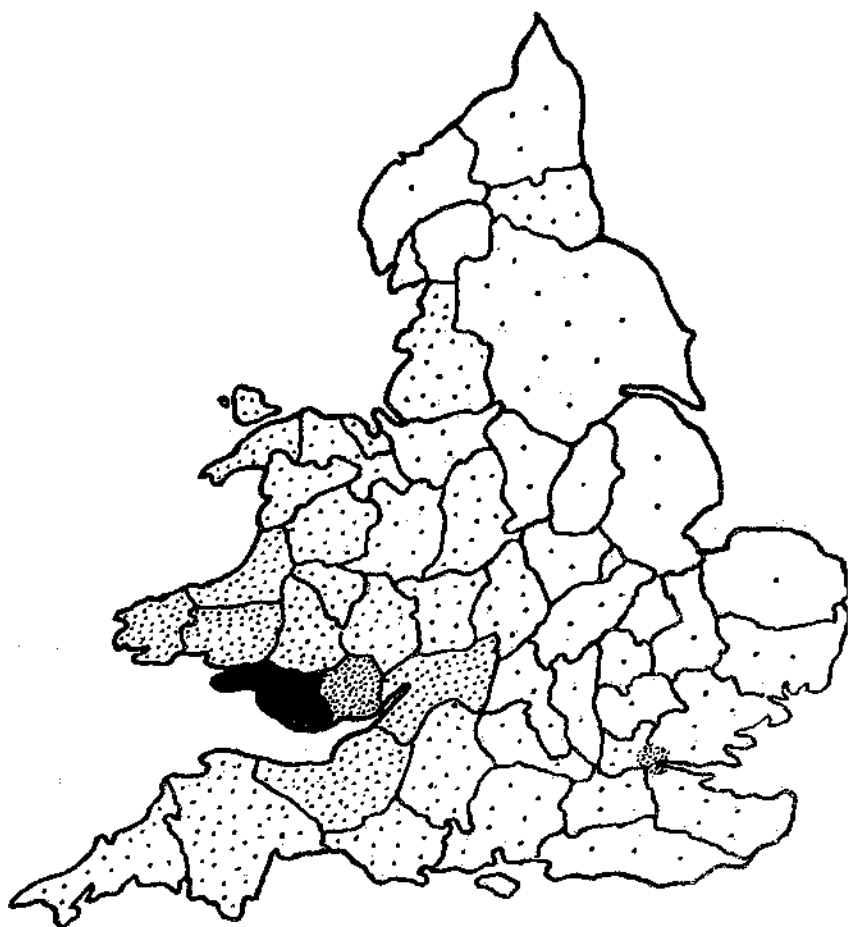
GLAMORGAN REGISTRATION COUNTY (excluding registration district of Gower).									
Decennial Death-rates in Age-groups.									
Decennium.	25- ...	35- ...	45- ...	55- ...	65-75				
	Per 100 of the Mean Population.								
1861-70	11	13							
1871-80	10	13	17						
1881-90	8	12	17	34					
1891-1900	8	11	17	35	70				
1901-10	6	9	15	34	68				

The decennial death-rate represents ten times the mean annual death-rate given in the Registrar-General's Decennial Supplements.

MAP OF ENGLAND AND WALES

*showing the origin of the persons born outside the county
enumerated in Glamorgan in 1911.*

[One dot represents 500 persons having originated in the county
where it appears.]



used has decided limitations; and too much importance must not be attached to the figures as such. But, within these limits, it seems plausible to arrive at some broad conclusions based on the relative trends brought out by the statistics. It is illuminating to note the proportions coming each decade from the five border counties (Carmarthen, Brecknock, Monmouth, Somerset and Devon) and from the non-border or distant counties. The excess of the enumerated over the natural increase in the county is a

fairly accurate index of the net gain by migration. Some idea of the movement outwards has been obtained from the figures of Glamorgan-born people returned in other counties in each decennial year, and applying a method similar to that already outlined. This latter computation helps to explain the disparities between the gross immigration and the net gain. Emigration to foreign countries has also to be taken into account; but, unfortunately, separate information for counties is not available.

(4) THE FIRST WAVE OF MIGRATION: THE CHARACTERISTICS OF THE 'SEVENTIES.

It is proposed to analyse the volume and direction of the inward flow of population in relation to the course of various indices reflecting the rate of expansion of the coal industry during the period. The accompanying diagram illustrates, for the period 1871-1911, the growth of the annual output of coal and the number of miners employed in Glamorgan, of the annual coal and bunker exports (including coastwise) from Cardiff and the mean annual f.o.b. price of large coal, together with the fluctuations in the mean annual wage percentage on the 1879 standard.

The amount of migration in 1861-71 was quite moderate compared with later decades, even though the gross estimate of 21,000 may err on the low side. About 70 per cent. of the migrants were recruited from the neighbouring Welsh counties of Cardigan, Pembroke, Carmarthen, Brecknock and Monmouth. The output of coal in South Wales (excluding Monmouthshire) advanced swiftly between 1861 and 1866 (6,800,000 to 9,376,000 tons), but for the next five years it remained stagnant.¹⁸ The coal industry was in process of freeing itself from the leading-strings of the iron-trade.

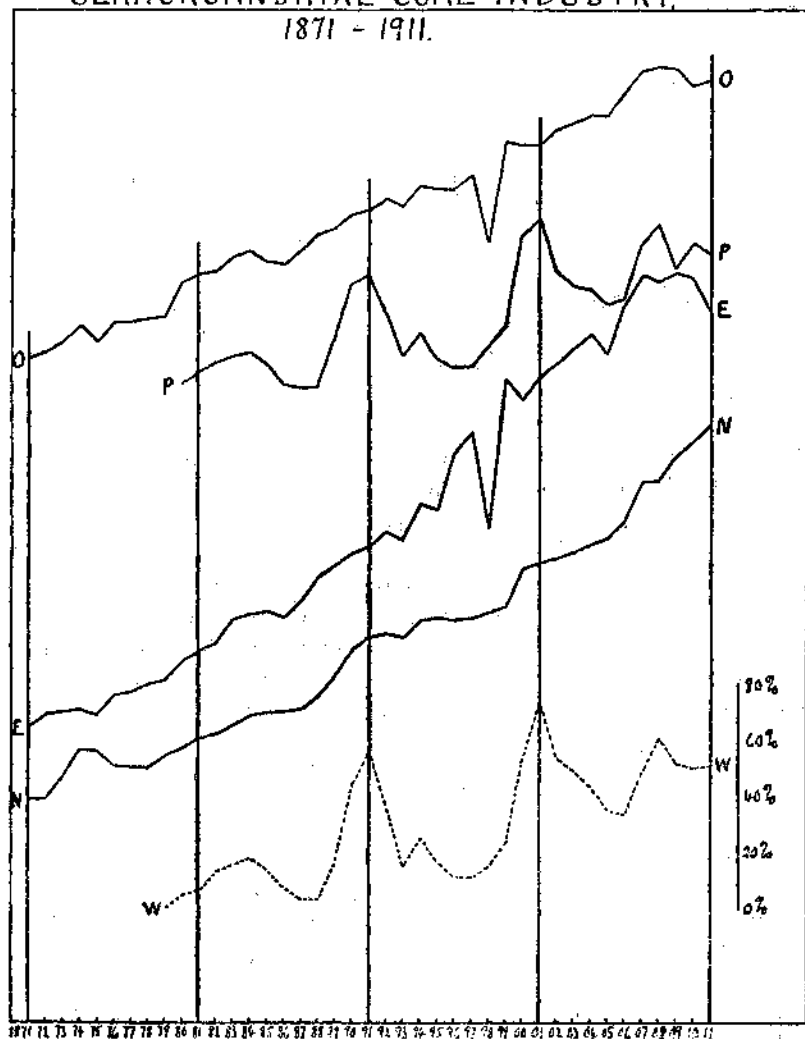
After the 'seventies the welfare of the coalfield was to become increasingly dependent on forces operating in the international sphere. The period witnessed a phenomenal expansion, the rate of which was periodically retarded by downward reactions in prices. Between 1871 and 1911 the number of coal miners in Glamorgan rose by 341 per cent. (from 34,000¹⁹ to 150,000), the output by 278 per cent. (from 8,600,000¹⁹ to 33,500,000 tons), and the cargo and bunker (including coastwise) exports of Cardiff by 600 per cent. (from 3,000,000 to 21,000,000 tons). The

¹⁸ *Select Committee on Coal* (1873, X, 313), Appendix No. 3, pp. 324-5.

¹⁹ Based on figures given in the Report of the Mines Inspector for the South Wales District (1872, XVI, 653), allowance being made for the inclusion in the latter of Brecknock, Carmarthen and Pembrokeshire.

GLAMORGANSHIRE COAL INDUSTRY.

1871 - 1911.



O = Annual Output of Coal
 P = Average Annual F.O.B. Price of Large Coal
 E = Exports of Coal, Coke, Patent Fuel and Bunkers (including Coastwise) from Cardiff
 N = Annual Number of Mineworkers employed
 W = Mean annual Wages Percentage on 1879 Standard

Mean of 1886-91 = 100.

	Coal-Output in Glamorgan. (Million Tons.)	Exports of Coal, etc., from Cardiff. (Million Tons.)	Number of Mineworkers employed in Glamorgan. (1000s.)
1871	8.6	3.0	33.5
1881	16.0	6.4	52.4
1891	21.8	11.0	84.4
1901	27.7	18.5	107.2
1911	33.5	21.4	150.7

SOURCES: Finlay Gibson, *Compilation of Statistics of the Coal Mining Industry* (1922); Annual Reports of the Mines Inspector for the South Wales District; Annual Reports of the Cardiff Chamber of Commerce.

peaks of the upward price movements occurred in the years 1873, 1884, 1891, 1901 and 1908; and more or less acute depressions prevailed in 1875-9, 1885-8, 1892-7, and 1902-6. It is noteworthy that the temporary reductions in the number of employed were few and slight—during 1874-8, 1892-3, and 1895-6. The sliding-scale method of determining wages was in effective operation after 1880 (it was replaced by the Conciliation Board in 1903) so that there is throughout a very close correlation between the variations in the wage percentage and the f.o.b. price of large coal.

In the ten years following 1871 about three-and-a-half times the number in the previous decade appear to have migrated to Glamorgan; and 50 per cent. of them were natives of non-border counties. Only 38 per cent. came from the five neighbouring Welsh counties; while the stream from Cornwall, Devon, Somerset and Gloucester amounted to no less than 37 per cent. of the total. Miners from the Radstock and Forest of Dean coal districts must have been prominent among those who left the two latter counties.

The boom of 1872-4 was primarily due to the enormous demand for iron.²⁰ Miners' wages rose to an unheard of level. There are no average rates for the whole coalfield in those years; but the following data of wages paid in some Glamorgan collieries serve to indicate the fluctuations between 1869 and 1878:

AVERAGE WEEKLY EARNINGS IN CERTAIN SOUTH WALES
COLLIERIES.

	1869 ²¹			1873 ²²			1878 ²² (Feb. to May)		
	s.	d.		s.	d.		s.	d.	
Hewers	24	5	...	48	9	...	19	1½	
Timbermen	25	0	...	53	4	...	23	6	
Hauliers	20	0	...	31	6	...	16	11	
Landers	21	0	...	36	9	...	18	8½	
Labourers	15	0	...	24	0	...	14	9½	

In the years 1871-3 the labour force in the Glamorgan mines grew from 34,000 to 40,000.²³ Labour was very scarce,²⁴ and

²⁰ Report of S.C. on Coal, *op. cit.*, p. xi.

²¹ Sir Thomas Brassey, *Lectures on the Labour Question* (1878), p. 36. (These figures relate to a single colliery.)

²² Sir Thomas Brassey, *Foreign Work and English Wages* (1879), p. 318. (Figures for a group of collieries.)

²³ See Annual Reports of the Inspector for the South Wales District.

²⁴ S.C. on Coal (1873), *op. cit.*, evidence of T. A. Wales, Inspector for the South Wales District, Q. 1536.

the supply of coal inelastic. It was some time before the abnormally high wage rates could attract sufficient workers from distant places. The fact that the rates paid to hewers and timbermen were doubled between 1869 and 1873 reflects the keen shortage of skilled labour. Up to that time, as we have seen, most of the migrants had been drawn from the surrounding rural districts. The unprecedented boom prices led to the sinking of many new pits, especially in the Rhondda and Aberdare valleys, but these could not begin to operate for four or five years.²⁵ By the time these mines, manned with the necessary labour, were ready to swell the output, the price had long since dropped and the slump had set in. The number of miners fell from 48,900 in 1874 to 43,500 in 1878 when the depression touched its lowest point.

The decade was thus one of glaring contrasts; the price pendulum swung from one extreme to the other. The sudden burst of prosperity in the first few years made the area very attractive. The severe reaction of 1875-9, no doubt, drove many of the newcomers back to their homes, particularly those who had gone into mines dependent on iron-works.²⁶ An irretrievable blow was struck at the once supreme inland pig-iron industry. About 15,000 people who had been born in the county moved elsewhere—much of this migration being due to the lean years. A good number probably emigrated abroad, especially to the coalfields of Pennsylvania.²⁷

In spite of the steep fall in prices, the output of steam coal and the exports from Cardiff present a remarkably steady upward trend after 1875.²⁸ Depression in values could not curb the youthful vigour of the steam coal industry; and this growth involved an interesting internal shift of population. The rapidity with which the early exploitation of the steam coal measures proceeded had compelled the "sale-coal" owners to offer high wages in order to secure labour. Consequently a disparity of as much as 25 per cent. grew up between wage-rates in the Rhondda Valley and those in the Merthyr iron-works district.²⁹ The natural result was a tendency for people to move

²⁵ *Ibid.*, Q. 1581-2.

²⁶ The iron-making communities suffered chronic distress. See *Return on the Present Condition of the Unions in South Wales and the Measures taken by the Boards of Guardians for dealing with applicants for Relief during the Present Pressure of Distress in that District* (1878, LXV, 7).

²⁷ See E. Abbot, *Historical Aspects of the Immigration Problem* (Chicago U. Press, 1926), p. 208, and S.C. on Coal, *op. cit.*, Q. 1540.

²⁸ See *The Colliery Guardian*, November 14th, 1879.

²⁹ A. Dalziel, *The Colliers' Strike in South Wales* (Cardiff 1872), pp. 15-17. This wide disparity in rates of remuneration for work of similar skill in

from one locality to the other, and it was greatly accelerated by the intense hardship experienced in the iron-making centres during the depression. During 1871-81, the Census returns³⁰ show that the Registration District of Merthyr Tydfil lost 18,800 people by migration and that of Bedwellty (adjoining it in Monmouthshire) 5,051, while Pontypridd, where the smokeless steam coal is chiefly mined, absorbed 26,552, and Cardiff, the port and its immediate hinterland, 14,724 persons.

The striking increase in the mobility of rural inhabitants in the 'seventies compared with the 'sixties merits further notice. There can be no doubt that new forces began to make themselves felt in the countryside after 1870. The Elementary Education Act of that year had a temporarily disturbing effect on the agricultural labourer's standard of living. "By restricting juvenile labour and diminishing the aggregate amount of the family earnings,"³¹ it tended to make him more likely to migrate. Moreover, the clash between the militant Labourers' Union and the masters in the early part of the decade ushered in the era of the "cash nexus"; and "the general levelling up of the standard of efficiency pressed hard upon the casual labourers and the 'odd men' of the villages."³² Another new factor was the Union's policy of financially assisting labourers to move to the mining and manufacturing centres³³: in this way it was hoped that the diminished labour supply on the farms would strengthen the men's bargaining power.³⁴ The impact of these disturbing influences is a partial explanation of the moderate rural exodus which occurred while agriculture was still prosperous—the great depression did not set in till 1879, the price of wheat in the early 'seventies being between 55s. and 60s. and the average for the decade about 45s.³⁵

(5) THE SECOND WAVE: AGRICULTURAL WAGES AND MIGRATION.

From 1881 to 1891 the coalfield passed through a stage of practically unchecked development. It is true that wage rates the same coalfield had a significant bearing on the early stage of the evolution of trade unionism and owners' organisation. Geology and the rapidity of expansion go far perhaps to explain the comparatively large crop of stoppages that have been a typical feature of the South Wales coalfield. A study of the Strikes and Lock-outs Reports bears this out.

³⁰ 1883, LXXIX, p. 669, Table 10.

³¹ *Report on the Decline of the Agricultural Population in Great Britain, 1881-1906* (1906, XCVI, 3273), pp. 9-10.

³² *Ibid.*, p. 10.

³³ Hasbach, *A History of the English Agricultural Labourer* (1908), p. 280.

³⁴ See Joseph Arch's evidence before the Agricultural Commission (1882, XIV, 3309 (1), Q. 58,433). He admitted that this policy had proved a failure.

³⁵ *Report on Decline of the Agriculture Population of Great Britain, op. cit.*, p. 10.

fell from 17.5 per cent. (on the standard) in 1884 to the extremely low level of 2.9 per cent. in 1887; but the personnel of the mines did not actually diminish during this slump. There was an addition of 54 per cent. during the ten years and we may well infer that this temporary set-back did little to mitigate the sustained attractiveness of the area. The figures reveal a second wave of immigration of considerable dimensions, 63 per cent. being contributed by non-border counties. The most distant ones were well represented, and the dispersion of people from Somerset and Gloucestershire (many of whom were coal miners) is again an outstanding feature.

Some of the Reports on Agriculture submitted to the Labour Commission (1893) supply corroborative evidence regarding this movement. The Assistant Commissioners for Wales pointed out that the adequacy of the agricultural labour supply depended on the distance at which a district was situated from an industrial or mining centre.³⁶ Furthermore, "labourers from Wiltshire, Somerset and Devon, from Hereford and the Cirencester district of Gloucestershire have almost everywhere superseded the indigenous Welsh labourer in the Vale of Glamorgan, excepting, along the seaboard, in parts that are remotest from railway communication. But even the newcomers do not remain very long on the land, for higher wages and shorter hours almost invariably succeed in attracting them to the mineral districts, so that other labourers have to be continually drafted from the same English counties to replace them."³⁷ When the demand for coal was brisk, the pits could absorb a large quantity of unskilled labour.³⁸

These raw sons of the soil would generally be given the lowest paid jobs on the surface or underground,³⁹ until they acquired enough experience of the mine to enable them to do more specialised work. It was natural that the "old-hands" should be jealous of their hereditary skill and should strongly resent their occupation being inundated by a miscellaneous crowd of outsiders.

³⁶ *Royal Commission on Labour, The Agricultural Labourer, Wales*. Reports by D. Lleufer Thomas and C. M. Chapman (1893, XXXVI, 6894 (xiv)), p. 8.

³⁷ *Ibid.*

³⁸ The Agent, on behalf of the Aberdare and Merthyr Miners' Association, in his evidence before the Labour Commission, complained that fully 25 per cent. of the mining labour in his district was unskilled (1892, XXXIV, 6708 (iv), Q. 3942-9). The same feeling was prevalent in the boom of 1872-3. See J. R. Raynes, *Coal and its Conflicts* (1928), p. 34.

³⁹ Special provision has had to be made for this class of worker by the insertion of "subsistence-wage" clauses in recent wage agreements.

It is difficult to find any consistent relation between the relative trend of agricultural wages and the extent of the loss of labourers in different parts of the country. This kind of explanation was offered for the variations in the percentage decline in the number of labourers during the period 1871-81: some of the counties where the rise in remuneration was least (e.g. Huntingdonshire) underwent a relatively considerable, if not the most marked, diminution in labourers, and vice versa (e.g. York, North Riding).⁴⁰ But such a theory of causation is not borne out by an examination of the statistics of all the counties. An advance in the average agricultural wage-rate of a county in a given period may be, on the one hand, a cause of a relatively low volume of migration outward, or, on the other hand, an effect of a scarcity of labour consequent upon a relatively large volume of migration. Nor must we place too much faith in average rates of earnings, for striking differences in remuneration might persist for a generation in villages of the same neighbourhood.⁴¹

We may generalise by saying that agricultural earnings would be highest within the coalfield, and would tend to be higher in the inner ring of border counties than in the outer. For instance, Mr. Wilson Fox's statistics for 1898 point in this direction.

AVERAGE EARNINGS OF AGRICULTURAL LABOURERS IN 1898⁴²
(including value of allowances in kind).

County.	Ave. Rate.	County.	Ave. Rate.	County.	Ave. Rate.
	s. d.		s. d.		s. d.
Glamorgan	19 1	Devon	16 7	Montgomery	15 5
Brecon	16 8	Cornwall	16 7	Gloucester	15 1
Monmouth	16 8	Somerset	15 10	Wiltshire	15 0
Radnor	16 8	Hereford	15 10	Cardigan	14 9
Carmarthen	16 7	Pembroke	15 10	Dorset	14 9

Not a few of the labourers from distant counties like Cornwall, Dorset, Wiltshire or Montgomery moved a short distance at a time with the general stream directed towards the coalfield. Thus, "even in the case of 'counties of dispersion' which have

⁴⁰ See S. B. L. Druce, "The Alteration in the Distribution of the Agricultural Population in England and Wales between the Returns of the Census of 1871 and 1881," *The Journal of the Royal Agricultural Society*, 1885, pp. 96-126.

⁴¹ J. Ashby and B. King, "Statistics of some Midland Villages," *Economic Journal*, 1893, p. 5.

⁴² *Report on Wages and Earnings of Agricultural Labourers* (1900, LXXXII, Cd. 346), p. 108.

population to spare for other counties, there takes place an inflow of migrants across the borders, and this inflow is most considerable across that border which lies furthest away from the great centres of absorption."⁴³ Apparently, the Welsh agricultural labourer was more mobile than his English prototype, and his natural inclination to migrate was no insignificant factor in the rural depopulation of Wales.⁴⁴

We have seen that during the 'eighties there was a strong influx into Glamorgan, especially from distant counties. The net absorption amounted to 76,200—two-and-a-half times that of the previous decade. In this connection there seems ground for suggesting that the Minority Report of the Commission on Depression in Trade (1886) had not taken all the facts into account when it stated that "whilst the amount of labour employed in agriculture has greatly declined during the years 1874-85 . . . there has been no absorption by the textile industries of the labour displaced . . . and we have no evidence to show that it has found employment in any other productive industry."⁴⁵ There can be little doubt, from our analysis of the statistics, that the coalfield which was expanding at a greater rate than any other⁴⁶ in the Kingdom received some of its labour supply from rural areas in those years, particularly during 1880-5.

(6) THE EFFLUX FROM THE COUNTY : THE THIRD WAVE.

The rate of the inward movement was distinctly less during the period 1891-1901. The net addition to the population through migration was lower by 40 per cent. than the 1881-91 total. The contraction was most conspicuous in the case of the more distant counties. The state of the coal trade was the chief cause of this retrogression. From 1892 to 1899 the industry was in the trough of an acute price slump, and there was an actual

⁴³ E. G. Ravenstein, "The Laws of Migration," *Statistical Journal*, 1885, p. 191. This paper contains an analysis of the dispersion of Devon-Cornwall natives in 1871-81.

Incidentally it must be remembered that, when we estimate that so many natives of a certain county, say Wiltshire, entered Glamorgan within a period of ten years, it cannot be assumed that they all travelled the whole distance from Wiltshire during that decade.

⁴⁴ S. B. L. Druce in the *Journal of the Royal Agricultural Society*, 1885, *op. cit.*, p. 111.

⁴⁵ The passage is quoted in Hasbach, *A History of the English Agricultural Labourer* (1908), p. 314.

⁴⁶ The county of Durham presents a striking contrast. In 1851-71 it had a high net immigration of 130,000, but after 1881 it consistently lost population, the total net efflux up to 1911 being about 70,000 (H. A. Mess, *Industrial Tyneside* (1928), pp. 30-33). The labour force in the Durham coalfield was stationary between 1875 and 1887.

falling off in the number employed in 1892-3 and 1895-6. Wages during these eight years averaged only 18 per cent. on the standard, while the net growth of the labour force was only 8,800. In the first year of the boom which followed no less than 11,200 workers were added to the colliery books. It is none the less significant that, whereas the staple industry was depressed for so many years, the gross inflow should have been relatively so high.

According to the estimate, about 35,000 Glamorgan-born people migrated elsewhere, more than double the number in the previous decade. It is worthy of note that in the years 1871-81 and 1891-1901, when this "emigration" assumed comparatively large proportions, there was a clear preponderance of females among those who went to London, the South-West, West-Midland and North-West counties. This is brought out by the following figures :

NATIVES OF GLAMORGAN ENUMERATED IN LONDON,
SOUTH-WEST, WEST-MIDLAND AND NORTH-WESTERN COUNTIES.

			<i>Males.</i>	<i>Females.</i>	<i>Total.</i>
1871	...	...	4,931	5,951	10,882
1881	...	...	7,550	9,452	17,002
1891	...	...	9,645	11,887	21,532
1901	...	...	14,556	16,794	31,350

ESTIMATED NUMBER OF FEMALES MIGRATING FROM
GLAMORGAN TO THE ABOVE COUNTIES :

1871-81	1881-91	1891-1901
4,200	3,500	6,500

Most of them probably went into domestic service in the Metropolis and the holiday resorts of the other counties. The distress in the mining areas in recent years has had a similar consequence. Depressions in the coalfield seem, at least, to have had one redeeming feature—they have always helped to ease the domestic servant market.

With the abnormal prosperity of 1899-1902⁴⁷ the coalfield resumed its rôle as a powerful magnet attracting population from all parts of the country ; there was only a temporary lull

⁴⁷ The chief cause of this boom was "the demand for steam coal for navigation purposes (assisted no doubt by the requirements of transports for the War in South Africa) coming on top of depleted stores, as a consequence of the prolonged struggle in 1898 in South Wales." D. A. Thomas, "The Growth and Direction of our Foreign Trade in Coal, 1850-1900," *Statistical Journal*, 1903, p. 46.

in 1902-6. By 1911 the output had reached 33,500,000 tons and the number employed 150,100, the expansion during the decade being 21 per cent. and 40 per cent. respectively. Seventy-three per cent. of the "immigrants" in 1901-11 were drawn from beyond the border counties; and the net gain was more than double that of the preceding ten years. The total crossing the border from Carmarthenshire was far less numerous than would be expected judging from previous decades. This is due to the fact that the anthracite coal trade developed very rapidly, the number of coal and shale mine workers enumerated in that county being 10,792 in 1911 compared with 6,347 in 1901.

Moreover the demand for Monmouthshire coals (e.g. the celebrated Black Vein) became very brisk, and the addition to the population of that county in 1901-11 was 30.9 per cent., second only to Middlesex, and .4 per cent. higher even than that of Glamorgan.⁴⁸ These facts explain the unusually low percentage of migrants from border counties. A large majority of the new migrants into Monmouthshire went from Glamorgan,⁴⁹ but the total emigration from the latter county only slightly exceeded that of the previous decade.

Though the volume of this third wave of migration was to some degree checked by the contemporaneous expansion in the coal industry to the east and west, it was greater than either of the previous ones. No doubt it reflected the progress in means of transport and communication, the wide spread of education, which was responsible for more knowledge of and taste for town-life,⁵⁰ and the shrinkage in the scope for labour in agriculture, as a result of prolonged economic difficulties.⁵¹ The fundamental factor, however, was the remarkable development of the coal-field itself: smokeless steam coal came thoroughly into its own in the era of "international anarchy."

(7) CONCLUSION.

From the foregoing analysis we find that the absolute contribution of the border counties was more or less stable from 1871 to 1911 (the unexpected drop in the last ten years has already been explained); the stream from the more distant counties, however, fluctuated directly with the buoyancy of the coal trade. Three considerable waves of migration are clearly distinguishable,

⁴⁸ See 1911 *Census, General Report* (Cd. 8491, 1917), pp. 47-8.

⁴⁹ *Ibid.*, pp. 229-30.

⁵⁰ See *Report on the Decline in the Agricultural Population of Great Britain* (1906), *op. cit.*, p. 15, and the Replies to Questions.

⁵¹ *Ibid.*, pp. 12-15.

and they synchronised with the periodical cycles of prosperity in the mining industry. It generally happened, of course, that these phases coincided with flourishing conditions in the bulk of the country's industries, and thus, at first sight, there would seem no reason why the coal industry should prove so exceptionally attractive.⁵² But the fluctuations in the coal industry, enhanced in South Wales by the unsurpassed quality of the commodity, were so extensive that the miners' earnings could easily reach a point at which they were distinctly superior to those of other trades: hence the incursion of such a large body of long-distance migrants.

The addition to the population of Glamorgan through the excess of births over deaths mounted steadily from 61,000 in 1861-70 to 169,000 in 1901-10. The decennial natural increase expressed as a percentage of the actual population at the beginning of each decade actually shows a steady upward tendency, which means that the coalfield, with its notoriously high birth-rate, was providing itself with an increasingly large labour supply.

The social and economic characteristics of these closely-packed, one-industry communities offer a wide field of study.⁵³ Suffice it to mention here the marked preponderance of males in the population, due to the large number of single young men among the migrants and the fact that many married men would go to work in the mines, leaving their families to look after small-holdings in the country, and returning to them for a few weeks every summer. In 1901 the number of husbands not enumerated on the same schedules as their wives was 10,434 in Glamorganshire.⁵⁴ The geographical isolation of the valleys, the predominance of one staple industry and the reasonable possibility for a person to be earning a skilled hewer's wage at a fairly early age made it inevitable that coal-mining should absorb a large majority of the juveniles entering the labour market.

The system of wage-determination may, possibly, have had some bearing on the immigration at certain points. For, since

⁵² See R. H. Hooker, "On the Relation between Wages and the Number Employed in the Coal Mining Industry," *Statistical Journal*, 1894, p. 631.

⁵³ A useful survey may be found in the *Commission of Inquiry into Industrial Unrest, Report for Wales including Monmouthshire* (1917-8, XV, 8668), pp. 11-24. Space does not permit an analysis of the quality of the migration as distinct from its volume and direction. The whole question of the effect of the movement on age and sex distribution in the coalfield and in the rural districts supplying the migrants merits separate treatment.

⁵⁴ See D. Llieufer Thomas, "The Geography of the South Wales Coalfield and its Influence on Population," *op. cit.*

the sliding-scale did not take cognizance of the state of the labour market,⁵⁵ a glut of workers would not of itself serve to push down the rate of remuneration; a scarcity, on the other hand, would no doubt have the effect of raising it. The average migrant, if not impelled by force of circumstances, would be persuaded to try his luck by the information reaching him regarding money-wages⁵⁶ in the coalfield. He was not likely to concern himself very much about the varying rates for degrees of skill or the probable housing conditions; the mere prospect of handling more money was in itself alluring. It is, therefore, conceivable that the rate of wages in the pits in a given year would prove high enough to attract distant outsiders, even though at that particular time there was already a general over-supply of workers. And even this enhanced surplus would not necessarily lower the wage percentage, unless there was a concurrent reduction in the market price of coal.

Furthermore, it must be noted that, for reasons partly economic and partly geographical, falling wages would seldom lead to a substantial migration of miners out of the area. The recurring cycle of prices taught the men to regard a period of low remuneration as an interval to be followed in the nature of things by a span of prosperity. We have already seen that in years of stress the movement out of the coalfield was composed of a large proportion of females, and this suggests that low wages and unemployment tended to force the miner to lighten his family budget as a temporary expedient rather than leave the district. His supreme desire to maintain his standard of living in these depressed periods would also prompt him to intensify his effort, so that, by increasing his output, he could, as a piece worker, to some extent counteract the fall in the rate of earnings. In coal-mining a decline in wage-rates is generally accompanied by a rise in the average get per man employed. The geographical position of the South Wales coal-basin, isolated, as it is, from other thickly populated regions, would also be a factor impeding the outward flow of labour.

When we realise that the percentage increase of the population of Glamorgan in half a century (1861-1911) was about the same as that of England and Wales in a century (1811-1911),

⁵⁵ See W. Ashley, *The Adjustment of Wages* (1903), p. 55; and A. C. Pigou, *Principles and Methods of Industrial Peace* (1905), p. 104.

⁵⁶ See R. H. Hooker in the *Statistical Journal* (1894), *op. cit.*, "It is not as a rule until the man has had experience of the conditions of life in a new district that he appreciates the difference between real and money wages," p. 633.

we cannot escape the impression of precocious growth.⁵⁷ The dead hand of this hectic past now weighs heavily on its congested valleys. There is probably a great deal of truth in the suggestion that "if the coal had not been so valuable the development would have proceeded more slowly, limited by the supply of labour which would have been available at a lower rate."⁵⁸ The conjuncture of peculiarly favourable circumstances gave unusual scope for unbridled enterprise, and a stubborn spirit of individualism was thereby nurtured which has been the bane of the industry in post-war days.

The examination has brought out, particularly over short spaces of time, a degree of labour mobility which is far from negligible. It is a matter of important theoretical interest to what extent the mobility assumption underlying the classical approach to the theory of wages has a valid foundation in actual fact. It is not permissible, perhaps, to generalise from results in a narrow field. Yet experience seems to suggest a vital connection between the rate of a community's natural increase and the amount of internal population movement that can be expected.⁵⁹ During 1871-1911 the rate of growth in England and Wales was 59.0 per cent., compared with 79.0 per cent. in 1801-41. The increase in the later period was considerable, especially when viewed in the light of present-day tendencies. While recent history, e.g. of the coal industry, may illustrate the wide prevalence of immobility,⁶⁰ an era of expansion seems to allow a margin, in short periods and within certain limits, for a fairly effective degree of labour mobility.

⁵⁷ The population of the Rhondda valleys grew from 3,857 to 162,717 between 1861 and 1921; the density became no less than 4,480 persons per square mile and 23,680 per square mile of the area built upon. (See *Commission of Inquiry into Industrial Unrest, Report on Wales including Monmouthshire* (1917), *op. cit.*, p. 14.)

⁵⁸ H. S. Jevons, *The British Coal Trade*, *op. cit.*, p. 122.

⁵⁹ See Professor Robbins, "Notes on Some Probable Consequences of the Advent of a Stationary Population in Great Britain," *ECONOMICA*, April 1929, pp. 76-8.

⁶⁰ See Professor Sargant Florence, *Statistical Method in Economics and Political Science* (1929), p. 242.

TABLE A

ESTIMATED NUMBER OF MIGRANTS ENTERING GLAMORGAN
(CIVIL COUNTY).

Counties of Birth	1861-71	1871-81	1881-91	1891-1901	1901-11 ⁶⁶
I London	200	1,900	3,200	2,800	8,000
II South Eastern ⁶¹	200	1,700	2,700	1,900	4,400
III South Midland ⁶²	Nil	900	1,500	1,200	3,300
IV Eastern ⁶³	Nil	500	1,200	400	2,000
V Wiltshire	300	1,700	2,900	1,800	3,400
Dorset	Nil	1,200	1,500	600	2,600
Devon	400	8,700	3,900	4,600	6,200
Cornwall	1,700	2,500	1,500	1,900	2,000
Somerset	Nil	9,900	11,900	8,700	6,000
VI Gloucester	Nil	6,400	9,400	6,000	19,300
Hereford	400	1,500	3,400	2,400	3,200
Shropshire	200	300	1,300	900	1,500
Staffordshire	300	600	1,600	1,100	2,700
Worcestershire	200	400	1,400	900	2,600
Warwickshire	200	500	1,300	700	2,000
VII North Midland ⁶⁴	100	400	1,200	800	1,700
VIII Cheshire	Nil	200	600	600	800
Lancashire	200	1,100	2,100	2,000	3,700
IX Yorkshire	Nil	800	1,700	1,200	2,700
X Northern ⁶⁵	Nil	1,100	1,700	1,300	1,900
Monmouthshire	2,300	10,100	10,500	13,500	11,600
Carmarthenshire	5,700	4,900	9,300	11,000	6,800
Pembrokeshire	3,700	5,800	5,500	7,100	5,500
Cardiganshire	1,500	4,100	7,600	3,800	2,900
Brecknockshire	2,100	3,600	4,300	4,200	3,800
Radnorshire	400	700	1,400	700	1,300
Montgomeryshire	400	1,400	4,100	1,400	2,200
Flintshire	Nil	100	400	300	300
Denbighshire	100	200	700	300	1,100
Merionethshire	100	200	1,600	1,100	2,500

⁶¹ Surrey, Sussex, Kent, Hants, Berks.⁶² Middlesex, Herts, Bucks, Oxford, Northants, Hunts, Bedford, Cambridge.⁶³ Essex, Norfolk, Suffolk.⁶⁴ Leicester, Rutland, Lincs, Notts, Derby.⁶⁵ Durham, Northumberland, Cumberland, Westmorland.

⁶⁶ The birthplaces statistics of the 1911 Census are given for administrative counties and their associated county boroughs, whereas in each previous Census the unit was the civil or ancient county. This change introduces a slight element of incomparability over time in the case of the contributions of some counties, but is not sufficiently important to justify leaving out the decade 1901-11. It does not, however, affect the aggregate, for, in 1911, in the case of Glamorgan, the administrative county (with associated county boroughs) actually coincides with the civil county.

The unfortunate omission (in the interests of economy) of the birthplace classification according to county from the 1921 Census returns makes it impossible to carry this analysis beyond 1911.

Counties of Birth	1861-71	1871-81	1881-91	1891-1901	1901-11
Carnarvonshire ...	Nil	300	1,900	1,000	3,900
Anglesey ...	Nil	Nil	600	400	1,000
SCOTLAND ...	300	1,000	1,600	1,200	1,800
IRELAND ...	Nil	Nil	3,000	6,600	3,800
TOTALS ...	21,000	74,700	108,500	94,400	128,500
NET GAIN BY MIGRATION					
<i>(Excess of actual over natural increase in Registration County)*</i>					
	18,981	30,309	77,417	41,093	92,121

TABLE B

THE DECENNIAL NATURAL INCREASE AS A PERCENTAGE OF THE
POPULATION IN THE FIRST YEAR OF EACH DECADE.

<i>Glamorgan (Registration County).</i>				
1861-71	1871-81	1881-91	1891-1901	1901-11
18.6%	20.3%	18.8%	19.2%	19.9%
<i>England and Wales.**</i>				
13.58%	15.09%	13.97%	12.39%	12.43%

TABLE C

NUMBER OF MIGRANTS FROM BORDER⁶⁹ AND NON-BORDER COUNTIES.

1871-81		1881-91		1891-1901		1901-11	
Border.	Non-Bdr.	Border.	Non-Bdr.	Border.	Non-Bdr.	Border.	Non-Bdr.
37,200	37,500	39,900	68,600	42,000	52,400	34,400	94,100
50%	50%	37%	63%	44%	56%	27%	73%

TABLE D

ESTIMATED NUMBER OF PERSONS MIGRATING FROM GLAMORGAN TO
OTHER COUNTIES IN ENGLAND AND WALES.

1871-81	1881-91	1891-1901	1901-11
14,600	16,700	35,600	39,000

TABLE E

ENUMERATED POPULATION OF GLAMORGAN (CIVIL COUNTY).

1861	1871	1881	1891	1901	1911
317,752	397,859	511,433	687,218	859,931	1,120,910

Total Number Born outside the County.

116,812	117,904	180,794	260,684	297,833	390,941
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Sources : The Population Census of England and Wales, 1861 to 1911; the Decennial Supplements to the Annual Report of the Registrar-General of Births, Deaths and Marriages, 1875 to 1914-16.

⁶⁷ The registration county in 1911 had a population of 1,130,668, and the administrative county (with associated county boroughs) 1,120,910.

⁶⁸ *Census of England and Wales, 1911 (1912-13, CXI, Cd. 6258, p. 11, Table E).*

⁶⁹ I.e. Monmouthshire, Brecknockshire, Carmarthenshire, Devonshire and Somersetshire.

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⁶ **Population Changes in the Eastern Part of the South Wales Coalfield**

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⁴¹ **Statistics of Some Midland Villages**

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⁵⁹ **Notes on Some Probable Consequences of the Advent of a Stationary Population in Great Britain**

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