THE SCOTTISH SHALE OIL INDUSTRY IN THE POST WAR WORLD

LEST WE FORGET

THE STORY OF THE DECLINE AND

OF THE SCOTTISH SHALE INDUSTRY

BY WALTER NELLIES
General Secretary, N.U.S.M. & O.W.

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FOREWORD.

At the request of the Executive Council of the National Union of Shale Miners and Oil Workers, I have prepared this brief account of the unfortunate decline and contraction of the Shale Oil Industry between the two World Wars, and the causes leading thereto. It is quite clear that difficulties will arise in the post-war era, and trade unionists, to a greater extent than ever before, should have a knowledge of the problems confronting their industry. In industrial negotiations with employers on wages, hours, holidays and conditions of labour, which are all prime factors in the cost of production, it must be realised that it is not only essential to lodge a claim, but also to combat any argument that the industry cannot afford the demand which is made. In other words, a Trade Union when making a claim must be able to show how it can be met. If this is to be done effectively the Trade Union must have adequate knowledge of the industry as a whole and be able to argue with a full knowledge of all the facts which are in the possession of the employers. The question then arises, how are we to get possession of the facts? to which there is only one answer: there must be a straightforward understanding between both sides, and all the cards laid openly on the table, before rather than after a breakdown of the industry. My purpose therefore in complying with the Executive Council’s request has been two fold: to give a brief history of the breakdown of the industry after the last Great War, and secondly to explain how a repetition of the crime committed then can be averted at the end of the present emergency. The first part therefore deals with facts, and the second with opinions, but I have tried to be scrupulously careful to keep these two objects distinct, and to avoid my bias favouring conclusions by distorting my presentation of the
facts. I do not of course claim that this pamphlet is an attempt to give a comprehensive history of what has gone before, nor yet do I claim that my "facts" are indisputable, or that my figures are incontrovertible, all I wish to claim is that they are honest attempts to arrive at the truth. One thing is certain, however, and beyond dispute, the future is deeply rooted in the industry's past history and present circumstances, and from the facts and figures presented, only one conclusion can be come to: exemption from excise duty must continue for many years to come, otherwise the industry would cease to exist as a home source of oil. I hope, however, the reader will find the Story both profitable and interesting.

W. N.

19th March, 1915.
THE SHALE-MINING INDUSTRY IN THE POST-WAR WORLD.

PART I.

BRIEF HISTORY OF SHALE INDUSTRY.

The story of the Mineral Oil Industry in Scotland is fairly well known. Founded by Dr. Young, 1850, who, in that year commenced operations near Bathgate, West Lothian, using as a raw material a variety of cannel coal known as Boghead Coal or Torbanehill Mineral, which yielded up to 120 gallons of crude oil per ton. The operations at the beginning were very profitable and soon attracted many competitors, with the result that there were many Companies operating in various parts of the coalfield. After only ten years’ operations, however, the Torbanehill Mineral was exhausted, causing Dr. Young to search for another mineral to replace it. Fortunately a suitable raw material was found in the immediate neighbourhood east of Bathgate, on the discovery of which the Mineral Oil Industry changed its name to Shale in the early sixties, and has continued with varying degrees of success ever since. The maximum crude oil per ton of shale at the beginning was about 40 gallons which compared very unfavourably with the yield of 120 gallons per ton from cannel coal, but to compensate for the diminished yield, the oil obtained from shale was of a more valuable nature, while the ammonia liquor, which at first was regarded as a nuisance, with suitable treatment, yielded valuable Sulphate of Ammonia, valued the world over as an unsurpassable fertiliser, and every effort was made to secure as much of it as possible. The present yield is at
the rate of 30 lbs. per ton of shale. In this way, what was once regarded as a waste material has been at times the mainstay of the industry.

**OIL INDUSTRY ESTABLISHED ABROAD.**

About this time the oil industry was established abroad, notably in the U.S.A., and it is interesting to note that the large petroleum refineries of to-day are directly sprung from the Scottish Oil Works of 1851, and a direct result of the pioneering work of Dr. Young. With the development of the petroleum industry abroad, Great Britain soon began to import large quantities of refined foreign oil products, which importations have continued ever since on an ever increasing scale, not only from the U.S.A. but from the Dutch West India Islands, Iran, Rumania, Mexico, Peru, Russia, Venezuela, and in a lesser degree from other parts of the world; the competition of which severely crippled the home industry and threatened its very existence shortly after the first World War. Six shale oil companies carried on operations and mines then, each with their own Crude Oil Works and four with Refineries, each of the four Companies marketing their own products separately on a competitive basis. To eliminate competition between themselves, they jointly sought to effect economies in the marketing of their products, to enable them to meet combinedly the very severe competition of the importing petroleum companies, by carrying on their distribution on the most economical lines. With this end in view The Scottish Oil (Selling) Agency was formed in 1918. With the formation of the Selling Agency, agreements were entered into with the separate companies to sell and distribute on their behalf the products they respectively produced on a non-profit basis—selling at the best market prices obtainable with the lowest possible cost; handing back to each Company the nett proceeds according to products supplied. The Board of the Selling Agency consisted of a representative from each of the Companies.
THE DIESEL INTERNAL COMBUSTION ENGINE.

For almost half a century oil was mainly a means of lighting; it was confined to the lamp and only occasionally the domestic stove, but with the development of the internal combustion engine an enormous expansion of motoring took place, and later when a German named Diesel constructed the first internal combustion engine for heavy oil a revolution followed. The simple fact was obvious. Britain's naval supremacy, as everyone knows, is the essential first condition of the existence of the British Empire, and thanks to the country's excellent coal reserves, which enabled her to establish coaling stations with assured supplies upon all the world's trade routes, neither warship nor merchantman could cross the ocean without Britain's permission. With the development of the Diesel Engine, however, it now became possible to use oil fuel for ships, and everything was changed overnight. Britain did not produce oil in large quantities as she did with coal, whereas the United States of America produced and provided 80 per cent. of the world's production. The military power of the Empire, on which the sun never sets, was thus compromised. The commercial supremacy and military security of the United Kingdom were threatened at one and the same time. King Coal, upon which her industrial and commercial supremacy had been built, was about to be dethroned, while the burning of American oil in the boiler-rooms of the great liners might be the downfall of the British Empire! Was it to be? From the moment when another fuel threatened to oust coal, it at once became necessary to gain possession of the substitute and to obtain over oil the same supremacy they already had over coal, and it is exceedingly interesting to observe from "Oil, Its Influence on Politics," by Francis Delaissi, page 22, published by G. Allen and Unwin, Ltd., that British business men and "Statesmen" with considerable foresight got busy at once: "One may judge," he says, "the remarkable foresight and skill of the small group of business men and
Statesmen who govern and maintain the gigantic edifice of an Empire which Rome alone has equalled. Even before the War (the first World War), at a time when no one was yet thinking of it, they had a clear vision of the serious consequences which the coming of oil fuel would entail upon the balance of power and the destinies of their country. Accordingly, without wasting a minute, by adroit and wary manoeuvres, they planned and carried through amid the general inattention a monopoly of practically all the world's reserves. "... "From now on," he continues, "you may seek the world over and you will not find a single oil-producing country in which the British group has not control of important sources, as the following table shows:—

**Europe:**

- **Rumania,** Shell-Royal Dutch.
- **Russia,** do. do. do.

**America:**

- **California,** do. do. do.
- **Oklahoma,** do. do. do.
- **Texas,** do. do. do.
- **Trinidad,** do. do. do.
- **Venezuela,** do. do. do.
- **Mexico,** do. do. do.

**Asia:**

- **Dutch East Indies,** do. do. do.
- **Burma,** Burma Oil Company.
- **Persia,** Anglo-Persian Oil Co.

**Africa:**

- Shell-Royal Dutch.

To-day, on all the Trade routes of the globe, Britain, if and when she pleases, can duplicate her coaling stations with oiling stations, thus retaining her supremacy and independence. She no longer has to fear an American monopoly. In the matter of liquid or solid fuel for her merchant marine and her navy, the British Empire retains her independence."
FORMATION OF SCOTTISH OILS LTD.

It very soon became evident, however, that this natural development was to have serious repercussions on the Scottish Shale Oil Industry, foreseen by the Government, who invited the Anglo-Persian Oil Company—in which they had a controlling interest—to acquire the ordinary shares of the shale oil companies. Consequently, on 11th July, 1919, the ordinary shareholders of the five separate companies received a letter from the Anglo-Persian Oil Company, Limited, in the following terms:

"Gentlemen,—We (The Anglo-Persian Oil Co., Ltd.) hereby offer to purchase the whole of the Ordinary Shares of your Company on the following terms:—

**THE PUMPERSTON OIL COMPANY, LIMITED:**—
285,500 Ordinary Shares of £1 each, fully paid, at £() per share.

**THE BROXBURN OIL COMPANY, LIMITED:**—
235,000 Ordinary Shares of £1 each, fully paid, at £2 per share.

**THE OAKBANK OIL COMPANY, LIMITED:**—
200,000 Ordinary Shares of £1 each, 17/- paid, at 37/6 per share.

**YOUNG'S PARAFFIN LIGHT & MINERAL OIL CO., LTD.**—
113,200 Ordinary Shares of £4 each, fully paid, at 63/- per share.

**JAMES ROSS & Co., PHILPSTOUN OIL WORKS, LTD.**—
135,000 Ordinary Shares of £1 each, fully paid, at 25/- per share."

The offer was accepted by the Ordinary Shareholders, and a new Company was formed on September 3rd, 1919, known as Scottish Oils Limited, and incorporated as a public company with Share Capital of £4,000,000, divided into 3,000,000 7 per cent. Non-cumulative Preference Shares of £1 each and 1,000,000 Ordinary Shares of £1 each, the
new company to give Preference Shares in exchange for the Ordinary Shares of the Shale Companies. The Ordinary Shares were held by the Anglo-Persian Oil Coy., by which means complete control was obtained of Scottish Oils, Limited.

The new Company also acquired the Properties and Goodwill in Scotland of the British Petroleum Company, Limited, and the Homelight Oil Company, Limited, both of which were engaged in the distribution of imported oil products.

With the formation of Scottish Oils, Limited, steps were immediately taken to effect economies, and arrangements were made to refine the total production of shale crude oil in the three largest refineries, which led to more economical working. For the purpose of effecting the sale and distribution of its products further arrangements were made whereby Scottish Oils, Ltd., became members of the Scottish Oil (Selling) Agency, Ltd. By these combined arrangements, in the words of the then managing director, Sir William Fraser, the saving in man-power, consumption of coal and greater throughput were considerable. In his Memorandum of evidence submitted to the Court of Enquiry appointed by the Ministry of Labour to enquire into the matter of a Dispute between the Shale Oil Companies and the National Union of Shale Miners and Oil Workers, held at Glasgow towards the end of 1925, he then averred: “That in September, 1925, as compared with September, 1919, through the reduction of the numbers employed and greater throughput of shale, a decrease in expenditure equivalent to £270,000 per annum is observed. Larger yields translated into money value at the net prices prevailing in September, 1925, represents £120,000 per annum. Reduced consumption of coal (by the closing of redundant works) is responsible for a saving of approximately £90,000 per annum, better distribution, annual saving estimated £70,000, and, finally, administrative economies are estimated to be saving a further £30,000 per annum. The total thus saved is estimated to be
equivalent to £580,000 annually, which, he continued, "is more than double the aggregate annual profits of the Shale Companies prior to 1919."

By this arrangement and with the formation of Scottish Oils, Ltd., it was hoped to preserve the Shale Oil Industry for many years to come: the work people understanding that the industry would give up the word "shale," because it would in future be an industry to refine not only shale but other oils imported from abroad, whereby prosperity would be brought to both workers and shareholders alike. To enable the management of the Shale Companies to comply with this policy, one of their refineries, Uphall, was adapted to refine imported petroleum from Persia.

It is also of interest to note that although the numbers now employed had, in consequence of "Rationalisation," dwindled from 10,000 in 1919 to 8,000 at the beginning of 1921, the annual production of shale increased from 2,763,365 tons in 1919 to 2,840,559 tons the following year. This confirmed Mr. Fraser's averments that "Rationalisation," by reducing the numbers employed but at the same time increasing throughput substantially, resulted in greater savings to the Companies.

ECONOMIC CRISIS, 1921.

With the relaxation of Government Controls, however, so indispensable for the successful prosecution of the War—in spite of the fact that Government spokesmen had given repeated assurances that Controls must continue for some time in the post-war era—on the insistent demand, not only of vested interests, but of the general public as well, tired of many long years of restricted freedom and cumbersome regulations exploited by a Capitalist Press, Government Controls were completely and prematurely abandoned, with disastrous consequences to the national economy. Prices and wages had risen to unprecedented heights—wages trailing well behind and never able to overtake the increase in the cost of living—while money
was fast becoming a meaningless symbol; the "Geddes Axe" was applied; the budget must be balanced, further borrowing must cease, otherwise there was grave danger of a financial collapse. Currency must be deflated, the sub-vention to the coal mining industry must be withdrawn, wages must be reduced, and the stage was set for the "Big Fellow" again regaining control of the national economy and easy money.

With coal miners on strike for thirteen weeks resisting a drastic cut in wages, shale miners and oil workers did not escape. Wages in the shale mining industry were, until 1919, regulated according to the wages in the coal mining industry. Since that date, however, the Shale Companies had maintained that wages must be regulated by the economic position of the shale industry itself.

The highest point which the nominal shift rate for workers at the shale face reached was 15/- in 1920, when the cost of living was as high as 176 points above the cost-of-living figure of 1914, with wages trailing 5 points behind and only 171 points above the nominal wage of 1914. In 1921 there were successive reductions of 2/-, 4/-, and 3/- per shift, bringing the wage of the miner down to 10/- per shift within six months to August, 1921, with relative reductions for lower paid workers.

These reductions in wages were agreed to by the workers, under protest, in view of the serious economic conditions then ruling, and with the object of preserving the industry. However serious the reductions were, the misery and suffering caused thereby was intensified when it was announced that the management had reluctantly decided to temporarily close and put on a care and maintenance basis sixty per cent. of Works and Mines until such time as economic conditions showed unmistakable signs of improvement. With the enforcement of the decision an equal percentage of employees were unemployed, and, although a limited resumption took place towards the end of September, it was not until the beginning of July, 1922, that a complete resumption was found possible, after
fully twelve months’ idleness, but at greatly reduced wages.
Between the end of the Great War and now, the world production of natural petroleum had increased by leaps and bounds registering at this period an increase of almost 100 per cent., rising from 503,328,000 barrels during 1918 to 1,004,657,000 barrels. The increase very soon exceeded world demand in spite of the fact that world consumption had grown at a rapid and ever expanding rate. Stocks were accumulating at an unprecedented rate, and with an insistent demand for their liquidation, competition between the rival importing petroleum Companies became intense in order to retain their hold of the world market with the consequent tendency to still lower prices, a development over which the management of the Shale Companies were absolutely powerless to avert. On account of the unrestrained competition between the importing companies, the values of shale products—before a decision was taken to close the Works above-mentioned—like wages, suffered a severe cut, so much so that the value of the products of a ton of shale had fallen from 32/- in 1920 to 18/4½ per ton by then, while the total costs of production, compared with 1920, had fallen from 30/5 to only 19/10½ per ton in spite of the phenomenal reduction in wages since then, clearly indicating that the industry was being carried on at a heavy loss, and that unless conditions altered and values improved a more serious crisis was facing the industry.

DEPUTATION TO BOARD OF TRADE, 1921.

Fearing that it might be the intention of the Anglo-Persian Oil Company to latterly abandon uneconomic Works and Mines, and in the full knowledge that the Government had both a financial and controlling interest in the Company, an interview was sought with the President of the Board of Trade, Mr. Stanley Baldwin (now Lord Baldwin), to ascertain the Government’s policy regarding a home supply of oil and the maintenance of the Scottish Shale Oil Industry, and at least to have an assurance that
before any summary closing of Mines and Works took place the Government would claim the right to be consulted. The President of the Board of Trade very readily agreed to meet a deputation from the Union in the House of Commons on 18th October, 1921, which was latterly introduced by Mr. William Adamson, M.P. for Dunfermline Burghs. After the economic position of the Shale Industry had been fully discussed, Mr. Baldwin promised to bring all the points raised by the deputation to the attention of the Government Directors and the Board of the Anglo-Persian Oil Company before he finally replied to the deputation. A few weeks thereafter the Union received a communication in these terms:

"The President stated that he had gone very carefully into all the points raised by the deputation. It had been urged at that deputation that the representation of the Government on the Anglo-Persian Oil Company’s Board of Directors gave the Government influence over the company. The Agreement with the Company provided that an ex-officio Director (i.e. Government Director) should have a right of veto on any resolution which might be proposed at a Board or Committee meeting, but that the Government did not propose to make use of the right of veto except in regard to matters of general policy, such as the supervision of the activities of the Company as they may affect questions of foreign, naval or military policy. . . . It was apparent, therefore, that the Government had no authority to call the Company to account in anything that touched the commercial side of its activities. . . . During the past nine months the Anglo-Persian Oil Company had kept the shale industry going at a loss of £300,000. The President told the Government Directors and the Representatives of the Company that what the men were most concerned about was to know whether the Company intended to scrap the Shale Mining Industry. He had been assured that they never had any desire to scrap the
industry and that it was their intention to carry it on to the fullest extent that might be possible. The fact that they had kept the industry going during the past nine months at so large a loss was sufficient proof of their intention to carry on with it so long as there was a reasonable chance of keeping it alive on a self-supporting basis."

It was not altogether a surprise to learn that the Shale Industry was being carried on at a loss, but the extent of the loss quoted was astonishing. It was reassuring, however, to be told that the Anglo-Persian Oil Company had no desire to scrap the industry so long as there was a reasonable chance of keeping it alive on a self-supporting basis, and from that aspect the reply was fairly satisfactory.

**IMPEENDING CONTRACTION OF INDUSTRY.**

In April, 1920, when the reduction in the working day from eight to seven hours took place, pieceworkers' rates were advanced by 12½ per cent. In October, 1923, due to the continued fall in the values of shale products, this addition to rates was withdrawn, and payment for overtime to all mine workers, which had been in operation since September, 1920 (excepting winding enginemen and boiler firemen), also ceased. At this time—to retain overtime and week-end rates—Oil Workers lost threepence per shift, with a minimum of 7/- per shift, wages remaining unchanged from October, 1923, up to the time of the 1925 economic crisis. When the management, however, gave notice of the reductions they were quite emphatic, and made it absolutely clear, that unless the continued rapid fall in prices was checked, and marketing conditions improved, it appeared to be inevitable that further reductions must follow. Unemployment in the country was at this time increasing at an alarming rate, and the Union refrained from offering active resistance to the reductions, but in view of the fact that a General Election had been held and that a Labour Government had been elected for the first time in history, and were now in Office,
it was decided to send a further deputation to London to interview Mr. Sydney Webb, who became the first Labour President of the Board of Trade, in the hope that something might be done to avert any further worsening of the workers' standard of life or any contraction of the industry's activities.

The deputation was headed by Mr. Emmanuel Shinwell, M.P. for West Lothian, who introduced the deputation to the President on 27th February, 1924. After a lengthy interview and exhaustive enquiry regarding ways and means of preserving the shale industry, the President, like his predecessor, promised to send a considered reply after he had fully considered all the points raised by the deputation. Fortunately, immediately before the deputation met the President of the Board of Trade, market prices of oil products had shown signs of improvement, and the immediate danger of a contraction of the industry's activities, or a further reduction in wages being imposed, had somewhat receded for the time being. Conveying the President's reply, the Secretary wrote to the Union in these terms on 17th April, 1924:

"When the President received a deputation of the National Union of Shale Miners and Oil Workers and the Scottish Colliery Under-Managers' Association, he promised to take up with the Anglo-Persian Oil Company of Scottish Oils, Ltd., certain of the points raised. Mr. Webb desires me to say that he has now received from the latter Company a statement dealing with the continuance of the industry, the refining of imported oil and the rates of wages paid.

"With regard to the first of these, Mr. Webb can only repeat his assurance that no decisive action as to closing down will be taken by the Company without the Government having an opportunity of considering the whole question. In view of this and of the improved prospects due to a better market for shale products, he hopes that the anxiety felt by the workers will at least be mitigated, but he wishes to
make it clear that the Government cannot give any
guarantee as to the permanency of the industry.

With regard to wages, the Company state that the
rates paid are in keeping with those ruling in the
surrounding district, including the coalfields. Mr.
Webb understands that there has been no substantial
change in wages in the shale industry for some time."

Mr. Webb was also at pains to explain to the deputation
that in matters of commercial administration the Govern­
ment had no authority to interfere in the affairs of the
Company. The reply on the whole was no more satis­
factory than the reply of his predecessor, and failed to
remove the prevailing feeling of anxiety and insecurity
from the minds of everyone concerned with the future
well-being of the Scottish Shale Oil Industry at that time.

ECONOMIC CRISIS, AUGUST, 1925.

That the workers' fears were fully justified and well
founded soon came to light, when on 28th August a further
reduction of wages was intimated. For almost twenty
years prior to April, 1925, the Shale Companies supplied
the Admiralty with Fuel Oil. A contract made in 1914
regulating the supplies until 1920 proved favourable to
the Admiralty. In 1920, when prices were high, another
contract was made for a further period of five years, and
this contract latterly proved favourable to the Shale
Companies. Towards the end of 1924 negotiations were
entered into with the Admiralty for a further contract, but
without success, and in the summer of 1925 the Admiralty
intimated that their contract for oil, which had expired on
31st March, 1925, would not be renewed. With the
termination of the contract, the Shale Companies had been
incurring heavy losses, and the Directors decided that these
losses could not be allowed to continue. Accordingly,
intimation was given to the Union representing the workers
that it had been decided to close down about 30 per cent.
of the works and mines where the losses were heaviest,
and that the Companies could only continue operations at
the other works and mines provided the workers accepted a reduction in wages. It was estimated that at the works proposed to be closed down a reduction in labour costs amounting to 45 per cent. would be necessary to enable them to be continued without loss. The workers' representatives were informed that if these works were closed down the amount necessary to square the loss without depreciation would be approximately equivalent to a 20 per cent. reduction in wages.

"The companies realised that such a reduction would entail severe hardship, and they therefore suggested a ten per cent. reduction on piecework rates, with a reduction of 1/- per shift on time rates, subject to certain minima, the other 10 per cent. being borne by the Shale Companies."

The Representatives of the Union made it plain that their members could not accept any further reduction in wages and expressed a desire that they should be given an opportunity of again approaching the Government as to the possibility of receiving some assistance to enable the industry to be carried on.

While the failure of the Admiralty to give a further favourable contract for fuel oil to the Shale Companies for a period of years as formerly was a contributing factor to the steady decline of the industry's activities, it was becoming quite apparent that the real cause was more deep rooted. The rivalry between the Standard Oil Company of the U.S.A. embittered over the British Group of oil companies, represented by the Shell-Royal Dutch, having "stolen a march on them" during the Great War by acquiring a monopoly of the world's reserves of oil, and the Government's failure to plan and control its development, were in fierce competition with the British Group to retain their hold of the world market, which resulted in extremely low prices for oil products. Be that as it may, however, the Shale Companies readily agreed to the workers' request, and Notices were suspended until the
Union had approached the Government and the result of their mission to the Admiralty and the Board of Trade was made known.

**IMPENDING STOPPAGE OF WORK.**

In the interval the Union representatives explained the Directors' proposals to the workers, after which a secret ballot was taken and the proposals were rejected by 5,063 votes to 929, an unmistakable sign that they had reached the limit of endurance. Thereafter, and without undue delay, a deputation of the Union Officials proceeded to London and met representatives of the Treasury, the Ministry of Labour, the Scottish Office, within the Offices of the Board of Trade, where the proposed contraction of the Shale Industry's activities was very fully discussed and reviewed. Sir Burton Chadwick, M.P., Parliamentary Secretary to the Board of Trade, in summing up when replying for the Government made the following observations:—

"You make a great point, quite rightly, of the promise made by Mr. Sydney Webb, President of the Board of Trade, 'that before any closing down of these works should take place the Government should have notice.' Well, that has been the case, the Government has had ample notice, and protracted negotiations have taken place and exhaustive examination has been made before the Government came to the decision that they could not give any assistance of a financial nature to maintain this industry. So far as the Government is concerned they have completely carried out the promise made by Mr. Sydney Webb. . . . I do not know how the situation has to be met. The Cabinet has decided that they cannot meet it by any form of subsidy." He concluded with these words: "I am afraid my reply is not much more satisfactory than Mr. Webb's reply to you a year ago."

Undaunted, however, by the obvious failure of their mission, the deputation, when reporting the abortiveness
of their representations to the Board of Trade on their return home to the representatives of the Shale Companies, appealed for the continued suspension of the Notices intimating reduction in wages and the closing down of works until such time as they, along with the late Mr. James Kidd, the Member of Parliament for West Lothian, made further representations to the Prime Minister. From the beginning of the impending crisis Mr. Kidd had been tireless in his efforts, along with a County Committee, to save the industry at all costs, and had just been successful in getting the Board of Trade to agree to the appointment of Messrs. Maxtone Graham and Sime, an Edinburgh Firm of Chartered Accountants, to examine and to report to Parliament "on the costs of production and financial results in the shale industry carried on by the undertakings associated with Scottish Oils, Limited." The Firm completed their examination on 29th October, 1925, which was published and presented to Parliament by Command of His Majesty (Command 2538) immediately thereafter. The Report of the Accountants revealed that the industry for the half-year ending 30th September, 1925, was being carried on at a heavy loss. With the publication of the report, at a meeting between the representatives of the Shale Companies and the Union Executive Council, the Management offered to continue full operations at all places, at least to 31st March, 1926, providing the workers accepted a reduction of ten per cent. in wages. Leaflets, explaining the effect of the amended offer, were distributed to the workers by the management. Immediately thereafter a further secret ballot was taken, but the workers by an overwhelming majority rejected the Companies' amended offer by 4714 votes to 793 without any recommendation whatever from the Executive Council of the Union. It was now perfectly obvious that unless the Directors withdrew their proposals a stoppage of work was unavoidable. The proposals were not departed from and a stoppage duly took place. From the beginning of the crisis in August, the Union had been in close contact with
the Acting Secretary of the T.U.C., Mr. Walter Citrine, and Mr. William Elger, General Secretary of the Scottish T.U.C., and the Chief Industrial Relations Officer of the Ministry of Labour, Mr. J. B. Galbraith. Arrangements were made with the Managing Director of the Shale Companies to meet representatives of both Councils to consider ways and means of bringing the dispute to a satisfactory and honourable termination. On 3rd December, 1925, Mr. Citrine and Mr. A. Pugh, Chairman of the T.U.C., accompanied by Mr. William Elger and Mr. P. Webster, Chairman of the Scottish T.U.C., met the Managing Director, Mr. William Fraser, and after a short discussion and exchange of views they returned and reported to the Officials of the Union that the Managing Director was quite agreeable to:

(a) Preparatory work being resumed at 70 per cent. of works and mines at old rates of wages pending Terms of Reference being drafted for submitting the dispute to a Court of Enquiry.

(b) The remaining 30 per cent. to resume work as soon as they found it possible on a non-profit basis and without any allowance for depreciation.

(c) Preparatory work not to include rekindling of retorts until Court of Enquiry has announced decision.

The T.U.C. Representatives urged the Executive Council of the Union to accept the offer of a Court of Enquiry. Immediately following the Executive approving the proposals recommended by the T.U.C., a further Ballot was taken of the workers with the following result:—For acceptance, 3896 votes; against acceptance, 915 votes.

Ever since the formation of Scottish Oils, Limited, on 3rd September, 1919, it had been contended by the Union Officials that by acquiring all the ordinary shares and certain debentures of the Shale Companies they had obtained complete control, and that the Companies had for all practicable purposes been effectively amalgamated and
consolidated into one group or single unit in a commercial sense. The Boards consisted substantially of the same Directors: the affairs of all the Companies were administered from the same Head Office by the same Managing Director, Secretary, Officials and Staff: products were marketed jointly through and by the Scottish Oil (Selling) Agency, Limited: plant for all the Companies was made and repaired in centralised workshops at Middleton Hall, and all negotiations as to wages and general working conditions for the Shale Industry as a whole were carried through by Scottish Oils, Limited. The Union Executive further contended that if the revenue derived by Scottish Oils, Limited, from refining imported crude petroleum at the refineries belonging to them at Grangemouth and Uphall was combined with the revenue derived from Shale Oil products, wages at the old rate could easily be maintained and the closing down of works and mines avoided, and that there was nothing in the Articles of Association to debar Scottish Oils, Limited, from subsidising or contributing to or otherwise assisting Shale Oil Companies, which they now owned and completely controlled.

COURT OF ENQUIRY AT GLASGOW, DECEMBER, 1925.

In the interval, with the assistance of the Chief Industrial Relations Officer of the Ministry of Labour and the Scottish T.U.C., the following Terms of Reference were drafted and agreed to by both sides, and the Enquiry opened in the Arbitration Rooms of the Central Station Hotel, Glasgow:

"In the matter of the dispute in the Scottish Shale Oil Industry, it is hereby agreed between the parties:

(1) That there be set up a Committee of Enquiry, consisting of five persons, two to be nominated by each side, and a neutral Chairman to be appointed by the Minister of Labour, who shall also appoint a Clerk to the Committee:"
(a) To afford the Union an opportunity to prove that Scottish Oils, Limited, and the Shale Oil Companies (Broxburn, Dalmeny, Oakbank, Pumpherston, Young’s and James Ross & Co.) are a single unit so far as the shareholders and debenture holders are concerned, and should be a single unit as far as the workers are concerned, and that therefore it is possible legally for the Employers to maintain the present rates of wages paid by them in the Shale Oil Industry from revenue derived from that industry or from revenue derived by Scottish Oils, Ltd., from the business carried on by them or their shareholding Companies:

(b) To afford the Employers an equal opportunity to demonstrate the negative of (a):

(c) To report whether any external assistance is required to allow the present rates of wages to the workers being maintained.

(2) That the findings of the Committee of Enquiry in so far as these affect the question of wages reduction will be immediately adopted by the Shale Oil Companies and their employees at certain Mines and Works, the remaining Mines and Works to be restarted immediately it is possible to operate them without loss and without allowance for depreciation or profit. The findings as to wages shall be binding until 31st March, 1926, and any other findings which may affect the constitution of the Companies shall be the subject of joint discussions between the parties.

(3) That in the meantime the Companies proceed with preparatory work, the workpeople required for such work to be employed at old rates.

11th December, 1925."
The Members of the Committee of Enquiry consisted of:

- Mr. A. J. L. Laing, M.A., LL.B., Sheriff Substitute, Aberdeen, Chairman.
- Mr. G. A. Mitchell, Chamber of Commerce, for Employers.
- Mr. James A. Gordon, C.A., for the Workpeople.
- Mr. A. B. Valantine, Ministry of Labour, Clerk to the Court.

The enquiry was conducted in public and lasted for five days, the 17th, 18th, 19th, 21st and 29th December, 1925. The Employers' case was conducted by Mr. Wm. Craig, Solicitor, and that of the workpeople by Mr. R. W. Currie, Solicitor. Evidence for the Employers was given by Mr. G. W. Wilton, K.C., and Mr. J. L. Wark, K.C., and Mr. William Fraser, C.B.E., Managing Director of Scottish Oils, Limited, and of the various Shale Companies. The workpeople's case was supported by Mr. Walter Nellies, the General Secretary of the National Union of Shale Miners and Oil Workers, Mr. A. M. Mackay, K.C., and Mr. T. A. Gentles, K.C.

After the Court had been in Session for two days it was realised that owing to the complexity of the problem with which they were confronted a report could not be issued without very thorough examination of all factors in the situation. Both parties agreed that it was desirable, pending the issue of the Report, to come to an arrangement for as complete a resumption as possible. On the suggestion of the Court, accordingly, the parties came to an agreement on the following terms:

1. That the Companies shall start work forthwith, so far as practicable, at the Works and Mines referred to in the Terms of Reference.
(2) That instead of the reduction of 10 per cent., the immediate reduction pending the decision of the Court shall be 5 per cent., which percentage shall be returnable in the event of the Court's decision being in favour of the workers.

Work was resumed, as far as practicable, the following day, 22nd December.

FINAL CONCLUSIONS OF THE COURT OF ENQUIRY, 13th MARCH, 1926.

The conclusions of the Court are fairly well-known, and are summarised as follows:

(1) That Scottish Oils, Limited, and the Shale Companies are not a "single unit" in any sense so far as the shareholders and debenture holders are concerned.

(2) That it is not possible legally for any one of the Shale Companies to maintain its present rates of wages from revenue derived from the business carried on by any of the other Shale Companies.

(3) It is not possible legally for the Employers in the Shale Industry to maintain the present rates of wages in that industry from revenue derived from Scottish Oils, Limited, from the business carried on by them. Such a legal possibility could only arise if in fact and in law Scottish Oils, Limited, and the Shale Companies were completely merged so as to constitute a "single" unit in law.

(4) Scottish Oils, Limited, is not under any legal obligation financially to assist any one of the Shale Companies, and the exercise by the Directors of the former Company of their power under the Company's Memorandum of Association "to subsidise or otherwise assist" a Company in a similar industry is a matter within the discretion of the Directors.
Summarising the Sources from which External Assistance might be sought, should necessity arise, the Committee suggested:—

(1) As to the Scottish Oils, Ltd., we suggest that, having due regard to the interests affected, assistance might inter alia take the form of assenting to the proposals made with regard to Uphall Refinery.

(2) The Anglo-Persian Oil Company should consider what assistance they can render to maintain the shale industry, in view of their having the ultimate interest as holders of all the Ordinary Shares of Scottish Oils, Limited.

(3) H.M. Government should also consider the granting of a more favourable Admiralty Contract.

"Whatever may be arranged for the immediate future," the Committee added, "it seems plain that, sooner or later, unless circumstances alter, only two alternatives will be open, viz., either to close down the industry or to obtain outside help."

It will be observed that the Court of Investigation was not only concerned with a proposed reduction of wages, which ultimately led to the setting up of the Court, but with the important and far-reaching issues involving the continued active existence of the Shale Industry in the Lothians. This aspect was emphasised by the fact that both parties to the Dispute agreed that the industry's difficulties did not arise so much from conditions within the industry, as from conditions created by world factors, over which they had little or no control whatever. There is no doubt, however, that if the Terms of Reference are read literally, the conclusions of the Committee could hardly be escaped. Their conclusions on the question of "single unit," for instance, is the result of reading the Terms of Reference literally instead of in a broad sense. At no time did the workers' representatives aver that Scottish Oils, Limited, the Anglo-Persian Oil Company, Limited, and the Shale Companies were a "single unit" in the sense that the two
former Companies were legally bound, out of the revenues derived by them from their undertakings, to subsidise, contribute to or otherwise assist the latter to maintain existing rates of workers' wages. All that they did claim was that there was nothing contained in The Memorandum of Association to debar the Directors, if they so desired, “to subsidise, contribute to or otherwise assist” the Shale Oil Companies to maintain wages to avoid a stoppage of work or a contraction of Shale undertakings in the Lothians.

In this respect the Committee concurred when they suggested that external assistance might be sought, not only from H.M. Government by the granting of a favourable Admiralty Contract, but that Scottish Oils, Limited, having due regard to the interests affected, assent to the proposals made with regard to Uphall Refinery; and that the Anglo-Persian Oil Company, Limited, should consider what assistance they can render to maintain the Shale Industry in view of their having the ultimate interest as holders of all the ordinary shares of Scottish Oils, Limited.

**THIRTY PER CENT. OF WORKS AND MINES ABANDONED.**

Immediately following the Committee of Investigation’s Report, further approaches were made to the Admiralty for a more favourable contract than already offered, but without success. Both Scottish Oils, Limited, and the Anglo-Persian Oil Company, Limited, failed to comply with the Court’s recommendations, consequently 30 per cent. of Works and Mines were abandoned and latterly dismantled, while the wages of the workers were reduced by a further 5 per cent. with certain minima, involving the disemployment of approximately 3,000 employees with little hope of ever finding employment with the industry again. The Shale Industry, quite apart from suffering from a serious and prolonged depression, was the victim of severe foreign competition, making it in the main impossible to produce shale products at a price sufficiently
low to compete in the home market with the imported commodity. The prices obtained were determined by fluctuations of world prices, and particularly by the supplies of natural petroleum, and as the production had grown by 150 per cent. since 1914, and world's production still rapidly increasing and far in advance of world's consumption or demand, the prospects of recovery were anything but promising. The same applied to Sulphate of Ammonia, at one time the mainstay of the industry, the world production of which by this time rose from 716,000 tons to 3,000,000 tons in 1925, the enormous increase being largely due to the perfection of synthetic production of ammonia through the utilisation of nitrogen from the atmosphere.

THE VALUE OF THE PRODUCTS OF A TON OF SHALE, ETC.

Taking into account the above factors, which decided the ultimate value realised for the products of a ton of shale, the following results were obtained:

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<tbody>
<tr>
<td>In 1913-14 the average amount obtained was</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>In 1920-21 the corresponding amount was</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Half-year to September, 1925, corresponding amount was</td>
<td>12</td>
<td>5</td>
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On the other hand the total costs of production per ton of shale for the periods in question were as follows:

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<tr>
<td>In 1913-14,</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>In 1920-21,</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>For Half-year to September, 1925,</td>
<td>14</td>
<td>2</td>
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A comparison of the above figures gives the following results:

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<tbody>
<tr>
<td>In 1913-14 a profit per ton of shale was made of</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>In 1920-21 a profit per ton of shale was made of</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>For half-year to September, 1925, a loss was made of</td>
<td>1</td>
<td>9</td>
</tr>
</tbody>
</table>
A further contributing factor to the reduced value obtained from the products of a ton of shale, and by no means the least, was the reduced yield of crude oil per ton with the exhaustion of the best deposits, which had fallen from 40 gallons to about 22 gallons or thereabout per ton of shale. Had the yield of crude oil remained as steady and varied as little from the beginning as the yield of Sulphate of Ammonia, which at 1925 was still around 40 lbs. per ton of shale produced, the industry would have been better able to survive and overcome the intense competition of the importing petroleum Companies, but as things were at this stage the immediate prospects of an industrial revival were far from reassuring. It should be noted, however, that as already stated the present yield of Sulphate of Ammonia had fallen to 30 lbs. per ton of shale.

COAL CRISIS AND GENERAL STRIKE.

The economic position of the Coal Industry at this period was also engaging the attention of the chief protagonists, the coal owners and the coal miners, with the Government as third party holding a watching brief. Ever since Mr. Justice Sankey, G.B.E., Chairman of the Coal Commission, reported to Parliament, early in 1919, that on the evidence before him "the present ownership in the coal industry stands condemned and that some other system must be substituted"; and finally recommended "that the principle of State Ownership of the coal mines be accepted" by the Government; the coal owners, supported by the Capitalist Press and other organs of opinion controlled or influenced by the same interests, had kept up an incessant propaganda against State Ownership, the volume and intensity of which was now at its height. This, combined with a combination of other causes, had provoked a crisis of the first magnitude in the coal industry chief among which were:

1. The economic consequences of the Peace Settlement: Coal Reparations from Germany.
(2) The Government's refusal to accept the recommendations of the Sankey Coal Industry Commission.

(3) The economic consequences of returning to the Gold Standard.

(4) The Government's determination to discontinue the "Coal Subvention" they had found so necessary as a stop-gap measure to avoid a breakdown in the Coal Industry during the National Emergency, and the announcement that it would be withdrawn as from 30th April, 1926, and would not be renewed.

(5) The Coal Owners' demand for a uniform 8-hour day and a minimum wage of only 20 per cent. over the 1914 standard.

Protracted negotiations had been in progress between the Mine Owners and the Miners' Federation over a considerable period of time, and towards the end of April a sub-committee of the Trades Union Congress, along with a sub-committee of the Miners' Federation conferred with the Mine Owners and representatives of the Cabinet, including the Prime Minister, Mr. Stanley Baldwin, and endeavoured to secure an honourable settlement of the dispute between parties. At midnight on 30th April, however, negotiations were abruptly broken off to the great disappointment of the sub-committee, and the coal miners were "locked out" the following day.

A Special Conference of Trade Union Executives had assembled in London on 29th April, and when informed by the sub-committee of the Trades Union Congress that negotiations had terminated abruptly by the Government, the Conference of Executives by an overwhelming majority decided to keep faith with the Miners' Federation, and declared a "General Strike" to protect the miners' standard of life. At this stage the miners and the executives handed over further negotiations to the Trades Union Congress. The Strike at once demonstrated the solidarity and the temper of the working class as a whole,
who were fully conscious of the fact that, if the miners' already too low standard of life was further lowered, it would only be the prelude to an enforced lower standard of life for the workers everywhere: the response to the historic decision of the Special Conference was immediate and magnificent, while the behaviour of the workers from the beginning was excellent. After the Strike had been in progress for only a few days, however, it was declared to be unconstitutional, thereby illegal, and was immediately called off by the General Council of the T.U.C., but the miners remained on strike for almost seven months thereafter, and when they returned to work they found an hour had been added to their working day and rates of wages reduced to a bare subsistence level, while the mine owners had regained their former hold on the industry out of which large fortunes had been made, unfortunately, with the assistance of the Government of the day.

EIGHT-HOUR DAY REVERTED TO IN SHALE INDUSTRY.

With the 7-hour day forcibly departed from in the coal mining industry and rates of wages reduced to a fodder basis: in spite of the fact that ever since a 7-hour day was introduced in shale mines output of shale per man shift worked had materially increased; very soon after the collapse of the General Strike intimation was received from the management that it was now proposed to revert to an 8-hour day underground and a 49 hour week above ground forthwith, on account of, it was alleged, the continued fall in the values of shale products over which they had no control. The intimation was soon followed by two subsequent demands of 5 per cent. reductions in rates of wages which, taken together, reduced the miners' nominal rate of wages to 8/- per day with a minimum of 6/- per day for adult surface workers. It is of particular interest to note that the cost of living figure relating to movements in retail prices was 68 per cent. above 1914 for the month of January, 1928, whereas the miners' nominal rate of
wages was only 15 per cent. above 1914 and well below subsistence level.

The value of the products of a ton of shale had by now fallen to 25 per cent. below the value obtained during 1914, due largely to the continued unrestricted competition between the importing petroleum companies, including the U.S.S.R., who had re-entered the world market for the first time since the Great War with oil products from "alleged" confiscated oil wells, and was disposing of the products at uneconomic prices, although the exports from Soviet Russia were a mere drop in the bucket compared with the other competitors.

EXCISE DUTY ON MOTOR SPIRIT, 1928 BUDGET.

It had now become more apparent than ever before that the shale oil industry was fast becoming an uneconomic proposition, if it had not already reached that stage, and that unless outside help was obtained, and obtained quickly, a further contraction of the industry's activities was obviously inevitable.

It is common knowledge that ever since the economic crisis of 1921 the Union Officials had from time to time been in close touch with various Government Departments endeavouring to stake a claim for some form of Government assistance to preserve the industry and to avert any further contraction of Works and Mines, and when Mr. Winston Churchill, Chancellor of the Exchequer, in his Budget statement of April, 1928, imposed a Duty of 4d. per gallon on imported motor-spirit, exempting home producers of that commodity from tax, his announcement was hailed with relief by everyone associated with the shale industry, who regarded the new Duty, not only as a means of preserving the industry, but at the same time making it possible to provide an adequate standard of life for all who depended upon it for earning a livelihood.

Immediately following the announcement, the management gave notice of a 10 per cent. increase in wages,
restoring the rates prevailing prior to the last two 5 per cent. reductions, which was regarded as a pointer to better times ahead for the industry. To the great disappointment and annoyance of everyone, however, whereas the new Duty had the immediate effect of increasing the market price of motor-spirit by 4d. per gallon, within six weeks the imported product was reduced by a similar figure, restoring prices to the pre-Budget level, consequent upon which wages were again reduced by 10 per cent. within eight weeks from the date of Mr. Churchill’s Budget statement.

Wages remained unchanged until the following April, when rates were once again increased by 5 per cent. due to an upward movement in the price of imported oil products, and wages remained at this level until June, 1931.

A FURTHER CONTRACTION OF SHALE INDUSTRY, 1931.

Although wages had advanced by 5 per cent. on April 17th, 1929, an intense feeling of insecurity still prevailed, for it was felt that the upward movement of prices was only of a temporary character, and fearing that the worst was yet to follow, further approaches were made to the Government. (A Labour Government had again been elected in the interval and now held office. A memorial was prepared and presented to Mr. Philip Snowden, who became Chancellor of the Exchequer, suggesting a method whereby greater financial assistance might be given to the industry should it be the Government’s intention to preserve the Scottish Shale Oil Industry as a home source of oil from indigenous materials. Whether it was due to representations to the Chancellor of the Exchequer or not, it was encouraging to learn when Mr. Snowden made his Budget statement in April, 1931, that it was proposed to increase the Duty on imported motor-spirit from 4d. per gallon to 6d. per gallon, with continued exemption from tax to home producers of motor-spirit from indigenous materials.

To the surprise and consternation of the workers, however, “like a bolt from the blue,” shortly after the
Budget announcement intimation was received from the management on 5th June, 1931, “that in spite of the increased duty imposed on motor-spirit by the Budget, the shale companies were still working at a heavy loss, and it was proposed to reduce rates of wages by 5 per cent. and to abandon Oakbank Oil Works and Refinery, Philipston Oil Works and Mines, Seafield Oil Works and Deans Mill, and to close temporarily and until further notice, Westwood and Breich shale pits.” Following this announcement a Joint Memorial was prepared by the Management and the Union for presentation to the Chancellor of the Exchequer, Members of Parliament, and the appropriate Government Departments, craving more favourable consideration and financial support for the Shale Industry to avoid the proposed contraction and a further closing of Works and Mines. A deputation, consisting of the General Officials of the Union, proceeded to Westminster to press the claim of the industry for more favourable consideration with the Treasury, The Mines Department, and Members of Parliament. In addition to interviewing the permanent officials of the appropriate Government Departments, the General Secretary of the Union addressed meetings of the Scottish Members of the Conservative Party and the Scottish Members of the Labour Party separately in the committee rooms of the House of Commons, at both of which the deputation was cordially received and elicited the promise of support. Mr. Ernest Brown, Leader of the Liberal Party in the House of Commons, was also interviewed, and finally a meeting was held with Mr. P. Lawrence, Financial Secretary to the Treasury. We were very ably supported all through our approaches by Mr. E. Shinwell, Parliamentary Secretary of Mines; Colonel J. Colville, Member of Parliament for Midlothian; and Mr. William Watson, Member of Parliament for Dunfermline Burghs, Secretary to Scottish Parliamentary Labour Party. As events turned out, however, the deputation was quite unsuccessful, and as no further financial support was forthcoming the proposed 5 per cent. reduction in wages was
enforced and the Works and Mines referred to above had to be abandoned, thereby disemploying a further 1500 shale miners and oil workers. It should be of interest to shale miners and oil workers to note that the average c.i.f. (carriage, insurance and freight) prices of imported motor-spirit and fuel oil at this period were compared with 1913 and 1920 when prices were at their peak:

TABLE OF AVERAGE (C.I.F.) PRICES OF IMPORTED MOTOR-SPIRIT AND FUEL OIL.

<table>
<thead>
<tr>
<th>Year</th>
<th>Motor-spirit, Pence per gallon</th>
<th>Fuel Oil, Pence per gallon</th>
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<tbody>
<tr>
<td>1913</td>
<td>9.0</td>
<td>2.9</td>
</tr>
<tr>
<td>1920</td>
<td>27.0</td>
<td>8.8</td>
</tr>
<tr>
<td>1931</td>
<td>3.6</td>
<td>1.9</td>
</tr>
</tbody>
</table>

In the face of the extremely low prices obtained for shale oil products during 1931, it is quite clear that no other alternative was open to the management of the Shale Companies.

SCHEME OF THREE WEEKS' WORK AND ONE WEEK OFF, 1932.

The Labour Government was out of Office before the next Budget was presented to the House of Commons, defeated at the election, it will be remembered, over the scare of "confiscation of Post Office Savings" stunt, and a Conservative Government was again in power. The Budget of 1932 raised the Duty on imported motor-spirit from 6d. to 8d. per gallon. It was not until the end of September, however, when the price of motor-spirit advanced by 3d. per gallon, were the management able to offer an advance in wages; and when they intimated an increase on 28th November, 1932, they announced that the recent advance in the price of shale oil products enabled them to not only increase wages but to bring back to
employment some of the workers who had formerly worked in the industry. The Scheme proposed was:—

"That all employees, so far as practicable, should for the present work three consecutive weeks and be idle the fourth week: all rates of wages to be increased by approximately 10 per cent., bringing the rates back to those ruling prior to 4th July, 1928; and in addition to advance wages by 2½ per cent. on these rates."

The Scheme, as outlined, was readily approved by the Union and came into operation on 19th December, 1932. By this means approximately 900 workers, who formerly worked in the industry, were brought back to employment at once, and with the close co-operation of all concerned was completely successful and worked very smoothly until everyone was gradually restored to full employment a few years afterwards as developments took place.

GUARANTEED 10 YEARS' PREFERENCE—FINANCE ACT, 1934.

Although customs' duty on motor-spirit had been raised to 8d. per gallon, with continued exemption to home producers from tax, there was as yet no guarantee as to how long the Duty would continue with exemption to home producers of motor-spirit from indigenous materials, and it was desirable, if the management of the shale companies were to be encouraged to extend their activities, that Parliament should stabilise both the Duty and the rate of preference over a term of years.

When the Chancellor of the Exchequer made his Budget statement in 1934, it was gratifying to learn that the Finance Act provided for a guaranteed preference to home producers of motor-spirit at the rate of 4d. per gallon over a period of 10 years. The rate of preference then necessary was 8d. per gallon; and if this rate continued to be necessary for the next 5 consecutive years,
unless fresh legislation was enacted by then, the Preference to home producers would end during 1939. When customs and excise duty was first imposed, however, the management, in the belief that once the principle of the duty had been accepted and established it was unlikely to be departed from by the Government, proceeded to install a "new cracking plant" at Pumpherston Refinery—the only remaining Refinery—which by this time was giving considerable promise of success. Now that the Preference was guaranteed over a period of years, plans were prepared to open and develop new mines in different parts of the shalefield, giving renewed hope and fresh security to all who depended upon the shale industry for a livelihood.

'SOCIAL SECURITY FOR THE SHAREHOLDERS.

It has already been observed that the Anglo-Persian Oil Company, Limited, in September, 1919, were invited by the Government to acquire the whole of the ordinary shares of the shale companies, and for that express purpose Scottish Oils, Limited, was formed, the New Company to give 7 per cent. participating preference shares in exchange for the ordinary shares of the shale companies. The Anglo-Persian Oil Company, Limited (now the Anglo-Iranian), now makes a fresh offer to the participating preference shareholders of Scottish Oils, Limited, whereby they are to receive in exchange for the 7 per cent. participating shares, 9 per cent. preference shares of the Anglo-Iranian Oil Company, Limited, in the ratio of 66 and two-thirds for each 100 shares of Scottish Oils, Limited. Needless to say the offer was readily accepted. The present market value of £1 preference share of the Anglo-Iranian Oil Company is around 38/6. By this transaction both Scottish Oils, Limited, and the Shale Companies are now completely and effectively merged and controlled by Anglo-Iranian Oil Company. It is also fairly well-known that the Government holds 11,250,000 ordinary shares of the Anglo-Iranian Oil Company, on account of which they
have two Directors on the Board of Management, with a complete veto on all matters affecting Naval or Military policy. The present market value of the £1 ordinary shares of the Anglo-Iranian Oil Company is quoted at 110/- per share.

THE FALMOUTH COMMITTEE’S REPORT, 1938.

The Falmouth Sub-Committee was appointed by the Minister for the Co-ordination of Defence to enquire into the question of the production of oil from coal on 27th April, 1937, with the following terms of reference:

"To consider and examine the various processes for the production of oil from coal and certain other materials indigenous to this country, and to report on their economic possibilities and on the advantages to be obtained by way of security of oil supplies in emergency."

During the enquiry, the Committee found it necessary to enquire into the process of obtaining oil from shale, and gave consideration to the needs of this country for oil supplies, both in peace time and in emergency, together with the means which are or can be employed to meet those needs.

The Committee’s report was presented by the Minister for the Co-ordination of Defence to Parliament by Command of His Majesty on February, 1938, from which it is observed that the Committee were given

"The opportunity of examining the detailed statements of account of the operating companies and of Scottish Oils, Ltd., and they were satisfied that, even with the present substantial assistance which is afforded by the preference on home-produced oils, the profit which is being earned is a very moderate one in relation to the value of the capital employed in the enterprise. The value of the preference last year to the Shale Industry was no less than £660,000, a figure
in excess of the total wages bill. The effect of the withdrawal of the preference would be to turn a modest rate of profit on capital into a heavy loss."

It should be explained that the preference was extended to include diesel oil for road vehicles, during 1935, at the rate of 8d. a gallon as well as motor-spirit.

The Committee also considered that the industry was worthy of every encouragement. Its raw material, the report continues, "cannot be put to any other use, and there is no competition between its products and those of other existing home industries." The report concludes with these words:—"This is a small, though important, industry. The recommendation of the Committee for a continuation of the guaranteed preference . . . . . should be of great assistance in encouraging its development." Briefly the recommendation of the Committee was as follows:—

That a preference at the rate of 8d. a gallon should be guaranteed for a period of 12 years from 1938, and that it should apply equally to diesel oil for use in road motor vehicles as well as motor-spirit. That it should be necessary to fix a datum period and an average datum price for the declared c.i.f. values of motor-spirit and gas oil, and that these should provide a sufficient measure of any changes in the landed cost of motor-spirit and diesel oil, and that in respect of the year 1941, or any subsequent year, the average declared c.i.f. value of motor-spirit or gas oil has exceeded the average datum price for 1937 by no less than 1d. per gallon, the amount of the guaranteed preference on motor-spirit and diesel oil respectively, should be reduced by 4d. per gallon in respect of the first 1d. of the excess, and for each additional 1d. of the excess beyond 1d. a further reduction of 4d.
THE LABOUR PARTY'S PLAN FOR OIL FROM COAL, 1938.

In July, 1937, the Labour Party appointed a Special Advisory Committee to enquire into, and report, on the production of oil from coal at about the same time as the Minister for the Co-ordination of Defence appointed the Falmouth Committee with somewhat similar terms of reference. The Special Advisory Committee, after an extensive and exhaustive enquiry, during which attention was given to the production of oil from shale, presented their report to the Party with their recommendations at the beginning of 1938. From "Labour's Plan for the Production of Oil from Coal," first published in June, 1938, page 45, "Distillation of Shale," it is noted that the Committee make the following observations:—

"Scottish shale has been an indigenous source of oil since 1860. In the early days of the industry the yield of oil per ton of shale was about 40 gallons, but with the exhaustion of the best deposits the yield has fallen until to-day it is only about 22 gallons per ton of shale. The industry found it increasingly difficult to meet competition from imported petroleum, and was maintained in existence only by the preference on home produced motor-spirit and the adoption of modern methods, such as "cracking," by which a high proportion of the oil could be converted into motor-spirit. In 1931, owing to the fall in the prices of petroleum products, there was a big contraction on the industry: the less efficient crude-oil works, shale mines and oil refineries were closed, and the number of workmen employed fell from 5,000 to 3,500. Since this contraction the industry has maintained itself at approximately the same level. The increase from 1d. to 8d. a gallon in the tax on imported heavy oil used in road motor-vehicles, which was enacted in 1935, gave a great impetus to the production of 'Diesel' oil from shale, and this trend has since
continued. The production of 'Diesel' oil involves a diminution in the quantity of motor-spirit made, but on balance it is advantageous to the industry. The total amount of refined motor-spirit produced from shale was 14½ million gallons in 1934, 10½ million gallons in 1935, and 6½ million gallons in 1936."

The Committee, in harmony with the Falmouth Committee, recommended that the Government "Should continue the guaranteed preference on domestic motor-spirit for a further period, and that this guarantee should be extended to 'Diesel' oil used for road transport." It is also interesting to observe in passing the Advisory Committee's observations on:

"The amount of money lost in low-temperature carbonization of coal at various stages is one of the big financial scandals of the country, and it is hard to know which is the more reprehensible, the optimism of the promoters or the credulity of the public. Not the least evil has been that good companies have suffered with the bad owing to the odour into which such processes have fallen. As a result the production of oil from coal has made slow progress, and after many years of private enterprise only a relatively small quantity is being made. This conclusion is reinforced by the fact that most of the promoters of oil-from-coal schemes are themselves anxious to secure Government co-operation. They are aware that they lack the resources necessary to develop the industry, and they are prepared to see the Government sharing the risk and the control. They see a model in the Anglo-Iranian Oil Company, in which the British Government holds a majority of the ordinary shares, and even more pertinently in the South Wales Coalite Co., Ltd., for which one-quarter of the capital has been provided by the Government through the Special Areas Reconstruction Association and one-quarter by the Nuffield Trust. The fact is that the coal-oil
industry will be developed on the big scale either by the Government or not at all."

12 YEARS' GUARANTEED PREFERENCE—FINANCE ACT, 1938.

When the Budget was presented to the House of Commons in 1938, it was at once seen that His Majesty's Government had virtually accepted the Falmouth Committee's recommendations in toto, in respect that the Finance Bill, Part 1, Section (1), Sub-Section (1), provided that:

"The rate of the customs duty chargeable under Section 2 of the Finance Act, 1928, on hydrocarbon oils shall be increased from eightpence per gallon to ninepence per gallon."

Under Section 2, Sub-Section (1), a preference for home producers was provided for a period of twelve years, as under:

"During the period of twelve years from the passing of this Act the preference in respect of:

(a) light oil manufactured in the United Kingdom from indigenous materials;
(b) heavy oils manufactured as aforesaid and used in the United Kingdom as road fuel;

shall not be less than the appropriate rate per gallon for the time being in force.

(2) For the purposes of this Section:

(a) the appropriate rate shall be:

(i) for the period ending on the fifth day of May, nineteen hundred and forty-two, eightpence;
(ii) for the remainder of the said twelve years, eightpence, subject to any adjustments made in accordance with Part I. of the First Schedule to this Act."
ADJUSTMENT OF APPROPRIATE RATE OF PREFERENCE.

The First Schedule to the Act provides the following measure or Rule for determining the appropriate rate of preference during any year after the commencement of the Act:

"(1) On or before the thirty-first day of March in the year nineteen hundred and forty-two and each of the eight next following years, the Board of Trade shall lay before both Houses of Parliament a certificate signed by the President or any Secretary of the Board stating, according to the information before the Board:

(a) The average value per gallon of all motor-spirit and gas oil imported into the United Kingdom in the year nineteen hundred and thirty-seven as declared by the importers on importation—referred to in this Part of this Schedule as: 'THE DATUM PRICE OF MOTOR-SPIRIT OR GAS OIL.'

(b) The average value per gallon of all motor-spirit and gas oil so imported in the last preceding calendar year as so declared—referred to in this Part of this Schedule as: 'THE PREVIOUS YEAR'S PRICE OF MOTOR-SPIRIT AND GAS OIL.'

(c) The number of gallons of motor-spirit and gas oil manufactured in the United Kingdom from indigenous materials which have been delivered for home consumption during the last preceding year—referred to in this Part of this Schedule as: 'THE LIGHT OIL AND ROAD FUEL HOME PRODUCTION FIGURE.'

"(2) If any such certificate of the Board of Trade shows that the previous year's price of motor-spirit or gas oil exceeds the 'DATUM PRICE OF MOTOR-SPIRIT OR GAS OIL' by one penny or more, the appropriate
rate per gallon as respects home produced motor-spirit or gas oil for the following preference year shall be eightpence less the authorised deduction, that is to say, one half-penny for the first penny of the said excess and an additional half-penny for each additional half-penny of the said excess.

"(3) If any such certificate shows the home production figure amounts to twenty per cent. or more of the consumption figure, the appropriate rate per gallon as respects home production for the following preference year shall be eightpence less the authorised deduction, that is to say, one penny plus an additional one penny for each additional five per cent. beyond twenty per cent. of the light oil consumption figure which the light oil home production figure amounts to or exceeds, which includes motor-spirit and gas oil for road transport."

That is to say, if any such certificate shows both that the previous year's price of gas oil or motor-spirit exceeds the "datum price" by one penny or more and that the home production of both amounts to twenty per cent. or more of the total consumption figure, the appropriate rate per gallon as respects home produce gas oil or motor-spirit for the following preference year shall be eightpence less the authorised deductions to be made under both the last foregoing paragraphs.

Although the present rate of guaranteed preference is 8d. per gallon, home producers of motor-spirit and gas oil from materials indigenous to the United Kingdom have since the passing of the Finance Act of 1938 received a preference of 9d. when the Customs Duty was raised from 8d. to 9d. per gallon. If the "appropriate rate of preference," however, fell below eightpence, it would be open to the Chancellor of the Exchequer to impose an Excise Duty, but such a step would require Parliamentary sanction.
1937 DATUM PRICE OF MOTOR-SPIRIT AND GAS OIL.

For reasons of security during the National Emergency, Parliament relieved the Board of Trade of their obligation—under a subsequent Finance Bill—to lay before Parliament the certificate required under the First Schedule of the Finance Act, 1938, information about the 1937 "datum price" of imported motor-spirit and gas oil, consequently it is not possible to give the average value per gallon of all motor-spirit and gas oil imported into the United Kingdom as declared by the importers on importation, but from the following table, showing the average c.i.f. prices of imported motor-spirit and fuel oil as declared by the importers for six consecutive years ending 1937, culled from "Labour's Plan for Oil from Coal," a close approximation of the "datum price" can be formed, viz.:

<table>
<thead>
<tr>
<th>Year</th>
<th>Motor-Spirit (Pence per Gallon)</th>
<th>Fuel Oil (Pence per Gallon)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1932</td>
<td>4.0</td>
<td>1.8</td>
</tr>
<tr>
<td>1933</td>
<td>3.4</td>
<td>1.8</td>
</tr>
<tr>
<td>1934</td>
<td>3.3</td>
<td>1.7</td>
</tr>
<tr>
<td>1935</td>
<td>3.5</td>
<td>1.7</td>
</tr>
<tr>
<td>1936</td>
<td>3.8</td>
<td>1.8</td>
</tr>
<tr>
<td>1937</td>
<td>4.5</td>
<td>2.4</td>
</tr>
</tbody>
</table>

It will therefore be observed that the 1937 "datum price" for motor-spirit and fuel oil should be around or about 4½d. and 2.4d. per gallon respectively. If therefore the price of motor-spirit and fuel oil in any succeeding year, in normal times, exceeds the average declared "Datum Price," the "appropriate rate of preference" for the following preference year shall be fixed or varied as and when Parliament determines.

BRIGHTER PROSPECT—NEW DEVELOPMENTS WITH MINES AND OIL WORKS.

From the above table it will be noticed that the price war had come to an end and that prices were again moving to higher levels, but when compared with 1914 values for similar products they appeared to be stabilised at an
surprisingly low rate. However, with the price war at an end and the security of a guaranteed preference for a period of twelve years, the controlling Company proceeded at once with extensive new developments with the opening of new shale mines at West Calder, Midlothian; Broxburn, Tottieywells; and the re-opening of disbanded mines at No. 1 and No. 6 Philipstoun, West Lothian. Plans were prepared and a start was made with the erection of a New Crude Oil Work at Westwood, near West Calder, comprising two units, each capable of distilling 1,000 tons of shale per twenty-four hours when completed. The first unit was completed towards the end of 1941, and has been in active operation ever since, and is regarded by experts to be one of the most modern and up-to-date Oil Works of its kind in the country, ensuring greater economy in the consumption of coal, man-power, etc., and is giving satisfactory results and completely fulfilling the management's expectations. An improved process for distilling shale was also installed at certain of the remaining Oil Works whereby a greater throughput than ever before could be processed within twenty-four hours. By those means additional employment was provided for additional miners and oil workers, and taken altogether the prospects generally were much more reassuring than at any time since the first economic crisis of 1921. With the first glimmer of hope penetrating the dark clouds which had been hovering over the industry since 1921, now unmistakably passing away, everyone concerned with the future well-being of the shale industry looked forward with renewed hope and confidence towards increased industrial activity in the Lothians, and to improved conditions of employment long overdue—to the workpeople it provided employment for.

THE SECOND WORLD WAR AND IMPROVED CONDITIONS OF EMPLOYMENT.

Before the declaration of War on Germany for the second time in one generation, the "spread over" scheme
of employment, introduced towards the end of 1932, had been gradually liquidated, and once again the total personnel were enjoying full employment, thereby demonstrating the undoubted foresight of the promoters of the scheme, which enabled the management to retain skilled labour—on a limited scale—which might otherwise have been lost to the industry. Not only had full employment been restored, but considerable improvements in the conditions of employment had been obtained, chief among which were:

Miners' nominal minimum wage increased from 8/1.2 to 11/2.23.

Basic rates of all other grades increased on similar basis.

An improved wage for age scale for boys and youths obtained.

A forty-six hour week for underground workers—consisting of five days of eight hours and six on Saturdays obtained.

A forty-eight hour week for surface workers—excluding seven-day process workers.

Time and a-half for week-end labour at the mines, including piece-rate workers; time and a-third for over-time underground and time and a-quarter above ground.

A full week's staggered holiday with pay for all workers; first established 1st March, 1939.

Since September, 1939, adult rates of wages have been further increased, under a cost-of-living arrangement, by 3/- per shift, and youths under eighteen years of age by 1/6 per shift. Since then the cost of living has been pegged down, and the index figure relating thereto has remained at or about 100 points above the 1914 figure. Further improvements, however, have been obtained since then. On 17th June, 1942, all piece rates were raised by 15 per cent., to ensure a minimum increase of at least 2/-
per shift to both miners and drawers, while adult time rate workers, above and underground, received an advance of 1/6 per shift, youths and apprentices receiving an increase of 9d. per day. Then again, on 7th March, 1944, all piece-rates were further increased by 9 per cent., and adult time rates were increased by 1/- per shift, and a vastly improved wage for age scale for boys, youths and apprentices was negotiated with the management, and came into force at the same time, but only after a ballot of the workers had been taken, which by a very narrow majority approved of the increases, and unanimously recommended by the Executive Council of the Union.

Although skilled craftsmen's basic rate of wages had from the beginning been increased at the same rate as other adult workers, a new agreement was negotiated with the management, whereby the basic rates of all skilled craftsmen who had served and completed an apprenticeship received an increase of 5/- per week or 10d. per shift as from 29th October, 1944. The total weekly war-wage increase to skilled craftsmen by this arrangement was 38/-.

The miners' nominal minimum wage had by now advanced to 17/3 per shift—by no means a fabulous wage—yet when compared with the nominal wage of 7/- in July, 1914, it represents an increase of 146½ per cent. since then, whereas the cost-of-living index figure at the time of writing is reported to be only 102 per cent. above the index figure of July, 1914. If, therefore, the cost-of-living index figure is taken as a true reflex of the changes that have taken place in retail prices since then—about which there is considerable doubt—it would appear that real wages, measured by the index figure, and the miners' nominal minimum have improved to the extent of 44 per cent., without taking into account:—Shorter working hours; extension of time and a-half for week-end labour; improved overtime rates; holidays with pay; improved Workmen's Compensation allowances; or making any allowance whatever for Income Tax, or the innovation of Post-War...
Credits. On balance, however, it must be conceded that the improvements gained have been considerable, and are on the whole substantially better than the advancement during and immediately after the last Great War, when the cost of living rose to 176 per cent. above 1914, with the minimum rates of wages trailing 5 points behind at 171 per cent. above the nominal minimum then.

**TABLE OF COMPARATIVE PRICES OF PRODUCTS.**

The undernoted table gives the comparative prices of two of the industry's chief products—Sulphate of Ammonia and Motor-Spirit, and the average cost per ton of coal delivered at the oil works, of which the annual consumption is approximately 290,000 tons at the present time.

**SULPHATE OF AMMONIA.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Nett Price per Ton realised at Works</th>
</tr>
</thead>
<tbody>
<tr>
<td>1914</td>
<td>£10 9s. 9d.</td>
</tr>
<tr>
<td>1920</td>
<td>£22 12s. 8d.</td>
</tr>
<tr>
<td>1945</td>
<td>£9 0s. 0d.</td>
</tr>
</tbody>
</table>

**RETAIL PRICE OF MOTOR-SPIRIT.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Per Gallon</th>
</tr>
</thead>
<tbody>
<tr>
<td>1914</td>
<td>1s. 9d.</td>
</tr>
<tr>
<td>1920</td>
<td>4s 7½d.</td>
</tr>
<tr>
<td>1945</td>
<td>2s. 1½d.</td>
</tr>
</tbody>
</table>

**AVERAGE PRICES PAID FOR COAL.**

Delivered at Works.

<table>
<thead>
<tr>
<th>Year</th>
<th>Per Ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>1914</td>
<td>9s. 10d.</td>
</tr>
<tr>
<td>1920</td>
<td>26s. 1d.</td>
</tr>
<tr>
<td>1945</td>
<td>36s. 0d.*</td>
</tr>
</tbody>
</table>

* On 1st May, 1945, the price of Coal was further increased by 3/6 per ton.
It has not been found possible to include in the above Table the comparative values of the remaining two other chief products of the industry—Diesel Oil and Paraffin Wax—but it will be seen, with no little surprise, that the price of Sulphate of Ammonia—at one time the mainstay of the industry—and Motor-Spirit has varied very little compared with July, 1914, in spite of the fact that the cost-of-living figure, including all items in their relative importance to the family budget, have increased to the extent of 102 per cent. over the level of 1914.

It is very disturbing to find, however, that the average cost of coal delivered at the oil works, of which the annual consumption is in the neighbourhood of 290,000 has gone up by 20 per cent. compared with the average cost during 1914.

On the basis of the 1943 throughput of shale, estimated to be 1,750,000 tons, the cost to the industry is at the rate of 6/- per ton of shale distilled, compared with only 1/3½ per ton in 1914. It is therefore quite evident that but for the economies effected by the elimination of uneconomic works and mines' reorganisation, improved technique, and the "appropriate rate of preference" on home produced oils the industry would have ceased to exist.

It is also revealed that the coalmining industry is in urgent need of drastic reorganisation, technical improvement, and modernisation if production is to expand and a rising standard of life is to be the national aim, and in the writer's opinion will only be obtained by public ownership of the industry with real democratic control. If Britain is to retain her industrial and commercial prosperity, it is vital that this should be the first priority in post-war reconstruction.

WORKERS' WELFARE PROVISIONS.

Although shale is mined by methods differing only in detail from those employed for coal, unlike the coal industry a levy is not imposed on production to provide for the
workers' welfare. That is not to say, however, that the welfare of the workers has been neglected or overlooked; for in almost every village associated with the industry Institutes have been provided, with bowling greens in close proximity, to enable them to enjoy both indoor and out-of-door amusements and recreation, including billiards, carpet-bowls, lectures, and social gatherings. Modern baths have also been provided at all oil works, with one exception,—held up on account of war,—with ambulance room accommodation and first-aid attendants at both works and mines in the event of industrial injury. A club room, tennis court, and bowling green have also been made available for the employees at Middleton Hall. More could and might have been done by providing better canteen facilities for supplying cooked mid-day meals for the workers, including the staff, but although only three have been provided, packed-pieces with hot tea have been supplied at both mines and works to all who wanted them at cost price.

Apprentices are also encouraged to attend evening school classes and Heriot-Watt College, time off being allowed and financial assistance provided in numerous cases.

The Companies also operate a Service Pension Scheme, which provides for a weekly payment of 10/-, plus 5/- war addition, to employees with 25 consecutive years' service when they reach 65, or 45 years' service at any time. It is also worth mentioning that former employees serving with H.M. Forces receive an allowance from the Companies to ensure that no one would be worse off financially than before being enrolled in H.M. Forces.

FINAL CONCLUSIONS.

From the foregoing brief review of the chequered history of the shale industry since the end of the last war, it is pretty obvious that its steady decline and contraction has been largely, if not wholly, due to the unplanned
and uncontrolled development of the world's oil reserves after the end of the Great War, which incited fierce competition between the rival oil combines in an attempt to capture and control the world's market and prices, which, prior to the Government's belated imposition of a customs duty on imported foreign oil, culminated in the Scottish Shale Oil Industry becoming an uneconomic entity. That is to say, that the socially necessary labour time required to produce oil products from shale was greatly in excess of the labour time necessary to produce similar products from natural petroleum. From the market prices of which, on account of the unrestricted competition between the importing companies and the low prices obtained for shale oil products, the Shale Companies were obviously unable to recover the costs of production and could only carry on at a heavy loss. There is not the slightest doubt whatever, had not the Government imposed a customs duty when it did, exempting home producers of motor-spirit and diesel oil, the shale industry would have ceased to exist in spite of the enormous economies and technical improvements that had taken place since the formation of Scottish Oils, Ltd., in September, 1919. The industry's future therefore is firmly rooted in its past and present history, and the continuance of the "appropriate rate of preference" is imperative and absolutely necessary for the continued existence of the Scottish Shale Oil Industry in the post-war world.
THE SHALE-MINING INDUSTRY IN THE POST-WAR WORLD.

PART II.

INTRODUCTION.

Although vast economies have been obtained, in both production and administration costs, since the formation of Scottish Oils, Limited, we cannot overlook the fact that the present gap between the prices of home produced oil products and the c.i.f. prices of similar oil products imported from abroad is still very wide, and it would be unreasonable to expect any improvement of the position in the near future.

If supplies of natural petroleum were likely to last for ever and the present position to be regarded as permanent, it would perhaps be unwise and the height of folly to maintain home production from shale by artificial means, by which is meant continued exemption from excise duty on motor-spirit and diesel oil. Natural petroleum, however, like oil shale, is not inexhaustible, and once it has been extracted from the earth and made use of, unlike wheat, barley or oats, cannot be replaced or recreated by Nature who laboured for eons to produce them, rested after her long travail, never again to take up her work in the same way. It is not possible either, for a variety of reasons, to estimate the world's oil reserves with anything like the same degree of accuracy as with shale deposits in Scotland, but such estimates as have been made—which are chiefly guesses—indicate that the world's reserves of natural petroleum will be exhausted long before shale or coal reserves at the present rate of consumption.
WORLD'S RESERVES OF NATURAL PETROLEUM.

One of the greatest authorities in the Oil Industry, when he was alive, was the late Lord Cadman. Speaking at a World Power Conference in Washington, on 7th September, 1936, he was reported to have said:—

"Various estimates have been issued from time to time of the relations existing between world reserves and world consumption, and it is disquieting to note that the general average of recent estimates would appear to indicate the existence of something less than 20 years' consumption. Expansion in consumption—which already exceeds 200,000,000 tons annually—may be anticipated so long as adequate and dependable supply is available at economic prices. Current estimates of reserves may be falsified by the discovery of new pools, though it is pertinent to remark that each discovery renders further discoveries more remote, that recent discoveries have not yet kept pace with consumption, and that few pools are of such magnitude as to represent the world's consumption for a single year. There have been two or three major discoveries in the United States within the last five years. If current estimates of the world's reserves are anything near the truth there is no doubt, having regard to the enormous role played in the mechanics of our civilisation, that crude petroleum is not produced without adequate need; that it is produced with the minimum of wastage; that each ton is made to do its full work; and that it is used only where it is the best and not merely as an alternative source of power, light or heat."

There can be little doubt that new pools of natural petroleum will be located and will continue to be discovered from time to time for many years to come, but with the enormous expansion of consumption and wastage during the present war, and the colossal depletion of the world's
oil reserves in consequence, there has ensued a more rapid wastage than was ever anticipated when Lord Cadman spoke at the Power Conference in Washington, exceeding by far the discovery of new pools since then, thereby falsifying the estimates of those qualified to speak from their expert knowledge of the Oil Industry, which should inevitably lead to a more prudent policy being pursued when hostilities cease to conserve supplies of natural petroleum, and to prevent the prodigal misuse of a too rapidly wasting irreplaceable asset. Without putting too much reliance on Lord Cadman’s pessimistic estimate, it is quite evident that we are faced with the prospect of the complete exhaustion of the world’s reserves of natural petroleum within a generation or so, and having regard to the enormous and indispensible role that crude petroleum is presently playing in the mechanics of our civilisation, timely attention should be directed to alternative sources of supply of such a precious commodity from materials indigenous to this country, such as cannel, coal and shale; the future research for and the development of which should be undertaken by the Government, as it is universally acknowledged that the coal-oil industry—like the shale industry—cannot be developed except under the shelter of a guaranteed “preference,” and should not be left in the hands of private enterprise.

**OIL SHALE RESERVES.**

Although only a rough approximation of oil shale reserves in the Lothians is available, the quantity of Scottish oil shale still unworked is very great and capable of supplying the needs of the shale industry for many years to come. An estimate of Oil Shale Reserves in Scotland was published by H.M. Geological Survey in 1920, which is given below:—the “PROVED RESERVES” being those areas in which shales are or have been worked on a commercial scale and where seams of only 3 feet thick have been excluded and 300 fathoms taken as the present limit.
of depth for profitable working, and where bores have established the presence of shale in satisfactory thickness and where the geological structure is favourable; the "possible reserves" being the areas in which there are few bores but where on geological considerations the shale may confidently be expected to occur within 300 fathoms from the surface, and where there is no reason to doubt that it is of workable thickness and quality. It is not possible, however, to give an estimate of the amount of oil likely to be obtained by distillation, and the seams vary in thickness from place to place.

<table>
<thead>
<tr>
<th>PROVED RESERVES</th>
<th>POSSIBLE RESERVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midlothian, 163,457,000 tons.</td>
<td>356,120,000 tons.</td>
</tr>
<tr>
<td>West Lothian, 416,539,000 ''</td>
<td>371,211,000 ''</td>
</tr>
<tr>
<td>Lanark, 16,730,000 ''</td>
<td>67,000,000 ''</td>
</tr>
<tr>
<td>Peebles, 5,120,000 ''</td>
<td>28,000,000 ''</td>
</tr>
<tr>
<td>Fife, 61,446,000 ''</td>
<td>61,446,000 ''</td>
</tr>
</tbody>
</table>

Deduct

| Already worked, 150,000,000 '' |

AVAILABLE RESERVES, 451,886,000 ''

The production of shale for 1944 is in the region of 1,610,000 tons. Before September, 1939, however, it had been planned to expand the industry's activities and to increase production to 2,500,000 tons annually, but on account of the war the development of new mines and the erection of a second Unit at Westwood Oil Works had to be suspended until the war was over and peace was restored. It is confidently expected, therefore, that whenever hostilities cease, arrangements will be made, without undue delay, to start work on the second unit at Westwood, which when completed will be capable of distilling a further 1000 tons of shale per day, while the other Oil Works are
able to undertake with slight adjustments the distillation of the planned increased annual production. If an allowance of 20 per cent. is added for estimated loss in working, the annual depletion of oil shale reserves would be around 3,000,000 tons. It would be unwise to conclude, however, that an allowance of 20 per cent. is sufficient in view of the number of shale mines recently abandoned on account of uneconomic working. The quantity of shale still unworked, nevertheless, is very considerable and capable of engaging the shale industry for many years to come, without taking into consideration the additional prospect of the "possible reserves" becoming available, or yet the prospects of modern methods of mining shale being made available.

IS NATIONALISATION DESIRABLE?

The principal advantages claimed for Nationalisation (with particular reference to the coal industry) over the present system of private ownership is that the industry could be organised and worked as a single unit necessitating a unified single management. Production, sale, and distribution of coal would be co-ordinated in such a manner as to wipe out all forms of overlapping activities and sectional waste inherent in private competitive enterprise. Market requirements could be ascertained in advance and the whole work of production would be organised and directed to satisfy such market requirements. The miners would have the assurance that their efforts would benefit the nation and not the profits of the coal-owners, while questions of wage adjustments would be settled by reference to maximum output and not to profit per ton. Once this has been done and insecurity removed—as it will be when coal mines are publicly owned and democratically controlled—the miners will work with a wholly different spirit, and not in that sullen, grudging acquiescence or lack of interest that is so prevalent to-day. Managers will not only be permitted but encouraged to co-operate with Pit Committees
to obtain the best results without the fear of interference from Head Office.

The production of chemicals and oil from coal would take on a new meaning and increase in importance. Under national ownership and national planning capital improvements and extensions of new processes could be planned and financed wherever they were needed in the national interest. Modernisation and mechanisation of the mines would follow, output would increase and the cost of production fall, with beneficial results to British industry in general. When the Nation begins to run great services like the coal industry, it will not be long before it begins to measure its success, not in terms of profit per ton, but of the safety, health and happiness of the mining community. These are the advantages claimed for Nationalisation over the private ownership of the coal-mining industry, and there are very good reasons for supposing that public opinion is strongly in favour of the transfer of the coal-mining industry to public ownership, in consequence of the reports issued from time to time on investigations made by various Government Commissions on the state of the industry, and by debates in Parliament on the subject. In fact, the view is widely held that as long as the industry remains in private hands re-organisation will never be satisfactorily accomplished. The drastic re-organisation of the coal industry is urgently necessary in the national interest, which can and will only be undertaken when the industry is transferred to public ownership, failing which the Government's Full Employment policy will be impossible of attainment.

When Scottish Oils, Limited, was formed in 1919, and at that time acquired the ordinary shares of the Shale Oil Companies, the Scottish Shale Oil Industry at once, for all practical purposes, became a single unit. Unification of management followed, with the immediate result that all forms of overlapping and competition between the companies ceased to exist. Products were marketed by a single
selling agency, on a non-profit basis; technical improvements followed, and the economies obtained, in the words of the Managing Director, were more than double the aggregate annual profits of the Shale Companies prior to 1919. There is little room for doubt that if the coal industry was re-organised on a somewhat similar basis to the Shale Oil Industry, quite apart altogether from Nationalisation, the savings would indeed be staggering. If, in addition, oil and chemicals production was undertaken and widely developed—so extensively developed in Germany—not only the coal-mining industry would reap its reward, but British heavy industry as a whole would benefit and regain and be able to maintain its former industrial prosperity.

Public ownership of the coal industry should be priority No. 1 of the Government’s post-war industrial re-construction policy upon which so much depends in the post-war world.

The Union’s long term policy for the Scottish Shale Oil Industry has for many years been Public Ownership and democratic control, but little would be gained by pursuing such a policy at the present time, but it is fairly obvious, with public ownership of the coal industry, followed by drastic re-organisation, modernisation, mechanisation and the ruthless elimination of all forms of waste, there is not the slightest doubt that the shale oil industry, in conjunction with the rest of British heavy industries, on the whole, would benefit enormously, and for that reason every support should be given thereto.

GOVERNMENT CONTROL OF SHALE INDUSTRY.

It has already been shown that the revenue of the shale industry is in some measure controlled and regulated by the provisions laid down by the Finance Act of 1938; but during the war, for reasons of national security, the Board of Trade were relieved of their obligation to lay
before Parliament the average prices of motor-spirit and diesel oil as declared by the importers on importation. Since then another form of Government control has been substituted, whereby the Petroleum Board were given the sole responsibility of bulk purchase and distribution of oil during the present emergency. In so far as the new method of control applies to the Scottish Shale Oil Industry it has worked very smoothly and on the whole satisfactorily. From the inception of the scheme, the Petroleum Board purchases oil produced from shale at a price equivalent to the c.i.f. price (ex Gulf of Mexico) for Pool motor-spirit and diesel oil, plus the "preference" duty, which has been at the rate of 9d. per gallon, but a deduction is made from this figure where the supplies do not conform to Pool specifications of quality and gravity.*

Since September, 1939, c.i.f. values of motor-spirit and diesel oil have risen by approximately 4d. per gallon respectively, whereas retail prices have risen by about 6d. per gallon, which includes an increased margin to retailers and increased costs incurred by the Petroleum Board arising from war-time conditions. Those increased costs are carefully checked by Government Departments after an examination of the Petroleum Board's books, and are only authorised as factors in the retail price when the Departments are satisfied that the increased costs are warranted. This form of Government control has been proved to be both economically and fundamentally sound, and has undoubtedly been of great benefit to the nation, and the shale industry in particular, during the National Emergency, and should be continued for some time after the war ends and at least until normal conditions prevail.

There is every reason to believe, however, that when hostilities cease there will be a demand for "free

* Information obtained from a letter dated 28th July, 1942, from the Right Hon. G. Lloyd George, M.P., Minister of Fuel and Power, to Mr. George Mathers, M.P.
enterprise" and the relaxation of controls by vested interests, and if the demand should be supported and exploited by the Press, and acceded to by the Government, and all forms of control are swept away, any approach to real national planning and reconstruction will be made more difficult if not impossible. There is no doubt whatever that the transition from a war to a peace economy will be a delicate operation, requiring the co-operation of all, in order to prevent prices soaring to giddy heights, consequent inflation, economic chaos, national bankruptcy, and mass unemployment.

To ensure this, controls which the Government have found it necessary to employ for the successful winning of the war must be continued for many years to come, and must not be relaxed until such time as an abundance of consumers' goods has been made available for all. If, and when, controls are to be abandoned or swept away, and "free enterprise" and free competition is to be permitted, without restriction, there must be unmistakable indications that there is every likelihood for prices to recede before revoking Government controls conditioned by the circumstances of the times. "Control for control's sake is senseless," and should not be continued for a moment longer than is really necessary, but so long as extraordinary conditions prevail, safeguards and regulations will be indispensable until our natural way of life is recovered "and these years of sombre crises brighten into daylight again." We cannot afford to commit the crime of once again cheating the men in the Forces and the workers of their nest egg, as was done after the last Great War, when controls were prematurely abandoned and inflation followed, to waken up next morning to find that "the pound sterling only bought 5/- worth of goods or services." That crime should never have been committed; prevent it from occurring again by retaining the necessary control with that end in view.
CONCLUSIONS AND RECOMMENDATIONS.

In the course of this investigation an honest attempt has been made to look facts in the face, however unpalatable they may have been at times. These facts show quite clearly, and without the least shadow of doubt, that, but for the intervention of H.M. Government and their timely invitation to the Anglo-Persian Oil Company, Limited,—in which they have both a financial and controlling interest,—to acquire the ordinary shares of the Shale Oil Companies when they did, the Scottish Shale Oil Industry would have been out of business long ere now. Even with the formation of Scottish Oils Limited, in September, 1919, and the enormous economies obtained, it was not until H.M. Government, belatedly, imposed a customs and excise duty on imported motor-spirit and diesel oil, exempting home producers of similar products from materials indigenous to this country from excise duty, was security obtained and complete collapse averted. The need for a customs duty is just as great to-day as when first it was imposed, and although the present national emergency is swiftly passing away, new problems are bound to appear during the transition from a war to a peace economy, such for instance as that referred to by the Prime Minister in his speech to the Annual Conference of the Conservative Party, with which most people will agree.

"After the war," he said, "the revival and expansion of our export trade will be a prime and indispensable factor in our prosperity. Every ton of food produced here not only helps to fill to some extent the gap caused by the loss of our foreign investments, but it sets free more of our export trade to buy, not only food, but those raw materials without which neither trade nor production is possible. Agriculture, therefore, assumes a place in the forefront of post-war policy."

With equal force the same logic can be applied to the production of liquid fuel from materials indigenous to this
country, every ton of which produced at home will set free
more and more of our export trade to pay for the things
we cannot produce in abundance at home, but which we
cannot do without and are indispensable for our trade and
industrial activities. In this respect the Scottish Shale
Oil Industry can become of greater importance to the
national economy than ever before, and its further expansion
and development must be fostered and encouraged with that
end in view.

It is perfectly true that liquid fuel can be imported
from abroad at a fraction of the cost it takes to produce
it at home—the production of which can only be undertaken
under the shelter of a 'preference'—but it is equally true
that the same argument can be adduced regarding agri­
culture and the production of food at home, although in a
lesser degree. Let it be remembered, however, that
whereas in 1913 we imported only £11 millions worth of
liquid fuel, and exported £50 millions worth of British coal,
by 1938 our imports of liquid fuel had risen to £40 millions,
while, on the other hand, exports of coal had fallen to
£37 millions—revealing a very marked change in the fuel
balance of trade. That the change in the fuel balance of
trade had tremendous repercussions on both the coal and
shale oil industries has already been explained in the
foregoing pages, and every precaution should be taken now
to prevent a repetition of what followed then.

It is no doubt true that by exempting home producers
of liquid fuel from excise duty the Treasury stands to lose
a substantial amount of revenue annually. In "Labour's
Plan for Oil from Coal" the Advisory Committee makes
this observation: "On general grounds the Labour Party
is not prepared to see the Exchequer losing millions of
pounds of potential revenue annually unless the State
possesses the controlling voice in the . . . industry. The
principle of No taxation without representation implies the
converse, No loss of taxation without representation."
There is no reason why the general body of taxpayers should suffer simply to make the industry safe for its shareholders."

You have already observed that the Government's two Directors on the Board of the Anglo-Iranian Oil Company, by agreement, had no authority to call the company to account in anything that touched the commercial side of the Company's activities, and that they only exercised the right of veto in regard to matters of general policy, such as the supervision of the activities of the Company as they may affect questions of foreign, naval or military policy. That agreement was come to long before the incidence of exempting oil shale products from excise duty, and if the principle of "no loss of taxation without representation" is accepted, the Government's right of veto should now be extended to the commercial side of the business as well, particularly with regard to workers' welfare and a higher standard of life in the post-war era, and not confined as hitherto to questions of foreign, naval, or military policy. Government representation would also ensure that the "preference" was not being abused or had become a device for aiding and abetting a high price policy for oil products.

At the present time, however, there is little evidence to support the plea that the incidence of Customs Duty is aiding and abetting such a policy, having regard to the fact that market prices of oil shale products have varied very little since 1914 when compared with the changes that have taken place in retail prices of all other commodities, and the very high level attained since then—the index figure being 102 points above the 1914 level. Any indictment, therefore, that the principle underlying the "preference" was being abused or violated, at the present time, would certainly fail for lack of evidence to support it.

It must be remembered also that H.M. Government have a very large financial interest in the Oil Industry, and by holding 50 per cent. of the ordinary shares of the Anglo-
Iranian Oil Company, Limited, their share of the annual net profits of the Company is very substantial, from which the Treasury derives considerable revenue. In addition thereto the National Exchequer benefits considerably from the revenue derived from customs duty on imported liquid fuel, relieving the tax-payers of heavier burdens and benefiting the nation in many other directions besides.

Taking the long view, having regard to the rapid depletion of the world's oil reserves—not only in consequences of the present emergency and the anticipated phenomenal development and expansion of civil aviation in the immediate post-war era—the incidence of customs duty will to some extent serve as a check against the prodigal waste or misuse of an indispensable irreplaceable wasting asset. It will at the same time ensure that the greatest care will be taken to make certain that every gallon of oil is made to do its full work, and that it is used only where it is the best source of power and not merely as an alternative. It must also be borne in mind that a world which has grown accustomed to oil, having due regard to the enormous role now played in the mechanics of our civilisation, cannot readily dispense with it, and there is a very strong argument for encouraging the production of oil from shale and coal against that contingency now.

The major and scientific problems in the production of oil from coal have already been solved by the hydrogenation, synthetic, and low-temperature carbonising processes, but so far the results obtained in this country have been disappointing, although they have been successfully and extensively employed in Germany. With Germany defeated, a great industrial empire, new patents, and war inventions, all the equipment of a modern machine State, will fall to the victorious United Nations. Without a doubt much valuable information will fall into their hands regarding various processes for manufacturing oil and chemicals, and while the production of oil from coal has
made slow progress in the United Kingdom, and only a relatively small quantity is being manufactured, it is confidently anticipated that the coal-oil industry will be developed on a large scale either by the Government or by a public utility corporation responsible to the Government in the post-war era. Although oil is at present being produced from coal under the shelter of a "preference" on a commercial scale, it has yet to be proved that the methods of producing oil products from coal can obtain any better results than are at present being achieved in the shale industry, and in the circumstances the shale industry should receive every encouragement to extend its activities in the Lothians.

The Scottish Shale Oil Companies were among the early pioneers of the world's oil industry and have for the past eighty-five years consistently supplied in varying quantities a valuable portion of the country's needs of oil products, and during that long period of time has overcome many crises in its chequered and intermingled history, and it would be a great misfortune were it to be allowed to go out of business prematurely and at a time when great developments may be expected with the manufacture of oil and chemicals from coal. If the shale industry was ever allowed to go out of business by withdrawing the "preference" or by imposing an unbearable excise duty, it would be a great misfortune: not only would the country be sacrificing a great national asset, but it would at the same time be sacrificing all the skill, knowledge, and experience of a large body of expert workers who have devoted their lives to the industry, the preservation and further development of which would undoubtedly be in the national interest. To enable this to be done Government controls should remain until such time as normal conditions return, and not a minute before, while a further long period of "preference" should be announced long before the present guaranteed preference is due to expire to encourage the expansion and development of the oil shale industry in
Scotland. With the further development of the coal-oil industry, wages and other conditions of employment will continue to be closely related to each other as heretofore, if not by agreement, then by mutual understanding.

If booms and slumps are to be avoided, however, in the post-war era, we must refashion our economic life on an entirely different basis, and if we are to avert social and economic catastrophe immediately hostilities are over, a suitable and sensible system of Government control will be necessary for so long as abnormal conditions persist, without which we shall make for chaos and ruin again.