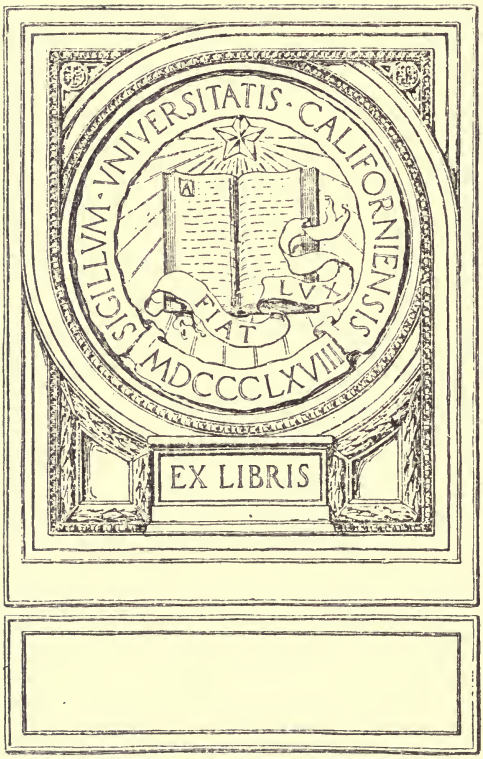
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THE OWNERSHIP AND VALUATION OF MINERAL PROPERTY

IN THE UNITED KINGDOM

THE OWNERSHIP AND VALUATION OF MINERAL PROPERTY

IN THE UNITED KINGDOM

Being an Elementary Treatise on the Nature of Mineral Interests and Royalties, and the Correct Method of Valuing such Property for the Purposes of Sale, Probate, and Rating and Taxation, together with a Statement of the Law relating to Rating and Taxation

BY

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PREFACE

THE general object and purposes of this book being stated in the introductory chapter, we reserve the preface for the pleasant task of expressing our thanks to Mr. R. F. Percy and Mr. G. Turville Brown, who have been so kind as to read through the proofs. To Mr. Percy our thanks are also due for supplying the Tables which form the Appendix.

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THE OWNERSHIP AND VALUATION OF MINERAL PROPERTY IN THE UNITED KINGDOM

CHAPTER I

INTRODUCTORY

THE mining industry in this country occupies a very special position in our national life. Giving us, as it does, the only important raw material which we possess available for export, it to-day plays in that regard a part not dissimilar to that enacted by the sheep farms of the Middle Ages, upon the staple products of which our commercial prosperity and international importance were originally founded. But though the export trade in minerals, especially and almost exclusively in coal, is vital for many reasons, it is hardly more so than the inland trade itself for the supply of cheap motive power, and the existence of reason-

ably abundant metallic mineral resources forms undoubtedly the foundations upon which this country's modern industrial edifice has been erected.

In spite, however, of the mining industry's integral economic importance, the great number of its employees, and its intimate connection with the land and the rights of land owners—all of which causes give to mining an interest not only commercial but also political—it is probably correct to say that upon no other subject which to anything like the same extent affects our general well-being is there to-day present such widespread ignorance.

The causes of this are numerous, but the most potent are the facts that the mining community is a community living a life very much self-centred, very remote in sentiment from the rest of the people, who for their part are almost without exception unacquainted with the technique or problems of the mining world. This has been the case for centuries, and it will probably continue to be the case. It is, however, obviously regrettable that at a time when views and opinions are being put forward, and are being pressed with all the force available to very powerful organisations, which will affect one way or the other the whole industrial life of this country, at a time when these views are becoming and have indeed become a political

issue, that those—the voters—who will have to consider the pros and the contras should be so little acquainted with the facts of the case on which their verdict is required.

It is not, however, our present purpose to endeavour to explain the working of the industry. This book rather aims at assisting the expert and those interested in public affairs who desire to have available a statement of the interests involved, and the mode of valuing those interests, in the mining industry generally. We do not differentiate between coal and other minerals except that for the purpose of describing the royalty system of this country we divide the subject up so that under each particular heading we are dealing with royalties of a similar kind and quantum.

Our primary aim being to assist the mining expert, an endeavour has been made to treat in this book such of the matters as we conceive will be of service to the mineral agent or valuer. The work consequently contains, in addition to the chapters on royalties and valuation, a general explanation of the law relating to mining interests, wayleaves, and subsidence (which has recently been the subject of several important decisions), and also the law relating to the rating and taxation of mineral properties. It is hoped that the four chapters devoted to the above subjects will be found to assist the reader in following

the remaining chapters, which are concerned with an account of the royalty system of this country and with the principles underlying the valuation of mineral interests, mines, and quarries, and which also contain examples of valuations for sale, probate, and rating, all of which have been carefully chosen with a view to assist the reader in the application of the principles laid down.

The bulk of the book has been reduced to the smallest possible limits. It is notoriously more simple to write at length than tersely, and to condense some of the chapters to their present bounds has required thought and care. It is hoped, however, that the reader has thus been saved trouble and time, but that nothing essential has been omitted. The bibliography of the subject of valuation is not extensive, but several books of some size have been written on the valuation of mines, and such books devote a great deal more space to the subject than is the case in this book. We see, however, little advantage in reproducing calculation tables when such can be easily obtained, while the fundamental formulæ, and even the mathematical reasoning on which such formulæ are based, can be very shortly stated. On the other hand, the vast number of differentiations due to the special peculiarities of the particular subject for valuation cannot be enumerated, cannot be reduced to a formula, and cannot therefore usefully be

enlarged upon. It is a matter for experience, and no man has ever yet gained professional experience from a book.

For the assistance of those who have to work out the *quantum* of excess mineral rights duty and annual increment value duty, simple formulæ have been designed, based on the legal decisions come to on the construction of the various Finance Acts.

Although no special attention has been paid to the proposal to acquire the property in one mineral—coal—for the State, we have adventured our opinion as to the approximate total value of the coal royalties of this country. At the same time it appears desirable to emphasize what is stated elsewhere in this book, viz., that royalties cannot be properly valued without considering in all their bearings the particular circumstances of the royalty to be valued. Generalisations are apt to be misleading when applied to particular cases.

CHAPTER II

INTERESTS CONNECTED WITH MINES AND MINERALS

THIS present work is primarily concerned with rents, royalties, rates, and taxes on the one hand, and with the valuation of mineral properties on the other hand, but it appears desirable to preface what is to be said on those subjects by a short account of such of the interests connected with mines and minerals as are necessary to be borne in mind when dealing with the subjects above mentioned.

In the present chapter we shall be concerned with principles and statements which will doubtless be regarded as elementary. The law of mines has been admirably treated in several legal text-books, and we only touch on the fringe of a very large and intricate subject in order to lay the foundation for what we have to say on those matters with which this book is mainly concerned, and in particular to make it plain that a royalty rent is in many ways a thing essentially different from an occupation rent and rather approximates towards, though it also differs from, a price paid for the purchase of minerals;

that there is no real similarity between a mineral lease and an agricultural and occupation lease; that the rents and royalties reserved under a mineral lease pay, or may pay, for a large bundle of rights other than the right to possess, occupy, and extract and convert minerals; and that from the circumstances under which mining is carried on, as well as from the peculiarities of our law, the interests of those who own possessory or proprietory rights over or in respect of mines or minerals may vary in the most diverse ways.

As the law relating to subsidence has recently been the subject of numerous decisions, at least two of which, the Howley Park and Welldon's case, appear to apply existing principles in a new way, and in a way which very substantially affects the relative rights of the owner of surface and of mineral rights, we have dealt with the law relating to subsidence rather more fully than that belonging to other branches of mining, and in connection with subsidence questions recent cases will be cited.

Should the very elaborate and highly contentious Law of Property Bill recently introduced by the Lord Chancellor eventually become law, certain mineral interests will be very sensibly affected. In particular, copyhold tenure will be entirely swept away, and with it will go a considerable part of the law of mines as it exists to-day.

It is understood that considerable opposition exists to this Bill, but in view of its introduction it has appeared to us desirable to restrict our remarks on copyhold interests more than would otherwise have been the case.[1]

The English law of mines is in many ways different from that existing in any of the overseas dominions and of most, if not all, foreign countries excepting the United States of America. With us the rights of property and possession in minerals have been evolved solely as a consequence of the general development of the law of real property. Minerals, apart from gold and silver, are *prima facie* part of the land, ownership of them goes with the ownership of the land, and before there can be severance there must, apart from prescription, be some instrument of severance either by way of a lease, deed of grant or excep-

[1] The Law of Property Bill in the form in which it was introduced directly refers to minerals, mines, or mineral interests in clauses 2 (1) (*c*); 10 (1) (*a*); 38 (1) (*b*); 38 (6); 40 (3); 46 (4); 47 (1); 48 (2); 67 (1) (*i*); 94 (1), (2), (3), (4), (5), (6), (7), (8), (9); 125 (11); 162 (5) (*b*); 175 (1), (5); Schedule IX, Form 6; Schedule XII, paragraph (5); Schedule XIII, Form I, note, Part II, paragraph 14; Schedule XVI, paragraph 2 (2) ('Registered land,' 'land,' 'mines,' and 'minerals'), (7) (1) (*a*), (7) (1) (*c*), (8) (3), (9) (1) (*a*), (9) (1) (*d*), 13 (2) (*b*), 21 (5), 25 (*i*). In addition, of course, the Bill, affecting as it does almost every branch of the law of real property, also affects the law of mines, which is a part of real property law when viewed from certain aspects. Thus in particular the rights and powers of tenants for life are substantially altered, the law of easements is the subject of numerous clauses, wide compulsory powers are created, the law relating to constructive notice and restrictive covenants is modified, and the law of conveyancing is to a certain extent re-cast.

tion from a grant, or an inclosure or other Act, or award. Elsewhere it is common though not universal to find the State claiming the minerals even though under private land and excepting mines and minerals from all Crown grants or leases, and, as a natural corollary to this right, exercising a control over the exploitation of the mineral wealth of the country. It is worthy of remark, however, that though this be so the actual exploitation of such wealth has, with very minor exceptions (apart from the State coal mines of Germany), been left to individual enterprise.

Mainly perhaps in consequence of this fundamental difference between the law of mines in the United Kingdom and elsewhere, it has befallen that with us no code of mining law exists,[1] while throughout the overseas dominions and foreign countries such mining codes are practically universal. It is a curiosity of mining law that an important branch of gold-mining law which figures prominently in several overseas codes the extra-lateral right, a right opposed to one of the most fundamental principles of English real property law, is not improbably derived from the special customs of the lead miners of Derbyshire, though it has been suggested that it is derived from the German mining customs

[1] There are, of course, the various Acts relating to health, safety, hours, and prices, and there is also the Mineral Code, but these do not occupy the place taken by mining codes in the overseas dominions and foreign countries.

mentioned by that Agricola who published an important work[1] on mining in 1530.[2]

The tenant in fee simple, or 'owner.'—The owner of land is deemed to own everything over, on, or under the surface down to the centre of the earth between verticals drawn upwards and downwards from the boundaries of his surface. The only exception that exists to this *prima facie* right (apart from special custom) is that mines of gold and silver are excepted in favour of the Crown. But though this is so *prima facie*, the rights of the owner may be shown to be less by proving the severance of a part by exception or otherwise. And a severance may arise in one of two general ways[3]: either by the owner transferring the surface excepting the mines or minerals, or by the owner transferring the mines or minerals excepting the surface. The owner may in effect transfer part and retain part of that portion of the bulk of the earth owned by him, and in so transferring a part the part in question may be the area either (1) between verticals (in which case no severance occurs) or (2) between horizontals, parallels at an angle, or between irregular lines. There may also clearly be different severances of different strata, so that, *e.g.*, A

[1] *De re metallica.*

[2] See Mr. Wagenen's remarks in his *International Mining Law* at pp. 291 *et seq.*

[3] Of course severance may also take place by Act of Parliament, or by prescription, or by award under an inclosure Act.

may own the surface, B an upper coal seam, and C a lower coal seam. Such severed portions have attached to them all the incidents of ownership, and may be the subjects of all the various interests of which real property is susceptible.

The property in mines in copyhold land is usually in the lord as owner of the freehold, though custom may result in its being in the copyholders.

The property in gold and silver mines is in the Crown, but where the gold and silver occurs in a mine containing ores of copper, tin, iron, or lead, the property in the mine is not in the Crown, but the Crown has a right of pre-emption over the gold and silver on paying the value of the copper, tin, iron, or lead ores which accompany. Before the Crown can be called upon to exercise its right of pre-emption the ore must be washed, made clean and merchantable; if the Crown, on being called upon to exercise its right, waives it, the owner may sell the ore and retain the proceeds; the Crown's rights are so limited only in cases of mines or ores of gold or silver and copper, iron, tin, or lead.

Gold being a metal which is very widely distributed, usually in very small quantities, it happens that many ores are to some extent auriferous, and it is sometimes difficult to say whether a mine is, properly speaking, a gold mine

or, *e.g.*, a copper mine. It is also sometimes difficult to determine whether a mine is a silver or a lead mine. It may be stated in general that a mine is a mine of that for which primarily it is worked. The distinction between a royal and base metal mine and the meaning of the word 'ores' in the 5 Wm. & Mary, c. 6, was considered in *Attorney-General* v. *Morgan*.[1]

The Crown may, of course, grant to a subject its rights in respect of mines of gold and silver, but a grant of 'mines' would not pass royal mines unless there were at the time of the grant no other mines in the land in question.

The Crown *prima facie* owns the minerals under the sea and the sea-shore and under navigable rivers. Such property also may be the subject of a grant to a subject. The Crown is also the owner by purchase or otherwise of valuable mineral interests in various localities, particularly the Isle of Man, the Forest of Dean, Derbyshire, and the Duchy of Lancaster.

The ownership of the surface carries with it *prima facie* the ownership of the minerals lying thereunder; in the case of non-navigable rivers and roads, other than roads set out in an inclosure Act, the riparian or neighbouring land owners are deemed *prima facie* to own the surface to the middle of the river or road, and consequently to own the minerals thereunder. In the case of

[1] [1891] 1 Ch. 432.

canals and railways no such presumption of ownership arises.

An owner of land (that is for this purpose a tenant in fee simple, a tenant-in-tail in possession, or the holder of a long term) in possession has the widest possible right of user. He has no reversioner to consider. He is not punishable for waste. His user is restricted only by the maxim that property must be used in such a manner as not to injure others, or by such restrictions as may have been created by contract, grant, or the like. The owner in possession may as a consequence freely let down the surface of his own land (unless to do so would be to derogate from his grant, or break a contract, etc.) and extract all the minerals therefrom, unless by so doing he interferes with any of his neighbour's natural rights of property, *e.g.*, if he removes the natural support to which his neighbour's land is entitled, or unless he creates a nuisance, or interferes with water going through defined channels, or brings on his land dangerous things, *e.g.*, water which would escape therefrom and injure others.

In considering the limitations on user imposed by the natural right of neighbours to have their land supported it will be realised that one has to consider the rights both of those whose lands are contiguous sideways and those whose lands are above, for one is dealing with an entity

essentially cubical when considering support to land. Thus the owner of a seam is under a duty not to interfere with the right of support possessed by the owner of the surface, and the owner of a lower seam owes the same duty to the owner of an upper seam, and in both cases to the owner of a neighbouring seam. The question of support we consider at some length later. This natural right on the part of the neighbour to support is one which, like other rights, he may divest himself of.

Owners of limited interests.—In all cases of limited interests, and in particular in the case of tenants for life and lessees, there arises the important opposition of interests which exists between the person in possession on the one hand and the reversioner or remainderman on the other hand. A reversion arises where A having an estate of larger duration grants out of that estate a particular estate to B of lesser duration, *e.g.*, where A being the holder in fee simple (an estate of practically unlimited duration) grants a life estate (the particular estate of lesser duration) to B. In such a case on the termination of the estate of lesser duration that part of the interest of the tenant in fee simple which he did not dispose of comes into possession. And this right again to come into possession on the termination of the estate of lesser duration is called A's reversion. But if A, instead of merely

granting an estate of lesser duration to B, granted such an estate to B and the estate remaining in him (A) to C, then on the termination of the lesser estate A would not come into possession but C would. C's interest, however, is not termed a reversion, because there is no reverter; it is called a remainder, for it is an estate which remains over after the granting out of B's interest. There may, of course, be many remainders, and reversions and remainders in respect of the same property.

It will be seen to follow that in all cases where the person in possession has an estate in the land which is less than an estate in fee simple there must be in respect of such land a reversion or remainder in some one. And it is clear that *prima facie* such person's future interest must be adequately protected as against the person having a limited estate in possession. Whereupon arises the important branch of the law of mines relative to waste. For the rules relating to waste are mainly concerned with the obligations imposed upon the person having a limited interest who is in possession to prevent his so using the corpus of that over which he has possession that the interest of those whose right to possess lies in the future will be imperilled.

As, however, both the tenant-in-tail in possession and the grantee of a long term of years in possession have the power to enlarge their estate

or term into an estate in fee simple at will, such persons, though they have a limited estate only, and though there is in either case a reversioner, are practically in the position of a tenant in fee simple, *i.e.*, what is commonly called the owner.

In addition to the restrictions imposed on the owners of limited interests by the law of waste such owners have *prima facie* imposed upon them all the restrictions on user which would apply were the owner of the land in possession. But in the case of those who hold a limited interest by grant or lease from another they may be given the express right to remove the support which the grantor or lessor would otherwise possess. Subject to this difference the obligations imposed on the owners of limited interests by the law relating to support is the same as that imposed on the owner of land.

Support.—The questions arising out of the natural right of support have been the subject of several recent decisions, two of which in particular throw new light on the subject.

The general principle can hardly be better stated than in the oft-quoted words of Lord Macnaghten[1]: '. . . in all cases where there has been a severance in title and the upper and lower

[1] *Butterknowle Colliery Co.* v. *Bishop Auckland Industrial Co-operative Society*, [1906] A.C. at p. 313. Compare *Thomson* v. *St. Catherine's College, Cambridge*, [1919] A.C. at p. 497; *Welldon* v. *Butterley Co.*, [1920] 1 Ch. at p. 150; *Davies* v. *Powell Duffryn Steam Coal Co.*, [1917] 1 Ch. at p. 507.

strata are in different hands, the surface owner is entitled of common right to support for his property in its natural position and in its natural condition without interference or disturbance by or in consequence of mining operations, unless such interference or disturbance is authorised by the instrument of severance either in express terms or by necessary implication. This presumption in favour of one of the ordinary and most necessary rights of property holds good whether the instrument of severance is a lease, or a deed of grant or reservation, or an inclosure Act or award. To exclude the presumption it is not enough that mining rights have been reserved or granted in the largest terms imaginable, or that powers and privileges usually found in mining grants are conferred without stint, or that compensation is provided in measure adequate or more than adequate to cover any damage likely to be occasioned by the exercise of those powers and privileges.'

Again, Lord Loreburn in the same case[1] said: 'Whenever the minerals belong to one person and the surface to another, the law presumes that the surface owner has a right to support, unless the language of the instrument regulating their rights, or other evidence, clearly shows the contrary. In order to exclude a right of support,

[1] [1906] A.C. at p. 309, quoted *per curiam* in *Beard* v. *Moira Colliery Co. Ltd.*, [1915] 1 Ch. at p. 263.

the language used must unequivocally convey that intention, either by express words or necessary implication. For the same presumption in favour of a right of support which regulates the rights of parties in the absence of an instrument defining them will apply also in construing the instrument when it is produced. If the introduction of a clause to the effect that the mines must be worked so as not to let down the surface would not create an inconsistency with the actual clauses of the instrument, then it means that the surface cannot be let down.'

The same general principle applies in the case of lateral support. As Lord Haldane observed in the *Howley Park Coal & Cannel Co.* v. *L. & N.W. Rly. Co.*[1]: 'The right to lateral support is not an easement that arises out of grant or by prescription or by any implication of the intention of the predecessor in title in making the conveyance. It is a natural right of property. By the law of this country, when a man has got land he is entitled to look to his neighbour, whose property is laterally supporting the land which belongs to himself, not to use that neighbour's property in such a way as to

[1] [1913] A.C. at p. 25. This famous case we do not propose to consider in detail, it having been the subject of much discussion and consideration, particularly by the Committee appointed to report on Land Acquisition and Valuation. The reader is referred to the Third Report of that Committee for an analysis of the difficulties it created.

do injury to him. There is an obligation on the neighbour, and in that sense there is a correlative right on the part of the owner of the first piece of land, but the right is what has been described as a natural right of property or incident of his ownership.'

There is thus as a fundamental part of the whole bundle of rights which together compose the right of property a right to both vertical and lateral support, and, to remove the presumption which the mere holding of land thus raises, those putting forward an exclusion therefrom or exception thereto have placed upon them the burden of proving such exclusion or exception.[1] And such exclusion or exception must be shown to have been made whether by contract or statute in the plainest possible terms.

The right to support for land in its natural state and the right to support for buildings or other objects not on the land in its natural state, *e.g.*, railways, or bridges, stand upon different footings as to the mode of acquiring them, the former right being a natural right of property and the latter right one which must be acquired.

Such latter right may be acquired either by prescription or by grant express or implied. The character of the rights when acquired is in each case the same.

[1] See per Lord Shaw, [1913] A.C. at p. 28.

An implied grant may arise when the land is conveyed or leased for the express purpose of placing thereon some heavy thing. Or rather, perhaps, it would be more accurate to say that in such a case there is an implied warranty of support. As Bowen, L.J.,[1] said, ' In dealing with an ordinary grant of lands it is undoubted law that, where such a grant is made for a specific purpose, such as the construction on the lands of a house, canal, railway, or other permanent work, the grant, in the absence of a contrary intention appearing on its face, carries with it by implication the right of reasonable and necessary support for the works so to be erected from the subjacent or adjacent lands of the grantor. This maxim of law applies whether the grant is voluntary or under the compulsory powers of a statute.' Where such a right of support exists it is not ousted by the Mineral Code,[2] but it may be ousted by necessary implication, as may the natural right to support.

Thus, if the owner of land X conveys the land to Y, excepting the mines and the right to work the mineral in ' as full and ample a manner ' as before conveyance, X has been held[3] to have excepted by necessary implication from the bundle

[1] *L. & N.W. Rly.* v. *Evans*, [1893] 1 Ch. 16 at p. 27.

[2] *Howley Park Coal & Cannel Co.* v. *L. & N.W. Rly.*, [1913] A.C. 11.

[3] *Beard* v. *Moira Colliery Co., Ltd.*, [1915] 1 Ch. 257; *Davies* v. *Powell Duffryn Steam Coal Co.*, [1917] 1 Ch. 488.

of rights conveyed to Y the right to support, for, as the Court of Appeal pointed out in Beard's case, 'If A has the right to work coal so as to let down the surface, and B is to have the same right as A, it follows by necessary implication that B is to have the right to work coal so as to let down the surface; otherwise he would not have the same right as A.' [1]

The rule, however, is different in construing inclosure Acts where the lord is given a liberty to work in as full and ample a manner as before inclosure.[2]

It has frequently been held, however, that there is no necessary implication raised by the mere grant of the right to work, though Fletcher Moulton, L.J., said in the Butterley case[3]: 'if the instruments [of severance] make it clear that it was the intention of the parties that subjacent seams should be worked, it is a necessary implication that they intended that there should be subsidence of the superjacent strata.'

[1] [1915] 1 Ch. at p. 264. Compare Lord Halsbury in *New Sharlton Colliery Co.* v. *Earl of Westmorland*, [1904] 2 Ch. at p. 446*n*; Lord Watson in *Chamber Colliery Co.* v. *Twyerould*, [1915] 1 Ch. at p. 271*n* (decided in 1893); Lopes, J., in *Price* v. *Plaskynaston Coll. Co.*, 2 T.L.R. 90; *Thomson* v. *St. Catherine's College, Cambridge*, [1919] A.C. 468.

[2] *Love* v. *Bell* (1884), 9 A.C. 286; *Beard* v. *Moira Coll. Co., Ltd.*, [1915] 1 Ch. at p. 267; *Butterknowle Coll. Co.* v. *Bishop Auckland Industrial Co-operative Society*, [1906] A.C. 305; *Butterley Co.* v. *New Hucknall Coll. Co.*, [1910] A.C. at p. 383; *Thomson* v. *St. Catherine's College, Cambridge*, [1919] A.C. 468.

[3] [1909] 1 Ch. at pp. 49, 50.

Recently, however, it has been argued that where the instrument of severance gives the right to work and carry away the minerals, without giving more, a right to let down arises by necessary implication, for it is a well-established principle of law that where a grant is made that also is granted without which the main grant could not be used, and also that where a right is plainly given anything from time to time necessary and usual for its exercise is given also.

It had been held in numerous cases, including several decisions in the House of Lords, that the grant of minerals together with the right to work them and carry them away does not of necessary implication create a right in the grantee to let down the surface of the grantor. It had been brought to the knowledge of judges at least as long ago as 1909 that all forms of working on a commercial basis, whether by longwall or by bord and pillar (or pillar and stall), in the case of coal mining are, *prima facie* and in the absence possibly of remedial measures, bound to cause a certain amount of subsidence. It was not, however, until 1919 that any court had held that, granted that any form of working on a commercial basis must cause subsidence, the grant of the right to work raises by necessary implication a right to cause subsidence.

The very interesting and cogent argument which succeeded before Astbury, J., in Welldon's

case[1] had been urged a little while before in the House of Lords in Thomson *v.* St. Catherine's College, Cambridge,[2] without success. The two cases are, however, to be distinguished on the ground that in Welldon's case uncontroverted evidence had been given to the effect that working without subsidence was commercially[3] impossible; whereas in Thomson's case it was left an open question whether the coal in question could not be worked in some manner so as not to cause subsidence.

It was urged on the evidence of experts in Welldon's case[4] that all forms of underground working are bound to cause a certain amount of subsidence. As Astbury, J., said, 'It used to be thought in some quarters, and the evidence or admissions called or made in many cases have induced or obliged the Court to hold that coal can be worked commercially in two ways, one by pillar and stall working, which was believed or admitted not to cause subsidence of the upper strata, and the other by longwall working, which necessarily does so. In these circumstances, when the surface and the mines are severed, and a right to work and carry away the coal given or

[1] *Welldon* v. *Butterley Company*, [1920] 1 Ch. 130.

[2] [1919] A.C. 468.

[3] In *Thomson* v. *St. Catherine's College, Cambridge*, [1919] A.C. at p. 484, Lord Atkinson said 'worked commercially as used in this connection must, I think, mean worked at a profit.'

[4] [1920] 1 Ch. at p. 138.

worked without more, the Courts have frequently held that in order to give effect to the respective and concurrent rights of the surface owner and the mining owner or lessee, under the document of severance, the latter must only work in the manner which would not cause subsidence, because there being at least a doubt or ambiguity as to whether any other method of working was given or reserved, no right to cause subsidence was by necessary implication conferred.'

It is considered, however, that if it were possible to take remedial measures which would prevent subsidence this granting of a right to work would not imply a right to let down, at any rate if the remedial measures in question, *e.g.*, hydraulic stowage, were known to the parties at the time the grant under consideration was made.

Granted, however, that to work minerals inevitably causes subsidence whatever form of mining be adopted,[1] then it appears to follow, and unless Welldon's case be over-ruled it is decided law, that on a severance the granting to the person in whom the mines are of a right to work carries with it the right to cause a subsidence.

So also if A, the owner of land, grants to B a lease of the minerals with liberty to work in the

[1] See *Jones* v. *Consolidated Anthracite Collieries, Ltd. & Dynevor* (*Lord*), [1916] 1 K.B. at p. 131.

mode common to the district, and it is proved that such mode involves of necessity subsidence, B will be deemed to have by necessary implication a right to let down the surface.[1] Consequently, in such a case, if B lets down the surface he does no wrong. If, therefore, prior to subsidence A grants to C a lease of the land, together with the right to build houses thereon, excepting the minerals and the right to work them, and agrees to pay compensation for any damage caused by such working, then A, but not B, is liable to C if, as a result of B's working, C's houses are damaged.[1] Even had there been no clause relative to compensation A would be liable on the principle that the grantor must not derogate from his grant,[1] and possibly for the breach of the usual covenant for quiet enjoyment.[2]

As Astbury, J., said in Welldon's case,[3] 'Scientific fallacies die hard in this country, especially when wrongly assumed to have been confirmed by judicial decision.' One such scientific fallacy, viz., that by one form of working it is possible to avoid subsidence, has been adverted to; another, viz., that subsidence occurs approximately vertically above the place where mining is being done, will sooner or later call for judicial consideration, for it is now well known that it

[1] *Jones* v. *Consolidated Anthracite Collieries, Ltd., & Dynevor (Lord)*, [1916] 1 K.B. 123.

[2] *Markham* v. *Paget*, [1908] 1 Ch. 697, and Jones' case, *supra*.

[3] [1920] 1 Ch. at p. 137.

frequently results that a subsidence does not take place vertically or approximately vertically above the place where the mining occurred.

In respect of subsidence it is difficult to lay down any hard-and-fast rule, but, generally speaking, and subject to numerous exceptions where the geological conditions are abnormal, it may be said that the fracture of strata by subsidence does not take place along vertical lines, but takes place in a direction somewhere between the vertical and the perpendicular to the planes of bedding, and that the line of fracture will usually be curved. Under normal conditions of strata the following generalisations may be accepted:

(1) The movements of the strata are subsidences in the form of a basin.

(2) The area of subsidence is greater than the area worked, but the area of subsidence at the surface may be less.

(3) The movements of the ground appear, at first, at a certain horizontal distance in advance of the working face, and this distance remains nearly constant.

The shape and dimensions of the zone or region which sinks depend on a great number of circumstances, and notably on the inclination of the strata, on faults, and other geological peculiarities, *e.g.*, the existence of running strata such as sand or gravel; on the nature of the rocks and the depth and thickness of the seams; on

the dimensions of the excavation and the manner in which it has been made; on the amount and quality of the stowing put in, etc. The action of water may be important. The French engineer, M. Fayol, has enunciated a general rule which may perhaps safely be accepted. This rule is as follows: *In stratified deposits the zone of subsidence is generally limited by a sort of dome which has for its base the area of the excavation.* If the beds are inclined, the dome of subsidence is no longer symmetrical, and its axis is inclined. When the zone of subsidence crosses several groups of beds at varying inclinations the axis of the dome is deflected in passing from one group to another. The dome theory of subsidence explains different observations, sometimes contradictory in appearance, which have been made. It is conceivable that a seam might be at such a depth that its excavation, if tightly stowed, would cause no subsidence *at the surface.*

It will thus be seen to arise that if there is a severance and the person having the minerals has by grant, express or implied, the right to let down, such grant would only allow him to let down the surface vertically above that portion of the seam the subject of the severance, whereas the actual subsidence might very possibly occur at some other part of the surface, *i.e.*, at a point of the surface which is owned by a stranger to the grant. In such a case it is considered that

the mine owner or lessee would be liable for the resulting subsidence.

Again, it might well be that the subsidence caused at the surface owned by the person who has severed, or whose title is derived from the person who has severed, though vertically above the seam in respect of which the owner or lessee of such seam has been granted the right to let down, was not caused by the working of that portion of that seam within the grant, *i.e.*, within the verticals drawn downwards from the boundaries of the surface in question, but by the mining on a neighbouring seam. In such a case it is considered to be clear that if the working was being done by a third party holding no grant from the surface owner express or implied to let down, such third party would be liable, and on principle it would appear to follow that if the working were being done on such neighbouring seam by, *e.g.*, a lessee who has been granted a lease of the mines under the surface in question with the right to let down, such lessee would be liable to the surface owner, for the grant of the right to let down would *prima facie* only relate to the working of the seam within the vertical parallels forming the boundaries of the said surface.

It will be observed that should the above principles be accepted as correct the resulting rights and liabilities of the parties in regard to

subsidence are vitally affected, not in consequence of any departure from well-ascertained legal principles, but in consequence of the application of those principles to a new set of facts.

The divergence between a point vertically above the place of working and the point at which the line or dome of subsidence intersects the surface may, in the case of deep and heavily dipping seams, be extremely wide.

Wayleaves.—The obligations arising out of the natural right to support are the most important that affect both the owner of land and the owner of limited interests in land. Wherever passage over or through another's land is involved, however, the user of land is also restricted by the need to secure such rights of way.

Minerals, Mines, and Subsoil.—As we have seen, the property in land may be divided horizontally or vertically or both. And an owner of land may on the grant of the surface except the mines, or on the grant of the mines except the surface. Whereupon a severance occurs, and the mines, in the first case, remain in him who owned the land before the surface was granted away, and in the second case the mines are in the grantee but the rest of the land in the grantor. And not only may mines be so excepted but so may the subsoil generally, or the minerals generally or in particular.

Of the terms subsoil, mines, minerals, subsoil

is the term of largest import, for it includes the whole of the land, except the surface, down to the centre of the earth. Mines is a term of wider import than minerals, for a mine includes the minerals and the chamber[1] containing such minerals and (in certain circumstances) roadways in contiguous or neighbouring strata made for the purpose of reaching and removing such minerals.

It follows that if minerals are in A and the rest of the land in B, A has at most the right to get his minerals; he has no right to use the mine except for such getting and while such getting continues.

If therefore A is the lessee under leases from two owners who own respectively areas ABCD and CDEF, and the lease made by the owner of ABCD demises the minerals and the lease made by the owner of CDEF demises the mines, and A sinks a shaft and works out the minerals from the seam under area ABCD, and then commences to work the seam and bring the minerals through the chamber which had contained the minerals under area ABCD he will commit a wrong, for his right under the lease from the owner of ABCD is restricted to the getting of the minerals and gives him no right to the user of the containing chamber.

[1] This term is used to denote that notional shell which would be obtained if from the bulk of the earth demised or severed the minerals therein were completely extracted and no subsidence occurred.

When therefore he seeks to use the containing chamber for a purpose other than the getting of the minerals under area ABCD he must obtain from the owner of area ABCD (who being the owner of everything but that granted, viz., the minerals, owns both the mine and the subsoil as well as the surface) such leaves as he requires, which may be (1) an underground wayleave for transporting the foreign minerals from the seam under area CDEF to shaft, (2) an air-leave in respect of air circulating from shaft through the mine under ABCD to the workings under CDEF, (3) a water leave in respect of water pumped from workings in the mine under area CDEF to the surface ABCD, (4) shaft leave in respect of the right to use the shaft in order to get men, materials, foreign minerals, air, and water through the subsoil under area ABCD to the mine under area CDEF, (5) surface wayleave for the right to get to and from the shaft over the surface of area ABCD.

On the other hand, if the shaft had been sunk on area CDEF (under which the lessee has the mines and not merely the minerals) and the lessee had worked out his minerals and had reached the seam under area ABCD, he could then transport freely the minerals gotten from the seam under area ABCD through the mine chamber under area CDEF without paying wayleave, for he has the lease of the mine and not merely of the

minerals. But as he has the lease only of the mine and not of the subsoil or the surface he would when he got to shaft bottom have to arrange with the owner to transport minerals, etc., through the shaft, and when he got to the surface, over the surface, for in both cases he is operating, and operating in respect of foreign minerals, in a part of the land over which he has no rights.

If, on the other hand, the lease was of the subsoil, then though the mine was worked out the lessee could transport foreign minerals, etc., through the shaft; if the lease was of the land generally he could transport not only through the mine and the shaft but also over the surface.

Instroke, Outstroke, and Through Working.—The rights of the lessee relative to ways are, we believe, stated above with substantial accuracy. The rights of the lessee may, however, be affected by conditions relating to boundaries, and may, of course, be enlarged or restricted by agreement. The subject of the right of working by instroke and outstroke or by what may be termed through-stroke is not, however free from doubt.

The terms instroke and outstroke are apt to confuse, for the 'in' and the 'out' refer rather to the neighbouring than to the demised mine. Thus a lessee has the right of *in*stroke when he has the right to convey minerals *out* of the demised mine *in* to the neighbouring mine and thence to the surface. The right of *out*stroke

is the right of transporting minerals *in* to the demised mine and thence to the surface *out* of the neighbouring mine. The right of what we term through-stroke (though in fact it is a right without a specific name) is the right to transport minerals from one neighbouring mine, through the demised mine, into another neighbouring mine and thence to the surface. It follows that the right to transport minerals from one mine to another may be a right of instroke or of outstroke according to the mine under consideration.

In considering instroke and outstroke one is considering the rights possessed by the lessee as against the lessor, and consequently in the case of instroke one is not concerned to follow the mineral mined from the demised mine after it has left the lessor's underground boundaries; for the rights between lessor and lessee thereupon cease, the lessor's interests not extending beyond his boundary. In the case of outstroke, on the other hand, one is concerned to follow foreign mineral from the boundary of the demised land to the surface, for throughout such transit the foreign mineral is passing through land which, apart from the lease, the lessor would have control over, and the lessee would have no control over.

If the above considerations are kept in view, it will be seen to follow that *prima facie* the lessee

of a mine or even of the minerals is entitled to work by instroke ; on the other hand, the lessee even of a mine may not be entitled to work by outstroke, for outstroke involves transit through the subsoil as well as through the mine, and may involve transit through roadways which, though deemed part of a mine when considered from the point of view of working minerals in such mine, are not to be regarded as part of a mine when considering the transport of foreign minerals. For when considering the extent of a mine from the point of view of the minerals worked therein one may have to bear in mind easements of necessity or implied grants, considerations which are not present when regarding the extent of the mine from the point of view of minerals mined elsewhere. In the latter case the mine becomes a shell and its boundaries are strictly the boundaries of such shell.[1] Within such boundaries the lessee has possession and the user arising from possession, which user it is considered clearly includes the right of transporting minerals ; beyond such boundaries the lessee *prima facie* has neither possession nor the right of user, nor indeed any right in respect of foreign minerals.

Open Mines or Quarries.—In considering the rights of persons with a limited interest the distinction between an open and a new mine or quarry is of capital importance.

[1] See, however, *Batten-Poole* v. *Kennedy*, [1907] 1 Ch. 256.

As Sargant, J., said in *In re Morgan*,[1] ' an open mine means a mine which is " in course of being worked," and . . . a mine may fall within that description if a shaft has been sunk down to the same seams and the mine is capable of being worked through that shaft whenever opportunity arises. The sinking of the shaft is obviously a process for the purpose of working the mines and forms part of the working of the mines, although no single piece of coal should in fact be hewn. Indeed, the cases go a good deal further ; they might, and probably would, justify, me in holding that these mines under the southern part of the northern portion, which are the same seams which were being worked under the northern part, would be open mines, even if they had to be worked by following the seams by means of fresh pits.'

A mine may only be opened so as to become an open mine by a person having the right so to open it. If such a person does make a general dedication of the mine for the purpose of making a profit out of the product, the mine is open. There may be such a dedication if (*a*) the person having the right to open the mine works it and sells the produce, or (*b*) makes an agreement for a lease or grants a lease to another to work the mine, whether the lessee works or not, if the lessor receives a profit whether by way of

[1] [1914] 1 Ch. at p. 918.

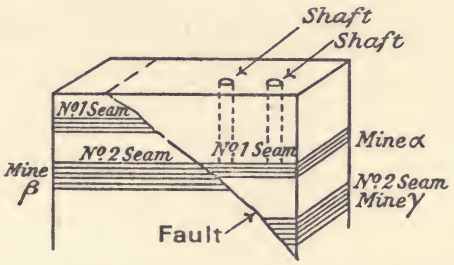
dead rent or otherwise, or (*c*) does any other act showing a clear intention to work, *e.g.*, mining coal to slack lime, sinking a shaft on to a seam, declaring intention.

Thus, where a lease of mine A is granted by X during his lifetime, and a lease of a contiguous mine B is under negotiation at the time of X's death, such mine B will be deemed also to be an open mine, for the two areas are contiguous and in the particular case in which the matter arose could be worked from the same shaft, and even if they could not have been worked from the same shaft Sargant, J.,[1] considered it probable that mine B would be deemed an open mine. Further, where foreign land separated mine A from mine D, but mine D had previously been leased and the lease had been surrendered owing to unprofitable working and negotiations for a new lease were under consideration at the time of X's death fifteen years later, it was held that mine D also was an open mine, for it had been an open mine and had not lost this character through abandonment.

On the other hand, experimental operations do not *per se* prove dedication; and though a mine be open there may be a question as to the extent of the mine thus opened, *e.g.*, a doubt may arise whether the opening of a seam or a mine under area A of an estate opens a seam

[1] See *In re Morgan*, [1914] 1 Ch. 910.

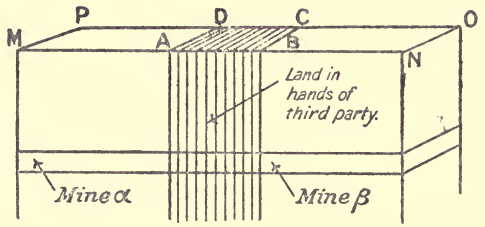
or a mine under area B of the same estate. If between the two areas the proprietory rights of a third party intervene so as to render the working along the seam from A to B impossible without the consent of such third party, the opening of the seam at area A does not operate to open the seam at area B; on the other hand, if area B may lawfully and practicably be reached by working from area A, then the opening of area A will make the whole seam at least as far as area B



open. On the other hand, if the mine under area B is of a different seam or a different mineral from the mine that is opened under area A, the opening of the mine under area A will not operate as a dedication of the mine under area B, at least if the seam or mineral under B cannot be worked from the shaft sunk on the mine under area A. In the same way the fact that seam D has been opened does not affect the opening of seam B though seam B be under seam D, for to reach seam B it would be necessary to sink another shaft. If, however, *e.g.*, owing to a fault, it was

not necessary so to sink a new shaft the opening of one seam might, it is considered, operate to open another seam.

In the diagram on p. 37, if α be the open mine, and mine β be in another seam but workable from α by the same shafts, it is considered that β would also be open, but γ would not be open, for to work γ it would be necessary to sink what is in effect other shafts in continuation of the existing shafts. Again :



If MNOP be the area of the surface in question and on such surface the property in the strip ABCD is in another, the opening of a seam under area MADP would not open the seam under area BNOC, for between the two parts there is the intervening proprietory interest of the third party who owns ABCD.

A mine though once open may cease to be open if working is definitely abandoned. But the fact that working has not commenced, or if commenced continued, simply because the mine would not pay to work does not of necessity make the mine any the less open. A mine is not

abandoned[1] merely because it does not pay to work or is waterlogged and consequently working is for a time suspended, even though such time extends over years.

It may be said in general terms that where a mine is open the minerals therein are part of the fruits of the soil though, unlike the fruits of nature, minerals do not recur, and once taken away are not replaced by nature.

[1] The term 'abandoned' may, of course, have a different meaning for the purposes of the Coal Mines Acts and the Metalliferous Mines Regulation Acts.

CHAPTER III

OWNERS OF LIMITED INTERESTS

THE tenant for life has *prima facie* as against the reversioner or remainderman the right to work open mines and quarries; but *prima facie*, and apart from estovers,[1] he has no right to work new mines, for to do so would be to commit legal waste. He would be injuriously affecting the interest of the reversioner or remainderman.

As between the tenant for life and remainderman, money paid by a lessee as the price of land won or carried away and sold by the lessee in the shape of minerals, stones, or bricks is always treated as capital and not as income, unless the settlor has expressed an intention to the contrary by making the tenant for life unimpeachable for waste, or by some other expression; or unless at the time of the settlement the mines and minerals were open[2] or were later opened by someone entitled to open them.

[1] Primarily, necessaries taken from the land for the use of the tenant, *e.g.*, coal for burning in the house, stone for repairing the house or the improvement of the land, etc.

[2] Per Lindley, L.J., in *In re Ridge, Hellard* v. *Moody* (1885), 31 Ch. D. 504, at p. 508.

The rights of the tenant for life can hardly be more clearly or simply stated than in the words used by Peterson, J., in *In re Hall*,[1] where the learned judge said: 'Apart from any statutory provisions a tenant for life who is expressed to be unimpeachable for waste can open and work mines and receive all the profits arising therefrom. If he is impeachable for waste he cannot open mines; but if the mines in question have been opened before the settlement,[2] or have been opened by a person interested under the settlement and entitled to open mines, *e.g.*, a tenant-in-tail,[3] a tenant for life can continue to work the mines and receive all the profits derived therefrom.

'So, too, where the owner of an estate has contracted to lease mines and dies before the grant of the lease of the opening of the mines, the tenant for life under his will is entitled to receive the rents and royalties payable under the lease.[4] If a tenant for life utilises his power of leasing mines granted by the Settled Land Acts, part of the rents and royalties derived from the lease must, unless the settlement provides otherwise, be set aside as capital. Where the tenant for life is impeachable for waste and the

[1] *In re Hall, Hall* v. *Hall*, [1916] 2 Ch. at pp. 492 *et seq.*

[2] *Dashwood* v. *Magniac*, [1891] 3 Ch. 306 at p. 360; *In re Ridge, Hellard* v. *Moody* (1885), 31 Ch. D. 504 at p. 508.

[3] *Clavering* v. *Clavering* (1726), 2 P. Wms. 388.

[4] *In re Kemeys-Tynte*, [1892] 2 Ch. 211.

mines are not open, the portion of the rents and royalties which must be appropriated as capital is three-fourths, but where the tenant for life is unimpeachable for waste, or where he is impeachable for waste but the mines are open, the portion to be set aside is one-fourth,[1] and this rule also applies in the case where the settlement contains a trust for sale and the lease is granted under the joint operations of Sections 11 and 63 of the statute.[2]

'The provisions of Section 11 of the Settled Land Act, 1882, are a condition imposed upon the exercise by the tenant for life of the privileges conferred upon him by the Act. The Act in effect provides that, if the powers of leasing which are granted by the Act are used, only a portion of the rents and royalties which result from recourse to the Act is to be treated as income. It regulates the division, as between those who are interested in corpus and those who have limited interests under the settlement, of the rents and royalties arising from mining leases granted by persons having limited interests under the settlement by virtue of the powers conferred by the Act.

'Section 11 does not govern the distribution of rents and royalties derived from leases which

[1] Settled Land Act, 1882, Section 11; *In re Chaytor*, [1900] 2 Ch. 804.

[2] *In re Ridge* (1885), 31 Ch. D. 504.

are not granted under the powers created by the Act. It does not, for instance, relate to a lease granted by an owner of the property before the execution of the settlement, or by a person interested under the settlement who creates the lease under special powers contained in the settlement. While it governs the distribution of the proceeds of a lease granted by a limited owner under a settlement as between the persons interested under that settlement, it does not affect the rights of persons interested in a subsequent settlement to which the property which is comprised in the lease has become subject. In such a case the rights of the tenant for life and the remainderman under the subsequent settlement are governed by the provisions of the settlement or by the provisions of the law relating to open mines.'

As no one may grant an interest or interest greater than that which he himself has, the tenant for life's power at common law of leasing is *prima facie* limited by the term of his own life, and if he purported to grant a lease for a term of years certain, and before the end of that term the tenant for life's life dropped, the lease would not be effective against the remainderman or reversioner, who would then come into possession. This *prima facie* right may, however, be largely extended by the express terms of the settlement, for the settlor, if a tenant in fee, has the powers of such and can within such wide limits confer

his powers on another. The tenant for life is also given certain statutory powers which confer upon him the right to lease mines and minerals for a term of years.

Under the Settled Land Acts[1] the tenant for life or the trustees of the settlement are given wide power to sell, enfranchise, exchange, partition, lease, and improve. In the case of a lease by Section 9 (1) of the Settled Land Act, 1882, it is provided that 'The rent may be made to be ascertainable by or to vary according to the acreage worked, or by or according to the quantities of any mineral or substance gotten, made merchantable, converted, carried away, or disposed of, in or from the settled land, or any other land, or by or according to any facilities given in that behalf, and a fixed or minimum rent may be made payable, with or without power for the lessee, in case the rent, according to acreage and quantity, in any specified period does not produce an amount equal to the fixed or minimum rent, to make up the deficiency in any subsequent specified period, free of rent other than the fixed or minimum rent.'

Section 9 (2) provides that 'a lease may be made partly in consideration of the lessee having executed, or his agreeing to execute, on the land

[1] The tenant for life also possesses statutory powers under the Land Clauses Consolidation Act, 1845, and the Settled Estates Act, 1877.

leased, an improvement authorised by this Act, for or in connection with mining purposes.'

The Settled Land Act, 1890, Section 8, extended the kinds of rent which might be reserved on a lease by a tenant for life so as to include rents varying according to the price of the minerals or substances gotten, whether such value was the saleable value, listed market price, ascertained market price, or average of such values or prices. The rent reserved is in all cases required to be the best rent that can reasonably be obtained.[1] Rent, of course, includes royalty.[2]

The restrictions imposed on the tenant for life are, as we have seen, so imposed in order to protect the remainderman or reversioner. It will be clear, therefore, that *prima facie* the tenant for life and, *e.g.*, a remainderman in fee could come to an arrangement under which the tenant for life could work new mines, and it might thus arise that the future interests of contingent remaindermen might be injuriously affected unless there are trustees to preserve contingent remainders.

If legal waste has continued for more than six years the Statutes of Limitation may operate as a bar to action in respect of waste. But the injury is in the nature of a continuing one, and

[1] Settled Land Act, 1882, Section 7 (2).
[2] *Ibid.* See 2 (10) (ii).

because action in respect of waste to part A of a mine is barred action in respect of waste to part B of the same mine might not be barred.

Lease and Licence.—A mining lease is defined by the Conveyancing Act, 1881, as 'a lease for mining purposes, that is, the searching for, mining, working, getting, making merchantable, carrying away, or disposing of mines or minerals, or purposes connected therewith, and includes a grant or licence for mining purposes.' There is, however, of course, a wide distinction between a lease and a licence, for a lease gives an exclusive right to the possession of a particular part of the bulk of the earth; whereas a licence only renders lawful the doing of some act which otherwise would be unlawful. A licence to mine, however, is something more than a mere licence, for it grants the right to remove minerals and is a *profit à prendre*, and as such is irrevocable. As it involves the grant of an incorporeal hereditament it must be the creation of a deed, but a mere parol licence will in equity be treated as valid and irrevocable if the licensee has acted on it and has incurred expense.

In the case of an exclusive licence the border line between such a lease and a licence may be extremely narrow, as may be seen from the Canadian case of *Lynch* v. *Seymour*,[1] where the judge of first instance held that the document

[1] (1887), 15 S.C.R. 341.

in question was a licence; the Divisional Court held it to be a lease, one judge dissenting; the Court of Appeal were divided, two judges holding it to be a lease and two a licence; the Supreme Court was also divided, three judges holding it to be a lease and three judges a licence. In the result, therefore, it was held to be a lease, but six judges held it to be a licence and six judges a lease. In that case the disputed words were: 'Doth give, grant, demise, and lease unto the said lessees the exclusive right, liberty and privilege of entering at all times, for and during the term of ten years . . . in and upon [the land in question] and with agents, labourers, and teams to search for, dig, excavate, mine, and carry away the iron ores in, upon or under the said premises and of making all necessary roads. Also the right, liberty, and privilege to erect on the said premises the buildings, etc., and to deposit on the said premises all refuse material taken out in mining the said ores.' There was a covenant by the grantor for quiet enjoyment and by the grantee for the payment of a royalty rent based on tonnage. Sir W. J. Ritchie, C.J., in the course of his judgment said: 'Had the parties intended that there should be a demise of the land as well as the right to enter, search for, dig, and work it might have been done in simple, plain language which I fail to see in this deed'; and again, 'I think it is no lease but an exclusive licence or

liberty to enter on the premises mentioned in the instrument for the purpose of searching for and mining and carrying away the iron ores in, upon or under the said premises. The intention of the parties must be collected from the terms of the instrument.' In the result, however, the instrument, as we have said, was held to be a lease, much reliance being placed on the statement in Bacon's Abridgment to the effect that 'Whatever words are sufficient to explain the intent of the parties, that the one shall divest himself of the possession and the other come into it, for such a determinate time, such words, whether they run in the form of a licence, covenant or agreement, are of themselves sufficient, and will in construction of law amount to a lease for years as effectually as if the most proper and pertinent words had been made use of for that purpose.' [1]

The distinction, of course, is of primary importance, for a lease vests in the lessee an estate in the subject-matter of the lease during the term; whereas a licence vests in the licensee no such estate and the licensee's rights under the licence are strictly limited to the doing of that which the licence permits him to do, and which apart from the licence would be unlawful.

The Lessee.—The *prima facie* rights of the lessee, *i.e.*, the rights he possesses apart from ex-

[1] See Conveyancing Act, 1881, Section 2 (xi).

press covenants, depend largely upon the subject-matter of the lease. Thus, if land be leased without any mention of mines the lessee may work open mines ; if the land is leased, the mines being excepted, the lessee has no right even to work open mines ; if the lease is of the land and the mines therein the lessee, if there are therein open and new mines, may only work the open mines ; if the lease is of the land and all the mines therein he may work open and work new mines.

If, on the other hand, the demise is not of land but of mines, then the lessee has all the rights of user which the possession of that part of the earth's bulk which falls within the term 'mines' can give him, but he has no control over the rest of the land wherein such mines are except that the mere demise of mines without more carries with it an implied grant of the liberty to work such mines, and to such extent gives him a limited right of user of the land not within the demise. But the lessee who relied on such implied grant would find his powers limited to doing only such things as were absolutely necessary to win, etc., the minerals. It is accordingly usual in mining leases to give the lessee specific liberties relating to the working, winning, getting, and carrying away of the minerals.

The powers of the lessee of a mine, or of land with the liberty to work the mines therein depend

upon the terms of the lease. But all modern leases give the lessee liberty (1) to search for, win, work, get, carry away, and dispose of the minerals within the demised mine; (2) to enter upon, occupy, and use certain specified lands either ancillary to the general purpose or generally; (3) to develop the property in defined ways which may, *e.g.*, comprise the erection of bye-product plants; (4) to have the benefit of numerous defined easements, rights of way, and of water.

It is in return for these numerous rights that the mining rents and royalties are reserved to the lessor. It will therefore be seen that, broadly stated, a mining rent or royalty is essentially different from an agricultural or occupation rental. As a result of the working of the minerals the *corpus* of the land is impoverished, and is impoverished permanently. In this respect, therefore, the royalty paid (as distinct from the dead rent) is rather in the nature of purchase money paid by instalments. But in so far as the royalty also pays for the right to do all or any of the various things which the lessee is given express liberty to do—things which may, and frequently do, distinctly affect the value of the surface land and the amenities and value of the lessor's property—it does something more than pay for the minerals which on severance become chattels the property of the lessee.

It will, therefore, be seen that whatever

happens to the ownership of minerals, whether they remain in private ownership or are acquired by the State, it will never be equitable to eliminate royalties even though the State were disposed to sell its minerals or its coal to mineral lessees for nothing. For the royalty pays for many things besides the right to get and convert the mineral, and many of the liberties the grant of which enters into the calculation of mineral royalties are liberties the granting of which sensibly reduces the value of the surface, a reduction in value which naturally must be compensated for.

Thus in whatever hands the minerals are it is necessary for the lessee to make arrangements whereby he obtains possession of, or if not exclusive possession at least a liberty or easement over, such part of the earth's bulk as is necessary to him in order that he may get at such mineral in order to work it commercially. These are rights distinct from rights directly relating to mines and minerals, and rights the transference of which affect adversely the property of the surface landlord. Under the existing system all or most of these rights (together with the right to sever and convert the minerals) are bundled together and parted with in return for a royalty. Usually, however, it befalls that the lessor of the minerals is A and the grantor of ancillary easements is B, whereupon arises the distinction between royalty

and wayleave, shaft rent, air leave, etc., payments. But as *ex hypothesi* such payments only arise where easements necessarily have to be acquired from someone who has not control over the minerals being worked it follows that a mere change in the ownership of the minerals would not affect the matter.

Should such a change take place it is therefore manifest that royalty will, in respect of such minerals as are acquired by the State, if charged, bear a new meaning. It will represent a purchase price for minerals and should not include, as it does to-day, the congeries of rights which the lessor as owner of the soil, as distinct from the mines, parts with. Probably, therefore, in all justice such royalties should in the future be smaller than to-day, for after payment of the royalty other payments will remain to be made as recompense for the acquisition of the remaining bundle of rights which to-day are included in that for which the royalty is charged. And this will be so even though underground wayleaves are in effect abolished by giving to those who mine special statutory liberties to transport their minerals underground.

It is not our purpose to consider the debatable question as to whether there is any substantial justification for charging underground wayleaves, a question which was considered both by the Royal Commission which sat in 1893 to inquire

into the question of mining royalties and by the Coal Industry Commission of 1919. It is obvious, however, that as a legitimate development of the principles of our common law these liberties and easements have been granted and have for centuries been regarded as a proper source of profit to the grantors. That the existence of this power to charge for a necessity which frequently arises long after the original shafts have been sunk and after heavy capital expenditure has been incurred by the mineral lessee enables the lessee to be squeezed is obvious; it is not, however, obvious that this power has frequently been abused. In the case of minerals which do not occur in seams or beds the difficulty—a geological difficulty to some extent, and a difficulty which arises in a more aggravated form in the case of vein formations than in the case of beds or seams—of knowing before commencing capital outlay with whom to treat for the acquisition of the rights which will have to be acquired if development in a normal manner is to be pursued is also obvious; but a solution of these difficulties could probably be found without the extinction of a long recognised right of property, just as a similar kind of difficulty, which arose when railways were being built in this country, was solved.

The nature of the rights commonly granted under a mining lease may perhaps appear most clearly from the following typical draft terms:

Typical Draft Terms for the Drafting of a Coal-mining Lease:

Terms on which it is proposed to take a lease of coal mines at L.E. in the county of.. ..... belonging to Mr. A.B. of..... and Mr. C.D. of..... in the county of.....

1. Term to be for 60 years as from May 13, 19....

2. The Certain Annual Rent to be £400 for liberty of working and leading such a number of tons of merchantable coals from the High Main and Hutton Seams as at the rate of 6*d.* per ton for large or round coal and 3*d.* per ton in respect of small coal, that is coal which passes through a screen of one inch and an eighth, will amount to the said certain rent annually, and for any other seams such a number of tons of merchantable coals as at the rate of 4*d.* per ton for large coal and 2*d.* per ton for small coal will amount to the said certain rent annually, and 6*d.* and 3*d.* per ton respectively for surplus leadings from the High Main and Hutton Seams, and 4*d.* and 2*d.* per ton respectively from any other seams. The rents to include all wayleaves over the L.E. estate. Lessees not to be compelled to work any particular seams; their present object being to work only the High Main and Hutton Seams.

3. Lessees to have liberty to make all erections necessary.

4. Lessees to leave unwrought all the seams

under the mansion house at L.E. for the support of the same and not to work any coals within 30 yards thereof, and also to leave a barrier of 25 yards width of coal against all adjoining Collieries, subject nevertheless to such rights of outstroke as are herein mentioned.

5. Lessees to have liberty to work Lessors' coal by means of outstroke from any adjoining Collieries without paying any outstroke rent to them, also to have the privilege of bringing coals from any adjoining Collieries lying beyond those of Mr. A.B. on paying ½*d.* per ton for outstroke and water course rents, but in case Lessees sink a pit or pits in the L.E. estate and bring coals from any adjoining Collieries and draw them to bank there, then to pay the Lessors 1½*d.* per ton outstroke, water course, shaft, and wayleave rents for the same.

6. Lessees to have liberty of taking other mining ground or Collieries, also liberty of wayleave for such last-mentioned Collieries over the L.E. estate on paying a fair rent, the same to be fixed by three impartial persons conversant with the Coal Trade and to be appointed as usual.

7. Lessees to have power of making up short workings in any one year or years of the term.

8. The certain rent to be paid half yearly and the surplus leadings to be paid yearly.

9. Lessees to be allowed a proportionate quantity of the coals consumed by the agents

and workmen employed about the Colliery, wagon ways and staiths, also coals consumed in raising steam in connection with the Colliery works, the blacksmiths' and fitting shops, and other Colliery works without paying any rent for the same.

10. Rent to commence with the shipment of coals from the Colliery or not later than two years from the commencement of the term hereinbefore mentioned.

11. Lessees to have the right to terminate the lease at the end of any one year in case way-leaves cannot be obtained upon reasonable terms, or in the event of the coal not proving satisfactory on being reached by the shafts and driven into.

12. Lessees to be at liberty to quit at the end of the third year or any succeeding year on giving twelve months' previous notice in writing.

13. Lessees to be at liberty to remove all materials and fixtures at the determination of the lease as usual.

14. Lessees to have power to dig clay, make bricks, burn lime for the use of the Colliery, and to make all ponds and water courses necessary.

15. The damaged ground to be paid for by the Lessees as usual, also all Taxes and Rates except Land Tax.

16. The Lessor to be allowed 100 tons of Fire Coal gratis for the use of the mansion house at L.E. in any year when the coals are wrought from the demised Colliery.

17. Lessees not to sink any pits or lay any wagon ways within 400 yards of the mansion house, nor to the south of the beck which runs through the Foxcover.

Lastly—a lease to be prepared and executed by the parties, containing the foregoing clauses and all other usual clauses in Colliery Leases consistent with the above, and in case of difference the dispute to be settled by three persons conversant with the coal trade and to be named as usual.

Nov.....19.....

We agree to grant a lease of our coal at L.E. upon the above lines.

Signed { A.B. / C.D.

Witness to the signing hereto
Signed E.F.

The Copyholder.—As was pointed out by the Master of the Rolls in *Inland Revenue Commissioners* v. *Joicey* (*No.* 2),[1] 'The relative rights of the lord and the copyholder in general are well settled. The copyholder has possession not only of the surface but of everything below the surface, including minerals. But the property in the minerals is in the lord. The result is that, in the absence of special custom, neither the lord nor the copyholder can work the minerals,

[1] [1913] 2 K.B. at p. 586.

but the concurrence of both is necessary. In other words, the lord cannot get that which is his property without the copyholder's consent.'

The reason for this is largely historical, the lord occupying in respect of his copyhold tenants a similar relation as regards tenure to that which the Crown holds at common law towards freehold tenants. The freehold tenant, however, holds by the custom of the realm, which, with minor exceptions, is universally the same and is a branch of the common law; the copyhold tenant holds by the custom of the manor. The common law, the common custom of the realm, gives to the tenant of the Crown, the freeholder, the right to the surface and all below and above. The lords of manors are freeholders and consequently own the surface and all below and above except to the extent to which they have granted out their rights to their copyhold tenants. Such grants are construed according to the custom of the manor, which varies manor by manor. Generally, however, by custom the tenant's title is possessory merely.

In the case of the wastes, the lord commonly owns surface and mines, but the tenants have customary rights thereon. The lord having property and possession may work the mines therein subject to his not by so doing defeating the tenant's rights thereon.

In the case of that form of copyholding called

customary freeholds—a tenure by copy of court roll in which the holding is not expressed as a tenancy at will—the property, as in the case of other forms of copyhold tenure, is in the lord and the possession in the customary freeholder. On the other hand, tenure in ancient demesne is a form of socage tenure, *i.e.*, a freeholding, and consequently the property in the mines is in the tenant and not in the lord.

Enfranchisement turns the tenant's possessory title into the proprietory title of the freeholder, and consequently at common law on an enfranchisement the property in the mines and minerals passes to the tenant. This will, however, not happen if from the bundle of rights which are transferred on the enfranchisement the mines and minerals are excepted. It will also not happen if the enfranchisement is under the Copyhold Act, 1894, for Section 23 of that Act provides, *inter alia*, that 'An enfranchisement under this Act shall not without the express consent in writing of the lord or tenant respectively affect the estate or right of the lord or tenant in or to any mines, minerals, limestone, lime, clay, stone, gravel pits, or quarries whether in or under the land enfranchised or not . . .'

The rights of the lord may thus in certain circumstances be destroyed by enfranchisement; on the other hand, the rights of the tenants over the commons and wastes may be, in certain

circumstances and to a certain extent, extinguished by inclosure. It usually happens that on an inclosure the copyholders in respect of their rights are allotted portions of the common or waste land. Sometimes in respect of such allotments the lord has excepted in his favour the right to the mines and minerals thereunder, together with the right to work the same in as full and ample a manner as before allotment. The general course of decisions shows that the exception in favour of the lord does not entitle him to let down the surface. The relative rights of lords and allottees in such cases are, however, very diverse, depending as they do on the particular terms of the inclosing instrument, and have been a fruitful cause of expensive litigation.

CHAPTER IV

RENTS AND ROYALTIES

We have seen from the preceding chapters the nature of the various forms of proprietory and possessory interests in mineral property in the United Kingdom. It is but rarely the case in this country that the owner of mineral-bearing land himself engages in the exploitation of the minerals comprised in his estate, though there are of course prominent instances to the contrary. Usually the landowner leases his minerals for a term of years to others who engage in the working and sale of the minerals. It is common practice to allude to colliery owners as coal owners. In very few cases, however, is a 'colliery owner' the owner of the coal, or indeed, for that matter, of the colliery. He is usually a tenant thereof for a term of years. As has been seen from the remarks on leasehold interests, the lessee covenants, amongst other things, to pay a rent or royalty for the mineral he works and sells and, usually, a rent in respect of the surface, over and above a certain specified area, which the lessor grants to him under the conditions of

the lease, for the erection of the surface works necessary to the carrying on of the mine.

This is the general practice in the case of all mineral leases, but the reddendum clause under which the rent is reserved, as well as the conditions of the lease, vary in other respects with the kind of mineral. Generally speaking there is similarity of the terms in respect of stratified minerals. The method of letting such metalliferous minerals as occur in veins, *e.g.*, tin, lead, and copper, differs largely in some cases from that of such stratified minerals as coal, clay, and ironstone. In the latter case the dues are not reserved in kind, in the former case they frequently are.

Passing to the consideration in detail of the customary rents and royalties reserved, it is advisable to deal in the first instance with the rents and royalties reserved in respect of the working of such stratified minerals as are chiefly worked in the United Kingdom.

As already indicated (see p. 50) a mineral lease, from the economic point of view, differs greatly from a lease of land for cultivation or of building property. For, whereas in the two latter cases there is no waste, or no waste but which can be restored, the lease of mineral property is a continuously diminishing asset, and eventually ceases to have any value at all. In some respects it partakes of the nature of a

sale of minerals. As was pointed out by the late Lord Cairns, ' the contract is not in reality a lease at all in the sense in which we speak of an agricultural lease. There is no fruit, that is to say, there is no increase, there is no sowing and reaping in the ordinary sense of the term, and there are no periodical harvests. What we call a mineral lease is really, when properly considered, a sale out and out of a portion of the land.' [1]

Coal.—The coal which is mined in the United Kingdom occurs chiefly in the coal measure formation, but it is also mined in other formations of the carboniferous system, *e.g.*, the carboniferous limestone series of Northumberland and occasionally in the millstone grit overlying the carboniferous limestone. In Scotland some coal occurs in rocks both older than the carboniferous limestone and more recent than the coal measures, viz., in the calciferous sandstone which lies at the base of the limestone, and in oolite. Lignite, which is not true coal, of Lower

[1] It may be of interest to the student of comparative law to know that the above *dictum* of Lord Cairns, which was delivered in the course of his judgment in *Gowan* v. *Christie* (L.R. 2 H.L. Sc. 273), has been followed by the Supreme Court of the Transvaal in *Neethling* v. *Vesta Gold Mining Co.*, [1903] T.H. 404 at p. 409, and in a number of later cases whereby the essential difference which exists between an agricultural and a mineral lease has been expounded. See, *e.g.*, per the Judge President in *Ex parte Campher and Others, N.O.* [1912] T.P. at p. 1002: ' A mineral contract is not, strictly speaking, a lease. It is more than a lease, because it gives the so-called lessees the right of taking the minerals.' Of course the Roman-Dutch system of real property law differs *toto cælo* from that of England.

Tertiary age, occurs at Bovey Tracey in Devonshire and in Antrim (Ireland), but has only very occasionally been worked.

Coal is by far the most important mineral worked in the United Kingdom, and the national output prior to 1899 stood first of all the countries of the world, but is now second, that of the United States of America greatly exceeding it.

The output from all sources—mines and quarries—for the five years preceding the war was:

	Tons
1909	263,774,312
1910	264,433,028
1911	271,891,899
1912	260,416,338
1913	287,430,473

and for the war period and 1919:

1914	265,664,393
1915	253,206,081
1916	256,375,366
1917	248,499,240
1918	227,748,654
1919[1]	229,666,666

The output for 1913 was the maximum in the history of British coal mining, and it is doubtful whether it will ever be exceeded.

The outputs from the respective coalfields, together with the total value at the pit's mouth

[1] Provisional figures only.

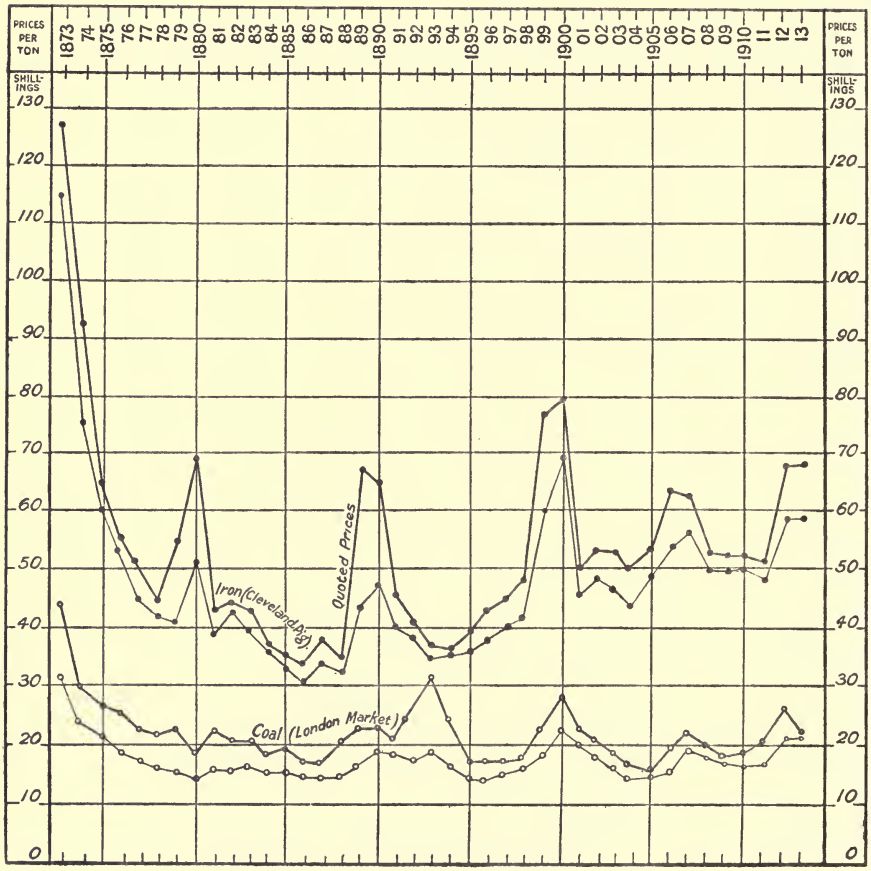
and the average price per ton for the year 1913, were as follows :

	Output in Tons.	Total Value.	Average price per Ton.
		£	s. d.
1. Scotch coal-fields .	42,456,516	20,514,873	9 7·97
2. Northern coal-field .	56,352,174	29,557,299	10 5·88
3. Yorkshire, &c.; coal-field . . .	74,192,949	33,976,902	9 1·91
4. Lancashire & Cheshire coal-field . .	24,627,515	12,583,006	10 2·62
5. Midland coal-fields .	24,015,950	10,643,794	8 10·37
6. Small detached coal-fields . . .	5,348,448	2,711,375	10 1·67
7. North Wales coal-field	3,505,724	1,749,042	9 11·74
8. South Wales coal-field .	56,830,072	33,744,202	11 10·51
9. Irish coal-fields . .	82,521	50,654	12 3·32
Total or average .	287,411,869	145,531,147	10 1·52

The fluctuations in the price of coal for each year covered by the period 1873–1913 inclusive are shown graphically on p. 66, the highest prices being indicated by the thick line and the average prices by the thin line. We are permitted to reproduce this diagram, which is taken from Part III of the Report of H.M. Chief Inspector of Mines for the year 1913, through the kindness of H.M. Stationery Office.

Rents payable in respect of Coal.—Leases of coal seams are granted for various periods, the term being usually for 21, 30, 31, 40, 42, 50 or 60 years, sometimes for intermediate periods.

The determining factor in respect of the term of a lease is the depth of the coal seam or seams from the surface and the area to be worked



by a given colliery, the most common term being for 42 or 60 years; but the tendency of late years has been in the direction of the longer period, the reason for this being that, owing to the greater depth to which it is now necessary to

sink in order to reach and work the coal, the capital expenditure is vastly increased, and the producing stage longer deferred than used to be the case, thus rendering a larger annual output and a more extended area of operations necessary in order that an adequate return on the capital may be secured, entailing also a longer term of years for the recoupment of the capital. In some recent cases terms as long as 80 years or more have been sought and granted. In South Wales a 99 years term has been granted.[1] In the case of lessors who are tenants for life the right to grant long terms is, of course, limited.

Many leases contain a clause granting to the lessee power to surrender at the end of any year, upon giving a clear year's notice, but in others the power is limited to every third or every fifth year, and so on.

The Forest of Dean.—The tenure of mineral rights in the Forest of Dean is very peculiar and is in the nature of a privilege given to miners who are born within the hundred of St. Briavels and have worked a year and a day in a mine in the Forest. Such persons are registered as 'free miners' and are entitled to

[1] It is interesting to note that in respect of Lancashire and Cheshire some of the old leases were for terms of 99–100 years; and in the Midlands a number of leases have recently been granted for a term of 99 years, with one lump sum down by way of royalty, and a possible 1*d.* or £1 per annum payable thereafter. This new kind of lease is probably the outcome of the Finance Act of 1910.

apply for a grant of an area or royalty of coal or of ironstone in the Forest, the first applicant being entitled to the grant or 'gale' as the plot is called, and so on in point of priority. The gales vary in size from 100 acres in shallow workings to 2000 acres in the deepest, but the area of the grant is within the control of the 'Gaveller' and Deputy Gaveller, the former being the President of the Board of Agriculture and the latter the mineral adviser to the Department of Woods and Forests. The gale becomes the property of the grantee in perpetuity, subject to a payment to the Crown. In case of dispute the royalties can be settled by arbitration. The original scale of royalty or 'rate' remains in existence unchanged for 21 years, when it can be re-adjusted on the application of the Crown or of the 'Galee,' or in case of dispute is referable to arbitration.

The basis of the maximum of the royalty is the right which the Crown has to put in a fifth man to work after the mineral has been won, and it is in respect of this right that the above-mentioned payment is made to the Crown by the galee, the maximum being one-fifth of the profit of the mine. In the case of a shallow mine the free miner's interest will be considerable, but in that of a deep mine, when the capital outlay is great, a great part of his interest, or it may be the whole of it, he has to give up, or will have

to give up the whole of his interest to compensate the person who sinks the mine. The majority of the free miners sell their rights to the companies who work the minerals. The average Crown royalty on coal in the Forest is 3*d.* per ton.

By an Act of Parliament passed in 1904 the amalgamation of gales into larger areas is allowed, and the rents are revisable at the end of 63 years instead of 21 years.

Certain Rent.—The right to work the coal is conceded in return for what is termed a fixed or *certain* rent of so much per annum; this has probably been customary ever since the working of coal developed into a recognised industry, and the reservation of a *certain* rent, merging into the royalty rent, is found in leases of coal at least as far back as the middle of the eighteenth century.

The certain rent is commonly determined by the capability of working an agreed minimum number of tons per annum at an agreed tonnage rate. In the Great Northern Coalfield this generally averages from £1 to 35*s.* per acre of surface area. Of course the thickness of the seam is an important factor in the case. The working seams in the North of England vary from 2 feet, or even less, to 6 or 7 feet, rarely more—the average will probably be in the neighbourhood of 4 feet. In South Staffordshire

and East Worcestershire, where the thickest seam of coal in the United Kingdom is found, known as the Ten-Yard or Thick Coal—though little if any of the seam of that thickness remains unworked — the certain rent is determined by multiplying the surface area by the royalty per acre, and dividing by the period of years over which the lease has to run, the result being what is known in the district as the annual minimum royalty. For this purpose the royalty on coal and slack may be taken at 6*d.* per ton.

Coal Contents of a Seam.— In estimating the coal contents of a given area of a seam it is customary to take an acre as containing 1510 tons per foot of thickness of seam, but deductions must be made for loss of coal in working, the occurrence of faults and other geological disturbances such as thinnng of the seam, nip or wash out, and so forth. It is therefore advisable, where the disturbances are known not to be excessive, to regard an acre as yielding 1200 tons of saleable coal.

Although, as indicated above, the determining factors in fixing the amount of the certain rent are either the number of acres in the tract (commonly termed the 'royalty'[1]) to be exploited or the probable output per annum of

[1] It will be observed that the word 'royalty' is used in a double sense in mining, the term being applicable to the tract or 'taking' which is leased as well as to the rate chargeable on the tonnage or acreage worked.

the mine, or a combination of these, this is not always the case; thus in South Yorkshire the certain or fixed rent varies according to circumstances, and is a matter of arrangement between the parties concerned, being regulated by no specific formula. The lessor endeavours to fix it at a high figure, and the lessee at a low one. As a rule the fixed rents are high in that district.

Overs and Shorts.—The full amount of the certain rent, usually in equal half-yearly moieties, is payable whatever the quantity of coal worked in any given year may be. When in any year the number of tons worked at this rent exceeds in value the certain rent, the surplus is paid as '*overworking*,' that is, is chargeable with royalty rent; when it falls short, the deficiency is carried forward as 'short working' to next year's account. Power is practically always granted to the lessee to make up 'shorts,' as they are called, that is, set them against subsequent 'overs.' In some leases this power continues during the whole term, in others during certain fixed periods. In the latter case, if the lessee fails to exercise this power within the fixed period (commonly 3 or 5 years) he loses the difference at the end of the period.

Royalty Rent.[1]—The royalty in which the certain rent 'merges' may be payable:

(*a*) As a fixed sum per ton raised.

[1] See note, p. 70.

(*b*) As a fixed sum per acre worked.

(*c*) As a fixed proportion of the value of the mineral raised.

(*d*) By way of a sliding scale.

(*e*) As a varying proportion of the value of the mineral sold, regulated by a sliding scale.

Coal is usually worked under the first or second system of payment.

It is usual to make a fixed deduction from the output for coal used for colliery consumption, and such coal is rent free. This deduction is a matter of arrangement between lessor and lessee, and the proportion is stated in the lease and varies from $\frac{1}{20}$th to $\frac{1}{7}$th. All vendible coal raised to the surface after this deduction is made is chargeable with royalty rent of so much a ton.

The average of the royalties, inclusive of wayleaves, payable per ton of coal raised over the United Kingdom, and by whatever system payable, amounted in the year 1889, as estimated by the Royal Commission appointed to inquire into the subject of Mining Royalties, to 5·4*d.*[1] per ton of coal worked, and as the wayleaves may be taken as averaging about $\frac{1}{4}d.$ per ton the actual royalty rent would be $5\frac{1}{4}d.$ per ton.

[1] The output for 1889 was 176,916,724 tons, the amount paid in royalty being £4,008,353. The amount paid in wayleaves was £201,916.

The Ecclesiastical Commissioners are very large royalty owners, and it was stated in evidence before the Royal Commisson on Mining Royalties that the average royalty charged to their lessees ranged between 4*d.* and 5*d.* per ton—a maximum of 7*d.* and a minimum of 2½*d.* The higher rents are charged in the case of high-class coals, and the lower in the case of the poorer coals. It is usual, too, to charge in respect of 'round' or large coal a higher royalty than in the case of small or 'slack' coal. Thus in some cases known to the authors where 6*d.* per ton was charged against the round coal worked from a seam of very good quality, 3*d.* per ton was charged against the small coal from the same seam. In another case of a seam of 'second class' quality the rent was 4*d.* and 2*d.* respectively.

For the payment of tonnage royalty rates the statute ton is most commonly the unit of weight in use, viz., a ton of 2240 lbs., but in some cases the 'long ton,' or ton of 2640 lbs., is adopted, a ton of 21 cwt. or 2520 lbs., and again a ton of 2400 lbs. The variation is a needless complication, in regard to which North and South Wales are the chief sinners.

The Calculation of the Amount of Rent due.—The determination of the amount payable as rent due in respect of the coal worked from any given royalty is a simple matter, even where a number

of separately owned areas are worked by a given colliery; but the case is complicated when the accounts have to be worked out on the *Tentale* system.

In many old leases, some still running, the payment of royalty was by the 'ten,' and the quantity of coal sold was reckoned in chaldrons, both now obsolete measures.

It is necessary in making up the 'tentale' accounts (as the yearly or half-yearly royalty accounts are designated where this method of accounting is practised) to remember that:

24 Boles = 1 Chaldron
440 ,, = 1 Ten

Hence a chaldron is $\frac{6}{110}$ths of a ten.

In the North of England the drawings from a colliery are still reckoned at many collieries by the *score*, that is 20 or, in parts of Durham, 21 tubs of 6 or 8 cwts. of coal per tub, or it may be a higher figure.[1] The following examples may show more clearly the mode of arriving at the amount due under the tentale system:

1. The total drawings of coal from a group of three collieries in the North of England was, in a given year, 127,424 scores.

The total *vend* of round coal for the same year was 142,582 chaldrons.

[1] The score is written xx. The Wear or Durham score contains 21 tubs of usually 6 cwt. per tub. The Tyne or Northumberland score = 20 tubs

The drawings from 'A' royalty for the year were 9,219·15 scores.

Now

Scores	Chalds.	Scores	Chalds.
127,424	: 142,582	:: 9,219·15	: 10,316·449

and

$$10316{\cdot}449 \times \tfrac{6}{110} = 562{\cdot}7145 \text{ tens @ } 27s. \text{ per ten.}$$
$$= £759\ 13s.\ 3\tfrac{1}{2}d.$$

2. The small coal worked from a royalty amounted at the end of the year to 620 scores 19 cwts. @ 2*s.* per ten.

The tons to a score were 6·3; a chaldron contains 53 cwts; and a *ten* = 48·583 tons.

$$620{\cdot}9 \times 6{\cdot}3 = 3911{\cdot}67$$

and

$$3911{\cdot}67 \div 48{\cdot}58 = 80{\cdot}520 \text{ tens.}$$
$$80{\cdot}520 \times 2s. = £8\ 1s.\ 6d. \text{ (about).}$$

Northumberland and Durham are the districts where the method of calculating royalty by the weight of coal produced is chiefly practised.

Where the method of payment of royalty is by area, viz., a fixed sum per acre worked.—Where the royalty is calculated according to the area worked the unit is the acre, and the price varies considerably as between different collieries or seams according to the thickness and quality of the coal seam in the particular case. The rents may vary from £50 to £300 per acre, and from £20 to £40 per foot per acre. Whether the method of determining the rent is by ton or by

acre worked the net result shows little difference, for on dividing the amount of rent paid in respect of a given area by the tonnage extracted therefrom, the figure thereby ascertained will in all probability represent a fair tonnage royalty.

When the method of payment of royalty is by area, the royalty calculation is based sometimes upon a unit of so much per simple acre worked and sometimes upon a unit of so much per foot-acre, *i.e.*, per acre per foot thick of seam. In such a case a careful underground survey is usually made every six months on behalf of the lessor by his mineral agent (check-viewer). The method of fixing the royalty by area rather than by weight of coal gotten presents two advantages, viz. : (1) the deductions due to poor or worthless coal can be more readily made, (2) there is an inducement offered to the lessee so to work the coal as to extract the greatest possible tonnage from a given area, but the method imposes more work on the lessor's mineral agent.

Where the method of payment is calculated upon a unit of so much per foot-acre, the royalty per acre usually varies according to the quality of the coal seam. Taking the North Wales coalfield, for example, the maximum is £35 per statute acre one foot thick and the minimum £15, the general average for the field being £25, which, it will be seen, is tantamount to a royalty of about 5*d.* per ton on the vendible coal.

The Yorkshire and Midland districts are those in which the method of calculating royalty by area is chiefly practised.

The unit of measurement when the calculation is by area is usually the statute acre of 4840 square yards, but sometimes in the case of South Lancashire and Cheshire the 'Cheshire' acre of 10,240 square yards is also used, and sometimes the 'Lancashire' acre of 7640 square yards.

Sliding Scales.—The Commissioners who sat to inquire into Mining Royalties say in their final report issued in 1893[1]: 'A royalty of so much per ton, with no variation in respect of the price of the mineral raised, is based upon a calculation of the probable average of prices, and therefore should represent the same payment by a lessee in the aggregate as he would have to make under a sliding scale.' Any such system of calculation would seem to result in too rigid an arrangement to work satisfactorily in every case, and an elastic system allowing of a higher rent being chargeable in good times and a lower in bad times would make the incidence of the rent less onerous to the lessee. Further, no forecasting of probable average prices could have taken cognisance of the high rate of selling price of coal ruling during the recent four or five years. The tendency of late years has been towards the

[1] See page 15 of the Report.

adoption of some form of sliding-scale system for the adjustment of royalty rent.

The methods of payment epitomised under the headings *c*, *d*, and *e* are all comprehended within the term 'sliding scale,' and may be considered under one heading, though the first-named method does not, strictly speaking, come within what is commonly definable as a sliding scale system. It is seldom that royalty rent is payable simply as a fixed proportion of the value of the mineral raised, but occasionally in the Somersetshire coalfield this is the case, the proportion being $\frac{1}{10}$ to $\frac{1}{30}$ of the selling price of the coal at the pit's mouth, about $\frac{1}{16}$ being the average, which is the proportion usually fixed in modern leases in those cases where house coal chiefly is worked.

In Northumberland and Durham an average ratio between the selling price at the pit's mouth of all coals sold and the royalty rent was (1906) 12 to 1—that is, if the selling price was 6*s*., the rent paid to the lessor was 6*d*. a ton; but most sliding scales allow the lessor a larger proportion as the selling price rises above a given standard and a smaller proportion as it falls, which appears to be an equitable and satisfactory arrangement for both parties.

In the Cumberland coalfield there is usually a minimum tonnage rent of from 3*d*. to 8*d*. a ton, according to the situation and thickness of the

seam, with, generally, a further royalty of $\frac{1}{10}$ of the nett sales of any excess, when the average selling price exceeds 6*s.* to 7*s.* per ton. Such a system in present times would allow of an excessively high rent. Some royalties, however, are subject to a percentage rent only, which varies from $\frac{1}{7}$ to $\frac{1}{12}$ of the nett sales.

At some Lanarkshire mines the royalty varies from $\frac{1}{6}$ to $\frac{1}{12}$ of the pit-head price of the coal. Incidentally, it may be mentioned that the royalty chargeable in some cases in Lanarkshire is very high, the 'lordships,' as they are called, varying from 4*d.* to 1*s.* 3*d.* per ton of coal (large and small) or an average for the whole field of 9*d.* per ton.

In some sliding scales, as at some collieries in South Wales for instance, it is customary to arrange a sliding scale which varies with the selling price of the coal, a minimum rent being reserved. In some cases the minimum above which the royalty may go, but below which it must not fall, is 6*d.* per ton; when the minimum does not operate the royalty is $\frac{1}{10}$ to $\frac{1}{12}$ of the selling price. In other cases a maximum is also fixed. In the Cannock Chase district, where sliding scales have been adopted to a very limited extent, the royalties vary from between $\frac{1}{12}$ to $\frac{1}{16}$ of the selling price of the coal.

A sliding scale is sometimes arranged whereby the price per acre varies with the selling price of the coal.

Allusion has been made above to the method of charging royalty rent in Lanarkshire. Where sliding scales operate in that district the basis of the variation is most commonly the selling price of pig iron.

The variation of the tonnage rent according to the average selling price of coal at the pit's mouth has much to recommend it as being the fairest form of royalty rent, and it is an arrangement which has been advancing in favour within recent years.

Wayleaves.—Although the subject of wayleaves is common to all the minerals which come under consideration in this work, it is considered that the present is a convenient place in which to define the meaning and importance of wayleaves, leaving to each separate mineral heading the consideration of the separate charges arising in connection therewith.

The expression 'wayleave,' properly speaking, means simply 'liberty to make advance or to use (as the case may be) a road or way.' It imports the leave or permission of the owner of the property through or over which passage is required, who is sometimes in a position to demand an excessive or even a prohibitive price for the privilege. The expression is applied usually, if not exclusively, to mining roads or ways for the passage of minerals, or for other mining purposes. Sometimes it is used loosely to denote the actual road or way itself,

and sometimes to denote the consideration payable for wayleave.[1]

Wayleaves are divisible into :

(*a*) Surface wayleaves.

(*b*) Underground Wayleaves.

Surface Wayleaves.—Surface wayleaves are granted usually for the purpose of the carriage of minerals by private wagonways, railways, tramlines, canals, or roads from the mine to the point of shipment or disposal. Usually in granting a lease of minerals the lessor grants to the lessee the right to convey the minerals wrought in the mine demised over the lessor's surface without payment for wayleave other than by way of a rent for the ground occupied by the wagonway, etc. Thus in the North of England the rent payable in respect of this surface acreage is double the annual value of the land, to which there is the additional requirement of payment by the lessee of compensation to the occupying tenant for damage to crops, &c.

In the case of 'foreign' minerals, *i.e.*, minerals other than those drawn from the lessor's property, there is chargeable a wayleave rent of so much per ton per mile, usually $\frac{1}{8}d.$ to $1\frac{1}{2}d.$, the average in the North of England being about $\frac{1}{3}d.$

In South Lancashire and Cheshire, where the owner of the surface is the lessor of the coal

[1] Final Report of the Royal Commission on Mining Royalties, pp. 8–9.

worked, surface wayleave is charged only in respect of the land occupied, and is calculated by the acre (usually the *Cheshire* acre) per foot thick of coal worked, and is usually, in rural districts, at the rate of from £5 to £10 per foot-acre.

Most colliery leases contain a clause enjoining the ultimate restoration of the occupied surface to a condition fitted for agriculture or the payment in lieu thereof of liquidated damages at rates which generally run from £50 up to £80 per acre.

Outstroke and Instroke—Shaft Rent—Underground Wayleaves.—There are frequently worked by one colliery concern a number of separately owned tracts, and this is, of course, especially the case when the surface is made of a number of small ownerships. The leases stipulate that a barrier of coal of a prescribed width shall be left as a protection of a given property against inundation, &c., but in such a case the lease will contain a proviso enabling the lessee to work coals in any adjoining property from the seam or seams demised, and the proviso will be framed somewhat as follows :

' Provided always, etc., that the said lessee, etc., shall have liberty and licence to make an outstroke with any adjoining mines and by means thereof to work any minerals therefrom upon payment of a wayleave in respect thereof of 1*d.* per ton, but so that such outstroke be so

constructed and driven as that the said (lessee) at his own expense shall not be precluded from effectually stopping up the same by sufficient frame dams or other dams to be placed therein at the expiration or determination of this term, and also shall have liberty, subject to the same condition as to dams, to work any portion of the seams demised by means of an instroke from any adjoining property.'

These outstrokes and instrokes have to be kept in a proper state of repair by the lessee.

Coal worked from a property other than that in which the shafts are sunk is often chargeable with shaft rent by the lessor owning the property in which the shafts are sunk, and this the lessee has to pay.

It will be seen that it is possible, therefore, for coal worked in a given mine to be charged with underground wayleave, shaft rent, and surface wayleave in addition to the royalty rent thereon.

The rent chargeable in respect of the right to convey ' foreign ' coal through a given property or up a given shaft varies somewhat in different coalfields, but not greatly. The rents are generally somewhat as follows : [1]

[1] It may be noted that normally the shafts and the abandoned mine revert to the lessor upon the expiration of the lease, and that where the shaft rents are imposed they are usually charged after such an event. A first lease which grants power to sink a shaft and thrusts the cost thereof upon the lessee seldom reserves a shaft rent also.

Scotland.—The underground wayleave usually covers both the shaft rent and surface wayleave: maximum, 2*d.* per ton; minimum, ½*d.* per ton—the usual rent being 1*d.* per ton.

Cumberland.—Surface wayleaves are uncommon; shaft rent sometimes 1*d.* per ton. Underground wayleaves: maximum, 2*d.* per ton; minimum, ½*d.* per ton—the usual rent being 1¼*d.* per ton.

Northumberland and Durham.—The underground wayleaves, as well as those payable in respect of the shafts and the surface, are the same and are calculated on the ten, viz.:

Maximum per ten	2*s.* 6*d.*,	or per ton 0·62*d.*
Minimum ,,	1*s.* 0*d.*,	,, 0·26*d.*
Usual ,,	1*s.* 6*d.*,	,, 0·39*d.*

Lancashire and Cheshire.—Shaft rents are seldom charged. The underground wayleaves are charged on the Cheshire acre per foot thick, and are: maximum, £20; minimum, £2 10*s*—or usually £10, and, where the surface owner is the lessor of the coal worked, surface wayleaves depend on the extent and value of the land occupied, and are usually (in rural districts) at the rate of £10 per Cheshire acre per annum; where the surface owner is not the lessor of the coal worked the amount of the wayleave is a matter of bargain.

West Yorkshire.—Underground wayleave, as distinguished from shaft rent, is seldom reserved;

but when it is, it is based on the acreage rent and is on a lesser scale than the shafts rents, which vary £30 to £5 per acre. Surface wayleaves are often paid, and when reserved are usually so much per acre, but sometimes per ton.

South Yorkshire.—Surface wayleaves are little known in this district. Where they are imposed they are from £5 to £10 per statute acre, and for underground wayleave £10 per statute acre, irrespective of the thickness of the seam. Shaft rent is the same as in the case of West Yorkshire, the usual rent being £10 per statute acre per foot.

Derby, Nottingham, Leicestershire, and North Staffordshire. Shaft rent is seldom charged, but where it is, is assessed at a fixed sum per acre. The underground wayleaves are from 10 to 25 per cent. of the royalties. Surface wayleaves are, when charged, generally assessed at fixed sums per acre.

South Staffordshire, Worcestershire, and Warwickshire.—Underground wayleaves: maximum, 3*d.* per ton; minimum, ½*d.* per ton; usual rent, 1*d.* per ton; shaft rent, 1½*d.* per ton, but is seldom charged. Surface wayleave, generally a sum per annum fixed according to the area occupied and the damage sustained.

Somerset.—The underground wayleaves and shaft rent are usually 1*d.* per ton each. The surface wayleaves are usually charged upon the same terms, viz., on all coals worked and passing through

the property, less that quantity allocated to actual colliery consumption.

North Wales.—The underground wayleaves are usually about 1*d.* per ton, and the rent of the shafts is sometimes paid by way of a fixed rent, but is usually covered by the underground wayleave. Surface wayleaves are not common, but when levied are upon the tonnage worked.

South Wales and Monmouthshire.—The underground wayleaves vary from 2*d.* to ½*d.* per ton, and are usually 1*d.* per ton (of usually 2520 lbs.), and this covers shaft rent and surface wayleave.

The Economic Effect of charging Royalty Rent.—Whether the ownership of the coal of the United Kingdom remains in the hands of its present 4000 (about) owners, or is acquired by the State it would presumably be still subject to the burden of royalty rent. If the coalfields were purchased by the State, the presumption is that it would have to recoup the expenditure entailed by the expropriation of the owners, otherwise the taxpayer would be saddled with the royalty instead of the colliery owners. The Royal Commission on Mining Royalties arrived at the unanimous conclusion after four years' investigation that 'the system of royalties has not interfered with the general development of the mineral resources of the United Kingdom, or with the export trade in coal with foreign countries,' which is, of course, quite a different thing from saying that the system

of ownership has not interfered with the development of our mineral resources.

Only the consumer would gain by any reduction in royalties. The *immediate* result of the abolition of royalty rents would be that the money would go into the pocket of the colliery owner; labour would soon assert its claim to a portion of the whole, but in the first declining market the price would fall until the margin of profit would be reduced to its limit, and the consumer would receive the benefit at the cost of the State—if the State became the owner of the coal. The *ultimate* result would be a reduced selling price, and a stoppage of the inferior collieries unable to bring down their working costs to the required point. The rent may therefore be regarded as a differential advantage in production to the extent of 7*d.* per ton, if we take the minimum rent to be 3*d.* and the maximum 10*d.* per ton; and if we assume that the amount is fixed in proportion to the profit-making capacities of the collieries, the rent enables the inferior collieries to be worked at the same time as the superior collieries.[1]

If, however, a system of collective production was operative, whereby the colliery interests were amalgamated, the differential effect would, of course, be less pronounced.

[1] The maximum rent charged at the present time is in excess of 10*d.* per ton, so the differential advantage will be greater.

The Mining Agent or Check-Viewer. — The interests of the lessor or owner of a mineral property are usually attended to by a qualified mining engineer acting on his behalf. Such a mining agent, or, as he has for long been known in the Great Northern Coalfield, check-viewer,[1] will ordinarily arrange the terms of the lease, obtain, and check as far as possible, the accounts of the coal worked from the property, and, if any, of the coal worked in other properties and conveyed through the property in respect of which he is agent, this coal being chargeable with outstroke or wayleave rent. He will render accounts for the payment of the rents when due, and he will make occasional inspections of the plans and of the underground workings of the mine, with a view to seeing that all the coal is got so far as possible, and the covenants in the lease are being fulfilled by the lessee or lessees, and generally that the interests of the lessor are not allowed to suffer.

[1] Viewer is an old term for a colliery manager. The word is a corruption of the Norman French word ' Vieuer,' an overlooker, used to denote a chief forester. Up to the passing of the Coal Mines Regulation Act of 1887 all colliery managers in the North of England were termed viewers, and under-managers, under-viewers. The aforesaid Act, prescribing certain duties and responsibilities to ' managers ' and ' under-managers,' has tended to obliterate the use of the words ' viewer ' and ' under-viewer.'

CHAPTER V

RENTS AND ROYALTIES (CONTINUED)—CLAYS, OIL SHALES, IRON STONES—BUILDING STONE AND GRAVEL—METALLIFEROUS ORES

THE clays worked in the United Kingdom are divisible into (*a*) common soft surface or brick clays, (*b*) the stratified fire clays, and (*c*) china clay. The first, which are of recent formation and of alluvial origin, occur either on or near to the surface, and being soft the material is got by digging and is used for making the common red bricks, tiles, and drain pipes, etc.

(*b*) *Stratified fire clays* occur commonly in the coal measures as argillaceous shales,[1] usually immediately underlying the coal seams, and are known as underclays. They constituted the earth substance in which grew the giant club mosses and ferns, the spores and texture of which in the process of time went to form the coal seams. Pure clay is silicate of alumina, and the higher the percentage of silica present the more refractory is the clay and the more it approximates

[1] And in the case of the more refractory clays *arenaceous* shales.

to a true fire clay. Some of these fire clays have become so highly silicified as to be almost crystalline, as in the case of the ganister 'clays' of Yorkshire, and are so hard that they can only be got by drilling and blasting. The ganister is used for making the more refractory bricks and the lining of furnaces and suchlike. Other and less silicified clays are the marls of the triassic and certain beds of the tertiary formation which are used in the making of coarse pottery.

China Clay.—The distribution of china clay, the origin of which is an obscure geological problem, though the generally accepted theory is that it is the result of the disintegration of the felspar of the granite rocks on which it occurs, is practically confined to limited parts of Cornwell and Devon, the deposits occurring a few feet below the surface in shallow hollows. The commercial products therefrom are bleaching clay, china clay, fire clay, mica, pot granite, bricks, and sand.

Royalties chargeable in respect of Clay.—The value of a clay depends, of course, on its purity and suitability for the purpose to which it is to be put. Many building and fire clays contain impurities, *e.g.*, iron, lime, manganese, and alkaline salts, to such an extent as to render them unsuitable for manufacturing processes, but, for some purposes, a certain amount of some impurity is desirable, *e.g.*, both iron and lime act as a flux.

The position of the deposit of a building or of

THE OUTPUT AND VALUE OF GANISTER, FIRECLAY, CHINA CLAY, AND CHINA STONE DURING THE FIVE YEARS 1909–1913, INCLUSIVE, ARE SHOWN BELOW.

	1909.		1910.		1911.		1912.		1913.	
	Output.	Value.	Output.	Value.	Output.	Value.	Output.	Value.	Output.	Value.
	Tons.	£	Tons.	£	Tons.	£	Tons.	£	Tons.	£
Ganister	229,755	*	255,073	*	256,773	*	312,095	*	311,697	*
Fireclay [1]	2,695,861	*	2,484,069	*	2,482,846	*	2,287,719	*	2,585,763	*
China clay	710,380	479,753	773,261	534,936	787,576	537,170	860,649	597,977	838,651	607,890
China stone	56,028	26,352	68,607	31,036	61,962	28,491	73,284	35,147	66,626	32,402

* Not available.

[1] Probably the quantity of fire clay and semi-fire clay worked in coal mines far exceeds the figures given, as much such clay is worked and converted into bricks for local and colliery consumption.

a fire clay has an important bearing in determining the amount of the royalty. Thus, obviously, the royalty chargeable in the case of a building clay is higher if the clay is found near to a large town where there is a good market for building material than if the deposit is in some remote inaccessible spot.

In respect of building clays a certain rent is usually paid as surface rent for a given area required for manufacturing purposes and so much per acre worked over and above the stipulated area. The rent for the latter is commonly double the agricultural rental value and merges in a royalty, but ceases when the ground is restored to an agricultural condition.

Where paid by the ton the royalty, in respect of common clay worked by open workings, is usually about 3*d.*, but this method of payment is seldom adopted. The royalty is more commonly fixed at so much per thousand bricks made, and usually varies from 9*d.* to 2*s.* 6*d.* per thousand, according to the quality of the clay and position of the brick 'yard' as already stated. The royalty on clay used in the manufacture of field drain pipes, tiles, etc., is also commonly paid at a price per 1000 made. About three tons of clay are required to make 1000 ordinary bricks. Sometimes the royalty is calculated according to the number of cubic yards of clay worked.

Fire Clay.— In the case of fire clay when worked

in the coal measures the terms and conditions laid down in respect of coal generally apply, the only difference being that the amount charged as royalty is lower than in the case of coal, thus in South Staffordshire and East Worcestershire, where much clay is worked—in some of the smaller collieries more clay is drawn than coal—the general average royalty in respect of fire clay is 4*d.* per ton. In Scotland it also averages about 4*d.* per ton.

Ganister.—With regard to ganister, a highly silicified fire clay occurring in the coal measures in certain parts, which is largely worked in Yorkshire, the royalty, when the ganister is mined, is usually, in the Sheffield district, £150 per acre, which works out at about 5*d.* per ton; where the ganister is quarried the royalty is 6*d.* per ton. In some cases a royalty as high as 1*s.* per ton has been charged.

China Clay.—With regard to china clay, properties are let under a certain or dead rent merging in the royalty and a further rent is reserved in respect of the ground destroyed. The royalties are on somewhat the following scale:

Blue and white china clay.	3*s.* to 4*s.* 6*d.* per ton.
Cream white china clay .	2*s.* ,, 2*s.* 6*d.* ,,
Mica	9*d.* ,,
Pot granite	4*d.* ,,
Bricks	4*d.* ,,
Sand	4*d.* ,,

The question of wayleaves and water rent occasionally have to be considered in renting china clay properties, an adequate water supply being an important item in the reduction of the raw clay into the commercial commodity.

Oil Shale.—The oil shales of the United Kingdom occur chiefly in Scotland (Edinburghshire and Linlithgowshire) in the calciferous sandstone underlying the coal measures, and have been worked for many years, but oil shales have been and are worked from time to time to some small extent in Flintshire in North Wales. Quite recently, since about 1915, attention has been directed to the beds of oil-bearing shales occurring in the oolite formation of Dorsetshire and Norfolk, and their exploitation is being carried on in West Norfolk, but it is somewhat too early to prognosticate the commercial results.

The total output of oil shale for the whole of the United Kingdom in 1913 was 3,280,143 tons, giving an average yield of 22 gallons of oil and 45 lbs. of sulphate of ammonia per ton of shale. The average value per ton of this shale was 5*s.* 0·17*d.*

The terms and conditions exacted in respect of the oil shales of Scotland are very similar to those in operation in regard to the neighbouring coal mines. The royalty in the West of Scotland varies between 3*d.* and 9*d.* per ton of shale raised,

and in Fife and the Lothians between 6*d.* and 1*s.* When the royalty is based on a sliding scale it varies between $\frac{1}{15}$ and $\frac{1}{16}$ of the selling price.

Stratified Ironstone.—Stratified ironstone occurring in the coal measures interstratified with the coal is worked in the coalfields in various parts of the United Kingdom, but chiefly in Scotland and North Staffordshire, where it is known as blackband or clayband, according to its composition, and is in reality a ferruginous shale. It is also worked—and this is the chief source of supply within the United Kingdom—in the middle liasic formation of the Cleveland district of North Yorkshire, and is known as clay ironstone or clayband ironstone, the beds in which it is worked being imperfect limestones permeated with carbonate of iron. Red hæmatite or oxide of iron seldom occurs in the stratified form, though occasionally it is so found in beds of other material permeated with the oxide. It usually occurs in the amorphous form. The brown hæmatite ('Limonite') occurs in the inferior oolitic and lias formations of Lincolnshire, Northamptonshire, Leicestershire and Rutlandshire, and vigorous working of these deposits commenced forty years ago. The first extensive leases were granted in Leicestershire in the year 1880.

The total outputs of iron ore from all sources

within the United Kingdom and the value of the ore produced for the five years preceding the war were as follows:

Year.	Quantity in Tons.	Value.
		£
1909 . .	14,804,382	3,678,802
1910 . .	15,226,015	4,022,269
1911 . .	15,519,424	4,035,893
1912 . .	13,790,391	3,763,837
1913 . .	15,997,328	4,543,558

For the fluctuations in the prices of iron for each year over the period 1873–1913 inclusive see the diagram on page 66.

Of the annual output of ironstone about one and three-quarter million tons are hæmatite. Thus, in 1913, 1,881,853 tons of iron ore were produced from mines under the Metalliferous Mines Regulation Act. The stratified iron ore is derived from mines under the Coal Mines Act.

The hæmatite is the richer ore; thus that of Cumberland contains on the average about 53 per cent. of metallic iron, whereas the average metallic yield of the main seam of Cleveland clay ironstone is about 30 per cent.

The terms and conditions relating to the renting of ironstone follow very closely those appertaining to the letting of coal seams in the district in question, though the amount of royalty rent charged is usually higher and varies, generally,

according to the richness of the seam. Thus in Scotland the royalty varies from 6*d.* to 2*s.* 6*d.* per ton of stone, and where it is on a sliding scale basis from $\frac{1}{12}$ to $\frac{1}{8}$ of the selling price. The average in the West of Scotland is about 6*d.* per ton; in Fife and the Lothians about 1*s.* 6*d.* per calcined ton of blackband and 5*d.* per ton of clayband.

In North Staffordshire the claybands as well as the blackbands were extensively worked, but the present output is mainly derived from the blackbands. The stone is calcined before passing to the furnaces and the royalty is payable per ton of calcined stone, an average royalty being about 10*d.* per ton. The raw stone, by calcining, is reduced by from 45 to 50 per cent. In South Wales the average is about 8*d.* per ton of raw stone.

In Cleveland the conditions of the leases are very similar to those of the Durham coalfield, and the royalty is usually about 5*d.* per ton of raw stone.

The royalties in respect of the brown hæmatite are about as follows:

Northampton, 2½*d.* to 6*d.*; average 4*d.* per ton of raw stone.

North Lincolnshire, 9*d.* to 1*s.* 6*d.*; average 1*s.* per ton (of 21 cwt.) of raw stone.

Leicestershire, 6*d.* to 9*d.*; average 7½*d.* per ton of raw stone.

Oxfordshire, 2*d.* to 3½*d.* per ton (of 21 cwt.) of raw stone.

Unstratified Iron Ore.—Under this head is included the red hæmatite iron ore of Cumberland and North Lancashire, which occurs in pockets or masses in carboniferous limestone.[1]

The custom is for a proprietor to give a 'take note' to the adventurer, which enables him to search for minerals, and entitles him to a lease in the event of his desiring to proceed further.[2]

Such leases are usually for a period of 21 years. There is no definite rule as to the amount of the certain or dead rent, which may vary between £100 and £4000 per annum, being dependent upon the size of the deposit, its richness, position, and the district in which it occurs. The rent is payable half-yearly and merges in the royalty, the latter being calculated usually in accordance with a sliding scale based upon the selling price of the ore at or near the mine. Such sliding scales also vary somewhat, and the following are given as examples:

(1) In the Furness district the scale is:

$\frac{1}{7}$ where the price of the ore is under 12*s.* per ton.
$\frac{1}{6}$,, ,, is between 12*s.* and 16*s.* per ton.
$\frac{1}{5}$,, ,, is above 16*s.* per ton.

[1] The Royal Commission on Mining Royalties is incorrect in stating (p. 7) in their final Report that as these deposits occur in lodes there is great uncertainty as to their produce; in the North of England, hæmatite rarely occurs in lodes but in masses.

[2] Final Report, Royal Commission on Mining Royalties, p. 7.

(2) In the Whitehaven, S.-West Cumberland, district the following scales are operative :

Minimum Royalty.	Sliding Scale.
8*d*.	$\frac{1}{8}$ up to 12*s*., $\frac{1}{7}$ up to 14*s*., $\frac{1}{6}$ up to 18*s*., and $\frac{1}{8}$ above 18*s*.
9*d*.	at 8*s*. per ton and the scale rising in a varying proportionate part of each 6*d*.
2*s*.	$\frac{1}{7}$ of selling price above 14*s*. per ton.
2*s*.	$\frac{1}{6}$ up to 15*s*., and $\frac{1}{8}$ above 15*s*. per ton.
2*s*.	$\frac{1}{6}$ up to 18*s*., and $\frac{1}{8}$ above 18*s*. per ton.
2*s*.	$\frac{1}{6}$ up to 18*s*., $\frac{1}{4}$ to 24*s*., and $\frac{1}{3}$ above 24*s*. per ton.

(3) Whitehaven, Cleator Moor, and Egremont districts :

When the market value of iron ore or iron stone does not exceed 9*s*. per ton of 20 cwts., 1*s*. 6*d*. per ton.

For every advance of 6*d*. per ton in selling price up to 14*s*., 1*d*. per ton advance.

For every advance of 3*d*. per ton in selling price from 14*s*. up to 20*s*., 1*d*. per ton advance, and for every advance of 2*d*. per ton in selling price from 20*s*. and upwards, 1*d*. per ton advance.

Where a sliding scale is not in operation the royalty also varies in respect of different mines; the following have been paid: 6*d*., 1*s*. 4*d*., 2*s*. 6*d*., 6*s*. 8*d*., and even 15*s*. per ton of 20 cwt., and figures intermediate between these.

Power to make up shorts is granted some-

times within definite periods, in other cases at any time during the lease. Surface wayleaves vary between 1*d.* and 4*d.* per ton. Sometimes there is no underground wayleave charged, in other cases it varies from ½*d.*, 1*d.*, 2*d.*, and 3*d.* per ton. In the case of shaft rent also in some cases the shaft is free of rent on 'foreign' ore, in others 1*d.*, 2*d.*, or even 3*d.* per ton is charged.

Building Stones: (*a*) *Slate.*—The greater part of the slate produced in these islands is derived from beds of Cambrian and of Lower Silurian (Ordovician) age in North Wales, and of this about two-thirds is produced from quarries and one-third from mines. Of the 370,756 tons produced in 1913 Wales accounted for 301,444 tons.

The output and value of slate for the five years preceding the war were :

Year.	Output, tons.	Value.
		£
1909 . .	402,184	1,007,013
1910 . .	416,324	1,063,994
1911 . .	425,125	1,050,667
1912 . .	383,422	972,022
1913 . .	370,756	926,739

Slate quarries are usually leased, the term varying from 21 years (under the Crown), with option of renewal, to 40, 50, or even 60 years. Royalty rent is payable, the amount varying, in accordance with the character of the slate and the locality

of the quarry, between $\frac{1}{20}$ and $\frac{1}{12}$ of the value of the slates at the quarry. A dead or certain rent is usually imposed mergeable in the royalty, the effect of course being to ensure the quarry being worked. A price is also charged in respect of land and for tipping purposes, the amount being the fee simple value of the land.

(*b*) *Building Stone, Stone for Road-making, Limestone, Chalk, etc.*—In respect of *chalk* Kent is the most important county, and many quarries there produce more than one hundred thousand tons annually. A large part of the chalk produced in Kent and Essex is employed in the manufacture of Portland cement at works on the banks of the Thames and the Medway. The output of chalk in 1913 was 4,858,126 tons, valued at £213,479. The output of *chert* and *flint* for the same year was 74,858 tons, valued at £12,781.

The *igneous rocks* worked include such rocks as granite, syenite, diorite, basalt, etc., and are principally used for road-making and paving, and in some cases for masonry, monumental and other. The total output under this head during 1913 was 7,098,493 tons, valued at £1,386,022.

Of *limestone* (exclusive of chalk) there were produced, in 1913, 12,740,664 tons, valued at £1,369,168.

The quantity of sandstone worked for 1913 was 3,977,303 tons, valued at £1,143,431, but

of this 311,697 tons was ganister, which has been alluded to under the heading of Clay.

With regard to *sandstone*, *gravel*, and *sand*, more particularly in respect of the last two materials, the official figures are not a sure guide as to the actual output, for much is worked from quarries shallower than 20 feet, and it is only in respect of quarries of 20 feet and more that the official returns are made. The official figures as to output of *sandstone* for the year 1913 show that from mines and quarries 3,977,303 tons were produced, valued at £1,143,431, and of *gravel* and *sand* from mines and quarries 2,409,152 tons, valued at £184,818. Much sandstone is mined for local building purposes at the mine and not for sale which is not included in the official returns.

It is not possible to lay down any hard-and-fast rules respecting the rental value of quarries of these classes of stone; it depends on the intrinsic value of the stone, which varies greatly, and the proximity to market, and on railway and canal facilities. A certain or dead rent is usually charged, and in addition thereto a royalty on so many cubic feet extracted, usually 16, 18, or 20 cubic feet.

To quote two possible extremes, a high-class marble near to good transport facilities would fetch a high rental, whereas a quarry of ordinary building sandstone far distant from railways or

canal would probably be difficult to let, and then only at a rental of, say, *2d.* per cubic foot of stone extracted. For stone worked from *igneous rock*, used for macadam, royalties ranging from *1d.* to *4d.* per ton are paid, and for dressed stone or 'setts' from *3d.* to *8d.* per ton, according to size. When royalty on *sandstone* is charged by the ton the usual rates range between *3d.* and *4d.*

Chalk in connection with *clay* is used in the manufacture of cement. In a recent instance (1920) the royalty payable under the lease for chalk and clay together was *6d.* per ton of cement manufactured, and this was considered very favourable. Sand and gravel in the same instance (Kent) were charged *2d.* per cubic yard. These royalties were believed to be the lowest in the United Kingdom for these cement making materials.[1] The amount of the royalty charged in respect of *sand* and *gravel* is governed very largely by the position of the deposit and the demand, and ranges from *6d.* to *1s. 6d.* per cubic yard.

Metalliferous Ores.—The metalliferous ores worked in Great Britain other than those already mentioned are :

Gold.
Tin (cassiterite) with tungsten (wolfram).
Copper (pyrites).

[1] See prospectus of the Kent Portland Cement Company, Limited, March 1920.

Lead (galena).
Zinc (blende).
Barytes (both barytes and witherite).

The Ownership of Metalliferous Minerals.— As we have seen,[1] mines of gold and silver are Royal mines. That is to say property in these minerals is vested in the Crown wherever found in the United Kingdom. As to Scotland there is an old Act of 1424, Cap. 12 (*temp.* James I of Scotland), which enacted that :

' If any Mine of Gold or Silver be found in any Lord's lands of the realm, and it may be proved that three half pennies of silver may be fined out of the pound of lead, the Lords of Parliament consent that such mine be the King's, as is usual of other realms.'

The consent thus given involves the acknowledgment that, in Scotland, minerals (other than gold and silver) were not *inter regalia* (*i.e.*, within the Crown rights), but passed without express mention in a charter by the common law of the land.

In the year 1568, in the case of *The Queen* v. *Northumberland,* the decision of the judges was to the effect that only mines of gold and of silver belonged to the Crown, and that the baser metals belonged to the proprietor of the land; but it was also held that a mine of the baser metals, if they contained any gold or silver,

[1] *Ante,* p. 11.

belonged to the Crown. Seeing that both these rare metals occur in many minerals in small quantity, the uncertainty and complications caused by this ruling, if enforced, would very seriously interfere with the mining industry, and the point was ultimately settled by the Acts of 3 William and Mary, c. 30, 5 William and Mary, c. 6, and 55 George III, c. 134, which confirmed private property in mines containing copper, tin, iron, or lead, even though these minerals might contain some gold or silver, subject, however, to the right of pre-emption of the minerals by the Crown, a right which has never, so far, been exercised.

Gold and Silver.—But little native gold is mined in the United Kingdom. Although spasmodic mining of that mineral has been for long carried on in different parts, notably in North Wales, where occasional rich strikes of gold have been made in the veins traversing the Silurian rocks in parts of Merionethshire, more particularly where the veins traverse the Menevian shales. The largest output of gold was in the year 1904, when the production was 19,655 ounces, valued at £73,925, and obtained from 23,203 tons of stone. The output for 1913 was 434 ounces, valued at £522, and produced from four tons of ore or stone. Native silver was also once mined in small quantity in the same county and elsewhere, but none has been obtained since

1907. In 1913, 9,865 ounces of silver were contained in copper ore, 27 ounces in gold ore, and 128,154 ounces were obtained from argentiferous lead ore, making a total of 138,046 ounces, valued at £15,854, from ores raised in the United Kingdom.

The Commissioners of Woods and Forests, under the direction of the Treasury, administer the mining property of the Crown, and the terms and conditions upon which they grant licences to work gold are as follows:

Power to search for gold is by way of 'take note,' which is obtainable on payment of a fee of £5. The permission is in respect of Crown property of areas varying from 100 to 300 acres and extends over a period of one year. The 'take note' carries with it the right to apply for a lease for twenty-one years of the area covered by the note. A small fixed rent is charged and a royalty, at the time of the inquiry by the Royal Commission on Mining Royalties (1893), amounted to from $\frac{1}{12}$ to $\frac{1}{15}$ of the gold raised.

The Crown has the power to grant licences to search for and work gold on private property; the right is seldom exercised. Where gold is worked on private property the Crown used until recently to claim a royalty of about $\frac{1}{30}$ of the gold raised. Of late years the terms have, however, been modified to some extent, so that in those cases where the Crown owns all the

minerals the royalty on gold and silver is $\frac{1}{25}$, and where the minerals other than gold and silver are held by private owners the royalty on the gold and silver payable to the Crown is $\frac{1}{50}$.

Metalliferous Mines other than Gold and Silver: Occurrence, Output, and Value.—The *tin ore,* which is nearly all obtained from Cornwall, occurs in the granite and the overlying slate. The returns supplied to the Home Office by owners 'show that the average percentage of metallic tin obtainable in the case of ordinary ores was 65·5. In the case of the produce of the so-called "stream works," the average percentage of metal obtainable was 46·4. The value of the 5,288 tons of metallic tin obtainable in 1913 would be, according to the mean monthly prices of English block tin in the London market for the year, £1,089,515, but owing to smelting losses this figure is not realised in practice.'[1]

The output and value of ore for the five years preceding the war were:

Year.	Output, tons.	Value.
		£
1909 . .	8,289	617,376
1910 . .	7,572	655,871
1911 . .	7,746	837,957
1912 . .	8,166	1,012,290
1913 . .	8,355	960,134

[1] *Vide* Part III, Annual Report of the Chief Inspector of Mines for 1913, p. 305.

The output for the year 1873 was 14,865 tons, valued at £1,056,835.

Copper.—The chief producing counties in respect of copper are Cornwall, Merioneth, and Argyll. The ore is obtained from veins in Silurian rocks.

The amount of copper obtained from the ores worked in the United Kingdom is about 4 per cent. more than the amount calculated from the dry assay. The value of the 421 tons of metallic copper obtainable in 1913 would be, according to the mean monthly prices of 'best selected' British copper in the London market for the year, £31,170. The output of copper ore used to be much greater than at present, thus, in 1873, 80,256 tons of ore and 60 tons of precipitate were produced. The output for 1913 was 2,569 tons, valued at £21,138, and 163 tons of precipitate, valued at £5,891.

Lead, Zinc, and Barium.—The lead ore which is mined in the United Kingdom occurs almost entirely as galena (sulphide of lead), and frequently associated with it is blende or zinc ore (sulphide of zinc). The veins occur most commonly in traversing the rocks of the carboniferous limestone series, but veins are occasionally worked in rocks of earlier (Silurian) and later (coal measures) origin. The spar accompanying these metals is sometimes barium (heavy spar or sulphide of barium) and more rarely witherite (carbonate

of barium). Barium (compounds) are chiefly obtained from County Cork, Durham, Northumberland, and Shropshire. Witherite is worked in Northumberland and Flint.

The amount of lead obtainable in smelting is about 95 per cent. of the dry assay value. Much of the galena contains enough silver to allow of its extraction.

The output and value of lead ore for the five years precedent to the war were as follows :

Year.	Output, tons.	Value.
		£
1909 . .	29,744	259,254
1910 . .	28,534	232,346
1911 . .	23,910	219,314
1912 . .	25,409	295,607
1913 . .	24,282	293,525

The value of the 18,130 tons of metallic lead obtainable in 1913 would be, according to the mean monthly prices in the London market, £341,977.

The highest output recorded was that for the year 1877, when 80,850 tons were produced, valued at £1,123,952.

The amount of silver obtainable from the lead produced in 1913 was 128,154 ounces.[1]

The loss of *zinc* in smelting British ores of that metal by ordinary methods has been esti-

[1] Omitting ores containing less than 3 oz. silver per ton of ore, and assuming that on an average ¼ oz. silver remains in each ton of desilverized pig-lead.

mated at from 15 to 34 per cent. of the metal in the ore. The output and value of the ore for the period 1909 to 1913 inclusive were as follows :

Year.	Output, tons.	Value.
		£
1909 . .	9,902	49,320
1910 . .	11,238	53,398
1911 . .	17,652	82,690
1912 . .	17,704	87,867
1913 . .	17,294	69,502

The greatest recorded output was that of 1881, when 36,440 tons were raised, the value of 35,527 tons of which was £110,043.

The output of barium (compounds) within the United Kingdom has been increasing of late years, and, prior to the war, the output for 1913 was the highest recorded.

The output and value in respect of the ore produced in the five years prior to 1914 were :

Year.	Output, tons.	Value.
		£
1909 . .	41,766	40,528
1910 . .	44,667	43,909
1911 . .	44,118	40,386
1912 . .	45,377	39,430
1913 . .	50,045	21,136

Prices.—The fluctuations in the prices of copper, lead, tin, and zinc in the London market

for each year within the period 1873–1913 inclusive are shown diagrammatically on p. 112. The highest prices are shown by the thick lines and the average prices by the thin lines.[1]

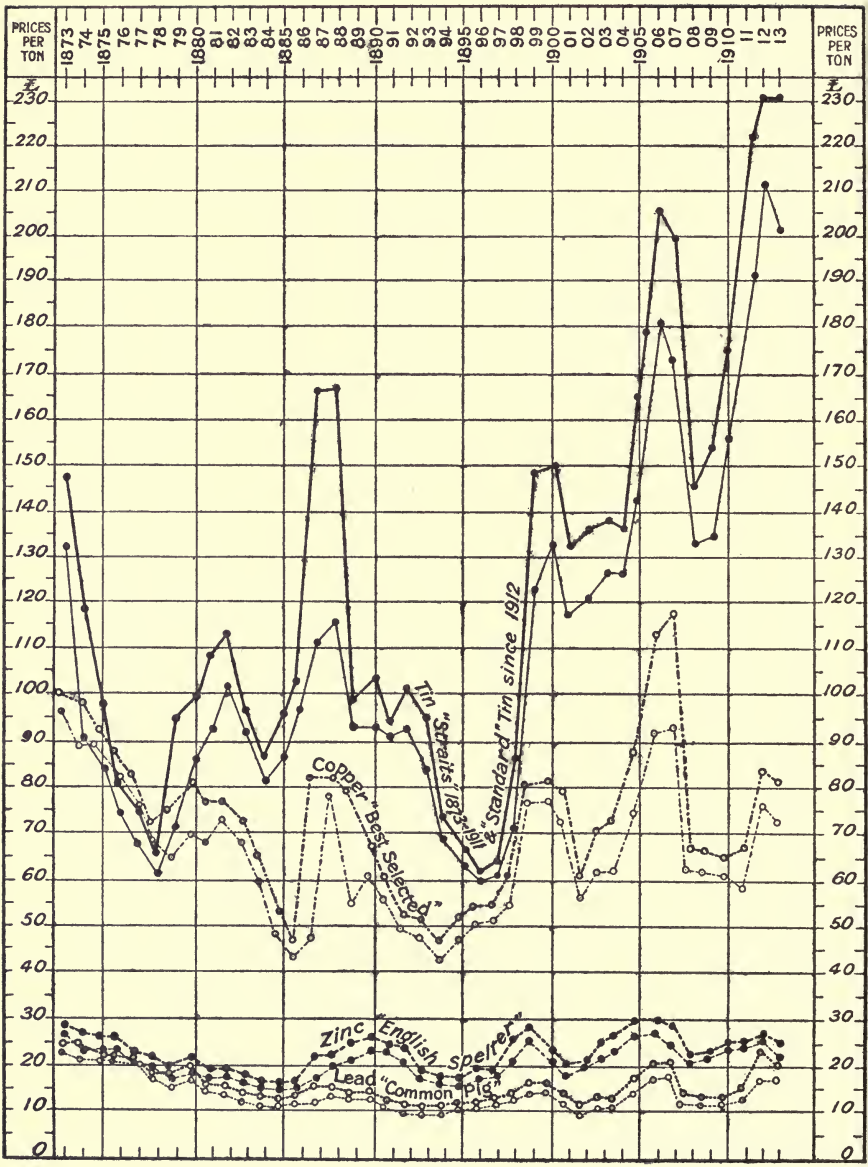
Gypsum (Hydrous sulphate of lime), which is chiefly worked in Cumberland, Nottingham, and Staffordshire, occurs in irregular bands and seams, and in spheroidal and lenticular masses in the Keuper division of the Trias. It also occurs, to lesser extent, in Derbyshire and Westmoreland in rocks of the same age, whilst in Sussex it is worked in the Purbeck beds. The output of gypsum for the year 1913 was 285,338 tons, valued at £90,450.

Salt (Sodium chloride) is chiefly produced from the brine wells of Cheshire, Durham, Lancashire, Staffordshire, Worcestershire, Yorkshire, County Antrim, and the Isle of Man, a little only being mined, viz., in Cheshire, Lancashire, and County Antrim.

In 1913, 2,033,185 tons were produced, valued at £572,890.

Metalliferous Mines other than Gold and Silver: Conditions as to Leasing—Rents and Royalties.— In respect of mines of tin, copper, lead, zinc, and barium the conditions as to leasing are very similar in each case. The period covered

[1] This diagram is reproduced, by the kind permission of H.M. Stationery Office, from Part III of the Annual Report of H.M. Chief Inspector of Mines for the year 1913.


PRICES PER TON
£
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
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1873
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1905
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07
08
09
1910
11
12
13
Tin "Straits" 1873-1911 "Standard" Tin since 1912
Copper "Best Selected"
Zinc "English spelter"
Lead "Common" pigs

by the lease is usually twenty-one years, with a certain or dead rent payable annually or half-yearly, mergeable in a royalty rent, the latter being a proportion of the value of the dressed ore, sold either off or on the premises of the mine. The proportion used to be from $\frac{1}{15}$ to $\frac{1}{20}$, but latterly the proportion reserved as the lessor's or lord's dues is from $\frac{1}{20}$ to $\frac{1}{30}$ of the value of the dressed mineral. A sum is usually reserved as water-rent when the water is obtainable within the 'sett,' as the area leased is termed, and there is generally a stipulation to the effect that all land permanently damaged by the mining operations of the lessee shall be met by a fixed payment per acre. In Cornwall from £75 to £100 are the customary rates in respect of enclosed lands, and for unenclosed lands one-half that sum.

Tin and Copper Mines of Cornwall and Devon.—The 'lords' in Cornwall generally stipulate in their leases that the mines (mostly tin mines, very little copper being now worked in Cornwall) shall be worked under what is known as the Costbook system. This is a system which is just like an ordinary partnership and by which every shareholder is liable. That is to say, if the mine failed and there were five shareholders and four became bankrupt the fifth would have to pay the whole of the debts. But the partnership is subject to the right of any partner (or

shareholder) 'relinquishing his share in the concern at any time by giving notice to the Secretary or purser to that effect. The liability of such shareholder then ceases, but he is bound to pay his proportion of the costs incurred to the date of relinquishment, and entitled to receive his proportion of the saleable value of the plant and machinery on the mine, and of the ores raised, without any allowance for goodwill.' [1] A system favourable to the lessor but one not commonly advocated by mining capitalists.

'The royalties *payable* in 1889 (39,129) on all tin and copper worked as determined from the assessments to rating show that the royalties averaged about one-twentieth of the value (£758,910) of the ores at the mine.' [2]

'The length of mineral leases in these countries is usually 21 years in accordance with ancient usage. The fixed, or minimum, rent is low and merges in a royalty which consists of a certain proportion of the price of minerals sold, varying from one-fifteenth to a much lower rate; it is occasionally assessed upon a sliding scale with a minimum, increasing when the price exceeds a certain sum per ton, but the general custom has been to renew them upon fair terms, unless the mine is worked in an unworkmanlike manner.' [3]

[1] Final Report, Royal Commission on Mining Royalties, p. 27. [2] *Ibid.* p. 12. [3] *Ibid.* p. 25.

The lessee, as a general rule, has power to surrender the lease on giving six months' notice of his intention to do so, the lord or lessor taking over the plant, etc., at a valuation. The buildings revert to the lord at the expiration of the lease without compensation to the lessee.

Lead Mines.—'The conditions of lead mining are much the same as those of iron-ore. Take-notes are given; the length of leases is usually 31 years, but the Ecclesiastical Commissioners give 60 years in Durham; fixed rents are low, and the royalties are assessed on a sliding scale, the proportion varying with the selling price of the ore. The scale varies considerably, an element in the value of the mine being the amount of silver found with the lead. The Great Laxey Mine, in the Isle of Man, which contains silver, pays one-tenth, other mines in the island one twelfth to one-twentieth.'[1]

The royalty now paid by the Great Laxey Mine is one-fortieth, and instead of the one-twentieth mentioned above, should be read one-twenty-eighth, to bring the record up to date.

The King's Field, situated in Derbyshire, is a district where lead has been worked from time immemorial, and in respect of which peculiar customs exist which were embodied and confirmed

[1] Final Report, Royal Commission on Mining Royalties, p. 8.

in 1851 and 1852[1] by two Acts of Parliament. In this area anyone has the right to search and work minerals therein under the control of a 'barmaster,' who is a statutory officer, without paying compensation to the owner of the surface. The royalty (dues) is paid to the Duchy of Lancaster, and consists of two parts, viz. 'lot' and 'cope,' the 'lot' being one-thirteenth or one-twenty-fifth of the merchantable produce (dressed ore) and the 'cope' 4*d.* or 6*d.* a load thereof; and the total has been calculated to be equivalent to about one-twentieth of the selling price of the lead ore raised. The 'King's Field' consists of the Wapentake[2] of Wirksworth and High Peak districts. The Act applies to the whole of the High Peak district, viz., to seven small liberties of the King's Field, viz., Monyash, Taddington, Upper Haddon, Castleton, Bradwell, Hacklon, and Winster, and also the 'out liberties,' but does not affect private properties, which are outside the Act. It is a part of the duty of the barmaster to see that the ore is measured by certain measures which are peculiar to the district. There is a bar-

[1] The High Peak Mining Customs and Mineral Courts Act, 1851, and the Derbyshire Mining Customs and Mineral Courts Act, 1852. Certain private liberties come under the latter, and others are under the old customs in respect to payment of dues.

[2] A 'Wapentake' is the term used in Yorkshire, Lincolnshire, Derbyshire, and Nottinghamshire to describe the county division termed a 'hundred' in the South of England, a 'ward' in the North of England, and a 'soke' in Peterborough.

master for the Wapentake of Wirksworth and another for the High Peak.

Zinc Mines.—The royalty in respect of zinc ore or blende is sometimes payable under a sliding scale, sometimes it is merely a fixed proportion of the dressed ore, usually about $\frac{1}{20}$. The following sliding scale was in operation at the famous Roman Gravel Mine, Shropshire, in the year 1891, viz.:

When £3 or under . .	$\frac{1}{22}$
Above £3 to £4 . .	$\frac{1}{20}$
,, £4 to £5 . .	$\frac{1}{18}$
,, £5 to £6 . .	$\frac{1}{16}$
,, £6 . . .	$\frac{1}{14}$

Base Metals generally.—In the case of base metals the proportional part deducted as royalty is usually in respect of the selling price of the dressed ore after deducting freight and insurance. The value of all the 'base' metals has enormously increased of late years, but how long the present inflated prices will continue no one can say. There is little doubt, however, that they will never return to the low level of pre-war years.

Thus the prices current in the London market at the time of writing are:

Tin . .	anything between	£380	and £400
Copper (standard)	,,	£108	,, £110
Lead (English)	,,	£50	,, £51
Zinc (spelter)	,,	£55	,, £58

Barium.—The royalty payable on barium in the form of 'heavy spar' is sometimes paid as a rate per ton, usually 9*d.* to 1*s.* 3*d.* per ton, but recently as high as 2*s.* has been reserved. Usually the royalty is from 3 to 5 per cent. of the selling price of the dressed spar at the mine.

Gypsum.—In the case of gypsum the royalty varies from 6*d.* to 1*s.* per ton, according to the quality of the mineral.

Rock Salt.—Reckoning on the figures contained in the Final Report of the Royal Commission on Royalties, the value of the royalty charged on rock salt (Cheshire) amounts to slightly less than 2*d.* per ton. In the case of the salt obtained from brine wells, the royalty may be taken at about 3*d.* per ton, to which should be added 3*d.* per ton, the amount which the producers pay in tax for surface damage due to subsidence.

CHAPTER VI

THE VALUATION OF MINERAL PROPERTY

THE correct estimation of the value of mining property for the purposes of sale and purchase and assessment for local taxation is a department of mining practice which until late years has been imperfectly understood by many persons engaged in the profession of Mining Engineering, and is still not completely understood by some. It is a branch of mining practice which has received but scant attention in the mining literature of the day. Of the two kinds of valuation, that of assessment for the purposes of local taxation has certainly been much more discussed in the pages of periodical technical literature and at meetings of mining societies than the subject of valuation of current going mining concerns, or of mining property (royalties), for the purpose of sale or probate, on account, perhaps, of the former being the more frequent form of valuation necessary, and its being made with the view of obtaining a reduction in the amount of rates payable to local authorities.

The necessity of pursuing the study requisite

to obtain the power of correctly ascertaining the value of mineral leases, property, and plant connected with mining is obvious, and was never greater than at the present time, in view of recent and contemplated legislation bearing on mining property within the United Kingdom. How to arrive at the difference between 'current going,' 'forced sale,' and 'redemption of capital,' 'depreciation of plant' are some of the items a correct knowledge of which is a most important part of the educational equipment of the mining engineer, and indeed of others connected with the mining industry.

EXPLANATION OF TERMS

(1) '*Years' Purchase.*'—The value of land is regarded in terms of so many years' purchase. Thus, for instance, good agricultural land in England is still in some parts worth 25 to 30 years' purchase, whilst in Ireland we would not be far wrong if we put its value as being about 20 years' purchase. To give a concrete example, suppose an intending purchaser desirous of buying 100 acres of land which brings by way of rent to its owner £2 per acre per annum. If the land is worth 30 years' purchase, the selling price of the 100 acres might be put at $100 \times 30 \times 2 = £6000$, if purchased as agricultural land. In like manner the annuities derivable from the minerals are reckoned in terms of years' purchase.

(2) *'Interest on Capital' and 'Redemption of Capital.'*—Suppose the capital in question is that sunk in a coal mine the lease of which is for a term of 60 years, the colliery lessee or lessees should receive during that period a fair annual return on the capital, which in valuations should be put at such a figure as to cover the risk inherent to such a speculative undertaking as mining, and such further interest should be allowed per annum as will, at compound interest, amount at the end of the lease to a sum equivalent to the capital sunk in the concern. That is, the colliery lessee should receive interest on his capital invested, and at the same time redeem his capital at another and smaller rate of interest. The force and justice of this proposition may, perhaps, be best realised by instancing the case of an investor who puts his money into a *'gilt-edged'* security, *e.g.*, an Imperial Government Loan. Such an investor receives his 4, 4½, or 5 per cent. per annum, as the case may be, and can, at almost any time, by selling out, get back a cash capital equivalent (or approximately equivalent) to that with which he originally purchased his stock. It is to be feared that the majority of mining companies do not adopt the sound financial principle of *'amortization'* of capital either by means of a special *'sinking fund'* or by taking out an insurance policy maturing at the end of the lease, but rather adopt the question-

able policy of declaring higher dividends than would otherwise be possible, and leaving it to the individual shareholder to devote part of his return to the purpose of '*redemption*' of his capital. But how many shareholders in mining concerns follow this sound practice?

It may be argued that a considerable portion of the capital will be realisable in the sale of the plant at the end of the lease; but as to the value of the plant at, say, 60 years hence, there must be a large element of doubt. The price realisable thereon will in great measure be determined by the condition of the mining property covered by the lease, whether exhausted or not, and if not exhausted, the extent of the reserves of minerals; also as to whether there is a right of renewal of the lease, or whether the plant must be valued at '*breaking-up*' price, '*auction value*,' etc. It is therefore advisable to redeem the capital in the manner already indicated and regard the sale of the plant as an extra to be taken into account in the valuation, paying due regard to the manner in which it will eventually be possible to realise it.

(3) '*Depreciation*.'—Plant, especially working plant, is exposed to a good deal of wear and tear, and therefore deteriorates from year to year unless kept up and renewed; to meet this depreciation, a certain sum must be set aside from every year's profits, before a dividend can properly

be declared, to defray the cost of repairs. The proper amount to set aside depends upon the nature and condition of the plant, a matter requiring considerable experience in determining. It will, as a rule, be greater in the case of *movable* than of *fixed* plant. Engineers are not all agreed as to the exact figures which should be allowed for depreciation, but the following percentages, which are taken from the figures agreed upon by both sides in an important rating appeal case, in which sixteen collieries were concerned, may prove of some guidance :

Fixed Plant:	Per cent.
Buildings	2½
Engines and machinery	5
Heapstead,[1] pulleys, pulley frames, and screens	5
Shaft guides, buntings,[2] keps,[3] and frames	5
Pumps, spears,[4] and buntings [2] in shaft	5
Pipes and appliances	5
Weighing machines	5
Saw mill plant	6
Gas works	7
Ropes and cages	33
Surface railway	7½

[1] *I.e.*, surface structure.

[2] *Buntings* or *Buntons*.—A north-country mining term for cross-timbers in the shaft to which are attached wooden, iron, or steel rail guides for the cage or for the support of pipes in the shaft.

[3] *Keps*.—An abbreviation of ' keeps,' a north-country mining term for the movable rest or landing for the cage on its arrival at the surface.

[4] *Spears*.—Pump rods.

	Per cent.
Underground tramway	10
Boilers	10
Movable Plant:	
Colliery tubs [1]	10
Horses and ponies	12
Carts and harness	12
Tools and appliances	12½

(4) '*Annuities.*'—Annuities enter so largely into the question of valuation, and the mathematical reasoning underlying the estimation of their value is so little understood except by mathematicians and professional actuaries, that it will not perhaps be considered an undue appropriation of space if we venture on a somewhat detailed, if elementary, explanation of the subject.

There are various kinds of annuities—an annuity is termed '*certain*' if it is continued for a definite number of years; but if payable only so long as the life of one or more individuals it is known as a '*contingent*' life annuity; if an annuity is to be continued for ever it is alluded to as a '*perpetuity*' or as being '*in perpetuity.*' When an annuity is payable at the present time it is said to be '*in possession*'; but if the payment is not to commence until some time has elapsed it is then a '*deferred*' or 'reversionary' annuity.

[1] *Tubs.*—Trams or small wagons used below ground for the conveyance of coal.

(5) *'Amount' of an Annuity.*—The 'amount' of an annuity is the sum which it will amount to in the given time if invested at the given rate of compound interest. The amount accordingly varies as :

(*a*) the value of the annuity;
(*b*) the period taken;
(*c*) the rate of interest.

The Principles of Valuation.—Mining property, whether regarded from the point of view of a lease or as a current-going concern, is productive, presumably, of certain annuities, the determination of which is often a matter of some skill in accounting. The '*present value*' of the annuities (and, in the case of a current-going colliery, *plus* the present value of the sum the plant will ultimately realise or may be put at) is the value of the colliery. The '*purchase price*' is, therefore, the sum paid down, and in order that the bargain may be an equitable one, the sum paid down should in the case of a mine be such that the purchaser, at the expiration of the term for which the lease has to run, shall receive back his original outlay, together with the interest per cent. agreed upon.

The first payment of an annuity is supposed to be made at the end of the first year, thus if the annuity is for a period of 10 years, deferred for 5 years, the first payment will be made at the end of 6 years, and the annuity is said to

be '*entered*' upon at the commencement of the sixth year.

The mathematical labours of the valuer are much reduced by his being able, in many instances, to resort with safety to existing works of valuation tables, although in respect of some calculations, as will presently be shown, many of these books of tables are either incomplete, or, as to part, unreliable in point of the mathematical reasoning on which they are founded.

The Foundation of Valuation Tables.—The following arithmetical and algebraical calculations will serve to elucidate the reasoning on which the tables are or should be based, and at the same time demonstrate some of the points already alluded to.

(1) *To find the Amount of an Annuity certain.*—Suppose that it is required to find the *amount* of an annuity of £1 for, say, 10 years, and that the given rate of interest is 5 per cent.; it is obvious that the tenth payment would be simply £1, for it is paid as it becomes due; that the ninth would become 1·05, and the eighth $1{\cdot}05^2$, and so on.

Therefore the amount would equal

$$1 + 1{\cdot}05 + 1{\cdot}05^2 + 1{\cdot}05^3 \ldots 1{\cdot}05^9$$

That is to say, the quantities are in geometrical progression, the common ratio being 1·05.

$$\text{hence the amount} = \frac{1{\cdot}05^{10} - 1}{0{\cdot}05}$$

or, algebraically, where

S = the sum of n terms (= 10)
a = ,, first term (= 1)
r = common ratio (= 1·05)

$$S = \frac{ar^n - a}{r - 1}$$

(2) *To find the Present Value of an Annuity certain.*—To do this (granted the annuity is £1) take the amount of £1 at the given rate of interest for the period of the annuity, subtract from it the sum of £1, and divide the result by the amount of £1 at the given rate of interest for the period taken, multiplied by the rate of interest, the result being the present value of an annuity of £1. More simply, from £1 subtract the present value of £1 due at the end of the period and divide the result by the interest of £1 for one year. If the annuity is greater than £1, the present value thereof is formed by multiplying it by the present value of an annuity of £1 for the given period, calculated at the given rate of interest.

The reasoning by which this rule is arrived at is somewhat similar to that of the last instance, and may be considered as a reversed calculation; thus the present value

$$= \frac{1}{1{\cdot}05^{10}} + \frac{1}{1{\cdot}05^{9}} \cdots + \frac{1}{1}$$

It is convenient to denote the reciprocal of $1{\cdot}05^{10}$ by $1{\cdot}05^{-10}$.

$$\text{Present value} = \frac{1 - 1{\cdot}05^{-10}}{0{\cdot}05}$$

When the annuity is perpetual its present value is found by dividing the annuity by the interest of £1 for a year.

(3) *To find the Present Value of a Deferred Annuity.*—The process in such a case is to determine the present value of £1 from the present time until the termination of the annuity, and deduct this from the present value of £1 for the time until the annuity is entered upon, dividing the remainder by the interest of £1 for a year; the quotient multiplied by the given annuity will be the present value of the annuity. For example, required the present value of an annuity of £1 per annum at 5 per cent. '*in reversion*,' commencing at the end of five years and continuing for ten years.

$$\text{The present value} = \frac{1{\cdot}05^{-5} - 1{\cdot}05^{-15}}{0{\cdot}05}$$

The reason for this rule is simple enough, for, in other words, the present value of a deferred annuity is equal to an equivalent annuity from the present time until the end of its continuance, diminished by the present value of the same annuity for the time that must elapse before it is entered upon.

Thus the present value for 15 years $= \frac{1 - 1{\cdot}05^{-15}}{0{\cdot}05}$

and ,, ,, 5 ,, $= \frac{1 - 1{\cdot}05^{-5}}{0{\cdot}05}$

and subtracting we obtain $\frac{1{\cdot}05^{-5} - 1{\cdot}05^{-15}}{0{\cdot}05}$

(4) *The Present Value of Annuities allowing Two Rates of Interest.*—The calculations are, however, somewhat more complicated when we come to consider the case of payments which must contain two rates of interest, namely, the interest on the purchase-money together with a return per annum of a part of the purchase-money.

The *rent* of the annuity in these circumstances consists of two portions—the *remunerative* rate and the *accumulative* rate.

Taking r to represent any integral number of years.

i ,, the remunerative rate of interest.

j ,, ,, accumulative rate of interest.

1 ,, ,, £1.

s'_n ,, ,, amount of £1 per annum accumulating for n years at rate of interest j.

P_n ,, ,, present value of an annuity of n years payable yearly.

Now we may create a sinking fund to be set aside and separately invested and accumulated so as to liquidate the debt or capital and extinguish it *suddenly* at the end of the period, or we may regard each portion of capital in the successive payments of the annuity to be at once applied

towards liquidating the debt, which will then gradually decrease until it finally vanishes; in which case, as the debt is being paid off, a less and less proportion of the annuity will be required for interest, and a greater and greater proportion will be available to refund the capital. The two ways of regarding the transaction are the same. The sinking fund may be invested in separate securities until it amounts to the debt, or it may be invested in the security of the debt itself.

The sinking fund is therefore of the nature of an annuity which must accumulate at interest until it amounts to the original capital, and hence

$$P_n = \frac{s'_n}{1 + is'_n}$$

(5) *The Present Value of a Deferred Annuity in which Two Rates of Interest are involved.*—The calculation given above is that on which most of the valuation tables are based for the purpose of determining the present value of annuities involved; but when it comes to considering the problem of a *deferred* annuity, under such conditions, authorities are at variance: thus the method adopted by one eminent valuer was to find the value of an immediate annuity at the two rates, and discount the value so obtained for the period of deferment at the higher rate, whereas it is not according to the conditions

of the problem to use one rate only during the period of deferment.

A formula which has in recent years been favourably received and has been adopted by many mining engineers is that of Mr. George King, and since the practice of the use of a particular formula in arriving at a value guides a buyer and largely determines the price, the universal adoption of this formula would establish its position eventually as the correct one. This formula, then, is for the valuation of an annuity for n years, to commence at the end of t years, so that throughout the period the rate i per cent. per unit is realised on the capital and the capital replaced by a sinking fund accumulating at another and lower rate j, is found by multiplying the present value at the rate j of the series of payments by

$$\frac{(1+j)^n}{1+is'_n}$$

So $$P_{t+n} = \frac{(1+j)^n}{1+is'_n} \times \left(\frac{a'}{n+t} - \frac{a'}{t}\right)$$

Where $\frac{a'}{n+t}$ = the present value of £1 per annum for $n-t$ years at the rate of interest j, and $\frac{a'}{t}$ = the present value of £1 per annum for t years at the rate of interest j.[1]

[1] For the clear mathematical reasoning by which this result

The doctrine on which this formula is based may be stated thus :

(1) A speculator is, throughout the period of waiting or deference, only entitled to interest at a high risk rate on his original invested capital.
(2) During deference the latent interest (or hypothetical dividends) should accumulate at a low rate of compound interest.

The income during a period of enjoyment comprises :

(3) A high risk rate of interest on the original capital only ;
(4) a low rate of interest upon the accumulation ;
(5) the exact extra annual sum required as a sinking fund (put out at a low rate of interest) to replace the capital and accumulation at the figure at which it stood at the end of the deference immediately before entering on the annuity.

is arrived at we would refer the reader to pages 38 and 39 of the third edition of 'The Theory of Finance,' being a short treatise in the Doctrine of interest and annuities certain by George King, F.I.A., F.F.A., Actuary of the London Assurance Corporation. Printed and published for the Actuarial Society of Edinburgh by Charles & Edwin Layton, 56 Farringdon St., London, 1898.

Mineral rights which have to be valued may be divided into three different classes, viz. :

(1) Terminal Annuities with immediate entrance.
(2) Terminal Annuities with entrance deferred.
(3) Lump sums due after a period of deference.

Valuations of all these rights may be governed by Mr. King's stipulations.

In the example given on pages 152–3 each of these three classes is represented.

Various formulæ for the solution of the problems have been invented, and some of these formulæ are very complicated.

Probably the simplest form which has been arranged, and the one which it is easiest to remember, is the following :

$$\text{Y.P.} = \frac{a}{1 + \frac{AR}{100}}$$

Here a is the amount to which £1 per annum accumulates in e years at r per cent.
A is the amount to which £1 per annum accumulates in t years at r per cent.
r is the accumulative low rate of interest.
R is the remunerative high rate of interest.
d is the period of deference.
e is the period of enjoyment.
t is the total period $= d + e$.

In using the above formula the only interest tables required are those which give the accumulated amount of £1 per annum at a few low rates of interest.

Such tables are readily available, being found in many ordinary books of reference.

In the absence of a book of interest tables the amount of £1 per annum may easily be calculated by the usual formula :

$$A = \frac{Q^n - 1}{Q - 1}$$

where Q is the amount of £1 plus one year's interest and n is the number of years.

Example : Find the amount of £1 per annum in five years at 4 per cent. :

$$\frac{1{\cdot}04^5 - 1}{1{\cdot}04 - 1} = \frac{1{\cdot}21666 - 1}{1{\cdot}04 - 1}$$
$$= \frac{{\cdot}21666}{0{\cdot}04} = 5{\cdot}416.^1$$

Various Kinds of Valuations which are required in respect of Mining Property.—Valuations of mining proverty are, as has already been indicated, of various kinds and for the fulfilment of various purposes. They may be summarised as valuations of :

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[1] For the above we are indebted to Mr. R. F. Percy, who has reduced the formula to its simplest form.

(*a*) Mineral freehold property *per se* in which the annuity is that payable by reason of the rent or royalty, the valuation being made for the purpose of sale or probate.

(*b*) Current going mining concerns, in which the annuity is the net profit derived from the sale of the minerals worked.

(*c*) Mines for the purpose of local taxation.

The questions involved and the method of making the respective valuations shall now receive our attention.

The Valuation of the Freehold in Mineral Property.—The actual mathematical process of making the valuation of a mineral property is of course the same whatever the nature of the mineral, but the ascertainment of the reserves of mineral, probability of development, and, if developed, the life of the property as a mining concern, the probable output therefrom, the regularity with which the concern will be worked, and consequently the amount of the revenue derivable therefrom year in and year out, are questions which will vary not only in respect of the mineral, but will be governed also by geographical and geological conditions.

The Valuation of the Freehold in Coal.—The mineral properties are divisible under three heads,[1] viz :

[1] Sir R. Redmayne's evidence before the Coal Commission, June 9, 1919.

(*a*) Developed or producing properties.

(*b*) Potential. Where coal is known to exist but is awaiting development.

(*c*) Properties in which the existence of coal is uncertain but suspected.

(*a*) *Developed or Producing Properties.*—In making a valuation for the sale of the freehold the principal points arising for consideration are :

(1) The probable quantity of marketable coal contained in the area in question.

(2) The date at which the property will commence to be worked.

(3) The probable yearly output.

(4) The annual income derivable therefrom, calculated at so much per ton of coal raised or per acre worked, or by whatever other method of payment of rent is locally adopted.

Having ascertained the probable revenues in the form of rent derivable from the various seams and the period of their continuance, the annuities are capitalised by allowing to a purchaser a fair rate of interest with an annuity to recover the capital.

An acre of coal seam one foot thick contains about 1510 tons, a figure which is frequently used for estimating the coal contents of mineral properties and then making a suitable deduction in each case for loss of coal due to geological disturbances,

e.g., faults, wash-outs or thinning of coal, intrusive rock or dykes, bad or unworkable coal, and so forth. Many experienced mining engineers adopt for ascertaining the *available* tonnage in an average case 1200 tons per foot-acre, as exhausting all the general hindrances and losses in the working out of coal seams.

With regard to the amount of the percentage to be allowed, or years' purchase a mineral property is worth to a present purchaser, much difference of opinion exists. In fact the question of 'interest upon the capital invested' and the interest required to redeem capital is at present imperfectly understood and carried out.

As the result of experience and the comparison of the methods practised by the most experienced valuers of mineral property, and the examination of many valuations made over the last hundred years, the allowance of a figure in the neighbourhood of *8 per cent.* is indicated as the remunerative rate upon the annuity, which in the case of a perpetuity would be 12½ years' purchase; (the duration of a mine, however, is less than a perpetuity; and the allowance in respect of years' purchase depends on that fact) and for the purpose of redemption of the capital it has been customary to allow 3 per cent. per annum. But, as one of the authors [1] has pointed out elsewhere, an obvious

[1] Sir R. Redmayne in his evidence before the Coal Industry Commission, June 9, 1919.

fallacy exists in the allowance of so low a discounting figure as 3 per cent. at the present time—the conditions in respect of the value of money having of recent years altered so considerably, instead of redeeming capital at 3 per cent. one can and should substitute $4\frac{1}{2}$ to 5 per cent. The effect of this would, of course, be to augment the purchase price, for the effect of increasing the sinking fund's accumulative interest rate is to increase the capital value, whereas the increasing of the remunerative rate of interest has a contrary effect. Whether one should increase the percentage allowable to a purchaser beyond 8 per cent. in a developed property is a point as to which there will probably be divergence of opinion; for though there are many risks inherent to mining, these risks are chiefly borne by the lessee, consequently the rate proposed to be allowed to the purchaser of a mining freehold of a normal and developed property, it may be urged, is a fair one; on the other hand, the rise of the value of money in the market from 3 per cent. or 4 per cent. to 5 per cent. or 6 per cent. has raised the interest rate which a prudent speculator would expect to obtain in an ordinary mining risk to at least 10 per cent.

(*b*) *The Valuation of Property on which Coal is known to exist but undeveloped.*—In determining the value of a virgin property, one has to assume a date at which it will become productive,

frequently a matter of pure surmise, and presenting a field for the exercise of the valuer's knowledge and experience. The further the income derivable from the property is deferred the less, of course, is its present value. The valuer, then, has to take into consideration the *probability* in point of years as to development taking place, and determine the extent of deferment accordingly. It is not an uncommon practice in the case of unopened mines to allow, in deducing the value deferred, from 15 to 20 per cent. (in place of about 8 per cent. as in the case of properties already being worked), but there must of necessity be a considerable variation in the value of undeveloped properties.

(*c*) *The Value of Property in which the Existence of Coal is suspected but uncertain.*—The mineral rights under property of this head are practically valueless, their purchase on account of the coal that they *may* contain being a matter of pure speculation, and it is not possible, short of actual determination of the existence of coal by boring or sinking, to assess the value on the mineral rights. Suspicion of mineral possibilities may be worth a trivial addition to the fee simple value of the surface, and when a higher price is obtained in the estate market for such a property the extra price is usually regarded as a mere enhancement of the surface price.

An Estimate of the Value of the Coal Royalties

of the United Kingdom.—The nationalisation of the ownership of the coal is at the moment a burning question, so that we may be pardoned if, without expressing any opinion as to the equity or otherwise of such a proceeding, we endeavour to formulate some idea as to what would be a fair and equitable manner of approaching the subject of compensation. The value of a mining property it has been shown depends on several factors, the more important of which are

(*a*) The quantity of coal contained in the given property ;

(*b*) the extent of the annual output ;

(*c*) the amount of royalty ; and,

(*d*) in the case of an undeveloped property, the period of deferment.

It will be seen, therefore, that the only accurate way of determining the amount of compensation payable in each case is by making a separate valuation in each instance. A vast number of these valuations are in existence, but as to what is the *total* value of the coal properties in the United Kingdom can be roughly determined in the following manner :

From the Royalties Commission (1889–1893) the average royalty paid on coal in Great Britain and Ireland is about $5\frac{1}{2}d.$ per ton, and the average wayleaves, etc., upon all coal produced (*i.e.*, whether sold or not) is about $\frac{1}{4}d.$ per ton.

Taking an average of the annual outputs for

the five years immediately preceding the war at 270,000,000 tons, viz.:

	Tons.
1909	263,774,312
1910	264,433,028
1911	271,891,899
1912	260,416,338
1913	287,430,473
average:	269,589,210, say 270,000,000

and deducting 5 per cent. for colliery consumption (in some cases of royalty payment an allowance is made for colliery consumption, in others none is made), there remains 256,500,000 tons at $5\frac{1}{2}d.$ = £5,878,125, and deducting therefrom £293,906 for mineral rights duty, there remains a sum of £5,584,219, which may fairly be taken as the annual sum paid in respect of royalties alone after the deduction aforesaid. The value of this annuity, allowing 8 per cent. to a purchaser (12·5 years' purchase), is worth in present money £69,802,737,[1] and, as this could be met by the issue of Government bonds bearing interest at 5 per cent., the national Exchequer would benefit to the extent of the difference in the respective rates of interest. As to wayleaves, these are not included in the valuation; but there

[1] Since 12½ years' purchase is adopted it is clear that the subject matter valued is not the minerals at the moment comprised in the leases or being worked, but a larger area of coal which is sufficient to maintain for many years the present output. Therefore 70 millions approaches the total capital value of all the coal in the kingdom, both that which is actively worked and that which is 'latent' or prospectively to be worked.

are two forms of wayleaves which should in all equity be included, viz: some shaft wayleaves, and surface wayleaves in those cases where the grant of those wayleaves tends to destroy the amenities of an estate. In some cases an owner of coal benefits considerably by sinking of shafts on his property, as his coal may thereby be worked earlier than would otherwise be the case; on the other hand, it may be that the shaft is sunk on his property but the main roads driven through and pass beyond his property, and the working of his coal is deferred for many years. In the former case opinions are divided as to whether he should be compensated for the loss of his wayleave; in the latter case it is clear that he should be compensated.

It will be observed in estimating the average annual output of coal we have taken for the purpose the five years preceding the war, but it is very doubtful whether this is a fair estimation in view of the fact that the output for those years was very high, and it is questionable whether the output for many years will attain to 270 million tons per annum.

Mr. Percy[1] in his evidence before the Coal Industry Commission, basing his valuation on a 10 years' purchase of the royalties and calculating at pre-war rate of interest, arrived at the figure

[1] Report of the Coal Industry Commission, vol. ii, p. 594.

of 60 million pounds in respect of coal in lease or worked plus 20 millions for latent coal, making a total of 80 millions. Mr. O'Donahue,[1] another eminent valuer, on the other hand, estimated the capital value of the lessors' interests in the coal mines and the capital value of the undeveloped coal areas at a total of 90 million pounds. In arriving at this figure he took the capital value of the leased areas at about 11 years' purchase of the net rents, which gave him a total of from 60 to 65 millions, and he estimated the value of the undeveloped minerals at from 20 to 25 millions. In arriving at the value of the undeveloped minerals he stated that he took the valuations already in the possession of the Board of Inland Revenue, amounting to something like 10 million pounds, and estimated this as being about one-half of the value of the undeveloped minerals.

Duties payable in respect of Mineral Rights.—We consider the legal bearing, incidence, and quantum of the Mineral Rights Duty, Increment Value Duty, Annual Increment Value Duty, Excess Mineral Rights Duty, and Income Tax in a subsequent chapter.[2]

It is desirable, however, to point out here that a curious misconception appears to exist in the minds of some as to the effect of the mineral rights duty in respect of income tax.

[1] Report of the Coal Industry Commission, vol. ii, p. 592.
[2] See *post*, p. 204 *et seq.*

Thus one witness,[1] in giving evidence on behalf of the royalty owners before the recent Coal Industry Commission, stated 'the owner is not permitted to deduct mineral rights duty for income tax purposes, and thus pays a tax upon a tax'; but this witness was mistaken in his contention. For, comparing the mode of collection with the demand put forward by the witness in question:

The example below shows the present method of collection:

	£	s.	d.
Rent (say)	100	0	0
Tax at 6s.	30	0	0
	70	0	0
M.R.D. at 1s.	3	10	0
Net income . .	66	10	0

The demand of witness is shown thus:

	£	s.	d.
Rent	100	0	0
M.R.D. at 1s.	5	0	0
	95	0	0
Tax at 6s.	28	10	0
Net income . .	66	10	0

which is just the same thing, because

$$R \times 0{\cdot}70 \times 0{\cdot}95 = R \times 0{\cdot}95 \times 0{\cdot}70.$$

[1] See Report of the Coal Industry Commission, vol. i, pp. 312–313. We are indebted to Mr. R. F. Percy for drawing our attention to this point.

As illustrative of the manner in which the valuation of the freehold of a mineral property is carried out, we give below an imaginary example.

Practical Examples

1. *The valuation of the mineral freehold of a coal property, constituting a portion of a colliery's taking, for the purposes of sale or probate.*

Let us suppose that the property comprises an area of 558½ acres, the working of which has only recently been commenced. The seams disclosed in shafts are:

		Thickness of Workable Coal. Ft.	In.
No. 1		5	0
No. 2	which are separate seams in the shaft to the dip, come together and constitute a conjoint seam of 10 feet in thickness[1]	5	6
No. 3		4	6
No. 4		5	0

The dip of the measures is moderate and not such as adversely to affect the economic working of the seams. The mine is dry and the seams are not very gassy, and the mine is well managed—factors which have an important bearing in valuing the property. So far only No. 1 seam is being worked, and the coal available therefrom

[1] The thickness of the interstratified bands having been eliminated.

has been reduced to the extent of 1½ acres. Allowing 1200 tons per foot-acre as the amount of coal available after allowing for all hindrances and losses in working out the seam, there is found to remain 3,342,000 tons yet to work in the No. 1 seam, on which royalty would be paid to the owner thereof by the colliery company working the mine.

As regards Nos. 2 and 3 seams, it is considered that when the workings of No. 1 seam have proceeded some distance to the dip, and the coal to the rise therefrom has been worked out, it will be advisable to cross-cut by level drifts to Nos. 2 and 3 seams, which are not very far apart, and proceed to work them to the rise also. By so doing, this coal will be rendered available sooner than otherwise, and the period of deferment of the revenue derivable therefrom be reduced—a very important fact if the property is to be sold in the near future.

Although the seams Nos. 2 and 3 exist over the whole property, a consideration of all the facts points to their being in first-class condition over only, it is estimated, two-thirds of the property. In the remaining third, interstratified dirt bands are thicker, and render the seam more costly and in every way less satisfactory to work. Consequently the merchantable coal contained in these seams is calculated at 4,464,000 tons.

No. 4 seam contains 3,351,000 tons of mer-

chantable coal. But for the purposes of the valuation the produce from the seam can only be regarded as *maintaining*, not augmenting, the annual output for the period up to the complete exhaustion of all the seams.

The royalty in respect of No. 1 seam is 4*d.* per ton, and in respect of the other seams 3*d.* per ton.

After a close inspection of the colliery, and an investigation of all the pertinent facts and figures, the valuer comes to the conclusion that the coal within the area under consideration wil not be very extensively worked for a period of ten years, but that before the conclusion of this period the working of Nos. 2 and 3 seams will have been commenced. But he deems it advisable, owing to the uncertainty as to the date at which the lower or No. 4 seam will contribute to the output derived from the area, and other unforeseen contingencies, to calculate the revenue deferred ten years on the lower royalty, viz., 3*d.* per ton.

	£	s.	d.
(*a*) For the ensuing five years there will be an annual output of 5000 tons, on which 4*d.* per ton is payable, which is equal to a revenue of	83	6	8
(*b*) For the succeeding period of 3 years an annual output of 13,000 tons at 4*d.* per ton royalty will give a revenue of . . .	216	13	4

	£	s.	d.
(*c*) For the next 2 years an output of 70,000 tons per annum will be reached, or a revenue of . .	1166	13	4
(*d*) After which it is calculated that the annual output subject to royalty will be 150,000 tons, derivable from both Nos. 1 and 2 and 3 seams, and later on from No. 4 seam, and, for reasons already stated, computing the revenue derivable therefrom on the lower, or 3*d*. per ton, royalty, there is afforded a revenue of .	1875	0	0

Capitalising these revenues :

(*a*) The present value of an annuity of £83 for 5 years, allowing to a purchaser 7 per cent., with an annuity to recover the capital at 3 per cent., is worth 3·8706 years' purchase or . . .	321	5	2
(*b*) The present value of an annuity of £217 for 3 years, beginning 5 years hence, at 8 per cent. per annum and 3 per cent. redemption, is worth 1·805 years' purchase or	391	13	6
(*c*) The present value of an annuity of £1167 for 2 years, commencing 8 years hence, at 8 per cent. and 3 per cent. redemption, is worth 1·059 years' purchase or . .	1235	17	0
(*d*) The present value of an annuity of £1875 deferred for 10 years and continuing for 73½ years, allowing to a purchaser 8 per			

	£	s.	d.
cent. per annum and 3 per cent. redemption, is worth 8·716 years' purchase or	16,342	10	0
	18,291	5	8

It will be observed that in this imaginary example 3 per cent. has, in accordance with the common and long-established practice, been taken as the accumulative rate for the redemption fund; but, as has been shown on page 138, it would be more in accordance with present financial conditions to redeem at a higher rate, probably 5½ per cent.

2. *Example of a typical simple valuation such as may be required by a prospective bidder for a small mineral investment. In this example the coal is comprised in a mining lease for a term, the greater part of which has already expired.*

PARTICULARS OBTAINED

1. Date to which the valuation relates—Dec. 31, 1913.
2. Date of the lease—July 31, 1900.
3. Lessor—A. B. C., Esq.
4. Lessees—E. F. G. Collieries, Ltd.
5. Demise—The 'Black Diamond' seam of coal.

6. Situation—Under lands near the windmill in the Parish of Kettle Hill.

7. Area—56a. 2r. op. originally leased, but after allowing for 3a. 1r. op. which will be lost in the colliery boundary barrier, only 15a. 2r. 20p. of the workable coal remains.

8. Term—21 years from January 1, 1900; the residue of the term is therefore seven years. Lessees have an option to extend the term for a further ten years, but it is anticipated that the coal will be exhausted before the termination on December 31, 1920.

9. Minimum Rent—£200 a year; lessees may make up shorts any time.

10. Royalty Rates—£25 per foot per statute acre. All rents to cease when the whole of the workable coal has been paid for.

11. Recent average section of the seam—4 ft. 5½ ins.; but inasmuch as there are evidences of prospective thinning, 4 ft. 3 ins. is the assumed section. The average royalty rate is, therefore, expected to be £106 5*s.* per acre.

12. Recent gross royalties—The average for the last five years is £313 a year.

13. Prospective royalties:
£300 for one year; then

£350 for the next three years, and £200 (the minimum rent) until the whole is paid for.

14. Overpaid rents—£250, which is still recoupable.

15. Wayleave rents—None.

16. Covenants affecting value—None of importance.

Valuation

15a. 2r. 20p. at £106 5s. is . . .	£1,660
Deduct about 5 per cent. for faults which are expected	80
Royalty value of the net contents .	£1,580

Table Showing Prospective Rents Payable

Year.	Royalties on Coal Worked.	Rents Due.	
1914	300	200	Minimum rent due.
1915	350	200	Minimum rent due.
1916	350	350	Account balanced.
1917	350	350	Royalty due.
1918	150	200	Minimum rent due.
1919	80	30	Balance to close a/c.
1920	0	0	Lease ends.
	£1,580	£1,330	

Since the minimum rent is much more certain and reliable than the overgettings, it is valued separately at a lower rate.

(1) *Minimum rent.*—£200 a year for five years at 9 per cent. and 4 per cent.		£728
(2) *Overgettings.*—£150 a year for two years after two years' delay at 12 per cent. and 4 per cent. . . .		203
(3) *Residue rent.*—£30 after five years' deference at 15 per cent. and 4 per cent.		15
Gross total . .		£946
Deductions:		
For the effect of M.R.D. after allowing for probable I.T. abatement . . .	say £45	
For Agency supervision fees	say 31	
		76
Present 'capital,' 'principal,' or 'market' value		£870

The present values can be calculated by use of the simple formula given on p. 133, the amounts of *a* and A being taken from Whitaker's Almanack.

$$\text{Y.P.} = \frac{a}{1 + \frac{AR}{100}}$$

(1) $e = 5, d = 0, t = 5, r = 4, R = 9.$

$$\frac{5{\cdot}416}{1 + \frac{5{\cdot}416 \times 9}{100}} = 3{\cdot}641 \text{ Y.P.}$$

£200 × 3·641 = . . . £728

(2) $e = 2, d = 2, t = 4, r = 4, R = 12.$

$$\frac{2{\cdot}040}{1 + \frac{4{\cdot}246 \times 12}{100}} = 1{\cdot}3514 \text{ Y.P.}$$

£150 × 1·3514 = . . . £203

(3) $e = 1, d = 5, t = 6, r = 4, R = 15$

$$\frac{1{\cdot}000}{1 + \frac{6{\cdot}633 \times 15}{100}} = 0{\cdot}5013 \text{ Y.P.}$$

£30 × 0·5013 = . . . £15

Valuation with Allowance for Taxation.—In his evidence before the Coal Industry Commission Mr. R. F. Percy stated that the high rate of post-war income tax caused a serious depreciation in the market value of mineral royalties. This depression is due to the fact that the tax is payable not only on that part of the royalty rent which may properly be treated as *remuneration,* but also upon the residue of the rent which ought to be considered as *capital* or deemed to form a sinking fund instalment.

To form an estimate of the value of an income in these circumstances Mr. Percy has supplied us with the following :

To find the value of an immediate annuity if 5*s. in the pound tax is deducted from the Sinking Fund (S.F.) capital instalments and also* 5*s. in the pound from the S.F. bank interest.*

Rule : $$\frac{a}{\frac{4}{3} + \frac{a\mathrm{R}}{100}} = \text{Y.P. (year's purchase)}$$

where a is the amount of £1 per annum at $\frac{3}{4}r$, which is the effective bank interest on the S.F. R is the remunerative rate of interest, and r is the nominal reinvestment rate of interest.

Example : Find the value of £1 per annum for 27 years, 10 per cent. remunerative and 4 per cent. nominal rate of reinvestment.

$$\frac{40{\cdot}71}{\frac{4}{3} + \frac{40{\cdot}71 \times 10}{100}} = \frac{40{\cdot}71}{1{\cdot}333 + 4{\cdot}071} = \frac{40{\cdot}71}{5{\cdot}404}$$

$$= 7{\cdot}533 \text{ Y.P.}$$

[*Note :* 10 per cent. and 10 per cent. gives 9·237; 10 per cent. and 4 per cent. gives 8·248.]

Proof :	10 per cent. to spend. .	0·7533
	Surplus to reinvest . .	0·2467
	The annuity . . .	1·0000
	From the Sinking Fund .	0·2467
	Take $\frac{1}{4}$ for income tax .	0·0617
	Leaving actually . .	0·1850

And 0·185 reinvested at the effective rate of

bank interest ($\frac{3}{4}r$) = 3 per cent. = 0·185 × 40·71 = 7·531 in 27 years.

[*Note:* If the tax is 4*s.* in the £, $\frac{4}{3}$ in the rule becomes $\frac{5}{4}$, and *a* will be the amount at $\frac{4}{5}r$.

Similarly, if tax is 6*s.* 8*d.*, $\frac{4}{3}$ in the rule becomes $\frac{3}{2}$, and *a* will be the amount at $\frac{2}{3}r$.]

Taking into account taxation when valuing a deferred annuity requires a much more complicated formula, and for this we are again indebted to Mr. Percy.

To find the value of a deferred annuity subject to the following stipulations :

R to be the remunerative interest on capital only.

r ,, ,, accumulative interest (on latent dividends) during deference.

r ,, ,, remunerative interest on the accumulation during enjoyment.

r ,, ,, nominal bank interest on the Sinking Fund (S.F.) during enjoyment.

Income Tax at 5*s.* to be allowed for on the S.F. instalments and also on the bank interest.

The S.F. must replace the accumulated capital as at the end of deference = at the entrance upon the annuity.

Rule :

$$\text{The Y.P.} = \frac{1}{\frac{R}{100} + \frac{ArR}{10{,}000} + \left(\frac{4}{3} \times \frac{1 + \frac{AR}{100}}{a}\right)}$$

A is the amount of £1 per annum at r, the low rate for the period of deference.

a is the amount of £1 per annum at $\frac{3}{4}r$ ($\frac{3}{4}$ of the low rate) for the period of enjoyment.

[*Note:* If the tax is taken at a rate other than 5*s.*, adjust $\frac{4}{3}$ and a in the rule accordingly.

If the tax is 4*s.* in the £, $\frac{4}{3}$ in the rule becomes $\frac{5}{4}$, and a will be the amount at $\frac{4}{5}r$.

Similarly, if the tax is 6*s.* 8*d.*, $\frac{4}{3}$ in the rule becomes $\frac{3}{2}$, and a will be the amount at $\frac{2}{3}r$.]

Example: Find the Y.P. or value of £1 per annum for 12 years' enjoyment after 6 years of deference; 10 per cent. remuneration, 4 per cent. reinvestment, etc.

$$\frac{R}{100} = 0{\cdot}1000$$

$$\frac{ArR}{10{,}000} = \frac{6{\cdot}633 \times 4 \times 10}{10{,}000} = 0{\cdot}0265$$

$$\frac{4}{3} \times \frac{1 + \frac{AR}{100}}{a} = \left(\frac{4}{3} \times \frac{1 + \frac{6{\cdot}633 \times 10}{100}}{14{\cdot}192} \right)$$

$$= \frac{4}{3} \times \frac{1{\cdot}6633}{14{\cdot}192} = \frac{4}{3} \times 0{\cdot}1172 = 0{\cdot}1563$$

$$0{\cdot}2828$$

and $$\frac{1}{0{\cdot}2828} = 3{\cdot}536 \text{ Y.P.}$$

Proof: 10 per cent. on 3·536 = 0·3536, which in 6 years becomes:

0·3536 × 6·633	= 2·345
Add the capital	= 3·536
Accumulation of middle stage	= 5·881
10 per cent. on capital 3·536	= 0·3536 to spend.
4 per cent. on accumulated 2·345	= 0·0938 ,,
Surplus on reinvest	= 0·5526
	1·0000
Now the surplus .	0·5526
Less ¼ off for tax .	0·1382
Leaves actually .	0·4144

and this invested at (4 per cent., less ¼ for tax =) 3 per cent. for 12 years becomes

$$0{\cdot}4144 \times 14{\cdot}192 = 5{\cdot}884.$$

It is assumed in both the above examples that the average rate of income tax for the next generation will be 5*s.* in the £. This may or may not be approximately right; it is a matter of pure surmise. It is interesting in this connection to note the following paradox. One consequence of the imposition of the super-tax is that (since the greater the tax the less the value of the mineral rights) it follows that a rich speculator could not afford to bid as high a price as a poor man at a sale of mineral rights.

3. *Example of the Valuation of a Colliery as a current going Concern.*—The following is an imaginary valuation of an average-sized colliery on the basis of prices ranging some years prior to the war. Prices and profits, and all the circumstances surrounding the coal trade, are at the present time so uncertain that no attempt is made in these pages to base values thereon.

The colliery in question has an unexpired term of 57 years, and is supposed to be working several seams. An upward grade in output is shown in annual drawings over a period of, say, five years previous to the year on which the valuation is made. The colliery is a developing one.

It is estimated that a capital sum of £25,000 will be required to complete the work in progress at the time of the valuation, with a view to bringing the output up to 1600 tons *per diem,* and that this can be secured within two years, which at 250 working days per annum gives an annual output of 400,000 tons.

The output per annum in respect of the three years succeeding the date of the valuation is estimated at 250,000, 300,000, and 400,000 tons respectively, and 400,000 tons per annum the output for the years of the remaining term of the lease.

The average profit per ton realised over the

five years preceding the date of the valuation is determined at 1*s.* 8*d.* per ton; the coal trade, it is to be understood, has been passing through a period of depression so characteristic of the industry, but the valuer points out that the phase is a passing one, and cheers his client by stating that the long reaction following the comparatively short period of greatly inflated prices of the 'seventies,' which was commonly quoted as prophetic of what was to be expected in the future, is not likely to be true of the then present time. The contention, he argues, is erroneous, because the conditions of the coal trade are very different, the trade being more elastic, the world's demand, as well as the world's supply, being vastly greater and more general than in the 'seventies,' and he points out that the great coal mining developments following after and consequent upon the very high prices which were being realised in the 'seventies' led to great and long continued overproduction; a state of things which he does not anticipate as occurring again within the United Kingdom to anything like the same extent, as nearly all the ground available for cheap coal mining has within the preceding 30 or 40 years been taken up and developed.

Considering all these and other probable factors he feels justified in reckoning on a recovery in selling prices within the near future, and he puts the profits as follows:

First year, 250,000 tons at 6*d.* per ton = £6,250
Second year, 300,000 tons at 1*s.* per ton = £15,000
Third year, 400,000 tons at 1*s.* 3*d.* per ton = £25,000
and continuing for the succeeding 54 years.

The value of the plant, fixed and loose, locomotives, wagons, etc., is worth as it stands on the date of the valuation £55,633, but this sum will not be realisable until the termination of the lease 57 years hence, and then at a reduced value.

The present value of the colliery is therefore arrived at as follows:

	£
1. The present value of a profit of £6250 for one year, allowing a purchaser 12 per cent. interest and 3 per cent. redemption of capital, is worth in present money 0·8938 years' purchase, or . . .	5586
2. A profit of £15,000 for one year, beginning a year hence, allowing a purchaser 15 per cent. interest and 3 per cent. redemption of capital, is worth 0·767 years' purchase, or .	11,505
3. The present value of an annuity of £25,000 for 55 years, beginning two years hence, allowing a purchaser 15 per cent. interest and 3 per cent. redemption, is equal to 5·934 years' purchase, or . . .	148,350
4. To which amount must be added the value of the plant, at the present time worth £55,633, but which will	

	£
shortly be increased by the prospective expenditure already alluded to, so that the value is estimated at £75,000, which sum will not be realisable until 57 years hence, at a discounted value; but as at the expiration of the lease the lower seams of coal will not be exhausted the plant may be regarded as having a higher value than that afforded by 'breaking up' price. Reducing the figure of £75,000 by deducting therefrom one-fifth, and allowing a purchaser 4 per cent., it is worth 0·1069 years' purchase, or . .	6414
	171,855
5. Deducting the present value of the £25,000 capital expenditure to be spread over two years . . .	24,519
The present value of the colliery in money is	£147,236

Valuation of a Colliery for the Purpose of Local Taxation or 'Rating.'—A colliery consists of two parts, namely, (*a*) the coal *per se*, and (*b*) the land, shafts, buildings, and machinery producing no direct profit, but indirectly conducing to the profits of the colliery. In the valuation, therefore, the rent or royalty paid by the lessee to the lessor forms the basis of the valuation.

Of course, the fact that the system of payment by royalty rent varies in different parts of the United Kingdom must receive due attention in

estimating the basis of rental. The position in respect of the valuation may be stated thus :

(*a*) Land and farm buildings are usually let and rated on rents averaging about 3 per cent. per annum on the capital invested,[1] about one-twelfth being deducted for repairs.

(*b*) Ordinary houses and shops are usually let and rated on an estimate of about 6 per cent. per annum on the capital invested, from which about one-sixth is deducted for repairs and insurances, so there is about 5 per cent. per annum left as the rateable value.

(*c*) In the case of manufactories an hypothetical tenancy is assumed, the assumed rent being taken at from 6 to $7\frac{1}{2}$ per cent., on the capital value. Taking 6 per cent., one-sixth is deducted for repairs and insurance, or when $7\frac{1}{2}$ per cent. is taken, one-fourth to one-third, so we may take the rating to be about 5 per cent. of the capital value.

Mines, therefore, should not be considered on a different basis, but there should be equality of rate all through.

The following particulars relative to a valua-

[1] The question arises under existing financial conditions whether the percentage per annum should not be increased to $4\frac{1}{2}$ or even 5 per cent.

tion of this nature made some years ago of a group of large collieries in the North of England illustrates the lines on which a valuation for the purposes of local taxation should proceed.

The instructions received by the Overseers of the Poor in the township in question from the Clerk of the Assessment Committee were to the effect that for the purpose of arriving at the gross estimated rental of the collieries, the following rates per ton be made after allowing $\frac{1}{7}$ for colliery consumption [1] (these particulars being derived from the lease):

The No. 1 seam to be charged at 6*d.* per ton.
,, Nos. 2 and 3 seams ,, 5*d.* ,,
,, Nos. 4 and 5 seams ,, $4\frac{1}{2}$*d.* ,,

Shafts and all machinery connected therewith at $1\frac{1}{2}$ per cent., surface land and buildings and fixed plant at 6 per cent. on the capital values.

That the following be the scale of deduction for purpose of determining the rateable value:

On coal, a deduction of $12\frac{1}{2}$ per cent.

On shafts and machinery connected therewith 25 per cent., and one-sixth part on the surface land, buildings, machinery, and fixed plant.

[1] The figure allowable in respect of colliery consumption if coal supplied to the workmen is excluded would be very much less than that quoted. The average colliery consumption for the United Kingdom as a whole is slightly above 6 per cent. of the output. The highest being 32·4 in respect of Kent and the lowest 3·80 in respect of the Northern Coalfield of England.

Example of a Valuation for the Purposes of Rating.

.....Mines.

Valuation of.....Colliery.

Lessees, Messrs. The.....Coal Company.

	Capital Values.	Annual Values.
Land occupied by the colliery and the buildings connected therewith—15 acres . .		£ s. d. 53 0 0
Coal or royalty rent—		
Tons. Rent.		
A.B. 111,200 £2503		
C.D. 31,850 515		
E.F. 16,400 267		4082 0 0
Pits, including brattice, pumping engine house, boilers, pumping engines, and pumps (if any) . *In the mine*, furnaces, railways, engine, and boilers (if any) .	£ s. d. 3700 0 0	
At bank, winding engine houses, boilers, winding engines, pit head frames, and cage guides	7000 0 0	
Heap-stead, screens, pick and tub shops and cabins, railways for standage at pits, weigh bridges, and cabin .	2250 0 0	
Other buildings, offices, coal sheds (if any), workshops, stables, store-houses, gas works and the buildings and machinery connected therewith	300 0 0	
Coke ovens (if any) . .		
Workmen's houses . .		
Total capital values .	13,250 0 0	

	£	s.	d.
Annual value of buildings, machinery, and plant, calculated at six per cent. on the capital value, viz., £13,250. . . .	795	0	0
Gross estimated rental . .	4930	0	0
Deduct for the probable average annual cost of repairs, insurance, and other expenses (if any) necessary to maintain the colliery in a state to command such rental . .	1232	10	0
Rateable value .	3697	10	0

APPORTIONMENT OF THE GROSS ESTIMATED AND RATEABLE VALUE OF THE COLLIERY AS A WHOLE TAKEN TOGETHER

Townships.	Description of Property.	Gross Estimated Rental.			Rateable Value.		
		£	s.	d.	£	s.	d.
	Brought forward .	4930	0	0	3697	10	0
A.B.	The . . . Colliery including the pits, coal mines, engine houses, engine boilers, screens and buildings, machinery, fixed plant and the land connected therewith . . .	4148	0	0	3111	10	0
C.D.	Coal mines . .	515	0	0	386	0	0
E.F.	Coal mines . .	267	0	0	200	0	0
		£4930	0	0	£3697	10	0

Distribution of the Taxation.—The question arises as to the distribution of the taxation in

respect of a colliery or other mine in which the mineral is worked under one or more parishes, and drawn to the surface in another parish. Usually about one-third is accredited to the parish under which the mineral is worked, and two-thirds to the parish in which it is drawn to the surface, but this is a somewhat haphazard way of dealing with the matter (see *Reg.* v. *Foleshill*, 2 A. & E. 593). The more correct procedure would appear to be the ascertainment of the annual value of the mine as a whole, deducting therefrom the value of plant, buildings and surface land, etc., giving the value thereof to the parish in which they are situate, and apportioning the remainder to the one or more parishes under which the mineral is worked, in proportion to the quantities worked and vended therefrom. On the other hand, the parish in respect of population should perhaps be considered. If the mine were situate in a township where the population resided who derived their living either directly or indirectly from the mine proceeds, it would seem reasonable that they should be the chief benefactors by the taxation.

Other Methods of Valuation.—We have stated that the common practice is to rate a colliery on a royalty rent basis, but this is not always the procedure followed; thus in the well-known instance of *The Denaby and Cadeby Colliery Company* v. *The Assessment Committee of Doncaster*

Union, [1898] 78 L.T. 388, the Company, who were the appellants, claimed that their collieries were exceptional, and argued that that being so, the only fair way was to treat them for the purpose of rating in the same manner as a railway, that is, rate upon the receipts, deducting therefrom the cost of working and allowances for tenant's (occupier) capital and so forth. The Court decided in favour of the appellants. Therefore the procedure in such a case would be :

1. Determine the amount of the gross receipts from sale of the coal during the preceding year.
2. (*a*) Deduct therefrom discount, bad debts, cost of working the coal, and all other working and managerial expenses.
   (*b*) Tenant's (occupier) share of profits for interest on capital, trade profits (allowed at 15 per cent.), and allowance for risk and casualties ($2\frac{1}{2}$ and 5 per cent. respectively [1]).
   (*c*) Rates and taxes.
3. The resultant is the ' gross estimated rental ' available for an hypothetical landlord.
   (*d*) Deduct therefrom repairs and renewals of buildings, main roadways, and

[1] See Final Report, Royal Commission on Local Taxation (1901), p. 57. In the case of railways it is usual to allow the tenant $2\frac{1}{2}$ per cent. for risks and casualties, but a larger amount should be allowed in the case of collieries, as they are a much more hazardous undertaking.

other permanent works, insurance, sinking fund, and other necessary maintenance expenses.

4. The resultant is the 'net rateable value.' [1]

There are a great variety of methods of assessment adopted, as will be seen from perusal of a return to an Order of the House of Commons dated April 29th, 1890, which shows the gross estimated rental and rateable value of the several coal, ironstone, and other mines in each Poor Law Union in England and Wales, together with the basis or mode of assessment. Perhaps the simplest method was that practised in the Morpeth Union, Northumberland, at any rate until recently, which was as follows:

The rateable value in any year is based upon the gross vend and selling price of the preceding year. A standard selling price of 4*s.* 7*d.* per ton was taken, at which the net rate was 5*d.* and 4*d.* per ton for first and second class collieries respectively. For every 3*d.* rise or fall in the selling price, the rate rises or falls $\frac{1}{8}$; the selling price

[1] The reader may with advantage study *Principles of Rating* (chap. xvi.), by Messrs. Boyle and Humphries Davies, and also the following papers on the subject: *The Valuation of Mines for the Purpose of Local Taxation*, by T. F. Hedley, 'Trans. N.E. Inst. of Mining Engineers,' vol. xxiii, 1874; *The Rating of Coal Mines*, by (afterwards Sir) E. Boyle, K.C., 'Trans. Surveyors' Inst.' vol. xxxi.; *Taxation of Collieries*, by Mr. A. Hassam, 'Trans. Inst. M.E.,' 1905, vol. xxix.; *The Taxation, Rating and Valuation of Mines*, by Capt. D. Bowen, 'Trans. Surveyors' Inst.,' 1918, vol. l.

being that of the average of the whole of the collieries. In the case of coal worked by a shaft in another township, the township in which the shaft is situate is credited with $1\frac{1}{2}d.$ per ton, which is deducted from the rate of the township in which the coal occurs. This method has been in operation for over thirty years.

CHAPTER VII

THE RATING OF MINERAL PROPERTY

ALL mines and quarries, subject to the exceptions hereafter to be mentioned, are rateable to the relief of the poor and in respect of other local rates. Mines and quarries, either as such or as being included in the general word 'land,' are subject to numerous forms of special taxation hereafter to be specified.

Rating of Mines and Quarries for the Relief of the Poor.—The various local rates, such as county and borough rates, lighting and watching rates, etc., are assessable in the same manner and cases, subject to certain minor exceptions, as are the poor rates. It is convenient, therefore, to consider the law relating to the rating of mines and quarries to the relief of the poor first, and then to see in what particulars the principles there laid down have to be modified when considering the liability to other local rates.

In treating of the law relating to the rating of mines and quarries to the relief of the poor, it is still necessary to refer to the Act of 1601 (43 Eliz. c. 2), by which the poor law was first

established. That Act empowers the overseers of the poor *inter alia* ' to raise weekly or otherwise by taxation of every inhabitant, parson, vicar, or other and of every occupier of lands, houses, tithes impropriate or propriation of tithes, coal-mines or saleable underwoods in the said parish in such competent sum and sums of money as they shall think fit, a convenient stock of flax, etc.'

It will be observed that there are two main oppositions in the above, viz., (1) of every inhabitant, parson, vicar, or other and of every occupier ; (2) of every occupier of lands . . . coal-mines. It was consequently held that where an occupier as distinct from an inhabitant was being rated, and was being rated in respect of a mine, it was necessary to distinguish between coal-mines and other mines, for, although it might well be that the word ' land ' used alone might include mines, the inclusion of a specific kind of mine, viz., a coal-mine, in opposition to land made it impossible to construe the word ' land ' as including mine ; for a coal-mine was a mine. But as land might include quarry in the same way as, but for the above consideration, it might include mine, and as such consideration was not present in the case of quarries, no specific type of quarry having been expressly referred to, it was held to include quarries.

It consequently arose that the occupiers of

(1) land were rateable in respect of the surface though the surface was occupied in conjunction with mines other than coal-mines, and (2) coal-mines and (3) quarries were rateable to the relief of the poor, but that occupiers of mines other than coal-mines were not rateable.[1]

Dues wholly reserved in Kind.—It was apparently recognised, however, as early as 1776 that the distinction made between coal-mines and other mines, so far as rateability was concerned, was a distinction which should be limited as far as possible, and in *Rowls* v. *Gells*[2] a further distinction was made between mines where rent was reserved in kind and mines where the rent was not reserved in kind. This 'mere device,' to use the expression approved by Bramwell, B.,[3] still lives in virtue of the Rating Act, 1874, and it is therefore necessary to consider the cases

[1] We do not refer to the cases commencing with *The Lead Company* v. *Richardson* (1762), 1 Burr. 1341, by which the above distinctions were drawn, the distinctions having been divested of all practical importance by the Rating Act of 1874. Reference may, however, be made to *Morgan* v. *Crawshay* (1871), 5 H.L. 304, wherein the earlier cases are reviewed. The reasons assigned for the distinction between coal-mines and mines other than coal-mines are diverse. Le Blanc, J., in *The King* v. *The Baptist Mill Co.* (1813), 1 Maule & Sel. at p. 615, indicated that the reason for excluding mines other than coal-mines from the 43 Eliz. c. 2 was 'that other mines were considered as matters of hazard at that time, and therefore it was concluded that the legislature did not mean to subject the occupier of such a species of property to taxation.'

[2] (1776), 2 Cowp. 451.

[3] *The Van Mining Co.; Ld., and Another* v. *The Overseers of Llanidloes and Others* (1876), 1 Ex. Div. 310.

which created, and subsequently limited, this distinction.

And first it should be noted that in such a case, *i.e.*, where the rent is wholly reserved in kind, the lessor and not the lessee is rateable. The lessee is not rateable, because he is the occupier of a mine excluded from the operation of the 43 Eliz. c. 2; the lessor is rateable because to the extent of the dues received he is, as he would be had he excepted part of his interest in the land at the time of granting the lease, in occupation of some portion of the land, and, as we shall see, it is the occupier in all cases who is rateable. As Lord Ellenborough said,[1] 'A reservation of a part of the thing demised cannot properly operate as a render, and it may be admitted that it operates as an exception (see Co. Lit. 47*a*, 142*a*).' A different, but we submit a less elegant, reason for the distinction was assigned by Le Blanc, J., in *The King* v. *The Baptist Mill Co.*[2] There the learned judge said: 'Where a person receives, without risk, part of the produce extracted from the bowels of the earth, he is an occupier of land; but where he merely receives a rent, or money payment, there the Court has held, as in *Rex* v. *The Bishop of Rochester*,[3] that he is not an occupier.'

[1] *The King* v. *The Earl of Pomfret* (1816), 5 Maule & Sel. at p. 143. [2] (1813), 1 Maule & Sel. at p. 619.

[3] (1810), 12 East, 353. See also *R.* v. *Agnes* (1789), 3 T.R. 480; *R.* v. *Crease* (1840), 11 A. & E. 677; *Crease* v. *Sawle*, (1842), 2 Q.B. 862.

This reason, however, is agreeable to the reason assigned for the exclusion by the legislature of mines other than coal-mines from the 43 Eliz. c. 2.

Secondly, it was decided in *The Van Mining Co., Ltd., and Another* v. *The Overseers of Llanidloes and Others* [1] that dues are not 'wholly' reserved in kind if the lessor has an option to take either rent or part of the produce, even though the rent is actually paid wholly in money.

Thirdly, the reservation is deemed to be in the nature of rent, and not in the nature of dues in kind, if the render though not in money is also not of a portion of the ore or metal raised, but is of part of the metal smelted from the ore so raised,[2] for, in Lord Ellenborough's words, 'this is not a reservation of any part of the thing demised, it is not a reservation of any part of the ore, or of the mineral, in its natural and primitive state; but of something of a quality, name, and character entirely different. . . . This lease puts the parties unequivocally in the character of landlord and tenant.' [3] But if the ore or mineral has merely to be made fit for smelting before being rendered, then the render is of dues in kind.[4]

[1] (1876), 1. Ex. Div. 310, following *Rex* v. *St. Austell* (1822), 5 B. & Ald. 693.

[2] *The King* v. *The Earl of Pomfret* (1816), 5 Maule & Sel. 139.

[3] *Ibid.*, at p. 143.

[4] *R.* v. *Todd* (1840), 12 A. & E. 816.

Fourthly, the proper assessment, in cases where the dues are wholly reserved in kind, is for the lessor to be rated in respect of the royalty paid to him, and the lessee to be rated in respect of the engines, machinery, plant, and surface lands occupied by him.[1]

Fifthly, the Rating Act, 1874, Section 13, now provides as follows:

'Nothing in this Act shall apply to a mine of which the royalty or dues are for the time being wholly reserved in kind, or to the owner or occupier thereof.'

It follows from what has preceded that the occupiers of quarries, coal-mines, and other mines where the dues are not wholly reserved in kind, are rateable to the relief of the poor, and that in the case of mines other than coal-mines where the dues are wholly reserved in kind, the lessor is rateable in respect of such dues, and the lessee is not rateable in respect of the mine, but is rateable in respect of the surface and of the engines, machinery, and plant.

Occupation.—The occupier is liable, and consequently the question of what amounts to occupation has been the subject of numerous decisions. 'The cases show,' on the one hand, 'that if a person has only a subordinate occupation subject at all times to the control and

[1] *The Van Mining Co., Ld., and Another* v. *The Overseers of Llanidloes and Others* (1876), 1 Ex. Div. 310.

regulation of another,[1] then that person has not occupation in the strict sense for the purposes of rating, but the rateable occupation remains in the other, who has the right of regulation and control' [1]; on the other hand, 'the real question is not whether their rights are corporeal or incorporeal, but whether the Company is *de facto* in occupation of some portion of the soil.' [2]

Whether a person is or is not the occupier is a question of fact.[3] In deciding this question of fact, the following points are relevant to be borne in mind.

The mere fact that the land is left empty is not conclusive that the land is not occupied [4]; ownership does not necessarily imply occupation for the purposes of rating, and on the other hand a person may be an occupier who has no pro-

[1] Under Regulation 9 G of the Defence of the Realm Regulations 'possession' was taken of coal-mines, which have since been subject to 'control and regulation.' Presumably, therefore, the words quoted require guarding unless indeed it be that as the Government has taken possession and control of coal-mines, such mines are no longer 'occupied' by the colliery proprietors.

[2] Per Lord Davey in *Holywell Union* v. *Halkyn District Mines Drainage Co.*, [1895] A.C. at p. 134, and at p. 133.

[3] Per Blackburn, J., in *Talargoch Mining Co.* v. *St. Asaph Union* (1868), L.R. 3 Q.B. at p. 484; per the same Judge in *Roads* v. *Overseers of Trumpington* (1870), 6 Q.B. at p. 62; per Buller, J., in *The King* v. *Jolliffe* (1787), 2 T.R. at p. 94; per Mellor, J., in *Kittow* v. *Liskeard Union* (1874), L.R. 10 Q.B. at p. 14.

[4] Per Alverstone, C.J., in *Lord Mayor, etc., of Liverpool* v. *Chorley Union*, [1911] 3 K. at p. 259.

prietary interest [1]; but owners in possession (even merely by title and not physically), are *prima facie* occupiers, but such *prima facie* evidence may be rebutted [2]; such *prima facie* evidence can be rebutted (*a*) by showing that someone else is in occupation or (*b*) by the nature of the case.[3] The intention of the alleged occupier is a governing factor in determining rateable occupancy.[4]

A mere easement does not *per se* create the person having the easement an occupier [5]; where there is exclusive occupation of land, although for the purpose of assisting to work a mine, *e.g.*, a mine the dues of which are wholly reserved in kind, which is not rateable itself, the land so occupied is rateable [6]; a mere licensee may be the occupier if *de facto* by himself or by his servants

[1] Vaughan Williams, L.J., in *Lord Mayor, etc., of Liverpool* v. *Chorley Union*, [1911] 3 K. at p. 264; per Lord Atkinson in *Winstanley* v. *North Manchester Overseers*, [1910] A.C. 7; *Holywell Union* v. *Halkyn District Mines Drainage*, [1895] A.C. at p. 121.

[2] *Lord Mayor, etc., of Liverpool* v. *Chorley Union, supra.*

[3] Per Hamilton, J., *ibid.*, at p. 260.

[4] Per Buckley, L.J., *ibid.*, at p. 269; per Blackburn, J., in *Allan* v. *Liverpool* (1874), L.R. 9 Q.B. 192; *R.* v. *Melladew*, [1907] 1 Q.B. 192; per Bigham, J., in *Borwick* v. *Southwark Corp.*, [1909] 1 K.B. at p. 84.

[5] Per Blackburn, J., in *Talargoch Mining Co.* v. *St. Asaph Union* (1868), L.R. 3 Q.B. at p. 484; per the same Judge in *Roads* v. *Overseers of Trumpington* (1870), 6 Q.B. at p. 62; per Buller, J., in *The King* v. *Jolliffe* (1787), 2 T.R. at p. 94; per Mellor, J., in *Kittow* v. *Liskeard Union* (1874), L.R. 10 Q.B. at p. 14.

[6] Per Blackburn, J., in *Kittow* v. *Liskeard Union* (1874), L.R. 10 Q.B. at p. 13; *The Van Mining Co., Ltd., and Another* v. *The Overseers of Llanidloes and Others* (1876), 1 Ex. Div. 310; (1872) *Guest* v. *East Dean*, L.R. 7 Q.B. 334.

he is in sole occupation [1] even though the licence is revocable at will; but the licence or liberty or privilege must be exclusive, for otherwise there cannot be exclusive occupation [2]; and a mere licence alone without *de facto* exclusive occupation is not sufficient [3]; commoners as a class are not as such in rateable occupation of the lands over which they have commonable rights [4]; a non-exclusive liberty, *e.g.*, to carry coal does not make the person having the wayleave an occupier [5]; occupation does not depend on having the right to exclusive legal possession [6]; whether the occupier has a right to occupy or not is entirely beside the question.[7]

Shifting Occupation.—A nice point has been raised where there is what may be termed shifting occupation. In *The Queen* v. *Whaddon*,[8] the facts were that H., the owner of lands containing

[1] *Kittow* v. *Liskeard Union, supra.* Consider per Mellor, J. in *Roads* v. *Trumpington, supra*, at p. 64, and in *Watkins* v. *Overseers of Milton-next-Gravesend, infra*, at p. 357.

[2] *The King* v. *The Trent and Mersey Navigation Co.* (1825), 4 B. & C. at p. 62.

[3] Lord Chelmsford in *Morgan* v. *Crawshay* (1871), 5 H.L. at p. 316, when considering the position of galees in the Forest of Dean.

[4] Per Lord Denman; C.J., in *The Queen* v. *Alnwick* (1839), 9 A. & E. at p. 457.

[5] *The King* v. *Jolliffe, supra*; per Blackburn, J., in *Watkins* v. *Overseers of Milton-next-Gravesend* (1868), L.R. 3 Q.B. at p. 356. Contrast *The King* v. *M. Bell* (1798), 7 T.R. 598.

[6] *R.* v. *St. Pancras* (1877), 2 Q.B.D. 581.

[7] Per Lush, J., in *Kittow* v. *Liskeard Union*, L.R. 10 Q.B. at p. 15.

[8] (1875), L.R. 10 Q.B. 230.

coprolites, empowered B.M. 'to the exclusion of all other persons, to enter upon, hold, and use certain of such lands, and to dig, raise, and cart away the coprolites in such lands for his own use.' B.M. was able to work over 10 acres per annum, his occupation being a perpetually shifting one. Rates for the relief of the poor were made quarterly. At any one time he was only working 2½ acres, and occupied a further 1 acre. The question was whether the assessment should be ten times the hypothetical rental value per acre, or whether it should be three-and-a-half times the hypothetical rental value per acre. It was decided that it was ten times the hypothetical rental value, Mellor, J., saying[1]: 'The appellant is found by the case to have the exclusive possession during the year of 10 acres of land, the area of which is constantly shifting as the work progresses, and the appellant does in the course of the year dig the entire 10 acres, and obtains therefrom a valuable property in the shape of coprolites, and for which he is bound to pay £1000 per annum at least to the owner, payable quarterly. I cannot see how the fact that by the course of his working he only actually uses 3½ acres during one quarter, makes any difference in the mode or extent of his liability to be assessed to the poor rate. The annual value is the same. . . . The rate must be made on the

[1] At p. 243.

net *annual value* of the several hereditaments rated thereunto, and therefore it cannot be made upon the net quarterly value of the hereditaments liable to the rate; and it appears to me that the net annual value of the hereditament is the same whether the profit is earned wholly in one quarter of a year or spread over the year.' [1]

The above case is material to our present point because it was strongly argued that B.M. was never in occupation during any quarter of an area in excess of $3\frac{1}{2}$ acres, and was in fact never in exclusive occupation of 10 acres during any one quarter. It is to be distinguished from *Farnham Flint Gravel and Sand Co.* v. *Farnham Union*,[2] in which case Collins, L.J.,[3] said, speaking of the Whaddon case: 'There an initial difficulty existed which the Court had to get over, that the person rated had a shifting occupation amounting at all times of the year to 10 acres, though they were not always the same 10 acres. That was got over by treating the occupation as an occupation of 10 acres, though it might not be possible to define the 10 acres. There was exhaustion at one end of the land occupied and accretion at the other, so that the tenant had always had in view the right to occupy 10 acres at a time. When considering what amount an hypothetical tenant

[1] Cockburn, C.J., delivered a dissenting judgment.
[2] [1901] 1 K.B. 272. [3] *Ibid.*, at p. 282.

would give, it was kept in view that he would have the right to get out as much as he could, though he could not work more than 10 acres at a time.' But as regards this view of the Whaddon case it is to be observed that it suggests that B.M. was rated as being the occupier of the 'accretion,' *i.e.*, of something of which at the time of the rate being made he was not in actual occupation, but, slightly to modify Lord Campbell's words, there is no authority in support of the proposition that X is liable to be rated for the whole of the clay (or coprolites) which he has the licence to take.[1]

In the case of *Regina* v. *Fayle* the appellant had the licence to work a stratum of clay in three parishes, and, as in the Whaddon case, there was no demise of the clay. Erle, J.,[1] said: 'The party acting under the licence is in occupation when he enters upon the land, and then he becomes liable to be rated in respect of that part worked, but not of the other parts situated in other parishes, on which he has not yet entered. The Parochial Assessment Act contemplates annually recurring profits, and therefore the test of rateability applicable under that Act does not hold in the case of the occupation of minerals where the subject-matter is actually taken away, and where the occupier is only liable to be rated for that which he is actually in occupation of.' And Crompton, J.,

[1] *Regina* v. *Fayle*, (1856), 4 W.R. at p. 461.

said: 'The case is similar to that of coal-mines in respect of which there is no beneficial occupation until they are actually used and worked as such. But if the argument for the respondents be correct, the lessee would be liable to be rated for the whole of the coal included in his lease, whereas in truth he is not liable to be rated until the coal has actually been worked.' In Fayle's case, however, it is to be noted that the clay pits yet to be worked had not even been made.

Occupation in Different Parishes.—Where a mine extends under several parishes the occupier of the mine is rateable in each parish on the basis of the hypothetical rental value of the part of the mine within that parish. In the words of Williams, J.,[1] 'without violating the ordinary sense of words, the appellant may be considered as occupier of a coal-mine in both the parishes.' In such a case if all the coal was gotten in parish A, and merely transported through that part of the mine in parish B, the hypothetical rental value of the coal-mine in parish B would, it is considered, be the value of a wayleave for the coal so transported, less deductions for repairing the roadways, and might thus easily be a minus quantity.

Rateable Value Principles.—Having remarked upon the incidence of liability, the extent of the liability remains to be considered. The law on this subject is contained in Section 1 of the

[1] *The King* v. *The Inhabitants of Foleshill* (1835), 2 A. & E. at p. 599.

Parochial Assessment Act, 1836,[1] as modified by Section 7 of the Rating Act, 1874. For reasons which will be apparent later it is thought to be desirable to approach this part of our subject by considering, firstly, the principles underlying the assessment of the rateable value, and, secondly, the application of those principles.

Section 1 of the Parochial Assessment Act, 1836, provides as follows: 'Whereas it is desirable to establish one uniform mode of rating for the relief of the poor throughout England and Wales . . . Be it enacted, etc. . . . That . . . no rate for the relief of the poor in England and Wales, shall be allowed by any Justices, or be of any force, which shall not be made upon an estimate of the net annual value of the several hereditaments rated thereunto; that is to say, of the rent at which the same might reasonably be expected to let from year to year, free of all usual tenants' rates and taxes, and tithe commutation rent charge, if any, and deducting therefrom the probable average cost of the repairs, insurance, and other expenses, if any, necessary to maintain them in

[1] 6 & 7 Will. IV, c. 96. See also Sec. 15, Union Assessment Committee Act, 1862 (25 & 26 Vict. at p. 103), which provides as follows:

'The gross estimated rental for the purposes of the Schedule to this Act shall be the rent at which the hereditament might reasonably be expected to let from year to year, free of all usual tenants' rates and taxes, and tithe commutation rent-charge, if any, provided that nothing herein contained shall repeal or interfere with the provisions contained in the first section of the said Act (6 & 7 Will. IV, c. 96) defining the net annual value of the hereditaments to be rated.'

a state to command such rent: provided always that nothing herein contained shall be construed to alter or affect the principles or different relative liabilities (if any) according to which different kinds of hereditaments are now by law rateable.'

The assessment of the rate is thus to be based on the estimated net annual value. It is thus the rent which a hypothetical tenant might reasonably be assumed to be ready to pay. The period of the hypothetical tenancy is one year.

In fact, of course, neither mines nor quarries are commonly let on year to year agreements, and it might indeed be, and has in fact been, argued that as no one would take such a lease of, at any rate, a large mine involving great capital outlay some other principle must be looked to. This, however, raises rather the question of the application of the principle than the principle itself, for it is submitted that the principle here involved is this: that in calculating the annual value the present [1] is alone looked to and neither the past [2] nor the future.[3]

Thus the fact that the corpus is wasting is

[1] Or 'at that moment,' *i.e.*, of assessment, to use the words of Lord Esher, M.R., in *Hoyle, etc.*, v. *Oldham*, [1894] 2 Q.B. at p. 378, quoted by A. L. Smith, M.R., in *Farnham Flint Gravel and Sand Co.* v. *Farnham Union*, [1901] 1 K.B. at p. 280.

[2] See Cockburn, C.J., in *The Queen* v. *Whaddon* (1875), L.R., 10 Q.B. at p. 239. The fact that the judgment in question was a dissenting one does not, it is considered, affect the present point.

[3] Blackburn, J., in *Staley and Another* v. *Overseers of the Poor of Castleton* (1864), L.J. M.C. at p. 182.

immaterial, for in the words of Collins, L.J.,[1] 'I find in *Reg.* v. *Westbrook*,[2] decided in the year 1847, long after the decision of Lord Ellenborough in *Rex* v. *Bedworth*,[3] . . . that Lord Denman, in giving the judgment of the Court, said: "It does not appear to us that the circumstances of a more or less rapid consumption can make any difference in the principle. The rate is always imposed with reference to the existing value; whether temporary or enduring is immaterial."' He puts the case of a brickfield exhausted in less than a year, and says: 'It would only be reasonable that it should bear an increased rate for that year; in the following year its value might sink almost to nothing, and the rate ought to fall proportionately, even to nothing, if, the brick-earth being exhausted, the land, like an exhausted coal-mine, should become entirely unproductive.' In the Farnham case, which was concerned with the rating of gravel pits, the Court held that the annual value to be taken was the amount of rent or royalty at which the same could at the time be reasonably expected to be let to a tenant from year to year, regard being had to the value of the gravel in the unexhausted plot, added to the value of the exhausted plots for storage purposes.

So where the value is likely greatly to increase

[1] *Farnham Flint Gravel and Sand Co.* v. *Farnham Union*, [1901] 1 K.B. at pp. 284, 285.

[2] (1847), 10 Q.B. 178.

[3] (1807), 8 East, 387.

still the hypothetical rent may not be calculated *in futuro* and the present must alone be looked to.[1] In the words of Blackburn, J.,[2] 'the legislature intended that the rate should be made upon the rent which might be reasonably expected from a tenant who took the property from year to year, *rebus sic stantibus*. If there be waste land near a large city which is entirely unprofitable, it is not rateable, although in after years it might become exceedingly valuable.'

On the other hand, the past may not be looked to, and it is immaterial that the present value is due to capital expenditure on the part of the lessee, for it matters not at all whether there is in fact a letting. It is the hypothetical, not the actual, rent that is looked to. It follows that if the mine or quarry is both owned and worked by A the rateable value is the same as if it were owned by A and demised to B and worked by B.[3] If in the former case supposed, where the owner was in occupation, he improved the mine, and then let the mine, the hypothetical rental would be higher than if he had let before the improvements were effected; but the hypothetical rental would be the same as in the case where the owner

[1] *The Attorney-General* v. *Lord Sefton*, 32 L.J. (N.S.) Exch. 230.

[2] *Staley and Another* v. *The Overseers of the Poor of Castleton* (1864), L.J. M.C. at p. 182.

[3] *The King* v. *Attwood* (1827), 6 B. & C., per Abbott, C.J., at p. 282.

had demised before the improvements were effected and the lessee had made exactly the same improvements at exactly the same times as, in the first case supposed, the owner made. For in both cases the value of the mine would, in the result, be the same. This principle was indeed recognised and applied before the Act of 1836. Thus, Abbott, C.J., said:[1] 'I cannot discover any distinction between expenses incurred in bringing a mine to a productive state and in building a house . . . and if a house is to be rated as soon as built and occupied, it must follow that a coal-mine is rateable as soon as it is set at work and produces coal, although it may happen that the expenses of sinking it may never be recovered. If the tenant of a mine expends money in making it more productive, that is the same as expending money in improving a farm, or a house, in which cases the tenant is rateable for the improved value,' and Littledale, J., said[2]: 'It is immaterial, with reference to rateability, whether the landlord or tenant erect an engine or lay down a railway . . . the occupier of property is rateable in respect of its improved annual value.'

It follows from this principle (that the measure of rateability is the hypothetical rent at which at the time the mine or quarry might reasonably

[1] *The King* v. *Attwood* (1827), 6 B. & C., per Abbott, C.J., at p. 282.

[2] *The King* v. *Lord Granville* (1829), 9 B. & C. at p. 191.

be let) that if there be no prospect of its being let at any rent there is nothing to rate. Thus if it be drowned out its hypothetical letting value might be nil or might not be nil. If it were nil, and an engine house were erected and pumping engines, boilers, etc., were brought on the land by the lessee to pump out the mine, such plant would not be rateable if, to use the words of Lord Coleridge, C.J.,[1] ' in point of fact the engine-house, etc., are of value only when used in connection with what is of no present value.' [2] If they have a value apart from the valueless mine they are rateable.[3] But they cannot be deemed to have a separate value simply because someone might give something for them in connection with the mine, *e.g.*, a contractor who contracts to do the pumping for such a person would not be occupying as a tenant, but, in the words of Grove, J.,[1] ' merely as a contractor for the purpose of performing his contract.' If, however, the pumping plant enhanced the value of the land as distinct from the colliery, such increased value would have to be taken into account in assessing the rate payable

[1] *Tyne Coal Co.* v. *Overseers of Wallsend C.P.* (1877), 46 L.J. M.C. at p. 188.

[2] The fact would be a matter for the Assessment Committee. Consider Lord Denman, C.J., in *Rex* v. *Dunsford*, 2 A. & E. at p. 573.

[3] *The Queen* v. *The Metropolitan Board of Works* (1868), L.R. 4 Q.B. 15, as explained in *The Metropolitan Board of Works* v. *The Overseers of West Ham* (1870), L.R. 6 Q.B. 193, and referred to in the Tyne Coal Co. case.

in respect of the land.[1] If the colliery becomes valuable, it then becomes material in considering such value to consider the additional value due to the existence of the pumping plant.[2]

If, on the other hand, the mine or quarry at the time of assessment is idle owing to a strike, it by no means follows that the hypothetical rental will in consequence be substantially less than if there were no strike.[3] Neither can it be successfully argued that, granting continued occupation, the mine has in consequence of the strike ceased to be a mine and become something of less value with the reduced value of such. But, on the other hand, bad trade or other causes which result in a complete or partial stoppage of work, are, it is submitted, material facts to be taken into consideration in determining what a hypothetical tenant could reasonably be expected to pay in rent for the current year.[4]

Conformably to the principle that it is the hypothetical present reasonable rental that is to be looked to, the value where the mine or quarry is not let, but is worked by the owner, is not the total productive value to such owner less working expenses, for the hypothetical rent which a tenant

[1] *Tyne Coal Co.* v. *The Overseers of Wallsend C.P.* (1877), 46 L.J. M.C. at p. 189.

[2] *Ibid.*, per Lord Coleridge, C.J., at p. 188.

[3] *Hoyle, etc.*, v. *Oldham* (1894), 2 Q.B., per Esher, M.R., at pp. 378, 379.

[4] Consider per Blackburn; J., in *Staley* v. *Overseers of Castleton* (1864), 5 B. & S., pp. 512–515 (cotton mill case).

could reasonably be expected to pay would not be such a rent as left him nothing over after paying working expenses and the said (hypothetical) rent.[1]

In *Port of London Authority* v. *Assessment Committee of Orsett Union* (*No.* 2)[2] the Lord Chancellor laid down the following propositions:

'(1) The question of rateability does not depend on whether the occupier did, or could, make a profit by the use to which he put the hereditament; it depended upon whether the occupation was of value.

'(2) In considering what rent a tenant would pay, the rating authority must consider the owner who was in actual occupation, or, indeed, the only possible occupier, as a possible tenant.

'(3) In cases where the hereditament is enhanced in value by its connexion with a profit-bearing undertaking, such as docks, the profits earned, and the share of profits attributable to any particular hereditament, must be taken into account.

'(4) In such cases, any restriction imposed by law on the profit-earning capacity of the undertaking must be considered, for the profits to be taken into account must be such as the tenant could earn under the only conditions in which he was allowed to earn profits at all.

[1] *The King* v. *Attwood* (1827), 6 B. & C.
[2] (1920), 36 T.L.R. 233.

'In other words, if the law prevents the hereditament from being profitable at all, then the occupation is of no value; and if the law restricts its profit-earning capacity, then the effect of such restriction would tend to diminish the value.'

As Lord Coleridge said in a port rating case: 'The hypothetical tenant has to calculate what rent he can afford to pay after discharging tenants' rates, taxes, and tithe commutation rent charge. For the purpose of that calculation he must estimate the profits which he would make from the tenancy.'[1] It would therefore appear to be relevant, in view of the decision in *Port of London Authority* v. *Orsett Union Assessment Committee*,[1] to take into account in calculating the hypothetical rent the *quantum* of the deduction to be made from profits in consequence of the various Finance Acts from 1915 to date, together with, in the case of mines falling within the Coal Mines Control Agreement, the coal-mines excess payment,[2] for in the words of Avory, J.[3] (speaking of the rating of a port and of E.P.D.): 'That that duty may be taken into account in order to ascertain the rent which the hypothetical tenant would probably give for the occupation of the premises is, in my opinion, clear beyond doubt. The hypo-

[1] *Port of London Authority* v. *Orsett Union Assessment Committee*, [1919] 1 K.B. at p. 94.

[2] As to this, see Coal Mines Control Agreement (Confirmation) Act, 1918, Schedule, Sec. 3.

[3] [1919] 1 K.B. at p. 95.

thetical tenant, who is subject to the duty in question, knows that he will not put into his pocket the whole of the profits which may be earned, that so far as those profits exceed the pre-war standard, a certain percentage—60 or 80 per cent., as the case may be—will have to be handed over to the Government.'

Rateable Value—Mode of determining. (*a*) *Tin, Lead, and Copper Mines.*—The Rating Act, 1874, Section 7, provides as follows: 'Where a tin, lead, or copper mine[1] is occupied under a lease[3] or leases granted without fine[4] on a reservation wholly or partly of dues[2] or rent, the gross value of the mine[1] shall be taken to be the annual amount of the whole of the dues[2] payable in respect thereof during the year ending on the thirty-first day of December preceding the date at which the valuation list is made, in addition to the annual amount of any fixed rent reserved for the

[1] 'The term "mine" when a mine is occupied under a lease, includes the underground workings, and the engines, machinery, workshops, tramways, and other plant, buildings (not being dwelling-houses), and works and surface of land occupied in connection with and for the purpose of the mine, and situate within the boundaries of the land comprised in the lease or leases under which the dues or dues and rent are payable or reserved.'—Rating Act, 1874, Sec. 7.

[2] 'The term "dues" means dues, royalty, or toll, either in money or partly in money and partly in kind; and the amount of dues which are reserved in kind means the value of such dues.'—*Ibid.*

[3] 'The term "lease" means lease or sett, or license to work, or agreement for a lease or sett, or license to work.'—*Ibid.*

[4] 'The term "fine" means fine, premium, or pre-gift, or other payment or consideration in the nature thereof.'—*Ibid.*

same which may not be paid or satisfied by such dues.[1]

The rateable annual value of such mine[2] shall be the same as the gross value thereof, except that where the person receiving the dues[1] or rent is liable for repairs, insurance, or other expenses necessary to maintain the mine[2] in a state to command the annual amount of dues[1] or rent, the average annual cost of the repairs, insurance and other expenses for which he is so liable, shall be deducted from the gross value for the purpose of calculating the rateable value.

'In the following cases, namely:

1. Where any such mine[2] is occupied under a lease[3] granted wholly or partly on a fine[4]; and
2. Where any such mine[2] is occupied and worked by the owner; and
3. In the case of any other such mine[2] which is not excepted from the provisions of this Act, and to which the foregoing provisions of this Section do not apply;

the gross and rateable value of the mine[2] shall be taken to be the annual amount of the dues[1] or dues[1] and rent at which the mine[2] might be reasonably expected to let without fine[4] on a lease[3] of the ordinary duration, according to the usage of the country, if the tenant undertook

[1] See Note 2, p. 192.
[2] See Note 1, p. 192.
[3] „ „ 3, „ „
[4] „ „ 4, „ „

to pay all tenant's rates and taxes and tithe rent charge, and also the repairs, insurance, and other expenses necessary to maintain the mine[1] in a state to command such annual amount of dues[2] or dues[2] and rent.

'The purser, secretary, and chief managing agent for the time being of any tin, lead, or copper mine,[1] or any of them, may, if the overseers or other rating authority think fit, be rated as the occupier thereof.'

(*b*) *Coal, Iron-ore, and other Mines not included in* (*a*).—As we have seen, the Parochial Assessments Act, 1836, Section 1, lays down the principles to be applied. But in arriving at the hypothetical rent which a tenant from year to year might be expected to pay one is faced with the practical difficulty that in fact no mines are let (or, at any rate in the vast majority of cases, could be let) on a yearly lease. As Day, J., said[3]: 'He (the arbitrator) knows of no collieries that are let by the year, and I suppose no one has ever yet heard of a colliery being so let.[4] It is clearly an exceptional case, to be dealt with exceptionally. These rating questions are to be determined as nearly as possible correctly, and therefore, of course, in the most practical way that is available.' In that case the colliery

[1] See Note 1, p. 192. [2] See Note 2, p. 192.

[3] *The Denaby and Cadeby Colliery Co.* v. *The Assessment Committee of the Doncaster Union*, [1898] 78 L.T. at p. 389.

[4] Examples are known.

company had urged that the best, and indeed the only fair, method of arriving at the net annual value was that of ascertaining the receipts in the year and then deducting therefrom the expenses, allowances for tenant's capital, etc., and the Court intimated that such a mode of assessment was a proper one, though it certainly did not decide that it was the only way by which the annual value could properly be arrived at.

Granted that the value is so ascertained, the mode of calculation and the factors to be taken into account are as stated on page 161 *et seq. ante.*

As Phillimore, L.J., observed in *D. Davis & Sons, Ltd.* v. *Pontypridd Union*,[1] 'in all these very complicated items of rating it becomes necessary to adopt some broad and general rule, which some people might call a rule of thumb, and the Courts have supported conventional modes of arriving at that, which, after all, is the thing which has to be arrived at—namely, the value as required by the Parochial Assessments Act, 1836. In *Hendon Paper Works Co.* v. *Sunderland Assessment Committee*[2] an extremely conventional mode of arriving at the gross rental, . . . and a not altogether verbally accurate way of arriving at the net rateable value, was considered by the Court as an arrangement which could stand.' In Davis' case prior to 1913 a colliery was assessed

[1] [1916] 85 L.J. K.B. at p. 1550.
[2] [1915] 1 K.B. 763; 84 L.J. K.B. 476.

on a tonnage basis agreed in 1904; in 1908 an electric power station found as a fact to be part of the colliery, had been erected, and up to 1913 was included in the assessment of the colliery. In 1913 an attempt was made to treat the electric power station as a separate hereditament for the purpose of rating, while at the same time assessing the colliery, as apart from the electric power station, on the 1904 basis, but the Court held that in adopting the 1904 agreement when assessing the colliery, the assessment committee had bound themselves to assess the colliery generally on the 1904 basis, and the colliery generally included the electric power station.

If, however, the mode of assessment proceeds along the line of attempting to calculate the present letting value, then, as we have seen, the present value, and neither the past nor the future value, must be looked to, though frequently in practice collieries are assessed on their output for the preceding year, and where such a course of practice is shown to have existed, *i.e.*, where the occupier is rated on a basis which he is shown to have accepted over a number of years, and for the year in question, such a mode of assessing the annual value may perhaps be supported.[1]

[1] *Fitzwilliam Hemsworth Collieries, Ltd.* v. *Hemsworth Union*, [1905] 1 K. 114. Doubted by Mr. Ryde, K.C., *Law and Practice of Rating*, 3rd edition, p. 486. See, however, the argument in *D. Davis & Sons, Ltd.* v. *Pontypridd Union, infra*, at p. 1546, and contrast the remarks of Swinfen Eady, L.J., *ibid.*, at pp. 1548, 1549.

Deductions.—The Parochial Assessment Act provides that from the hypothetical gross rental certain deductions are to be made in arriving at the net rental for assessment purposes. Such deductions are 'the probable average annual cost of the repairs, insurance, and other expenses, if any, necessary to maintain the hereditaments in a state to command the rent. Provided always, that nothing herein contained shall be construed to alter or affect the principles or different relative liabilities (if any) according to which different kinds of hereditaments are now by law rateable.' This language is, in the words of Lord Denman,[1] 'very inartificial, and loose, to a degree which renders the discovery of a definite meaning to all its parts extremely difficult.' It might well be thought that if the rent is taken as a royalty rent, or a rent which is calculated on the supposition that the corpus is being exhausted by the lessee, then in order 'to maintain the hereditaments in a state to command the rent,' it would be necessary to deduct from such gross rental, in that regard alone, an annual sum sufficient to form a sinking fund. For it is to be observed that the rental paid for a mine and the rental paid for a house are different. The rental paid for a mine purchases in time the contents of the mine, and is more similar to an arrangement whereby a person takes a furnished house for so

[1] *The Queen* v. *Capel* (1840), 12 A. & E. at p. 411.

many years at a rental which is calculated on the footing that at the end of that period the tenant is to be the owner of the furniture.[1] Obviously if that were the rental taken as the gross rental for assessment purposes (it would not be in the case of a house ; it would be in the case of a coal-mine), that rental would not be maintainable at the end of the period when the furniture was the tenant's and the house had consequently ceased, so far as the lessor was concerned, to be a furnished house. Consequently from such rental a heavy deduction in the nature of a sinking fund contribution would have to be made to maintain the rental value. But in the case of mines and quarries no such deduction may be made.

These considerations were before the Court in *The Queen* v. *Westbrook* and *The Queen* v. *Everist,*[2] where Lord Denman put the matter as follows[3]: '. . . the next objection is a more important one ; that it is altogether wrong in principle to consider the royalty as rent : and this appears to be founded mainly on this, that

[1] As Lord Cairns said in *Gowan* v. *Christie* (1873), L.R. 2 H.L. Sc. 284 : ' It must constantly be borne in mind that a lease of mines is not in reality a lease at all in the sense in which we speak of an agricultural lease. What we call a mineral lease is really, when properly considered, a sale out and out of a portion of the land.' Lord Blackburn in *Coltness Iron Co.* v. *Black* (1881), 6 A.C. 335, referred to the above *dictum* as being a ' perfectly accurate statement ' of the law.

[2] (1847), 10 Q.B.R. 178. [3] *Ibid.*, at p. 203.

it is a sum paid, not in respect of the renewing produce of the land, but of a portion of the land itself, and that not consumed by slow degrees, and to be exhausted at the end of a long period, as is the case with a coal-mine, under which circumstances it was admitted that it might be treated as produce, but in such large proportions that the whole would in a few years be exhausted. It does not appear to us that the circumstances of a more or less rapid consumption can make any difference in the principle. The rate is always imposed with reference to the existing value; whether temporary or enduring is immaterial.' It is evident from the above, therefore, that whereas one looks in ascertaining the hypothetical gross rental to the present, as we have seen, one does not, in the case of mines or quarries, regard that rent as a continuing rent, and consequently one does not deduct expenses other than the cost of repairs and insurance necessary to maintain the hereditament in a state to command the rent, *i.e.*, the present hypothetical gross rental, where such 'other expenses' are in the nature of sinking fund contributions. We respectfully doubt, however, whether the following remarks of Lord Denman[1] fully represent the difficulty in principle of regarding a royalty rent as an *occupation* rent: 'We come, then, to the bare objection that the royalty is

[1] *The Queen* v. *Westbrook* (1847), 10 Q.B.R. at pp. 204, 205.

paid, not for the renewing product of the land, but for several portions of the land itself, mixed up with foreign matter: the expense of this, however, must of course have been cast off before the royalty itself was fixed. That was a sum which, after all such expenses paid, the occupier could afford to render to the landlord. When the case is thus laid bare, there is no distinction between it and that of the lessee of coal-mines, of clay-pits, of slate-quarries; in all these the occupation is only valuable by the removal of portions of the soil: and whether the occupation is paid for in money or kind, is fixed beforehand by the contract or measured afterwards by the actual produce, it is equally in substance a rent: it is the compensation which the occupier pays the landlord for that species of occupation which the contract between them allows. This would not admit of an argument in an agricultural lease, where the tenant was to pay a certain portion of the produce: that would be admitted to be in all respects a rent service, with every incident to such a rent: and in *Daniel* v. *Gracie*[1] we held the same with regard to a marl pit and brick mine, where the render was of so much per cubic yard of the marl dug, and so much per thousand of the bricks made.' It is not the fact that royalty may be in kind or calculated on produce that differentiates it from occupation rent, as it is sub-

[1] (1843), 6 Q.B.R. 145.

mitted that a royalty rent pays in effect for two principal things, (1) the right to occupy, (2) the right to exhaust.

Again, in *The King* v. *Attwood*,[1] Abbott, C.J., said: 'As to the other points, the first was, that the rate should not be imposed upon the coal produced, because that was part of the realty. It is the first time that such a proposition has ever been submitted, although many coal-mines in various parts of the country have constantly been rated, and the argument in support of it is wholly untenable. The legislature has expressly made coal-mines rateable, and they must be rated for what they produce, viz., the coals.[2] Slate-quarries and brick earth are also exhausted in a few years, but nevertheless the rate is always imposed upon that which is produced.'

According, therefore, to the existing decisions and practice a deduction to form a sinking fund to make good the capital loss due to the exhaustion of the minerals is not made. It is different in the case of depreciation to buildings, machinery, and plant.

Repairs.—Expenses incurred in keeping the permanent main roads and the permanent main airways which may be maintained in a mine in

[1] (1827); 6 B. & C. at p. 282.

[2] Of course the question of a sinking fund is in the words of Buckley, L.J., 'A consideration which goes not to rateability but to *quantum* of rate.' There is no question but that mines are rateable and rateable in respect of their annual value. The question is as to the deductions which should be allowed in order to enable that annual value to be maintained.

order that such mine may be worked at what may be described as the pressure on which the hypothetical rent is based must be regarded as expenses incurred in repairs and as such form proper deductions [1]; for the hereditament is not merely the seams of coal and working places but includes the roadways and airways, and repairs thereto are necessary if the hypothetical letting value is to be maintained.

Other Local Rates.—As regards county and borough rates, all hereditaments rateable to the relief of the poor are rateable to the county and borough rates.[2]

As regards highway rates, by 5 & 6 Will. 4, c. 50, section 27, 'all property now liable to be rated and assessed to the relief of the poor' was made liable to highway rate; and the Act further provided that 'the same rate shall also extend to such . . . mines, and quarries of stone or other hereditaments, as have heretofore been usually rated to the highways.' The liability in the case of mines was consequently not restricted to coal-mines. By the Rating Act, 1874, all hereditaments rateable to the relief of the poor were made rateable to the highway rate.[3]

[1] *John Brown & Co.; Ltd.* v. *Assessment Committee of Rotherham Union* (1900), 64 J.P. 580. It was not found, according to the case, that any expenses were incurred in respect of the gates, but had there been it is submitted that such expenses would also have been deductible, a gate being a necessary, though temporary, roadway. [2] Rating Act, 1874, sections 10 and 15.
[3] *Ibid.*; Public Health Act, 1875, Sections 144, 216.

As regards the lighting and watching rates, it was enacted by 3 & 4 William IV, c. 90, section 33, 'that the owners and occupiers of . . . property (other than land) rateable to the relief of the poor . . . shall be rated at and pay a rate in the pound three times greater than that at which the owners and occupiers of land shall be rated at and pay for the purposes of this Act.'

It consequently became a question of some importance whether a mine was 'land' or 'property (other than land),' and in *Thursby* v. *Briercliffe-with-Extwistle*[1] it was held that a coal-mine was 'property (other than land).' In *Crayford* v. *Butler*[2] it was held that a brickfield was 'land;' and further that buildings capable of user only in connection with the brickfield were so far indentified with the brickfield as also to fall within the term 'land.' Both decisions are agreeable to the view that 'land' has, in connection with rating law, the special meaning which has been assigned to it as used in the 43 Eliz. c. 2.

As regards the general district rate, this also is chargeable in respect of all hereditaments rateable to the relief of the poor.[3]

[1] [1895] A.C. 32. [2] [1897] 1 Q.B. 650.

[3] Rating Act, 1874, sections 10 and 15; Public Health Act, 1875, section 211.

CHAPTER VIII

THE TAXATION OF MINERAL PROPERTY

THE duties imposed by the sections of the Finance (1909–10) Act, 1910, specially relating to minerals are of three separate kinds, viz., (1) mineral rights duty, (2) increment value duty, (3) annual increment value duty. Of these three kinds (1) and (3) are in the nature of an annual tax and merge the one into the other so that both are never payable, (2) is distinct in kind from (1) and (3), being in the nature of a capital tax. Increment value duty is not chargeable in the case of any minerals which were, on April 30, 1909, either comprised in a mining lease or being worked by the proprietor, so long as the minerals are for the time being either comprised in a mining lease or being worked by the proprietor. This exemption continues to apply though the minerals cease for a temporary period not exceeding two years to be comprised in a mining lease or to be worked.[1]

Mineral Rights Duty.—Mineral Rights Duty is a duty payable in respect of all minerals other

[1] Finance (1909–10) Act, 1910, section 22 (2).

than common clay, common brick clay, common brick earth, sand, chalk, limestone, or gravel,[1] and is calculated on (*a*) the annual rental value of (*b*) all rights to work minerals (*c*) and of all mineral wayleaves.[2] The *quantum* of the duty is 5 per cent of such rental value.[2]

In the words of Kennedy, L.J.,[3]: '"All rights to work minerals". . . These are the crucial and decisive words.' It is therefore necessary in the first place to determine whether the rental value on which the duty is levied is a rental value for a right to work minerals. And if therefore A, having in himself no right to work minerals, purports to grant the right to work in return for a rent a question arises. In copyhold land, as we have seen, apart from special custom, and *prima facie*, the lord is the proprietor of the minerals but the copyholder has possession thereof. In the case of *Inland Revenue Commissioners* v. *Joicey* (*No.* 2) [4] there was a special custom and the lord was entitled thereby to work the minerals provided he did not let down the surface. The most, therefore, that could remain in the copyholder (as regards the minerals) was possession *minus* a liberty on the part of the lord to divest him of such possession in respect of minerals

[1] Finance (1909–10) Act, 1910, section 20 (5). See also *Paton* v. *Inland Revenue*, [1912] S.C. 1165.

[2] Finance (1909–10) Act, 1910, section 20 (1).

[3] *Inland Revenue Commissioners* v. *Joicey* (*No.* 2), [1913] 2 K.B. 580 at p. 592.

[4] [1913] 2 K.B. 580.

mined. He retained his right not to have the surface let down. He manifestly had not the power to work the minerals himself or to prevent his lord or a person deriving title from the lord from working the minerals provided the person working did not let down the surface. A copyholder having these limited rights 'demised' to a colliery company to whom the lord of the manor had granted a mining lease 'full power and liberty from time to time to work, get, and carry away all the coal, ironstone, and fire clay, or other minerals, if any, under or adjoining [the copyholder's] lands which might for the time being be held by the company, without leaving or making any support for the surface of [the copyholder's] lands or any buildings for the time being thereon; yielding and paying yearly . . . the clear rent or sum of 1¼*d.* for every ton wrought and brought to the surface by the company from and out of any mines or seams lying under J's lands.' It was held that the rent so paid was not paid in respect of a 'right to work minerals,' and consequently was not subject to mineral rights duty, Cozens-Hardy, M.R., saying[1]: 'It seems to me that the rent paid by the company to [the copyholder] is not paid for a right to work minerals, for it is clear that [the copyholder] had no such right which he could confer. All

[1] *Inland Revenue Commissioners* v. *Joicey* (*No.* 2), [1913] 2 K.B. 580 at p. 588.

he could do was to release what I have called his veto, and to allow the company without objection to work the coal in such a way that the surface might be damaged.' It is probable, however, that the agreement in question was a 'mining lease' within the definition contained in Section 24 of the Finance (1909–10) Act, 1910, for as Kennedy, L.J.,[1] pointed out the licence in question was certainly a licence for a purpose 'connected with' the working of the coal. It therefore appears that although there be a mining lease mineral rights duty may not be payable on the rent thereby reserved if the lease does not grant the right to work minerals, and a lease does not grant the right to work although it purports so to grant if the lessor has not that right to grant, for one cannot grant that which one has not. If this be the correct reading of the Joicey case it is interesting to compare it with the decision of Lush, J., in *Attorney-General* v. *Salt Union, Ltd.*[2] In that case A leased his land and gave liberty, etc., to the lessee to pump brine water. In appeared that as no subsidence was caused to any portion of the lessor's land the brine water actually pumped did not come from A's land. Two questions thereupon arose: (1) whether brine water was a mineral, (2) whether 'the right to work minerals' means in effect

[1] *Inland Revenue Commissioners* v. *Joicey* (*No.* 2), [1913] 2 K.B. 580 at p. 592.

[2] [1917] 2 K.B. 488.

'the right to work minerals belonging to the person granting the right.' It was held that brine water was a mineral within the meaning of the Finance (1909–10) Act, 1910, and that the mineral need not come from the land of the person taxed if such person in fact receives the rental value of the right to work the minerals. These two cases, which in principle seem to collide, may perhaps be distinguished by the fact that brine water being a substance of a percolating nature having no defined channel is a substance the ownership of which does not reside in anyone, and therefore the most that can be granted over it is the right to work it. That is to say, in the Joicey case the copyholder had not the right to work, for that resided in another; in the Salt Union case the lessor had as much right to work the brine water as anyone, and as regards pumping operations on his land had the sole right to grant liberty, etc.

Granted that the rent is received in respect of 'all rights to work minerals and of all mineral wayleaves,'[1] the question arises as to the mode of determining the 'rental value' on which the 5 per cent. mineral rights duty is charged.

Section 20 (2) of the Finance (1909–10) Act, 1910, expresses the mode of determining this

[1] For the definition of 'rent,' 'mineral wayleave,' 'working lessee,' 'working year,' see Section 24 of the Finance (1909–10) Act, 1910.

'rental value' and provides for three sets of circumstances: (*a*) where the rent is charged for the right to work minerals, which right to work is the subject of a mining lease, (*b*) where the minerals are being worked by the proprietor,[1] (*c*) where the rent is charged for a mineral wayleave.[2] In case (*a*) the 'rental value' is the amount of rent[2] paid by the working lessee[2] in the last working year[2] in respect of that right. In case (*b*) it is the sum which the Commissioners determine would have been the rent[2] received by the proprietor[1] in the last working year[2] if the right to work the minerals had been leased to a working lessee[2] for a term and at a rent[2] and on conditions customary in the district. The Commissioners are by Section 20 (2) (*b*) required to base their valuation of this hypothetical rental on the assumption that had there been such a lease the lessee would have worked the minerals to the same extent and in the same manner as the proprietor worked them in the year in question. In case (*c*) the rental value is the amount of rent paid by the working lessee in the last working year in respect of the 'wayleave.'

In both cases (*a*) and (*c*), however, if (1) the rent exceeds the rent customary in the district *and* (2) the rent partly represents a return for

[1] For the definition of 'proprietor' see Section 24 of the Finance (1909–10) Act, 1910, and note Lord Parker's comment on that definition in *Attorney-General* v. *Foran*, [1916] A.C. 128 at p. 143.

[2] See Note 1, p. 208.

expenditure on the part of any proprietor of the minerals which would ordinarily have been borne by the lessee, then for the mode of calculating the rental value above described is to be substituted a hypothetical rental value, *i.e.*, 'such rent as the Commissioners determine would have been the rent customary in the district if the expenditure had been borne by the lessee.' [1]

It is thus clear that where there is a working lessee and the considerations indicated in the preceding paragraph do not apply the basis of the 'annual value' is the rent *de facto* paid. 'Rent paid' is not, in the words of the Court of Appeal,[2] 'the rent covenanted to be paid but the rent *de facto* paid. It consequently follows that (*a*) duty does not become payable before the rent is in fact paid[3]; (*b*) that as the obligation of paying property or income tax in respect of the rent is imposed on the lessee and not upon the lessor by the Income Tax Act, 1918, and as consequently the lessee does not pay such tax on behalf of another, no other but he himself being obliged to pay it, and as such tax is before payment deducted from the rent covenanted to be paid, it does not form part of the rent *de facto* paid, and consequently is not to be counted in as rent paid for the purpose of

[1] Finance (1909–10) Act, 1910, section 20 (2), proviso.

[2] *Beaufort* v. *Inland Revenue Commissioners, Inland Revenue Commissioners* v. *Anglesey*, [1913] 3 K.B. 48 at p. 57.

[3] *Ibid., per curiam* at p. 60.

determining the annual value [1]; (*c*) duty is payable in respect of rent *de facto* paid though such rent is paid in respect of a period that is past.[1]

The important point that income tax properly paid and deducted by the lessee from the covenanted rent is not to be counted in is based entirely on the fact that upon the lessee is imposed the duty to pay the income tax, and as a consequence he cannot be regarded as paying on behalf of the lessor. It is otherwise in cases where the person *receiving* has imposed upon *him* the obligation to pay the tax, *e.g.*, in the case of super-tax in respect *inter alia* of that portion of his total income represented by the rent in question.[2]

It is to be observed that under Section 24 the term 'mineral wayleave' is defined as meaning 'any wayleave, airleave, water-leave, or right to use a shaft granted to or enjoyed by a working lessee, whether above or under ground, for the purpose of access to or the conveyance of *the* minerals, or the ventilation or drainage of his mine or otherwise in connection with the working of *the* minerals.' Section 20 (1) speaks of the 'rental value of all rights to work minerals *and*

[1] *Beaufort* v. *Inland Revenue Commissioners, Inland Revenue Commissioners* v. *Anglesey* [1913] 3 K.B. 48 *per curiam* at p. 57 and generally.

[2] *Beaufort* v. *Inland Revenue Commissioners,* [1913] 3 K.B. 48.

(not *or*)[1] of all mineral wayleaves.' It has been argued in virtue of the use of the word *the* (and the argument seems to be strengthened by the use of the word *and*) that the expression 'the minerals' in the definition of 'mineral wayleave' in Section 24 points to the minerals worked by the lessee under the mining lease. This contention was rejected by Scrutton, J.,[2] who said: 'I find that the duty is to be levied on all mineral wayleaves[3]; the Act does not say that the duty is to be levied on all mineral wayleaves which relate to the minerals belonging to the grantor. . . . It seems to me that the word "the" is equally satisfied by reading it as "the minerals referred to in the mining lease" or "the minerals in respect of which the rent for the mineral wayleave is paid."'

Increment Value Duty.—Increment value duty (or what we sometimes term capital increment value duty in order to distinguish it from annual increment value duty) is only chargeable in two sets of circumstances[4]: (1) where the minerals were not in lease or in working on April 30, 1909, or (2) where the minerals though in lease or in working on April 30, 1909, have since

[1] In Section 20 (2) proviso and in Section 21 (1) the disjunctive form is used.

[2] *Shawe Storey* v. *Inland Revenue Commissioners*; [1914] 1 K.B. 87 at p. 91.

[3] The use of the word *and* was not considered.

[4] See and consider Finance (1909–10) Act, 1910, sections 1 and 22. Mines and quarries are 'land' for this purpose.

that date been out of lease or out of working for more than two years. By 'in lease' or 'in working' is meant either comprised in a mining lease or being worked by the proprietor.

Where the minerals were in lease or in working on April 30, 1909, and have not since been out of lease or out of working for more than two years increment value duty is not payable.[1]

Increment value duty is chargeable at the rate of 20 per cent. of the value of the increment.[2] The date from which the increment is calculated is April 30, 1909.[3] Increment value duty is therefore in the nature of a capital tax, and it becomes necessary to consider the basis on which the capital value of the minerals is calculated.

For the purposes of the valuation of this capital value the minerals are treated as a separate parcel of land, *i.e.*, as distinct from the surface.[3] The duty of valuing is imposed by Section 26 upon the Commissioners for Inland Revenue, and in the words of Lord Parker,[4] 'it is the duty of the Commissioners to cause a valuation to be made of all "land" within the United Kingdom showing separately as to each parcel (1) "the total value" and (2) "the site value." Land includes both minerals and surface, but minerals

[1] See and consider Finance (1909–10) Act, 1910, section 22 (2). Mines and quarries are 'land' for this purpose.

[2] Finance (1909–10) Act, 1910, section 1.

[3] *Ibid.*, Section 23 (2).

[4] *Attorney-General* v. *Foran*; [1916] at pp. 141, 142.

and surface are to be dealt with separately, and in the case of minerals " total value " and " site value " are not quite the same thing as in the case of surface. These values are, in the case of surface, to be ascertained under Section 25, which has no application to minerals, and in the case of minerals under Section 23, which has no application to surface. Thus in the case of surface every piece of land in separate occupation is for valuation purposes a distinct parcel. It is different in the case of minerals. These under Section 23 appear to be divided into three distinct classes: (1) those comprised in a mining lease; (2) those not so comprised, but being worked; and (3) those not so comprised and not being worked. The section is somewhat obscure, but apparently minerals comprised in a single mining lease, or not so comprised but being worked as part of a single undertaking, constitute in each case a separate parcel for the purpose of valuation. In the case of minerals which are neither comprised in a mining lease nor being worked there appear, however, to be no criteria other than those of title and situation by which to determine into what separate parcels they should be divided for valuation purposes. Certainly surface occupation has nothing to do with the matter. It would be absurd from the business point of view if it had.'

From the Act as above expounded it is

possible to select units. The unit for valuation being found, it is necessary next to seek for the mode of valuing. That mode consists in the finding of two values, such values to be the values as at the critical date, viz., April 30, 1909.[1] These two values are (1) the 'total value,'[2] (2) the 'capital value,'[2] and of these two the second depends on the first being ascertained by subtracting from the first the value of certain deductions.

The 'total value' means the amount which the fee simple of the minerals, if sold in the open market by a willing seller in their then condition, might be expected to realise. The method adopted in making such valuation by the Inland Revenue Authorities is the ordinary one adopted by a mining engineer.[3] The 'capital value' equals the 'total value' *less* 'such deduction as the Commissioners may allow for any works executed or expenditure of a capital nature incurred *bona fide* by or on behalf of any person interested in the minerals for the purpose of bringing the minerals into working, or where the minerals have been partly worked, such deduction as is, in the opinion of the Commissioners, proportionate to the amount of minerals which have

[1] Finance (1909–10) Act, 1910, section 23 (3), (4), section 26 (1).

[2] *Ibid.*, Section 23 (1).

[3] See Mr. O'Donahue's evidence, 'Coal Industry Commission Blue Book' (Cmd. 360/19), vol. ii. p. 591. As to this method, see *ante*, p. 119.

not been worked.'[1] This capital value appears to be what may be termed the 'minerals' equivalent to the assessable site value of land.[2]

For the purpose of making this valuation the Commissioners are empowered[3] to require any owner of land and any person receiving rent in respect of any land to supply information as to matters of fact[4] on matters 'which may properly be required for the purpose of the valuation.'[4] If, as a result of a proper notice, a return is made by the 'proprietor' of minerals, and in such return the proprietor does not specify the nature of the minerals and his estimate of their capital value, then 'for the purposes of valuation' in cases 'where the minerals are not comprised in a mining lease or being worked' the minerals 'shall be treated as having no value as minerals.'[5] Whereupon several points arise.

And firstly. In *Dyson* v. *Attorney-General*[6] Cozens-Hardy, M.R., referring to query 'i' in the old Form IV, wherein the occupier is asked to state the yearly value, said: 'This is a departure from the region of fact into the region of hypothesis and opinion. The answer would not be evidence of the annual value, and I am clearly of opinion

[1] Finance (1909–10) Act, 1910, section 23 (1).
[2] *Ibid.*, Sections 23 (4), 25 (4), (5).
[3] *Ibid.*, Section 26.
[4] *Dyson* v. *Attorney-General*, [1912] 1 Ch. at p. 165.
[5] Finance (1909–10) Act, 1910, section 23 (2).
[6] [1912] 1 Ch. at p. 145.

that this particular cannot be " properly required for the purpose of the valuation." '

It follows that the notice under Section 26 cannot raise a question of opinion but only of fact; it follows that the proprietor cannot in a notice under Section 26 be asked to estimate the value of his minerals. If the notice asked such a question it would not be a statutory notice.

Secondly. In the words of Lord Wrenbury,[1] ' The notice (he was speaking of the old invalid Form IV) as a notice did not comply with the Act. It was not a statutory notice. It could not lead to a statutory return. There was nothing which satisfied the words " his return " in Section 23, sub-section 2, and the consequences of Section 23, sub-section 2, never ensued.' It follows from points one and two that if the proprietor is asked to estimate, the return is not a statutory return and the consequence, viz., that the minerals may in certain events be regarded as having no value, does not arise.

Thirdly. The proprietor cannot therefore usefully be asked to estimate the value. If he is not asked to estimate, his reply is voluntary, and if it is voluntary his return is not a statutory return, for in the words of Lord Wrenbury,[2] ' The statutory consequences follow only upon a statutory return. A statutory return is the reply

[1] *Attorney-General* v. *Foran*, [1916] A.C. at p. 151.
[2] *Ibid.*, at p. 150.

to a valid statutory question. A statement voluntarily made, say, by a letter could not lead to statutory consequences.' It follows from points one, two, and three that the proprietor cannot be asked to estimate the value, and if he is not asked but gives his estimate, such estimate is not a return.

Fourthly. The person served with a notice under Section 26 is the 'owner'; the person to make the return consequent on that notice is, under Section 23 (2), the 'proprietor.' As Lord Parker pointed out,[1] 'It is evidently contemplated that the "proprietor" will be one of the persons to be served with a notice under this section and sub-section. Whether this is so in every case may be doubted, having regard to different definitions of "owner" and "proprietor" respectively contained in Sections 41 and 24. Indeed, in some cases, there may be no proprietor.'

The general result seems clear, viz., that Section 23 (2) cannot be regarded as anything more than a sub-section containing directions to the Commissioners as to the mode to be followed in making their valuation and as allowing them in certain events above described to treat the minerals as of no value not finally and without recourse but *prima facie* only, for to quote again the authority last referred to, 'The words "for the purposes of valuation" in Section 23 (2) naturally govern the whole clause. The pro-

[1] *Attorney-General* v. *Foran*, [1916] A.C. at p. 143.

visions of the clause are fully satisfied if the Commissioners in making their valuation follow the directions it contains, and any error or mistake can be rectified, and indeed ought to be rectified, under Section 27 upon objection made by the owner or other party interested.'

Annual Increment Value Duty.—The Finance (1909–10) Act, 1910, does not speak of annual increment value duty, and the phrase is therefore merely a descriptive one. The Act speaks of 'increment value duty payable annually'[1]; but it appears desirable sharply to distinguish what we term annual increment value duty from capital increment value duty, and the distinction is hardly apparent from the above quotation from the Act.

Capital increment value duty, as we have seen, is only charged where the minerals were not on April 30, 1909, in lease or in working, or where though then in lease or in working they have since ceased to be in lease or in working for more than two years; annual increment value duty is chargeable in respect of the increment value of minerals which are in lease or in working but were not in lease or in working on April 30, 1909, and have not since ceased to be in lease or in working for more than two years.[2]

[1] Finance (1909–10) Act, 1910, section 22 (5).

[2] *Ibid.*, Section 22 (3) as read in with Sections 22 (2) and 22 (1). See Section 22 (3), 'where that duty is chargeable,' Section 22 (2) generally, and Section 22 (1) 'except as a duty payable annually.'

The annual increment value duty is not estimated as a capital sum as in the case of increment value duty, but is the sum 'by which, in each year during which the lease continues or the minerals are being worked, as the case may be, the rental value on which mineral rights duty is charged in respect of the right to work the minerals exceeds the annual equivalent of the original capital value of the minerals, or the capital value of the minerals on the last preceding occasion on which increment value duty has been collected otherwise than as an annual duty, if increment value duty has been so collected before the minerals have become comprised in a mining lease or have commenced to be worked.' [1]

The annual equivalent of the capital value is taken as 8 per cent. of such capital value.[1]

One thus has to find two factors in order to determine the *quantum* of annual increment value duty:

(1) the 'rental value' on which mineral rights duty is charged [2];

(2) the 'capital value' of the minerals.[3]

If (1) = m, and (2) = n, then, increment value duty being 20 per cent.,[4] the annual

[1] Finance (1909–10) Act, 1910, section 22 (3).
[2] See *ante*, p. 209.
[3] See *ante*, p. 215.
[4] Finance (1909–10) Act, 1910, section 1.

increment value duty payable may be expressed in algebraic form as follows:

$$\frac{20}{100}\left\{m - \frac{8n}{100}\right\}$$

If, however, the 'rental value' represents in part a return for money expended within fifteen years by a lessor (and observe only a lessor[1]) in boring or otherwise proving the minerals, the value assigned to m above has to be ascertained by deducting from the 'rental value' the amount which represents that return.[2] Annual increment value duty is subject to the same rights of deduction as mineral rights duty.[3]

If annual increment value duty is paid, then up to the amount so paid mineral rights duty in respect of the minerals in question need not be paid.[4] The two merge.

Neither the increment value duty on minerals nor annual increment value duty is payable in respect of common clay, common brick clay, common brick earth, sand, chalk, limestone, or gravel.[5]

Excess Mineral Rights Duty.—Excess mineral rights duty was, it is understood, intended to be in the nature of an excess profits duty. As we shall see, however, it is not based upon either increased profits or increased receipts.

[1] Which term includes a licensor, Section 24.
[2] Finance (1909–10) Act, 1910, section 24 (4).
[3] *Ibid.*, Section 24 (5).
[4] *Ibid.*, Section 24 (6).
[5] *Ibid.*, Section 24 (8) as read in with Section 20 (5).

This duty was imposed by the Finance (No. 2) Act, 1915, section 43, a section which has subsequently been modified and amended from time to time.[1] It is payable only in respect of rent paid to the person liable to the duty in respect of (*a*) the right to work minerals or (*b*) mineral wayleaves *where such rent varies according to the price of the minerals*, and it is payable only in cases where the rent paid to such person exceeds the pre-war standard of that rent, and it further applies only where the right to work the minerals and the mineral wayleaves are not part of the 'assets of any trade or business,'[2] *i.e.*, 'assets of the trade or business of the person receiving the rent for the right to work the minerals or for the mineral wayleaves.'[3]

The pre-war standard of rent is ascertained by averaging the rent values of any two of the three last pre-war years. The tax-payer selects which two years shall be taken. In cases where the minerals have not been worked or the wayleaves let throughout the three last pre-war years, or where for other reasons there are no proper data for ascertaining the pre-war rent value, the pre-war standard is fixed by the Commissioners of Inland Revenue.[4]

[1] See Finance Act, 1916, section 46; Finance Act, 1917, section 21; Finance Act, 1919, section 33.

[2] Finance (No. 2) Act, 1915, section 43.

[3] Finance Act, 1916, section 46 (2).

[4] Finance (No. 2) Act, 1915, section 43 (2).

If the pre-war standard has so to be fixed by the Commissioners of Inland Revenue, they must make their valuation having regard to the data afforded by the working and price of minerals in like circumstances.[1] The tax-payer may appeal.[1]

The pre-war rent value is, as regards each of the three years immediately preceding the first accounting year, the sum to which the rent for the accounting year would amount if the rent, so far as variable according to price, were based on the average prices governing the payment of the rent in that year.[2]

The following deductions are allowed: (1) where a lessee receives the rent from a sub-lessee a deduction of the amount payable in any accounting year by such lessee to his lessor as rent in respect of the minerals or wayleaves let to the sub-lessee[3]; (2) annual increment value duty when paid[4]; (3) income-tax the obligation of paying which is upon the lessee.[5]

To use Lord Haldane's words[6]: 'The scheme

[1] Finance (No. 2) Act, 1915, section 43 (2).

[2] *Ibid.*

[3] This appears to be the effect of Finance (No. 2) Act, 1915, section 43 (4).

[4] *Ibid.*, Section 43 (4).

[5] *Inland Revenue Commissioners* v. *Northumberland* (*Duke*), 88 L.J. K.B. 783. See *ante*, *Beaufort* (*Duke*) v. *Inland Revenue Commissioners*, [1918] A.C. 541, and Finance (No. 2) Act, 1915, section 43 (7).

[6] *Murray* v. *Inland Revenue Commissioners*, [1918] A.C. at p. 550.

of the excess minerals rights duty is this. A man pays on the difference between the total of what he receives in respect of royalties during the year of accounting and what he is taken by the Act to have received in respect of the pre-war standard year. But then, by the introduction of the reference to pre-war value the matter is put upon an artificial basis. He pays, not upon the actual difference between royalties in one period and the receipts in a later period, but he pays upon a quite different basis, ascertained by reference to a royalty varying with price, because it is only in the case of royalties varying with price that the section has any application. He pays, I say, upon the amount which he receives from these royalties in the year of accounting, *minus* so much as is arrived at by taking the same number of tons as had been raised in the year of accounting, and attributing to them a notional royalty corresponding to the figure which represents the pre-war average price.'

The result is that the royalty owner is penalised if there is a decline in output, for, as Lord Shaw pointed out,[1] the calculation for E.M.R.D. under the Finance (No. 2) Act, 1915, is the excess of the royalty rate now as compared with the average of the pre-war royalty rates. Once that excess of

[1] *Murray* v. *Inland Revenue Commissioners*, [1918] A.C. at p. 554; *Inland Revenue Commissioners* v. *Lonsdale's Settled Estates*, per Warrington & Scrutton, L.JJ. (1919), 88 L.J. K.B. at pp. 781, 782.

royalty rate is ascertained, the rest is a multiple of that into the tonnage won *for the accounting period.* Thus in algebraic form it is:

$$\frac{tp\ (r - r')}{100}$$

where r = royalty rate in the accounting year; r' = royalty rate in the standard period; t = tonnage in the accounting year; p = percentage of rent leviable as duty, *i.e.*, 50, 60, 80, or 40, according to the financial year concerned. It is thus seen that the tonnage in the standard year does not enter into the calculation. Now it is clear that an excess of receipts occurs only where $tr - t'r'$ is a positive quantity (t' = tonnage in the standard period), and two tonnages are consequently necessary to be borne in mind in calculating whether there is excess *profit.* For although r be greater than r', tr may be less than $t'r'$, if t is substantially less than t', *i.e.*, if production has substantially decreased. In Lord Haldane's words,[1] under the Finance (No. 2) Act, 1915: 'the effect of the language used is that if a man's coal gives out by reason of faults, by reason of the seam coming to an end, by reason of strikes, or of some cause over which he has no control, he will suffer from the new tax just as much as he would have suffered if he had deliberately not allowed the coal to be worked.'

[1] *Murray* v. *Inland Revenue Commissioners,* [1918] A.C. at p. 554. Compare Lord Finlay, L.C., at p. 548.

This effect has, however, been somewhat mitigated by the proviso to Section 21 of the Finance Act, 1917, which provides that 'where it is shown to the satisfaction of the Commissioners that the amount payable as rent under any lease or agreement for a lease for any accounting year in respect of which or any part of which E.M.R.D. is payable at the rate of eighty [1] per cent., is not greater than the average amount payable as rent for the two pre-war years the prices in which are selected by the tax-payer for the purpose of determining the pre-war rent values of the rent for the accounting year, or would be reduced below that amount by the payment of E.M.R.D., no E.M.R.D. or, as the case may be, such an amount of E.M.R.D. only as will reduce the amount payable as rent for the accounting year to the said average amount, shall be paid for that accounting year.'

If under the lease the lessor is entitled to a fixed royalty per ton *plus* a further royalty when the price of coal exceeds a certain sum (x) per ton, and if in April 1914 this certain sum is varied to ($x + y$) the pre-war rent values under the Finance (No. 2) Act, 1915, are what the coal raised in the accounting year would yield in royalties in the pre-war years on the basis of the certain sum being x and not $x + y$.[2]

[1] Reduced to forty per cent. by the Finance Act, 1919.

[2] *Inland Revenue Commissioners* v. *Lonsdale's Settled Estates* (1919), 88 L.J. K.B. 778.

This decision appears to turn on the fact that April 1914 was after the 31st January 1914, *i.e.*, $x + y$ was for this purpose a post-war and not a pre-war factor.[1] As Scrutton, L.J., pointed out,[2] the phrase 'based on the average price governing the payment of the rent' clearly covers the basis selling price, and the basis selling price to be looked to is the basis selling price in the peace year taken as the standard. The proper mode is *not* to compare the revenue which the landlord gets in the accounting year at war prices with what he would have got in that year at peace prices, taking the basis selling price of the *war* year, but it is ascertained by taking the basis selling price of the peace standard average notional year chosen.

It is important to note that by Section 43 (7) of the Finance (No. 2) Act, 1915, it is provided that 'Expressions to which a special meaning is attached by Part I of the Finance (1909–10) Act, 1910, shall have the same meaning in this (43) Section.'[3]

[1] *Inland Revenue Commissioners v. Lonsdale's Settled Estates* (1919), 88 L.J. K.B. 778. See per Warrington, L.J., at p. 781.

[2] *Ibid.*, at p. 782.

[3] See for the definitions for purposes of mineral provisions Finance (1909–10) Act, 1910. It was held in *Inland Revenue Commissioners* v. *Northumberland* (*Duke*) (1919), 88 L.J. K.B. 783 (upheld on appeal, see [1920] W.N. 179), that the word 'paid' in Section 43, Finance (No. 2) Act, 1915, had the same meaning as in Section 20 of the Finance (1909–10) Act, 1910, as construed in *Beaufort* (*Duke*) v. *Inland Revenue Commissioners*, [1918] A.C. 541.

As we have seen, a deduction is permitted in respect of such income tax as is paid in respect of the rent where the obligation of paying over such income tax is upon the lessee.

The *quantum* of this deduction is obtained by taking the income tax at that rate prevailing in the accounting year. That *quantum* is then to be deducted from the pre-war rent value, and from the rent in the accounting year. The calculation is therefore as follows :

$$\frac{p\ \{(r - i) - (r' - i')\}}{100}$$

where p, r, and r' have the meanings previously assigned [1] and i and i' = income tax at the rate of the accounting year payable in respect of r and r' respectively.[2]

Income Tax.—The Income Tax Act, 1918, a consolidating Act, repeals a large number of Income Tax, Finance, and Revenue Acts, beginning with the Income Tax Act, 1842, and ending with various sections and sub-sections of the Finance Act, 1918. It substitutes, however, clauses of a similar nature so far as the provisions relating to the payment of income-tax in respect of mineral properties are concerned, except that on certain points such as those raised in *Knowles* v. *McAdam* (1877), 3 Exch. D. 23, the law has been made

[1] *Ante*, p. 225.

[2] This formula agrees with the assessment made in the Duke of Northumberland's case to within 2*d*.

more clear. Numerous changes in the law relating to income tax are possible as a result of the report of the Commission on Income Tax.

No. III of Schedule A of the Income Tax Act, 1918, replacing No. III of Schedule A of the Income Tax Act, 1842, divides such subjects of assessment into two main groups:

1. Those concerns the annual value of which shall be understood to be the profits of the preceding year.
2. Those concerns the annual value of which shall be understood to be the average amount for one year of the profits of the five preceding years subject to certain powers hereafter to be mentioned.

In the first group fall quarries of slate, limestone, or chalk [1] and salt springs or works or alum mines or works.[2] If slate is obtained by underground working the question arises whether such work falls within the term 'quarry of slate,' or whether it is a mine. It has been decided that such a work is a quarry.[3]

In the second group fall 'mines of coal, tin, lead, copper, mundic, iron, and other mines.' [4]

The above groups do not include every species

[1] Income Tax Act, 1918, Sched. A, No. III, r. 1.

[2] *Ibid.*, r. 3. The right of appeal is different in the case of quarries within rule 1 and salt springs, etc., in rule 3. See Section 148 (1) (*b*), Income Tax Act, 1918.

[3] *Jones* v. *Cwmorthen Slate Co.* (1879), 5 Exch. D. 93.

[4] Income Tax Act, 1918, Sched. A, No. III, r. 2.

of work from which minerals may be obtained, *e.g.*, they do not include brickfields.[1] In such cases one is thrown back on to the Schedule A, No. 1; in order to discover the annual value, and such annual value is either:

1. The amount of the rent by the year at which they are let, if they are let at rack-rent and the amount of that rent has been fixed by agreement commencing within the period of seven years preceding the first day of April next before the time of making the assessment; or
2. If they are not let at a rack-rent so fixed, then the rack-rent at which they are worth to be let by the year.[2]

In the case of mines of coal, tin, lead, copper, mundic, iron, and other mines falling within group (2), the annual value as we have seen is calculated on a five years' average. This, however, is subject to the following provisoes:

(*a*) If any such mine has, from some unavoidable cause, so decreased and is so decreasing in annual value that an average of five years will not give a fair estimate thereof, the general commissioners of the division in which the mine is situate may, on proof thereof, compute the annual value on the actual amount of profits in the last preceding year, subject to such abatement

[1] *Edmonds* v. *Eastwood* (1858), 27 L.J. Ex. 209.
[2] Income Tax Act, 1918, Sched. A, No. I.

on account of diminution of duty within the current year as is in the Act provided in other cases ; and,

(*b*) If any such mine has, from some unavoidable cause, wholly failed, the commissioners may, on due proof thereof, discharge the assessment.[1]

Where, in estimating the value of any property falling either within group (1) or group (2), it appears that the statement required cannot be made out because the possession or interest of the person to be assessed and charged commenced within the period upon the basis of which the profits are to be computed, the profits of one year are to be estimated in proportion to the profits received within the time which has elapsed since the commencement of that possession or interest.[2]

The above rules apply only to mines, quarries, etc., in the United Kingdom. In the case of mines, quarries, etc., abroad Schedule D applies.[3]

A dead rent received in respect of minerals neither worked nor, within the areas the subject of the demise, bored for does not bear income tax as being within Schedule A, No. III, but as being within Schedule A, No. II, r. 7.[4]

[1] Income Tax Act, 1918, Sched. A, No. III, r. 2, proviso.

[2] *Ibid.*, r. 9.

[3] *Ibid.*, Sched. D, r. 2, Case I and Rule applicable to Case I. *Alianza Co., Ltd.* v. *Bell*, [1906] A.C., per Lord Robertson at p. 19.

[4] *Hill* v. *Gregory*, [1912] 2 K.B. 61, decided under the Income Tax Act, 1842, Sched. A, No. II, r. 6 of which is now replaced by Sched. A, No. II, r. 7 of the Income Tax Act, 1918.

Annual Value, Profits.—It will be observed that 'annual value' is based on 'profits' as ascertained by looking at either a single year or the average of a five-year period as the case may be. And on this point the remarks of Lord Penzance in a case decided under the Act of 1842[1] are apposite. The learned law lord there said: 'it was contended that (the appellants) could not be properly said to have made any profit out of their mines until a certain portion of the cost of making the bores and sinking the pits, necessary to approach the mineral-bearing strata, were deducted. In a general, and perhaps a strict and logical, sense I think this is true. But it is also, and equally true, I think, that the cost of the mineral strata themselves, whether they have been hired or bought, should be included in any calculation which had for its object the ascertainment of the actual profit obtained by the company out of the entire adventure—so much for the prime cost of the mineral bed, so much for approaches to it in the shape of pits, so much for working it and getting the mineral to the surface, so much for getting the mineral to the market, and against all these the price obtained for the mineral sold —these would be the elements of a profit and loss account of an entire adventure of this nature.

[1] *Coltness Iron Co.* v. *Black* (1881), 6 A.C. at p. 325.

But is this the sense in which the word "profit" is used in the Act? I think not.

'The intention of the Act, it is abundantly clear, was in Schedule A to tax "property." If a man bought an estate, the tax was intended to be paid by him on the annual value of that estate, without reference to where he got it, or how he got it, or how much he paid for it. . . .

'What, then, is the case of a mine? In the Schedule A, which is the Schedule applicable to "property," a "mine" is in express terms included as a species of "property," and is made the subject of a tax. The only question is, how shall the annual value of this species of property be ascertained?' (His lordship referred to Rule No. 3 of Section 60 of the Act of 1842, now replaced by Schedule A, No. III, of the Act of 1918.) 'That rule assumes the ownership of the "mines," passes by altogether the sum of money which it may have cost, either in the way of purchase or rent, and proceeds to describe the method of calculating its "annual value" to the owners thereof, and this it declares shall be the average "profit" over a period of five years "received therefrom." The words "profits received therefrom" are here introduced to define the annual value of the thing which is to be taxed, which is the "mine," and it could not, I think, be intended that for the purpose of calculating the "annual value" of a "mine," the original cost

of the "mine" itself, or any part of it, should be first deducted. On the contrary, the words "profits received therefrom," in this connection, mean, I think, the entire profit derived from the "mine," deducting the cost of working it, but not deducting the cost of making it.'

Deductions.—It follows that no deduction may be made of any sum necessary to form a sinking fund to replace the loss of capital assets through the exhaustion of the mine.[1]

Lord Chancellor Cairns' remarks, however, at p. 324 of the Coltness case should be observed. 'I am not prepared to say that under the words of 5 & 6 Vict. c. 35 a mine-owner might not in some cases be entitled to an allowance in respect of the cost of sinking a pit, by means of which pit the minerals are gotten which are the source of profit for the year in which the pit was sunk. I desire to reserve my opinion on that point until the question arises.'

Capital Expenditure.—In the words of Wright, J.,[2] 'the real question is, is the expenditure in respect of which a deduction is sought to be made capital or not? That must be to a great extent, or may be to a great extent, a question of fact. One can very well imagine in cases of mines where the minerals lay at shallow depths,

[1] See Coltness case, *supra*, at pp. 327, 332.

[2] *Morant* v. *Wheal Grenville Mining Co.*, [1894] 71 L.T. Rep. 758 at p. 760.

and where it was necessary to open them out from time to time, frequently by shallow shafts, that in those cases it might well be that the sinking of shafts would be properly treated as part of the ordinary working expenditure. On the other hand, you have a case, such as I suppose the present case is, where a large area of ground has been worked from one shaft, and a new mine, so to speak, must be opened by a new shaft altogether.' There the case was sent back to determine (1) whether the works in respect of which the expenditure was incurred were works which conduced to the making of the profit in the period of assessment, (2) whether in point of fact in the particular mine in question the sinking of a new shaft, such as the one in question, would be so frequently and ordinarily necessary as to be part of the ordinary working expenditure and, (3) whether but for such expenditure the mine would have been shut down within the period of assessment.

As Collins, J., pointed out in Morant's case on the authority of Addie's case, expenditure on sinking a shaft would be *prima facie* capital expenditure. But difficult questions of fact may arise where one is sinking a shaft from one seam to another, questions which confronted the authors with the greatest difficulties at the time when the question of guaranteed expenditure in coal mines was under consideration. It is

manifest that the border line between driving a heading, making an adit, and sinking on to the same seam displaced by a fault—all forms it is considered involving expenditure of a non-capital nature, or at least forms of expenditure which may well in certain circumstances not be of a capital nature—and sinking on to a new seam below the seam being worked may be narrow. It has been held that where in such a case the shaft is sunk from an upper to a lower seam for 50 fathoms the expenditure so involved is capital expenditure, and no allowance may be made in respect thereof.[1]

By the application of the same principles an owner of land who works his own minerals is not entitled to make any deduction in respect of the exhaustion of his minerals[2]; and where a tenant works the minerals he is not entitled to make deductions in respect of sums necessary to replace capital expended in sinking pits, nor in respect of capital depreciation of buildings and machinery.[3] It is to be observed, however, that by Rule 8 of No. III of Schedule A of the Income Tax Act, 1918, it is provided that 'The properties described in Rules 1, 2, and 3 (which relate to mines and quarries) shall be assessed and charged in the manner herein mentioned

[1] *Bonner* v. *Basset Mines, Ltd.*, [1912] 108 L.T. 764.

[2] *Miller* v. *Fairie* (1878), 16 Sc. L.R. 189.

[3] *R. Addie and Sons* v. *Solicitor of Inland Revenue* (1875), 2 R. 431.

according to the rules applicable to Schedule D so far as the same are consistent with the rules of this number.'[1] Now under Schedule D, rr. 6 and 7, various deductions are allowed on account of renewals of machinery and plant and on account of the replacement of obsolete machinery and plant.

Subscriptions paid to a Coal Owners' Association one of the purposes of which was to indemnify subscribers against loss due to strikes is not an expenditure in respect of which an allowance may be made[2, 3]; nor may an allowance be made in respect of contributions to the Mining Association of Great Britain or Conciliation Board expenses.[3]

The cost of experiments made at the instigation of the Home Office with a view to ascertaining the explosive properties of coal dust is also an expenditure in respect of which an allowance will not be made. It is a meritorious payment made out of profits, and not made with a view to earning profits.[4]

Rates and Taxes.—On the other hand, as the test of annual value is profits, it would appear clear in principle that rates and taxes which

[1] See Section 8, Income Tax Act, 1866.

[2] *Rhymney Iron Co.; Ltd.* v. *Fowler*, [1896] 2 Q.B. 79.

[3] *Lochgelly Iron and Coal Co., Ltd.* v. *Crawford*, [1913] S.C. 810.

[4] *Lochgelly Iron and Coal Co., Ltd.* v. *Crawford*, [1913], S.C. 810, per Lord Davey in *Strong and Co.* v. *Woodifield*, [1906] A.C. 448 at p. 453.

reduce profits are matters to be taken into account, there being no distinction between profits and gains, while one does not gain that which one does not get. It is to be observed, however, that whereas under the Income Tax Act, 1842, there was no express allowance or enumeration of deductions,[1] now under Schedule D of the Income Tax Act, 1918, there are numerous deductions enumerated, and Rule 1 of the Rules applicable to Cases I and II of Schedule D provides that 'The tax shall be charged without any other deduction than is by this Act allowed.' It will be observed that under Rule 4 provision is made for a deduction in respect of E.P.D., but no specific provision is made in respect of the Coal Mines Excess Payment.

Under Rules 5 and 6 of No. III of Schedule A it is provided that: '5. Tax shall be assessed and charged on the value of the produce of the concern, before any distribution to any person entitled to any share thereof, or to the owner of the soil or property, or to any creditor or other person whatever who has a claim on the profits, and every such person shall allow, out of the produce or value, a proportionate deduction of the tax charged.

'6. The said assessment and charge shall be exclusive of any lands used or occupied in

[1] Per Lord Sumner in *Usher's Wiltshire Brewery, Ltd.* v. *Bruce*, [1915] A.C. at p. 467.

connection with the concern which have been separately assessed and charged under this Act.'

Person liable.—The No. III of Schedule A of the Income Tax Act, 1918, provides (Rule 4) as follows: 'Tax under the above rules shall be assessed and charged on the person or body of persons carrying on the concern, or on the agents or other officers who have the direction or management of the concern or receive the profits thereof.' Rule 7 provides as follows: '(1) The computation in respect of any such mine carried on by a company of adventurers shall be made and stated jointly in one sum, but any adventurer may be assessed and charged separately if he makes a declaration of his proportion or share in the concern for that purpose. (2) An adventurer so separately assessed and charged may set off his profits from one or more of such concerns the amount of his loss sustained in any other such concern as certified by the Commissioners for the division where the loss was sustained. (3) In any such case one assessment and charge only shall be made on the balance of profit and loss, and shall be made in the parish where the adventurer is chargeable to the greatest amount.'

Rules 4 and 7 are similar in principle though not verbally the same as the second and third paragraphs respectively in No. III of the 5 & 6 Vict. c. 35 (Income Tax Act, 1842).

By Rule 19 of the General Rules to Schedules A, B, C, and D the obligation to pay the tax appears to be imposed exclusively upon the person liable to pay the rent on a lease. And a right of retainer is given to the tenant occupier under No. VIII of Schedule A in respect of the amount of tax so paid as against his lessor, that is to say, the Crown looks to the lessee, the lessee is compelled to pay, but he may deduct from his rent the amount so paid. Rule 2 of No. VIII provides that 'a tenant who pays the tax shall be acquitted and discharged of so much money as is represented by the deduction, as if that sum had been actually paid as rent.' But, as the Court pointed out in *Beaufort* v. *Inland Revenue Commissioners*,[1] 'In the case of mines of coal, included as they are within Schedule A, No. III, r. 2, of the Income Tax Act, 1842,[2] the duty is chargeable on the persons carrying on the concern, and such persons are entitled to make deductions of the duty so charged before making payment to the persons entitled to the profits. In the general case the duty is by virtue of Schedule A, No. IX, r. 1 charged on and to be paid by the occupier, and by Schedule A, No. IV, r. 9 the occupier is entitled to deduct the amount from

[1] [1913] 3 K.B. 48 at p. 57.

[2] See now Schedule A, No. III., r. 2, of the Income Tax Act, 1918; the same reasoning applies to the quarries referred to in r. 1, and the salt works and alum mines referred to in r. 3, *ibid.*

his next payment of rent, and is thereby acquitted and discharged of so much money as if the same had been paid to the person to whom his rent shall have been payable. By Schedule A, No. IX, r. 2 the person having the use of lands, that is to say, in the present case the persons working the colliery, are to be taken and considered for the purposes of the Act as occupiers. The result is that the duty is a Crown debt of the occupier and worker of the colliery, and that he is entitled to deduct from his next payment of rent the amount he pays in respect of the Crown debt and is discharged of the whole rent as if he had (which he has not) paid to his lessor the sum which he has paid to the State in respect of the property tax. The person so paying the property tax who omits to deduct it from his next payment of rent has no right to deduct it subsequently. Thus plainly it is not a sum which he can say he paid for or on behalf of his lessor. If he has paid the whole rent without deduction, he has paid it voluntarily and cannot recover it.' [1]

This right of retainer is, however, a right to retain out of rent,[2] and it was held in *Taylor* v. *Evans* [3] that where by indenture the plaintiff in consideration of £1,380 to be paid by instal-

[1] *Denby* v. *Moore* (1817), 1 B. & Ald. 123; *Cumming* v. *Bedborough* (1846), 15 M. & W. 438.

[2] No. VIII. to Schedule A, r. 1, Income Tax Act, 1918.

[3] (1856), 1 H. & N. 101.

ments granted to the defendant a coal mine for a term of fifty years, and it was agreed that the instalments were to be paid as to £150 down and £150 per annum thereafter, or if a quantity of coal at a greater rate than £100 per Lancashire acre should be got in a year then £100 for every Lancashire acre of coal, and where, in fact, the defendant never worked the mine and claimed to deduct from a half-yearly instalment on the £150 per annum basis a sum paid by him for income tax, that the instalment was not 'rent' subject to the lessee's right of retainer, and if on the other hand it was an 'annual payment' the plaintiff and not the defendant was liable to income tax. The terms of Baron Alderson's judgment should, however, be observed: 'The defendant is not liable to be assessed, for he has never worked the mine. The plaintiff is primarily liable; but if the defendant works the mine and gets coal, then he must pay the tax, and deduct it from the payments made to the plaintiff.' [1] Martin, B., and Pollock, C.B., in the course of the argument indicated, however, that the difficulty in the way of allowing the right of retainer arose from the fact that the payment in question was not rent. The reports both in *Hurlstone and Norman* and in the *Law Journal* (Exchequer), p. 269, are very short.[2] The ground of decision laid down by

[1] 1 H. & N. at p. 108.

[2] Compare *Foley* v. *Fletcher* (1858), 3 H. & N. 769.

Alderson, B., however, agrees with that of Hamilton, J., in *Hill* v. *Gregory*,[1] viz., that where no working of the coal in the mine (and in *Hill* v. *Gregory* there had been no boring on the area comprised in the lease) has taken place the colliery company (the lessees) are not in occupation of the demised coal and are not entitled to deduct income tax from dead rent, such rent falling not within the No. III of Schedule A.

[1] [1912] 2 K.B. 61.

APPENDIX

Tables showing the Present or Capital Value of an Immediate Annual Income of £1.[1]

The remunerative interest on the capital is taken at 8 per cent. and 10 per cent. respectively in Table I. and at 12 per cent. and 15 per cent. in Table II.

In every case the Sinking Fund is accumulated at 5 per cent. nominally, and 5*s.* in the £ is the *Income Tax* Rate assumed to be *levied upon the S.F. instalments as well as on the S.F. interest.*

[1] Being tables prepared by R. F. Percy, F.S.I.

TABLE I.

Value.	Year.	Value.	Value.	Year.	Value.	Value.	Year.	Value.
8 %		10 %	8 %		10 %	8 %		10 %
0·708	1	0·698	9·283	28	7·829	11·415	55	9·293
1·362	2	1·325	9·416	29	7·924	11·456	56	9·320
1·968	3	1·893	9·543	30	8·014	11·496	57	9·347
2·531	4	2·409	9·665	31	8·100	11·534	58	9·372
3·055	5	2·879	9·781	32	8·181	11·570	59	9·396
3·543	6	3·308	9·891	33	8·258	11·605	60	9·419
3·999	7	3·702	9·997	34	8·331	11·639	61	9·441
4·425	8	4·065	10·098	35	8·401	11·671	62	9·462
4·824	9	4·400	10·194	36	8·468	11·702	63	9·483
5·199	10	4·709	10·286	37	8·531	11·732	64	9·503
5·551	11	4·996	10·374	38	8·592	11·761	65	9·521
5·882	12	5·263	10·459	39	8·650	11·789	66	9·539
6·193	13	5·511	10·540	40	8·705	11·816	67	9·557
6·487	14	5·742	10·617	41	8·758	11·841	68	9·574
6·764	15	5·958	10·691	42	8·808	11·865	69	9·590
7·026	16	6·160	10·762	43	8·856	11·889	70	9·605
7·274	17	6·350	10·830	44	8·902	11·912	71	9·620
7·508	18	6·528	10·895	45	8·946	11·934	72	9·634
7·730	19	6·695	10·957	46	8·988	11·955	73	9·648
7·940	20	6·852	11·017	47	9·028	11·975	74	9·661
8·139	21	7·000	11·074	48	9·066	11·994	75	9·674
8·328	22	7·139	11·129	49	9·103	12·011	76	9·686
8·508	23	7·271	11·182	50	9·138	12·028	77	9·698
8·679	24	7·396	11·232	51	9·172	12·081	80	9·730
8·841	25	7·513	11·280	52	9·204	12·153	85	9·776
8·996	26	7·624	11·327	53	9·235	12·212	90	9·815
9·143	27	7·729	11·372	54	9·265	12·301	100	9·873

TABLE II.

Value.	Year.	Value.	Value.	Year.	Value.	Value.	Year.	Value.
12 %		15 %	12 %		15 %	12 %		15 %
0·688	1	0·675	6·770	28	5·627	7·837	55	6·345
1·291	2	1·243	6·840	29	5·675	7·856	56	6·358
1·824	3	1·730	6·907	30	5·721	7·875	57	6·370
2·298	4	2·150	6·970	31	5·765	7·893	58	6·382
2·722	5	2·517	7·030	32	5·806	7·910	59	6·393
3·103	6	2·839	7·087	33	5·845	7·926	60	6·403
3·447	7	3·124	7·141	34	5·881	7·942	61	6·414
3·759	8	3·378	7·193	35	5·916	7·957	62	6·424
4·044	9	3·606	7·242	36	5·949	7·971	63	6·433
4·304	10	3·812	7·288	37	5·980	7·985	64	6·442
4·542	11	3·998	7·332	38	6·010	7·998	65	6·451
4·762	12	4·166	7·374	39	6·038	8·011	66	6·459
4·964	13	4·320	7·414	40	6·065	8·023	67	6·467
5·151	14	4·461	7·452	41	6·091	8·035	68	6·474
5·324	15	4·591	7·488	42	6·115	8·046	69	6·482
5·485	16	4·710	7·523	43	6·138	8·057	70	6·489
5·635	17	4·820	7·556	44	6·160	8·067	71	6·496
5·774	18	4·922	7·588	45	6·181	8·077	72	6·502
5·904	19	5·016	7·618	46	6·201	8·087	73	6·508
6·026	20	5·103	7·647	47	6·220	8·096	74	6·514
6·140	21	5·185	7·675	48	6·238	8·105	75	6·520
6·248	22	5·261	7·701	49	6·255	8·114	76	6·526
6·348	23	5·332	7·726	50	6·272	8·123	77	6·532
6·442	24	5·399	7·750	51	6·288	8·145	80	6·546
6·531	25	5·461	7·773	52	6·303	8·177	85	6·567
6·615	26	5·520	7·795	53	6·318	8·204	90	6·584
6·695	27	5·575	7·816	54	6·332	8·245	100	6·610

Examples Illustrating and Testing Tables

(1) £1,000 *a year for* 5 *years at* 8 *per cent.* = £3055 = *Present Value.*

	£	
8 per cent. to spend . . .	244·4	a year
Surplus to reinvest . . .	755·6	,,
The annuity	1000·0	,,
Sinking fund	755·6	,,
Deduct ¼ for tax . . .	188·9	,,
Leaving net	566·7	,,

£1 per annum at (5 per cent. × ¾) for 5 years amounts to £5·389; × net instalment = £3055 = the capital replaced.

(2) £1000 *a year for* 60 *years at* 10 *per cent.* = £9419 = *Present Value.*

	£	
10 per cent. to spend . . .	941·9	a year
Surplus to reinvest . . .	58·1	,,
The annuity	1000·0	,,
Sinking fund . . .	58·1	,,
Deduct ¼ for tax . . .	14·5	,,
	43·6	,,

£1 per annum at (5 per cent. × ¾) for 60 years amounts to £216; × 43·6 (net instalment) = £9419 = the capital replaced.

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