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The Extralateral Right: Shall It Be Abolished?*

THERE is no feature of the American mining law that has provoked more spirited discussion and against which a greater amount of criticism has been aimed than the extralateral right, or "law of apex," or dip right, as it is variously termed. It has become quite popular to present the arraignment of charges which can legitimately be made against the practical operation of this right and there is scarcely a meeting of importance connected with the mining industry where some one does not add to this volume of condemnation. In all this discussion, it is rare to find a word of commendation and not only are the advantages which flow from the exercise of this right ignored, but in the general demand for its abolition we find very little well considered thought given to the serious results of such action and few suggestions as to what steps should be taken to minimize the grave consequences which are bound to follow such a radical and far reaching change in our mining law. We are too prone to assume that legislation is a panacea for all defects in existing laws and not enough attention is paid to the evils which inevitably flow from "half baked" remedial statutes. Judging from the published remarks of many who have criticized the extralateral right, the opinion seems to be quite prevalent that all that is necessary to be done to cure the ills that are inherent in the "law of apex" is for Congress to pass a statute abolishing it. It is not the purpose of this article to attempt to demonstrate that the extralateral right feature should be retained in our mining laws. It may well be that should the right be abolished, a satisfactory solution of the difficulties which must be met can

* There are several bills to amend our mining laws pending before the present Congress. One of these would abolish the extralateral right without any provisions to relieve the serious consequences of such action. This discussion is prompted by this proposed revision.

be reached. But this article is written in the hope that it may correct some of the misinformation which has been circulated concerning the subject and unfortunately generally accepted, and also to point out a few of the problems which must inevitably be dealt with in a satisfactory way if we are to avoid placing ourselves in a worse position than we now occupy.

With this object in view, the subject will be presented in the following manner:

First: From a comparative standpoint, treating of the existence of the extralateral right in the mining laws of other countries.

Second: From a historical standpoint, treating of the origin, growth and development of the right in the United States.

Third: From an analytical standpoint, setting forth the arguments for and against the right and the consequences which must follow its abolition.

I. COMPARATIVE TREATMENT

In a discussion of this character it is interesting to know whether other systems of mining law have similar features and what has been the result of their operation. It has been erroneously assumed by many that the extralateral right is a unique burden suffered by the United States alone. An examination of the laws of other countries shows that this is not a fact. Naturally we cannot expect to find in other countries an extralateral law identical in all respects with our own. It is the fundamental principle underlying this law that is vital,¹ viz: the right to mine on and pursue a vein in depth beneath surface ground that is not owned or controlled by the mine operator. In other words, the right to follow the vein in depth is independent of and is not measured by surface ownership, hence it is termed the right of extralateral pursuit. It is usually described as being opposed in principle to the common law idea of ownership of land, where the owner of the surface is entitled to everything situated vertically beneath. As Judge Lindley has pointed out in his treatise on the Law of Mines² the common law

¹ "The application of the term 'extralateral' to this right is of comparatively recent origin and the right existed long prior to this designation." Lindley on Mines, 3d Ed. § 568.

² Lindley on Mines, 3d Ed. § 568.

recognized the right of severance and frequently the surface owner conveyed to another the right to mine a vein or mineral bearing strata that penetrated or lay beneath his surface. However, the extralateral right as we ordinarily conceive of it has an element that did not exist in the common law. In the exercise of the extralateral right the vein may be pursued *indefinitely* in depth beneath the surface of adjoining owners who have nothing to say about the exercise of this right underneath their ground and are powerless to prevent it. The right has been created by statute or custom before their surface ownership attached and the vein has been reserved and carved out of their estate. It is the statutory or customary origin of the right, giving it an indefinite sweep in depth and the fact that it is not at all dependent upon conveyance from private owners of overlying surface nor for its measurement upon the vertical boundaries of such surface ownership that distinguishes the extralateral right from the common law severance of minerals from the surface.

We have no definite information as to whether an extralateral right was exercised in ancient times. The existing record of these ancient mining laws is meager and a great part of the mining was carried on as a sovereign venture so that the question of extralateral pursuit would seldom arise.³ It is only when there are adjoining private ownerships that a situation is created where the question becomes important.

Under the democratic control of Athens the silver-lead mines of Mt. Laurion were leased in small adjoining areas to individuals. One might expect to find the extralateral right a feature of the Ancient Greek mining law were it not for the fact that these were flat lying contact deposits occupying horizontal beds and hence unsuited to the exercise of any dip right.⁴

Germany and Austria. The first recorded appearance of the extralateral right, so far as the writer is aware, was in the year 1249, and is contained in a code of mining law proclaimed for the mining town of Iglau by the King of Bohemia. By its terms the discoverer of a mine "shall have by right in that which is commonly called the roof (hanging wall of vein), three and a half

³ Those interested in the subject of Ancient Mining Laws will find an excellent note at pp. 82-86 of Hoover's translation of Agricola, *De Re Metallica*.

⁴ See Hoover's Agricola, p. 83 footnote.

Lehen (an ancient Germanic measure) and in that which is called foot (wall of vein), one *Lehen*, in height and depth in equal proportions." In the event of a dispute between two adjoining claimants the matter was submitted to an impartial jury of four and if necessary to determine whether a trespass was committed or not the two workings were required to be connected. Many will recognize in this the litigation work which has become such a pronounced feature of our modern extralateral cases.⁵

It is in the mining districts of the various states that afterwards became merged in the Germanic and Austrian Empires that the extralateral law or right to follow the vein indefinitely in depth had its earliest and most complete development. The right was founded on ancient custom and its origin is lost in the obscurity which surrounded the early beginnings of mining in those regions. It later became crystallized and confirmed in the charters and proclamations issued by the various kings and rulers of these states. There is a remarkable similarity running through these various laws in force in the different districts and while details differ they give evidence of having been impressed with the same ideas which were doubtless traceable to a common origin.⁶

The extralateral right in force in these Germanic States was complex in the extreme.⁷ There were two general classes of mining claims. The *Längenfeld*, sometimes called the *Gestrecktes-*

⁵ The writer acknowledges his indebtedness to Mr. Herbert C. Hoover for the permission to use the foregoing information which Mr. Hoover collated from *Geschichte des Bergbaues*, etc., Vol. II, pp. 14-35 (1838) by Kaspar von Sternberg; Dr. J. A. Tomaschek, *Das Alte Bergrecht von Iglau*, pp. 3-10 (1897), and *Geschichte der Böhmisches und Mährischen Bergwerke* by J. T. Perthner, (Wien, 1780).

⁶ In this respect these mining laws bear a striking resemblance to the miners' rules and regulations which sprang up in the Western States following the discovery of gold in 1848. They were founded on custom and as they spread through the other mining regions from their source in California they were modified in details but retained similar fundamental principles.

⁷ The writer is indebted to his wife, Rachel Vrooman Colby, and to Mr. W. J. Aschenbrenner for invaluable assistance in the translation of the Germanic authorities which form the source for this presentation. Some idea of the difficulties encountered in translating the Old German works may be gained from the fact that ten different German dictionaries devoted exclusively to mining terms were consulted. The German works consulted are: *Die Vermessung der Längenfelder*, by von Hatzfeld, *Oberbergamtsmarkscheider in Bonn*, published in *Zeitschrift für Bergrecht*, (1899), Vol. 40, pp. 418-441; *Commentar über das Bergrecht*, by Chr. G. H. Hake (1823); *Anleitung zu den Rechten und der Verfassung bey dem Bergbaue im Königreiche Sachsen*, by Köhler (1824); *De jure Quadraturae Metallicae*, by S. A. W. Herder

feld or *Streichendesfeld*, because the claims were measured along the strike of the vein by long measure or *Längenmasz*, was the class of mining claim which exercised the extralateral right. The *Geviertefeld* or *Seifenfeld* or *Quadratmasz*, was a squared claim which was bounded by vertical planes passed through its exterior surface lines. The latter class of claims was employed to cover placer deposits and mineral deposits of great width with no regular strike or dip and also flat or bedded veins called *Flötze* which dipped at an angle of 20° or less, measured from the horizontal.⁸

The measuring or squaring (*Vierung*) of the *Längenfeld*⁹ and of its extralateral right was an involved process. There was first a temporary or superficial measurement to fix approximately the boundaries so that other prospectors might know what ground was free to locate. When demand was made by a claimant or his adjoining owners, and the mine workings sufficiently extended to enable the measurements to be made, the formal squaring took place which established the boundaries definitely and finally. The surveyor first determined the main strike of the vein and marked this line out on the surface. The discovery shaft was the customary starting point and an attempt made to average the natural changes of the strike of the vein, usually resulting in an assumed middle line from which the lateral measurements of the surface boundaries were made.¹⁰ An equal distance was thus measured each way along the top or apex of the vein from the discovery point and the two terminal or end points of the length taken on the vein marked. These *Längenfelder* varied in length in different mining districts. As a rule the *Fundgrube* or discoverer's claim was 42 *Lachters* in length and adjoining claims or *Maszen* 28 *Lachters*.. The total legal width of the claim on the surface was

(1839). These are the recognized authorities on the German extralateral right. Other authorities too numerous to mention were also consulted. There has been very little material descriptive of the Germanic extralateral right published in English. Raymond in his excellent review of the mining laws of the world appearing in *Mineral Resources*, 1869, Part II, "Relations of Government to Mining," pp. 173-250 mentions it briefly, p. 195.

⁸ In some districts the angle was 12° and in others 15°.

⁹ The measuring of the claim was called the "*Vierung*" or squaring of the claim because the unit of measurement was usually a "*Lehen*", an ancient measure which was a square measuring 7 "*Lachters*" each way.

¹⁰ This is somewhat analogous to the "lode line" of American mining locations.

usually 7 *Lachters*,¹¹ which was divided either equally on each side of the vein, or the entire width could be taken on one side in special districts. The measurements were usually made from the walls of the vein, leaving the vein free in the middle, though in earlier times they were made from the middle of the vein. This was called the squaring of the claim and must not be confused with the squaring of the vein itself which was a distinct measurement. The squaring of the claim resulted in a definition of the surface area which the claimant was entitled to control.¹²

After a squaring of the claim on the surface had taken place it was necessary to determine what was the measure of the right to mine on the vein extralaterally. The longitudinal limits of this extralateral right were variously determined. There seems to have been a lack of explicit legal regulation of the manner in which this should be done and few data are found in the literature on this subject so that in practice much doubt and many conflicting views arose as to which legal principles should apply.¹³ The procedure of measurement varied with the conception of the principle adopted in each case. The measurement most commonly employed was to pass a vertical plane through each marked end point of the vein at the linear extremities of the claim and at right angles to the general line of strike or average course of the vein, and extended into depth. These parallel planes constituted the longitudinal boundaries or end line planes of the *Längenfeld*, between which the vein could be worked extralaterally and to infinite depth.¹⁴

¹¹ A "Lachter" is 67.5 inches. Hoover's *Agricola*, note p. 78.

¹² Those who are familiar with the early mining history in the Western states of the United States will appreciate that this fundamental idea, so prominent in the measuring of the claim in Germany, of having the right to a certain length of vein which should control the laying out of the surface boundaries was quite widely accepted as being in force here. (Lindley on Mines, §§ 59, 573). Later the courts held that the actual position of the vein did not control the boundaries and the locator was only entitled to whatever length of vein he included within his surface lines. (*Flagstaff Min. Co. v. Tarbet* (1878), 98 U. S. 463, 25 L. Ed. 253). In Germany the vein remained the controlling element until a formal squaring of the claim had taken place which might not be for several years. In the United States the surface boundaries became the prime factor and the acquisition of the vein was subordinated to those boundaries.

¹³ It is interesting to note that also in England the mining laws of Derbyshire and in the United States the mining Act of 1866 both failed to prescribe any rule for establishing the longitudinal or end boundaries of the extralateral segment of vein that attached to a mining claim.

¹⁴ It is a striking coincidence that under the Act of 1866 where no specific provision was made for measuring the extralateral right the

Another measurement employed in some instances was called the Ball or Waterdrop method. This limitation was ascertained by passing vertical planes through the lines which would be established if we imagine the path of a ball or drop of water running down the plane of the inclined vein from each of the end points of the claim. If the strike of the vein changed materially in depth this would naturally produce curved or bent bounding planes. Another method consisted in ascertaining the end points of the lode at the surface by measuring out the length of the claim in both directions from the discovery point, following the lode in all its windings and variations, for this purpose, and then projecting these end points downward from level to level using the true dip of the vein to determine the projection. By connecting this series of projected end points the longitudinal boundary of the extralateral right was ascertained. There were still other methods used for determining the end boundaries but in modern times the measuring of these at right angles to the main or average line of strike became the general rule.¹⁵

The squaring of the vein or lode itself added to these complications. This squaring was considered much more important and was given preference over the squaring of the claim, for the latter had more to do with fixing surface boundaries. The square of the vein or deposit accompanied the lode in depth in all its variations and directions and at an equal distance therefrom. If we imagine two planes, one on each side of the vein and equidistant from it and following it in all its undulations and turnings in both strike and dip into unlimited depth we have the artificial limits within which the miner could mine and follow his main vein and if his claim was the senior in time he was entitled to any other veins or portions of veins which happened to exist between these artificial

American courts arrived independently at the same general result. Mr. Justice Field in *Eureka, etc. Co. v. Richmond, etc., Co.* (1877), 4 Sawyer 302, Fed. Cas. No. 4548, said: "Lines drawn vertically down through the ledge or lode, at right angles with a line representing this general course (of the vein) at the ends of the claimant's line of location, will carve out, so to speak, a section of the ledge or lode, within which he is permitted to work, and out of which he cannot pass." And Mr. Justice Temple in *Argonaut Min. Co. v. Kennedy Min., etc., Co.* (1900), 131 Cal. 15, 28, 63 Pac. 148, 82 Am. St. Rep. 317, used the following language: "Planes through the lode at the end lines of the location at right angles to the general course would impose the required limitation upon the rights of the locator along the lode."

¹⁵ *Zeitschrift für Bergrecht*, Vol. 40 (1899), pp. 430-431.

bounding planes. If at any particular place in the main vein it became necessary to ascertain where these imaginary boundaries would fall, a point was taken on the wall of the vein and a straight line passed through it conforming to the general dip of the wall of the vein at that place and there was also passed through the same point and at right angles to the dip line a straight line conforming to the general strike of the vein at that place. At the point of intersection of these dip and strike lines a third line perpendicular to both the others was erected and extended out into the country rock away from the wall of the vein for the lawful distance and the extremity of this line would give the position of one of the imaginary bounding planes of the *Längenfeld* at that particular point. In other words the width of the territory within which the miner was permitted to work in his extralateral mining was measured from each wall of the vein out into the country rock and at right angles to the wall. This distance was commonly $3\frac{1}{2}$ "Lachter" in the hanging and the same distance in the foot, i. e., on each side of the vein. In some districts the entire width could be taken on one side of the vein. The total width varied from 7 even up to 500 "Lachter" in some cases. Usually where the width was great it was measured from the vein on a horizontal plane instead of perpendicularly from the walls of the vein. The intersection, branching, faulting, pinching out of lodes within these imaginary planes and the consequent conflicts which arose between junior and senior extralateral claimants gave rise to the innumerable law suits and vexatious litigation which finally resulted in the abolition of this class of claims.

In the case of the *Geviertfelder* or squared claims with vertical boundaries, mining was sometimes confined within these vertical limits to a particular vein or bedded deposit with the right to mine a specified distance into the hanging and foot walls and the right to mine on underlying or overlying veins granted to other claimants. Complications naturally arose in such cases when the identity of the particular deposit was doubtful or destroyed, etc., and claimants of other deposits contested the right to continue mining.

There is a general impression that the extralateral right is a thing of the past in Germany. It is true that in many of the mining districts the extralateral right was abolished commencing in the early part of the nineteenth century and that the general mining law of June 24, 1865, operated to abolish it completely, but

existing vested rights were recognized. Owners of these *Längenfelder* carrying extralateral rights were given the privilege of changing to *Geviertfelder* or claims with vertical boundaries. In spite of the fact that the procedure for making the change was simple, many *Längenfelder* claimants either did not desire to make the change or were unable to do so because their claims were so situated with reference to one another that it was impossible to readjust them. As a consequence, there are still in existence in Germany today thousands of claims possessing extralateral rights and complicated cases involving the exercise of these rights are of not infrequent occurrence. As one of the writers on this subject states, "This is the inevitable result of the characteristic legal nature of the *Längenfeld* and its dependence on the changes of the deposit."¹⁶ It is his opinion that while these claims may have had some usefulness under simple mining conditions, the incalculable changes in strike and dip of the mineral deposits gave rise to an excessive number of controversies and finally brought about the abolition of the law granting these rights so far as concerned initiating new rights.

This action of the Germanic States in abolishing the extralateral form of claim after it had been in operation for over six centuries is cited as one of the strongest arguments in favor of similar action being taken by the United States. While there are the same general underlying reasons here for such a change, anyone familiar with the German form of extralateral right with its much greater complexities and its earlier indefiniteness with regard to its longitudinal measurement in depth will appreciate that there was far greater justification for such action in Germany. The American extralateral law with all its complexities is comparatively simple. Here we have surface claims the boundaries of which are defined and which only depend in a minor degree upon the position of the mineral deposit. Subsequent development showing that the claim does not conform to the position of the vein will not necessitate readjustment of boundaries.¹⁷ Under the Germanic law, the surface boundaries of the claim were usually

¹⁶ Zeitschrift für Bergrecht (1899), p. 419. The measuring of *Längenfelder*, by von Hatzfeld, Mining Surveyor General in Bonn. There are ten mining districts in this jurisdiction where there are extensive mining operations being carried on in these *Längenfelder* there being over 3000 in the jurisdiction of this Surveyor General alone.

¹⁷ *Harper v. Hill* (1911), 159 Cal. 250, 113 Pac. 162.

dependent upon the ascertained position of the apex which might take years to establish, and meanwhile the claim was for its greater part a "float." Provision was made for a temporary ascertainment of boundaries but this only added to the complexity as the temporary survey yielded to the later permanent measurement. The rules for ascertainment of boundaries in the event the vein pinched out or split into branches or was faulted were also so involved that there is not space to discuss these complex and intricate features. Anyone familiar with the many intricacies and indeterminate features connected with the ascertainment of the Germanic extralateral right will appreciate that the American law with its definitely fixed surface boundaries and well defined extralateral planes passed through parallel end lines is simple by comparison.

France. The extralateral right does not appear to have obtained a pronounced hold on the mining law of France though it existed there in a modified degree in the early days of mining under customary rights.¹⁸ Aguillon says this system of granting inclined locations was abandoned in France in 1810.¹⁹ However, while the mining law of the Empire, April 21st, 1810, provided that in general the limits of a mining concession were to be fixed by vertical planes passed through a perimeter laid out on the surface,²⁰ there was nothing in the act to prevent their being inclined according to the formation of the deposit. The concessions may be granted by beds, i. e. following bedded and inclined deposits but this was not considered as regular.²¹ Concessions of this character were granted in conformity to the "prejudices and very unfortunate customs" of one of the mining districts—that of Jemmapes.²²

While the extralateral right did not appear in France except in the cases noted, yet it is clear that the fundamental principle underlying this right, viz: the severance of the mineral from the surface was one of the prime characteristics of French mining law.

¹⁸ The writer is indebted to his wife for a portion of the translation of the material which forms the basis for this discussion.

¹⁹ *Legislation des Mines, Etrangere* (1891), Vol. II, p. 48.

²⁰ The Act itself provides that vertical bounding planes must be adopted "unless the circumstances and localities require another mode of limitation," Title IV, Section I, rule 29.

²¹ Halleck's *De Fooz on the Law of Mines* (1860), p. 120.

²² *Exposition of the Law of 1810 by Count Regnault de Saint Jean-D'Angely. De Fooz, appendix C, pp. 250-251.*

The philosopher Turgot in a periodical of 1769,²³ urged that each land owner as a matter of natural equity should have the right to mine on his own ground and then to pass underneath in the subsoil of his neighbor without the latter's consent and become the owner of the material which he extracted therefrom.²⁴ Dupont criticizes this system as an application to the mining industry of the celebrated doctrine of *laissez faire* which would result in the most complete anarchy—a true subterranean war.²⁵ Curvelier criticizes the system as utopian.²⁶

Practically all of the French philosophers and statesmen who have expressed themselves on the subject agree that there is nothing in common as far as ownership of the surface and of the mineral underneath is concerned. De Fooz says: The "nature of things", the "general principles of right", and "general utility" do not permit the surface to be confounded with that which is beneath. The surface may be divided *ad infinitum* and this renders its culture easier and more productive but mines are not divisible like the surface and their occurrence has nothing in common with the configuration of the surface.²⁷ Jousselin says mines have a conformation of their own which in no way depends upon the character of the surface and can be worked to advantage when they are treated in mass or in sections of certain extent, without reference to surface boundaries.²⁸ A vein which forms a mine may extend into the depth of the earth a considerable distance beneath surface properties infinitely divided among the surface owners. Which one of these surface owners ought to have the property in the vein? It is necessary in order to work mines to advantage to treat mines *in mass*, or in sections of definite extent determined by the position and character of the beds or veins.²⁹ Mirabeau concluded one of the most famous debates on the fundamental principles of a true property in mines which took place in the French Chamber of Deputies in 1791 by saying: "The oblique direction of a mine may in a short distance pass underneath a

²³ Memoire au Conseil d'Etat.

²⁴ Naudier, *Legislation des Mines* (1877), p. 38.

²⁵ Dupont, *Legislation des Mines* (1862), Vol. I, p. 5.

²⁶ Curvelier, *Legislation Miniere* (1902), p. 5.

²⁷ Halleck's *De Fooz*, p. 10.

²⁸ *Traite des servitudes d'utilite publique*.

²⁹ Report of Count Girardin on the Law of 1810. *De Fooz*, p. 10, note 2, and Appendix D, p. 259.

hundred different properties. We already know too well the scourge of war upon the surface of the globe; there is no need of adding to it the scourge of a subterranean war."³⁰ He also argued that the proprietary right of the surface owner could not possibly apply to minerals several hundred feet in depth. "They cannot be a complement to the soil, and are moreover, by their course, unfit to be included in a partition of the surface." He pointed out the fact that the surface proprietor seldom had the capital to develop a mine and if he did he might find the valuable part of the vein to be under his neighbor's property.³¹ The surface overlying a mine may be fertile or barren, cultivated or uncultivated and the owner thereof has done absolutely nothing towards the acquisition, increase or creation of the mineral wealth concealed thereunder.³² De Fooz, therefore, concludes that as a matter of art, of right, and of interest the regalian doctrine ought to prevail over the narrow principle of private ownership and that mines and the outcrops of mines, i. e., the points where they rise to the soil belong to the nation rather than to the surface proprietor.³³

Napoleon at first opposed this idea because he interpreted article 552 of his famous Civil Code to grant to the proprietor of the surface everything beneath and the doctrine of a national property in mines would violate this principle of private ownership which he had already promulgated. The counter arguments advanced in the Council of State and already noted finally prevailed and in order to avoid the acknowledgment of defeat the Emperor resorted to a fiction, entirely his own,³⁴ "that mines are a new property; the right of working them forms a new wealth; and the property of mines does not exist prior to their concession." The famous French Law of Mines of April 21st, 1810, was the outcome.³⁵ The surface proprietor was recognized, however, for he

³⁰ De Fooz, p. 10, note 4 and p. 13.

³¹ Foreign Mining Laws, Vol. II, Part I, Transactions of the Mining Association and Institute of Cornwall (1888), pp. 35-36.

³² *Compte, de la Propriete, De Fooz*, p. 11, note 6.

³³ p. 13.

³⁴ A "real property separated from the surface is a conception absolutely new, which emanated from the genius who consolidates and aggrandizes each day the destinies of France." Report of Count Stanislas Girardin, Appendix D, Halleck's *De Fooz*, p. 266.

³⁵ *De Fooz*, pp. 37-42.

was paid a small royalty or rental depending upon the area of surface required for successful operation.

As a result of the careful analysis of underlying principles and searching debate which preceded the adoption of the French Mining Law by the Chamber of Deputies, it is ideal from a theoretical standpoint. The mineral deposit is a property distinct from the overlying surface and the Council of Mines determines in each case, from the evidence produced, whether it should give preference in the granting of a concession to the discoverer, or the proprietor of the surface or to another applicant. The person or company best qualified to undertake the venture usually received the concession. The extent of the concession, within a maximum limitation, depended upon the character of the deposit and was determined largely by economy of operation. A perimeter was marked out on the surface and the concessionaire operated on the vein or mineral deposit within vertical planes passed through this perimeter. The owners of the surface within the perimeter continued to cultivate or use the surface except such portions as were required for actual mining operations and for which portions compensation was paid. Other veins or bedded deposits within the perimeter might be excluded and granted to other parties, as the concession usually carried the right to mine only on one particular deposit or vein. When a concessionaire had mined to the limit of his concession an extension of the perimeter was usually granted him since economy of operation justified such a course. It will be apparent that these advantages of granting concessions to those best qualified to undertake the venture and of making the extent of the concession dependent solely upon the character and occurrence of the deposit which was consequently not forced into claims of uniform and unvarying size and likely to be unsuited to the particular deposit is perfect in conception. This system embodies a fundamental feature of the extralateral right, viz: the right to mine on the vein without acquisition of surface ownership. While the other characteristic feature of indefinite pursuit of the vein in depth is lacking, the right to extend his perimeter in that direction was invariably granted to the concessionaire whose workings were most favorably situated for economic mining.

While this system is ideal, considered from most angles, yet like many ideal systems its successful operation depends upon ideal circumstances. In a country like France, thickly populated and

with mining confined to comparatively well defined areas such a paternalistic surveillance as is exercised by the Council of Mines and the Engineers of Mines probably yields the best results, but in the Western part of the United States where the mining districts are sparsely settled and largely in remote and rugged regions, such a system would be impossible of administration. Walmesley says that the principal objection to the French system is "too much State control."³⁶ It is an interesting commentary on the urgent demand for a change in our mining laws to note that in 1889 a Commission of Deputies reported to the Chamber on the subject of revision of the French Mining law that the main object of legislation should be to free the mine owner of state control as much as possible; that England and the United States are in the almost complete possession of a law as wise in its simplicity as that which they indicate as the perfection of mining law; that everywhere the power of the State in such matters is being restrained; and that everywhere greater belief is being placed in private enterprise and industrial liberty and that it is a remarkable fact that the more this faith increases the more mineral wealth is developed.³⁷ The policy of severing the mineral from the surface and disposing of each separately is a most desirable feature, however, and it is regrettable that it was not adopted in the United States in the infancy of mining here.³⁸

England. In the main, the law of England on the subject of mines did not recognize any severance of the vein from the surface. The surface owner was entitled to everything found vertically beneath his surface, except royal mines, i. e. mines of precious metals, and these latter were of little importance in England. There were some noteworthy exceptions, however.

In Derbyshire there existed a local mining law which was the outgrowth of ancient customs and regulations adopted by the miners themselves. It marked a wide departure from the ordinary conception of common law property rights. Under this law

³⁶ Mining Laws of the World (1894), p. 50.

³⁷ Walmesley, Mining Laws of the World, p. 52.

³⁸ The severance of mineral from the surface and the policy of disposing of each separately has recently been adopted by the Federal Government in the case of public lands valuable for oil, coal, phosphates, nitrates, potash, gas, and asphaltic deposits, etc. See 38 Stat. at L. 509; 35 Stat. at L. 844; 36 Stat. at L. 583; 37 Stat. at L. 105; 38 Stat. at L. 335; 37 Stat. at L. 497; and 37 Stat. at L. 687.

the miner had a right to enter upon privately owned lands within certain districts to "dig, delve, subvert, mine, turn up all manner of Grounds, Lands, Meadows, Closes, Pastures, Moors or Marshes for Lead-ore . . . dwelling-houses, Highways, Orchards or Gardens excepted."³⁹ The first finder (discoverer) of a vein was entitled to two meers or measures along the vein and the lord who owned the ground to one meer and each locator thereafter to one meer. These meers were linear measurements along the apex of the vein at the surface and in different districts varied from 27, 29, 31, to 32 yards in length. Meer stakes at each end served to mark the possession. The width of the claim was a quarter cord or quarter meer measured either from the skirts (walls) of the vein or, according to the contention of the owner of the land, from the center of the vein.⁴⁰ Within this width the miner had the right to erect necessary mine buildings, store ore and waste, but all of this width that he did not need for these purposes belonged to the owner of the surrounding land for "it is not the land, but the necessary privilege of working the mine that is granted the miner."⁴¹ Some have questioned whether an extralateral right was granted by these customs and while there is no explicit language contained in any of the Articles to indicate that such is the fact, nevertheless their examination leads to the unquestionable conclusion that such a right did exist. The Articles provide for litigation work, inspection of adjoining mines to ascertain if a trespass has been committed, and penalty for trespass on another claimant's forefield. The descriptions of dialling (surveying) to ascertain whether a claimant had reached the limit of his possession also indicate the existence of the right. From these descriptions it is evident that the longitudinal limit of the extralateral right in depth is measured by vertical planes passed through each end of the claim at right

³⁹ Houghton, *Rara Avis in Terris* or *The Compleat Miner* (1681), p. 14. For additional information regarding these unique laws see: *The Compleat Mineral Laws of Derbyshire*, Steer (1734); *A Collection of Scarce and Valuable Treatises on Mines, etc.*, Payne (1738); *The Miner's Guide*, Hardy (1748); *The Rhymed Chronicle* by Manlove, etc., Tapping's edition (1851); *Fodinae Regales*, Pettus (1670); Bainbridge on *Mines and Minerals*, 6th ed. (1900); MacSwinney on *Mines*, 3rd ed. (1907).

⁴⁰ It is interesting to note that the identical dispute as to the measurement of the width of the claim existed in Germany. Hake, *Bergrecht*, p. 146.

⁴¹ Mander's *Derbyshire Miners' Glossary*, p. 56.

angles to the general course of the vein.⁴² The whole matter is set at rest, however, by the testimony of the barmasters or head mining officials given before the Royal Commission on Mining Royalties in 1891. The barmaster⁴³ of the wapentake of Wirksworth or Low Peak in Derbyshire was asked what the owner of the surface received in payment from a claimant who staked out a claim on it for the purpose of prosecuting mining and his answer was, "Nothing at all The mining customs do not recognize the surface land at all; the mining laws recognize the veins so far as the grantor goes, but every man has as much room as is necessary for dressing (treating ore) in the field."⁴⁴

The barmaster of the High Peak when asked how far underground a miner might go as distinguished from the surface he required, answered, "he can go underground as far as he likes. Q. Can he drive his lode as far as he likes? Yes."⁴⁵ The Derbyshire extralateral right is the purest form of this right that exists. A certain length of vein is laid out on the surface and the miner has the right to follow this vein to unlimited depth between vertical planes passed through the ends of the claim at right angles to the course of the vein.⁴⁶ The vein was the principal thing and the surface an incident. In this respect, our Act of 1866 closely resembles the Derbyshire right.⁴⁷

There has been considerable speculation as to the origin of the

⁴² Houghton, *Compleat Miner*, pp. 94-101; Hardy, *Miner's Guide* (1749), pp. 142-150. As already noted, this is the same measure of the extralateral right that has been generally adopted in Germany and also in the United States under the Act of 1866, where in both cases the law was silent as to how this right should be measured.

⁴³ In Germany the "Bergmeister" and in early mining in France the "bourgmestres" performed similar functions.

⁴⁴ Third Report of the Royal Commission on Mining Royalties, p. 52.

⁴⁵ *Id.*, p. 54.

⁴⁶ The Derbyshire rake-veins to which this measure was applied were, comparatively speaking, ideal veins, being nearly perpendicular, their hade or inclination being only one foot in ten and their course generally following a straight line. *Mineralogy of Derbyshire*, Mawe, pp. 32-33. *Treatise on Ore Deposits*, von Cotta (Trans. by Prime, p. 431.) The flat-veins of Derbyshire were taken up by claims 14 yards square. Houghton p. 2.

⁴⁷ The writer is the fortunate possessor of a rare work also edited by Houghton (1694) entitled "Articles to Establish and Confirm Laws, Liberties, & Customs of Silver & Gold Mines. . . . in America" in which Houghton proposes that Parliament make mining laws substantially similar to those of Derbyshire applicable to the English colonies in Africa and America. In view of the strikingly similar miners' customs which eventually sprang up in the Western United

Derbyshire extralateral right. Hoover⁴⁸ believes that the law of this district is of Saxon importation. Blavier⁴⁹ says that the bye-laws of Derbyshire resemble the mining laws of Saxony. Smirke⁵⁰ states that many of the mining terms of ordinary use in Derbyshire correspond almost exactly with the *Platt Deutsch* terms of the German mines and that there is no difficulty in accounting for this when authentic records indicate the frequent importation into England and employment of German miners from 1271 down to the 18th century.⁵¹ This view seems quite reasonable though Lewis in his work on the Stannaries intimates that the laws of the Derbyshire lead miners are customs dating back to a time beyond the memory of man and notes that Pliny refers to the fact that the lead miners in the interior of Britain are governed by certain rules of their own making.⁵² This would antedate even Germanic influence. There is no question but that the Germanic impress is pronounced. That the extralateral right was an importation is doubtful, for if lead mining and customs dated back to the days of the Romans the exercise of that right had probably already taken place. It is the normal and natural way of mining on veins as steep in dip and as ideal in occurrence as are the rake veins of Derbyshire. The early miners with simple methods would pay little attention to surface rights which were comparatively valueless, except such limited portions as were required for their mining operations, and would merely stake out lengths of apex on the surface. There is no resemblance between the extralateral right of Saxony with its artificial planes in the hanging and foot walls of the vein accompanying it on the dip down into infinite depth and with a right to everything found between these planes, and the Derbyshire right to follow the vein only, subject to the condition that if the vein branched and the separation continued for the distance of half a meer, the branches were pronounced as two distinct veins. So long as the Rither,⁵³ or strip of country rock lying

States upon the discovery of Gold in 1848 this proposal is little short of prophetic.

⁴⁸ Hoover's Translation of Agricola, note p. 77.

⁴⁹ Jurisprudence des Mines, Vol. 1, p. 18.

⁵⁰ Stannaries of Cornwall (1843) p. 94 note g.

⁵¹ See also Mander's Glossary of Technical Terms of Derbyshire Miners (1824) which notes a large number of words of Saxon and Teutonic origin and Raymond, Mineral Resources 1883-4, p. 996.

⁵² The Stannaries (1908) pp. 82-83.

⁵³ The Saxon influence is seen even here for the word Rither is derived from the Saxon word "wrythan." Mander's Glossary, p. 60.

between the two veins "may be taken down by firing on the side, it is to be taken and reputed but for one vein, but in case the Rither be so thick that it cannot be taken by firing on the one side, and the Veins go so asunder, for half a Meer in length, then they are serviceable to the Miner, as two distinct Veins," and each was required to be taken up in a separate claim.⁵⁴ The fact that in both Derbyshire and Germany the longitudinal or end limits of the extralateral right in depth were vertical planes at right angles to the general course of the vein might support the view of common origin were it not for the fact that this is the natural and obvious limit and that no other mode of measurement is logical under the circumstances unless we invoke the parallel end line measurement of our federal act of 1872.

The lead miners in the forest of Mendip also mined under old customs which were not as complete in detail as the Derbyshire laws but similar in many respects and undoubtedly contemplating extralateral rights. The extent of the miner's or grovior's right to mine on the vein was ascertained by his standing "to the girdle or waste" in his groof or mine working and heaving his "hacke" or pickaxe "two ways after the rake" or vein. In modern language the miner stood waist deep in his discovery shaft and threw his pickaxe in each direction along the apex of the vein both forward and backward "as the chyne or rake goeth." This determined the extent of his boundaries.⁵⁵

The lead deposits of Alston Moor were also another center of free mining with "liberties and Customs" similar in some respects to those just noted.⁵⁶

In the famous Forest of Dean only male persons born in the hundred of St. Briavels and who had worked a year and a day in

⁵⁴ Houghton, Article XXXIV, p. 37.

⁵⁵ Smirke in his work on the Stannaries, p. 127, note c, makes the comment that this is a curious instance of the "Hammerwurf" of Teutonic antiquity and (p. 128, note e) has its parallel in the arrow flight of the Bohemian "montani" and in numerous instances cited by Grimm, Alterthümer, etc. In the Dean Forest (p. 132) "the pit (mine working) shall have such liberty and franchises that no man shall come within so much space the miner may stand and cast so far from him redding (ridding?) and stones with a bale, as the manner is; and shall have his marks pertaining to the said pit." The Laws and Orders of the Mendip Miners, commonly called Lord Choke's Laws are also found in a work on the County of Somerset by Billingsby (1797) p. 23 seq.

⁵⁶ Lewis, pp. 79-80; Smirke pp. 124-5; The Mining Districts of Alston Moor (1833), Sopwith, p. 19.

a coal or iron mine were Free Miners and entitled to take up or "gale" these mines in the forest.⁵⁷ These Free Miners met at the "Speech House" and regulated the operation of their own laws and customs. In galing or granting the right to mine the gaveller (mine official) fixed a starting point and no other limit was assigned. No gale could be granted to another within 100 yards of this starting point. This distance was later increased till it reached 1000 yards. Since contiguous claims had no definite boundaries it became a matter of contention, or a "race of diligence" as our federal court has expressed a similar situation here, as to which miner could first obtain possession of the intervening ground by extending his workings.⁵⁸ These workings might be carried to an indefinite extent—"as far as the vein extends"—unless interrupted by another working.⁵⁹ Because of this great uncertainty as to ownership Parliament intervened and a Commission was appointed in 1838 which awarded definite boundaries to all legitimate claimants, and followed the ancient customs as far as possible, confining a claimant to one vein or bed and "underlying or other veins not so awarded or galed may be galed to other parties."⁶⁰

Spain and Spanish America (Peru and Mexico). The fabulous wealth of the mines worked under Spanish rule, particularly in her possessions in the New World, stimulates our interest in her mining laws.

While we would naturally expect Spanish laws to reflect the influence of the civil law, we find little impress on her mining code from this source. In making an analytical study of the Spanish mining laws one is struck by the similarity of many of the provisions to those of the early Germanic mining codes, especially the

⁵⁷ Dean Forest Award, Sopwith (1841); Laws of Dean Forest, Wood (1878).

⁵⁸ "When parties under different gales were approaching each other, they might proceed until their mattocks should meet." Fourth Report, Dean Forest Commissioners, p. 8.

⁵⁹ Early Germanic mining claims were also unmeasured areas, the only regulation being one which forbade too close an approach to a neighboring claim, Lewis, 163 note 4.

⁶⁰ Sopwith, 167, 202. Free Miners also worked quarries of stone in the Forest of Dean, the lines of each gale or claim being parallel and at right angles from that side of the hill where the work first commenced. The Miner could not work laterally outside of those boundaries "but he may depart from the original horizontal line to suit the dip of the stone. The application of these rules is termed squaring the hill." Fifth Report of Dean Forest Commissioners, p. 73.

right of free mining, i. e., the right of the individual to go upon crown lands or even lands belonging to others and upon making a discovery of mineral becoming entitled as a matter of right to the possession of a mining claim including the discovery. But the similarity is accounted for when we learn that in framing the mining ordinances of Spain "recourse was had to the laws of Germany."⁶¹

Article 5 of the Spanish mining ordinances of 1559 referred to by Gamboa as the "old ordinances," provides that,

"Whereas, by not designating the limit and space which the Mines that shall thus be discovered are to have, there may result great confusion, differences and lawsuits; and the first discoverer may pretend that his Mine and the right which by discovery may belong to him, cover and include the whole extent and continuation of the metallic vein, and that in the whole of such extent and continuation no person can interfere to prospect, search or work, from which may result great embarrassment and impediment to the discovery, and working and development of said Mines,"

therefore, the article provides, the Mine or *pertenencia* to which a discoverer is entitled shall have definite surface boundaries, viz: 100 *varas* long and 50 *varas* wide.⁶²

This provision would seem to have eliminated the exercise of any extralateral right and this is further borne out by Article 29 which provided that if Mines are staked out on the sides of another mine whose boundaries are already defined, because it appears that the vein inclines from the latter and may enter these side claims, the Court shall protect these side claimants and shall not permit the person who owns the mine from which the ore inclines, to follow the vein into these adjoining claims.

However, Article 30 also provided that if the boundaries of the mine from which the ore inclines are not already defined by the official survey and staking or if the ground into which the ore dips is not already claimed, then in either case the owner of the mine "shall be at liberty to continue to follow the said ore although

⁶¹ *Comentarios a las Ordenanzas de Minas, Gamboa (1759)*, p. 6; See also Heathfield's translation (1830) p. 8. These Commentaries by Gamboa constitute the classic work on mining law in Spanish. See also Smirke, *Stannaries of Cornwall*, p. 84 note 2, where he states that, "The German system of jurisprudence on the subject of mines has met with general acceptance throughout the Continent of Europe, having been adopted in Russia; in the countries around the Baltic; in Spain; and in the extensive settlements of the latter country in America."

⁶² *Mining Laws of Spain & Mexico, Halleck (1859)*, p. 13.

he may go outside of his *pertenencia*.”⁶³ This latter provision clearly recognizes a limited exercise of the extralateral pursuit.⁶⁴

Ordinance XXX of the Spanish Mining Code of 1584, referred to by Gamboa as the “new ordinances”, provided that if the ore in any mine shall be continuous with the ore of any other mine “and the two mines shall become one, in the depth; the miner who shall have first sunk and made his way into the other mine,” shall be entitled to the ore until the owner of the adjoining mine compels him to establish his boundaries. If it is found that he is outside of his true boundaries he must withdraw, but he is still entitled to the ore he has mined from the other’s *pertenencia*, “inasmuch as he has acquired a right to it by the care and diligence used in working with more activity than his neighbor.” The ordinance also provided that if a person took a *pertenencia* contiguous to the mine of another and there is no vein disclosed therein or if there is one and it contains no ore, but the claimant works “merely with the intention of profiting by the ore of his neighbor when he shall get within his boundaries” he acquires no rights “even though his neighbor’s ore should take its course within his *pertenencia*; and our mining judges and justices shall determine it so, and shall not allow or permit such mines, not being upon a vein or ore, to be worked.”⁶⁵ It is quite evident that the foregoing provisions create and protect a modified form of extralateral pursuit.

Gamboa comments that “Of all the ordinances contained in the new code, or the old law, there are none more difficult, or which have been more frequently the subject of litigation in the courts than this.”⁶⁶ He states that when the vein extends outside the *pertenencias* of adjoining owners into unclaimed ground, each owner is entitled to work freely through the virgin ground upon the dip of the vein beyond his own limits and whenever the workings of rival claimants in this common ground meet a *guarda-rama* or boundary monument should be established beyond which neither could pass.⁶⁷ Cases of this character gave rise to extensive litigation and a famous contest arose in the mining district of Guan-

⁶³ Halleck, pp. 29-30.

⁶⁴ See, Heathfield’s Gamboa, pp. 17-43.

⁶⁵ Heathfield’s Gamboa, pp. 14-15.

⁶⁶ Id. pp. 17-18.

⁶⁷ Id. p. 25. Gamboa notes that this provision of the new ordinance repeals the policy of the old ordinance of confining a miner to his own boundaries but that this new provision is based on the desire of the sovereign to increase the amount of his royalties and also to reward industry and diligence. pp. 31-32.

axuato where Count de San Pedro del Alamo insisted that the underlay (dip) of the vein which apexed in his Santa Anita mine "was infinite in extent", that "the vein was his property, as far as it extended upon the underlay as being one and the same vein: and that as, when the vein, being what is called a deep vein, proceeds perpendicularly downward, the miner may work on to the antipodes, or to the infernal regions, as Amaya says; so, if the vein be inclined, its whole extent upon the underlay is granted to the miner."

The proprietors of an adjoining mine who had first occupied the vein in dispute outside their boundaries in common ground, insisted that the ordinances contemplated such mining and that boundary marks were to be erected underground wherever their workings met. This latter view was upheld by a decree of the royal *audiencia* in 1749.

The miners of this district had previously contended that the surface limits alone were to be within prescribed boundaries but insisted that the miner might work to an unlimited extent underground, whereupon in 1739 an order was issued that the property of the vein is not granted to an indefinite extent on the underlay and that the underground limits of the mine must correspond vertically with the surface boundaries. The only exception is that already noted which permits a miner to follow a vein into unclaimed ground.⁶⁸

The early Spanish mining laws applicable to Peru provided that "if the principal vein of a mine should take its course without another's limits, it may be followed up without any impediment." If a vein divided before taking its course within the boundaries of a neighboring mine, the owner was required to select one of the branches as his principal vein which he could follow into his neighbor's ground. Gamboa notes that these regulations conform to the practice in the mines of Germany.⁶⁹

The ordinance of 1783 materially changed the Spanish mining law.⁷⁰ Article I of Title VIII states that uniformity of size of surface claims cannot be observed underground and at the same time equality between claimants preserved, for the inclination of the vein with the plane of the horizon makes the amount of vein

⁶⁸ Id. pp. 26-31.

⁶⁹ Id., pp. 42-43. See also, *Gazophilatium Regium Perubicum*, Escalona (1675) Lib. II, Part II, Cap. I.

⁷⁰ These ordinances are set forth in full in Halleck's Mining Laws of Spain & Mexico, pp. 189-315.

material included within the *pertenencia* greater or smaller and it may well happen that when a miner after great expense and labor, reaches the boundaries of his claim where the vein begins to be rich, an adjoining owner, who has placed himself at that point with more cunning than labor, may compel him to stop working further "so that from this arises one of the greatest and most frequent causes of litigation and dissension among miners."⁷¹ As a result, the new code provided that each miner is entitled to 200 Castillian *varas* which are called *de medir* (long or running measure) along the thread, direction or course of the vein taken on a level. To square the claim a rectangle was formed by taking 100 *varas* on each or either side of the vein, if the vein were vertical, and this width increased as the dip of the vein might flatten till the claim attained a maximum width of 200 *varas* for veins dipping at an angle of 45° or less. The ordinances voiced the opinion that by the time the vertical boundaries of the claim were reached the vein will have been considerably exhausted.

Article 14 referring to the permission granted under the former law of 1584 to enter another mine and continue following the vein until the owner of the other mine can extend his workings so as to stop the adverse entry, states that it is "the most fruitful cause of the bitterest law suits, dissensions and disturbances among miners" and the adverse entry occurs more often through fraud or accident rather than as the result of merit or industry. Therefore, entering the *pertenencia* of another is prohibited.

Article 15 provides for an exception, however, and if a miner pursuing his working fairly and following his vein reaches the *pertenencia* of another or discovers there a vein undiscovered by the adjoining owner, he shall be obliged to give such adjoining owner immediate notice and thereafter share equally with him all that he may extract from the adjoining *pertenencia* and for failure to give such notice of invasion of the other's territory he lost all right to the ore taken out and also paid double its value as a penalty. The other owner could stop this invasion at any point that his own workings encountered the invader's.

Article 16 continued the right to follow the vein into unclaimed

⁷¹ In the light of the present day criticism of the extralateral right, it is amusing to note that this ordinance attributes excessive litigation to the inflexible vertical boundary system. Dissatisfaction with existing conditions and enthusiastic conviction that a change will result in complete relief, is a common characteristic which is not confined to the present day.

adjoining territory but compelled the denouncing of a new adjoining *pertenencia* covering the vein.

Article 17 confirmed each owner to that portion of the vein included within his boundaries and specifically denied the right either to the discoverer of the vein or to the owner of the apex to "claim it in its whole extent, or wherever it may happen to be."

This was the mining law in force in Mexico from 1783 up to the time of the discovery of gold in California. Raymond⁷² makes the comment that

"this law is remarkable for an attempt to reconcile the two systems of square and inclined locations by an elaborate graduation of the size and shape of the surface claim according to the dip of the vein."

He points out the impossibility of administering such a law in accordance with the facts, for an opening 10 yards deep was required to determine the dip of the vein which was then erroneously assumed to follow a uniform course and dip.⁷³

The ordinances of 1783 have long since been superseded by mining codes which have abolished the graduated forms of claims.

Italy (Neapolitan States). Article 15 of the Act of 1826 permits the worker of a mine which has been opened on one property to follow it into an adjoining property without the owner of the latter being able to prevent him; but in this case the latter has a right to be compensated, such compensation to be mutually agreed on or fixed by the arbitration of a judge. Apparently this right was only applicable to mines worked under private grants.⁷⁴

Belgium. The mining laws of Belgium are based on the French code. In Liège adventurers appear to have had rights under certain circumstances of following seams and beds.⁷⁵

Australia. The local court regulations of Maldon of March 6, 1857, provided that the width of a claim should be 100 feet on each side of the line of the reef with the dips and angles of all reefs

⁷² Mineral Resources (1869), p. 196.

⁷³ Id., p. 198.

⁷⁴ Walmesley, Mining Laws of the World (1894) p. 106. The author makes the comment that this "right seems to be analogous to that which is recognized by the law of the United States of America." The mining laws of the various states of which Italy is composed vary materially, so each must be studied by itself. In Piedmont the resemblance to the mining law of France is marked, while the Austro-Hungarian influence, which is essentially Germanic in character, is evident in Venetia. Walmesley, pp. 95, 109.

⁷⁵ Walmesley, p. 120. See also De Fooz.

within the boundary and the right to follow them to whatever distance they might dip.⁷⁶

In New South Wales the mining regulations of August 5, 1858, provided that:

"Miners occupying any portion of a quartz reef or vein shall be entitled to follow and work it in any direction that such reef or vein may take. . . . Provided . . . that when any reef, vein or bed of quartz shall lie nearly horizontal, or at a less angle with the horizon than 20°, the holder of any claim shall be only entitled to follow such reef, vein, or bed of quartz in the direction of the dip, for a distance not exceeding 50 yards from the point where they commence to sink in search of any such reef, vein, or bed of quartz."⁷⁷

These extralateral provisions were probably patterned after the miners' customs of California, since California miners are known to have taken a leading part in this early mining in Australia. The use of the terms "dip and angles" is similar to language employed here by the early miners. Where the vein was inclined, the limits of a claim were determined by establishing a base line passed through the "peg" or discovery point on the apex of the vein and "another point visible and as distant as possible on the known line of the reef" or in case the position of the reef (vein) was not sufficiently known, an arbitrary point was selected and from this base line right angled lines were extended out in the direction of the dip of the vein. This method of defining boundaries within which the miner could work is almost identical with the plan which was later adopted on the Comstock lode for the settlement of disputes over boundaries.⁷⁸

In 1862 the regulations were altered so that a claim had a width of 100 yards and the owner was entitled to all veins found therein,

⁷⁶ Law of Gold Mining in Australia and New Zealand, Armstrong (1901).

⁷⁷ If this provision was not suggested by the Germanic extralateral law, it is at least the strongest kind of circumstantial evidence, for in most of the mining districts of Germany veins that dipped at an angle of less than 20° were termed Flötze and no extralateral right could be acquired to such deposits.

⁷⁸ See, Mining Laws of Australia and New Zealand, Veatch (1910).

⁷⁹ A very interesting volume entitled, "The Law of the Apex," by Kenny has recently appeared, (1914), in which the author advocates the adoption of a similar plan of measurement in the United States in place of the present system of parallel end lines under the Act of 1872. There is considerable reason underlying the suggestion, for it doubtless affords a more logical division of the vein than any other system which could be devised, but the conception is based on ideal vein conditions and does not take into consideration geological complexities.

instead of one vein only as under the former act, and could follow any reef into unoccupied ground.⁸⁰ In 1866 the system of vertical boundaries was adopted because the extralateral system was "found to lead to disputes."

In other parts of Australia the locator along the apex of the vein had a preferential right to acquire "frontage claims" overlying the dip. This is analogous to the extension of the mine perimeter in the direction of the dip under the French law.

In Western Australia under existing law, individual leases are granted of areas necessary to work the reef to a depth of 3000 feet and if the mineral is gold the length along the outcrop of the reef shall not exceed 66 chains, and if mineral other than gold the distance along the outcrop shall not exceed 90 chains. This right to mine in depth is virtually equivalent to the exercise of an extralateral right.

Rhodesia. All property in minerals and mining rights in Rhodesia has been granted by the Crown to the British South Africa Company. The system of mining law in force there was adopted in 1903 and is largely copied from the American law.⁸¹ A "reef claim" is a parallelogram 150 feet in length along the course of the reef with a width of 600 feet at right angles to the length. A "block" is a group of not to exceed ten contiguous reef claims thus forming a parallelogram 1500 by 600 feet, the exact size of a lode claim under American law. The "extralateral right" is defined in the ordinance to be "the right of following a reef on its dip in any block beyond the limits of the vertical block." The "course of a reef" is defined to be a line on the surface marking the intersection of the center of the reef with such surface. If the reef were "blind," i. e., situated below the surface the points where it approached closest to the surface were projected vertically upward. This is the "course of the apex" or "lode line" of the American law.

The miner had the

"extralateral right of pursuit of such portions of his discovery reef on its dip outside the limits of his vertical block as are comprised between vertical planes indefinitely extended and passing through the end lines of his block."⁸²

⁸⁰ Here we have a provision similar to those contained in the Spanish Mining Codes already noted.

⁸¹ Mining Law of the British Empire, Alford (1906), p. 197.

⁸² The striking similarity of this law to the American Mining Law is evident. The trial of the first important case involving the extra-

Canada (British Columbia). The various provinces of Canada have adopted the vertical boundary system of mining law but British Columbia in 1891 passed a mineral act, section 31 of which provided that:

"The lawful holders of mineral claims shall have the exclusive right of possession of all the surface included within the lines of their locations, and of all veins, lodes and ledges throughout their entire depth, the top or apex of which lies inside of such surface lines extended downward vertically, although such veins, lodes or ledges may so far depart from a perpendicular in their course downward as to extend outside the vertical side lines of such surface locations," etc.⁸³

The section also provided that if a location were laid crosswise of a vein instead of along its course the locator secured only so much of the vein or lode as it crossed and the side lines became the end lines for the purpose of defining extralateral rights. A location was deemed to be laid crosswise when the angle made by the center line of the location and the general course of the vein was greater than 45 degrees.

This section of the Act was repealed by Section 2 of the Amendment Act of 1892 which provided,⁸⁴ that "The owner of a mineral claim shall be entitled to all minerals which may lie within his claim, but he shall not be entitled to mine outside the boundary lines of his claim continued vertically downward." Subsection b, preserves rights of locations under the former acts.⁸⁵

As a result of this brief period during which the extralateral right was sanctioned, rights to a number of such mining claims became vested. The British Columbia reports indicate that several cases have arisen where these rights are involved.

There are doubtless other parts of the world where the extra-

lateral right feature of Rhodesian mining law to be brought to England was recently concluded in London. The Amalgamated Properties of Rhodesia brought suit against the Globe & Phoenix Gold Mining Company Ltd. for the recovery of approximately \$1,000,000, alleged to have been wrongfully extracted from the John Bull claims. The case turned largely on geological facts and the usual array of expert talent characteristic of such cases was present. The writer is indebted to Mr. H. W. Turner for the clippings of the London papers reporting the proceedings.

⁸³ This is identical in language with the Act of 1872, § 2322 U. S. Rev. Stats., from which it was unquestionably taken.

⁸⁴ §15, subd. a.

⁸⁵ *Centre Star Mining Company v. Iron Mask Mining Company* (1898), 6 British Columbia Cases, 355; *Martin, Min. Cases* 267 note, and pp. 629-630, 681-682.

lateral right or some modification of it has at some time been exercised.⁸⁶

The attempt has been made to include in this article all the examples of the exercise of such a right that have come to the writer's attention. In many of the other countries such as China, Russia, etc., it has been quite customary to secure a concession to a mine which includes the entire vein and there would be no necessity for adjusting rights between adjoining owners. Sufficient examples have been presented to indicate that there has been a powerful tendency at work based on fundamental reason and natural law to segregate the mineral bearing vein from the surface, and to grant the vein to the miner. Instead of confining him to inflexible surface boundaries extended downward vertically, the tendency has been to make these boundaries more elastic so that he could, in the interest of economy and justice, follow down on his vein, which is the principal thing sought, and which has no logical relation to the overlying surface. The surface ownership was usually segregated from the underlying mineral and vested in another who might be devoting it to agricultural or other pursuits. This severance is in line with the highest economic use of natural resources and embodies the modern conception of conservation. The surface was frequently used for convenience in marking out a perimeter merely to place a limit on underground workings, but the perimeter could be varied or extended according to the nature of the deposit, and as underground development might indicate was most equitable and economic. Frontage claims also accomplished the same object.

The pure type of extralateral right has unquestionably given rise to a vast amount of litigation, and this fact has resulted in its abolition in most countries where it formerly existed.

In a subsequent article the writer plans to trace the growth and operation of the extralateral right in the United States and to call attention to some serious problems which must be solved in the event that it is abolished.

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⁸⁶ Mr. Horace V. Winchell mentions Sweden as one of the countries where the extralateral right was operative for a time. Report of Meeting of the Mining & Metallurgical Society of America, December 1915. Reprint, Senate Document No. 233, 64th Congress 1st Session, p. 57.