When the first concerted attempt to abolish the extralateral right was made is uncertain. The Act of 1866 was adopted without serious opposition to this feature. It is true that Julien in the House of Representatives attacked this idea of granting a right "allowing one man to run half a mile under the land of another" but he did this because of his bitter opposition to the bill as a whole and not because he had any special information on the subject. Instead of representing mining sentiment in the West, he was the chief exponent of the plan which had taken such a strong hold in the East of selling or leasing the mines to the highest bidder and devoting the proceeds toward liquidating the national debt. His opposition to the extralateral feature was due to his general attitude of hostility to the desire...
of the West to have the long exercised right of free mining on the public domain recognized by positive legislation.

When the bill to amend the Act of 1866 was introduced in Congress in 1870 and 1871 and was finally enacted in 1872, no comment whatsoever was made on the extralateral feature during the course of the reported debates. Other provisions of the bill were extensively debated and altered but the section conferring the extralateral right remained unchanged and was not even criticised.\(^2\)

Decided opposition to this feature of the mining law was definitely expressed, however, before the Act of 1872 had been in force many years. By Act approved March 3, 1879,\(^3\) Congress authorized the appointment of a Commission to investigate the operation of the public land laws of the United States and make "such recommendations as they may deem wise in relation to the best methods of disposing" of such lands. A consideration of public mineral lands and the laws governing their disposition naturally came within the scope of the investigation of this Commission. This Commission made an elaborate report in 1880.\(^4\)

Commenting on the creation of a new class of public lands in the United States; viz., mineral lands, resulting from the discovery of gold in California, the report states that the army of prospectors who roamed over the mountain ranges in quest of speedy wealth were not agriculturalists in search of homes but were composed of persons who desired to obtain title to mines.

"As the region was a wilderness, and the authority of the general government was but imperfectly extended over the country, the miners framed for themselves regulations for their own government—crude, it is true, but in a general way securing justice. Under these local regulations or laws possessory rights to mineral lands were acquired which were afterwards confirmed by statutory law, and thus this second

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\(^2\) There may have been some discussion in committee but these proceedings were not reported and the fact that the elaborately worded apex section granting the extralateral right remained unchanged throughout all this discussion when other features of the bill were being radically amended and, as finally adopted in 1872, the fact that this section was identical in language with the corresponding section of the bill that had been introduced in the previous session of Congress, leads to the conclusion that there was then no serious opposition to the extralateral right.

\(^3\) 20 Stats. at L. 394.

class of lands was practically recognized in the administration of land affairs."

The Commission pointed out that if this land had been in private ownership the prospector would have been barred

"and the mining industry which has so rapidly grown up in that country would have been delayed for years, perhaps for centuries. . . . .

"Free exploration and the right to acquire property in mines by discovery led to the establishment of the great mining industries of the West. . . . . Thus a wise system of administering affairs relating to mining lands must recognize the importance of discovery in which poor men can engage. . . . ."

"The United States mining laws of 1866 and 1872 are directly descended from the local customs of the early California miners."  

Investigating the operation of these mining laws which spread from California throughout the West and which "have stemmed the tide of Federal land policy and given us a statute book with English common law in force over half the land and California common law ruling in the other," the Commission called attention to the fact that east of the Missouri, mineral development was almost exempt from litigation growing out of conditions of the government conveyance of mineral lands while in the west it was "a history of the most frequent, vexatious, costly, and damaging litigation."

"There are two general features in the existing statutes which have provoked and directed the main lines of legal contest, and they are, first, the recognition by the law of the local customs and regulations; second, the attempted conveyance of a lode, ledge or deposit of rock in place bearing mineral, as a thing separate from and independent of the surface tract of ground, with the permission to follow such lode or deposit on its dip, even when in the downward course it passes beyond the side lines of the surface claim."  

Pointing out the magnitude of the evil of allowing the mining communities the right of local regulation, the Commission urged that this source of endless litigation should be promptly abolished by Congressional enactment.

5 Id., pp. XIX-X.
6 Id., p. XXXII.
7 Id., p. XXXIV.
8 Id., p. XXXV.
Taking up the second great class of evils, "those incident to the theory of the lode or ledge location," the Commission makes the following comment:

"It has proved in practice and in law that a lode or ledge is an absolutely indefinite thing, and the act of following this formation whose nature and limits can not be fixed beyond the locator's surface ground and under the surface ground of another owner, is the most frequent and vexatious cause of litigation."

This right to follow a lode into the ground of another works "a minimum of mischief in the case of a well defined fissure vein of regular course and dip."

"With such a defined fissure vein, by spending many thousand dollars and provided his cloud of expert witnesses are not tripped up by clever cross-examination, and the judge is impartial, and the jury are not corruptly influenced against him, after many months and perhaps years, during which his enterprise has been hand-cuffed with injunctions and himself reduced to poverty, the owner might derive whatever hollow comfort he could from a victory which left him ruined."

"From this somewhat favorable working of the law" the Commission went on with the examination of other classes of cases involving complex vein occurrences and pointed out the impossibility of reconciling these with the practical workings of the law of apex.

"Your Commission, after a review of the lines of mining contests and a consideration of the complex nature of ore deposits, are unanimous in the conviction that any attempt on the part of the United States to convey such deposits as individual things beyond the vertical planes bounding the surface claim, must always end in a history of intolerable injustice."

It therefore recommended a repeal of the extralateral right and the substitution of the common-law system of vertical boundaries in its stead.

The Commission submitted to Congress a draft of a proposed

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9 This is rather a sorry picture and while somewhat overdrawn would indicate that some at least of the Public Land Commission had come in contact with extralateral litigation.
Public Land law which contained among other provisions the following:

"Section 169.—Any mining claims located after the—day of—1880, shall be bounded as to surface by straight lines, and all right to minerals contained therein shall be confined within vertical planes passing downward through said straight boundary lines."

"Section 170.—A mining claim located after—day of——may equal but shall not exceed a square of——feet on the side, and the same may be in any shape, so that neither length nor breadth shall exceed——feet, nor the aggregate area exceed that of the square hereinbefore first described."

Concerning the area of the common law mining claim the Commission made no recommendation since it had not received "a full expression of popular opinion," and that question was remitted to the legislative judgment of Congress.12

Assuming that it were desirable to abolish the extralateral right, this was the most favorable time to have eliminated it. The Act of 1872 had been in force only eight years and to have wiped out the law of apex at that time would have resulted in infinitely less hardship and readjustment than must inevitably follow if that right be abolished after the Act has been in force for nearly half a century. Since this report of the Public Land Commission was issued, the attempt to repeal this feature of the mining law has been urged at intervals.13 In recent years this sentiment has increased to such a marked degree, and the abolition of the right is now advocated by so many distinguished mining authorities and leading mining associations14 that the subject demands serious consideration.15 Most of this agitation, however, has thus far been entirely too much engrossed with partisan condemnation of the law of apex, while but slight consideration has been given to the principles underlying the origin and exercise

11 Id., p. LXXVIII.
12 Id., p. XLII.
13 See the files of the Mining & Scientific Press and Engineering & Mining Journal.
14 Senate Document No. 233 (64th Congress, 1st Session). Report of Meeting of the Mining & Metallurgical Society of America in collaboration with the American Mining Congress, the American Institute of Mining Engineers, etc.
15 There were several bills introduced in the 64th Congress, providing either for the outright repeal of the extralateral right or profoundly amending the mining law in many respects.
of the right and those features which furnish some measure of justification for its existence; and, most important of all, practically no thought has been directed to the consequences which must inevitably flow from an outright repeal. These consequences are exceedingly vital and far reaching and, unless the anti-extralateral advocates can furnish some practical solution which will minimize the mischief, the advocacy by many of them of outright repeal of the extralateral and discovery features of the mining law without a corresponding readjustment of our public land laws all along the line to meet this sweeping change, is going to produce results which will be most detrimental to the mining industry.

THE EXTRALATERAL RIGHT PRINCIPLE IS IDEAL IN THEORY.

It is generally conceded that the fundamental principle of the extralateral right is ideal in theory. The statements of those who have analyzed the situation surrounding the occurrence of lode or vein deposits and who have pointed out the lack of any essential relation between veins or mineral deposits in depth and the overlying surface amply support the principle of severance. All that one has to do is to picture a vein dipping at an angle into the earth and visualize the result of vertical planes passed through surface boundaries cutting off the right to mine on the vein in depth at various points. Take the case where there are several veins dipping either parallel to each other or at varying angles and realize the complex condition that would result if overlying surface ownership controlled and vertical planes were projected downward to chop these veins up into segments of varying size and at different depths. Then conceive of the ideal condition under the extralateral law where the apex proprietor can follow a certain length of vein down indefinitely on its dip no matter where it leads. The practical result where veins are controlled by surface ownership and chopped up into segments of varying size and at varying depth is to bring about an attempt to consolidate the right to mine on the vein and thus sever the underground rights from the surface rights and make them independent of one another. Only by this means can veins be most economically operated. The intent of the extralateral law was to ac-

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complish this result in the first instance and avoid the necessity of subsequent consolidation, and hence the extralateral law is based on the fundamental conception of economic operation.

But, unfortunately, though the extralateral law is ideal in theory, it is far from ideal in practical results. If veins were ideal, with regular width and dip and strike, the extralateral law would work to perfection and no one could seriously advocate any change. Veins are, however, so complex in their occurrence with branches, faults, splits, junctions and every conceivable variation in strike and dip and width, and degree of mineralization, that no matter how well the law of the extralateral right may become settled, there will always be disputes arising over these physical vagaries.\textsuperscript{17}

The candid investigator must admit that because of this situation the extralateral law is open to serious objection. Just how serious these objections are and whether they justify such drastic action as an outright repeal of this feature of the law will next be considered.

THE MAIN REASON FOR ELIMINATING THE EXTRALATERAL RIGHT.

If we analyze the arguments advanced by those who advocate abolishing the extralateral right, we find that they practically all resolve themselves into the objection based on an excessive amount of litigation.\textsuperscript{18}

It has been assumed by most of these critics without investi-
gation that extralateral litigation is a common occurrence in the various mining camps and has become a great burden which is seriously hampering the mining industry. A careful examination of the statistics leads one to believe that the real situation has been exaggerated. There has been much expensive litigation but it must also be borne in mind that because of the magnitude of the interests involved, such mining cases attract more than their due share of public attention.\textsuperscript{19} Taking into consideration the immense importance of the mining industry and the fact that its operations are spread over such a vast territory in the West, the wonder is, not that there are so many extralateral cases arising, but that there are comparatively so few. A careful analysis of the law reports and tabulation of all extralateral cases appearing therein\textsuperscript{20} indicates that during the years 1870-1916 inclusive, in all of the western states there has been an average of less than three extralateral cases per annum which have been reported.\textsuperscript{21}

The reported cases do not, of course, include all the extralateral cases which have arisen within this period, but they do include the more important cases and afford a very reliable criterion of the proportion of cases arising in the various years. The tabulation indicates that the maximum of reported cases was reached in the year 1902 when ten cases were reported.\textsuperscript{22} Since 1902 the number of reported cases has steadily decreased so that for the past decade, excluding duplications of the same case, extralateral litigation has not averaged two reported cases a year. During the years 1908 and 1911 there were no extralateral cases whatever reported.

The federal extralateral decisions of the trial courts usually find their way into the reports because of their importance. The extralateral decisions in the state trial courts are not found in

\textsuperscript{19} In a similar way, because criminal trials are heralded with head lines in the daily press, it is little wonder that the erroneous idea is prevalent that the legal profession devotes the greater part of its time to criminal law.

\textsuperscript{20} The writer acknowledges his indebtedness to Mr. Herbert C. Hoover for permission to use material which was tabulated at his request by Mr. Robert M. Searls of the San Francisco Bar. Mr. W. J. Aschenbrenner, also of the San Francisco Bar, has continued this tabulation to date.

\textsuperscript{21} This estimate does not include the decisions on appeal from lower courts where the same case is reported below, since these appellate decisions would represent a duplication of cases already considered.

\textsuperscript{22} Many of these arose out of the Heinze-Anaconda battles in Montana and most of the remainder were connected with the Cour d'Alene crop of litigation.
the reports but these cases are of such magnitude that they often reach the state appellate courts. The tabulation, therefore, includes practically all of the extralateral cases which have arisen during the past forty-five years, except the few cases which were not carried beyond the state trial courts. It is, of course, impossible to arrive at the exact number of these unreported cases and determine the percentage they bear to the reported cases, but judging from actual information obtained in many of the important western mining states, it is doubtful if the number of these unreported cases arising in the state courts would much exceed twenty-five per cent of the total number of reported cases. This would increase the average number of extralateral cases arising during the past forty-five years to slightly in excess of three cases per annum. Even assuming that the average number of unreported cases were equal in number to the cases actually reported, the total annual average would be less than six cases, with the past decade showing a material decrease even in this small number.

It would hardly seem that these few cases arising in the entire West, especially where an industry of such magnitude and importance as that of lode mining is involved, would justify the extravagant statements that have been made by some who urge the abolition of the right.\textsuperscript{23} It must be remembered that this charge of excessive litigation is the main reason urged for repealing the "law of apex."

The deductions of the writer as to the comparatively small amount of extralateral litigation which has arisen, when we consider the vast number of lode mines being operated throughout the West under the extralateral law, is corroborated by an independent line of investigation made by Charles H. Shamel, the author of "Mining, Mineral & Geological Law." Proceeding along entirely different lines, he examined the syllabuses of all of the cases reported in Morrison's Mining Reports which contain all of the important mining decisions reported in the United States during the past half century. He arrived at the following result:

\textsuperscript{23} The comparative infrequency of extralateral cases is illustrated by the fact that no extralateral case has yet appeared in the reports from Alaska, and thus far only one has been reported from Arizona. In California, which was the birthplace of the law of apex, the reported cases have averaged one for each three-year period during the past forty-five years. During the past decade there has been no reported case arising in California. Two unreported cases have been tried and decided in California during that period.
“I confess that I was surprised at the actual figures. The total number of syllabuses in the 22 volumes of decisions is 5,808, of which the number concerning the apex law is 115. The apex cases are only about 1.9 per cent of the whole. . . . Instead of causing 99.9 per cent of mining litigation, as Dr. Raymond has somewhere stated, it has caused much less than its proportionate share of the trouble. Facts are stubborn things. The chief, the constantly reiterated, the convincing argument, against the apex law is based on a gross mistake as to the facts in the case.”

Hon. Charles S. Thomas, one of the United States senators from Colorado, who, as an eminent mining attorney is well qualified to speak on the subject of mining litigation, corroborates this view as to the ratio of extralateral cases as compared to general mining litigation. He says:

“Now the vast amount of mining controversy—and I am speaking of numbers of actions—has not been apex litigation. They have been the most expensive and the most far reaching. They have perhaps resulted in the greater proportion of injustice; but the conflicting (surface) locations have produced that multitude of cases, a small percentage of which perhaps reach the Court of Appeals, but whose aggregate has burdened the prospector and locator with an expense almost unbearable.”

It is not therefore an excessive amount of litigation which can be legitimately charged to the extralateral right, for the actual number of cases arising is surprisingly small—insignificant even, when compared with the vast number of claims exercising this right—but rather, the only valid charge on this score which can be made, is the great expense incident to such few cases as arise. Valid criticism must be based on expensive litigation and not on the ground of excessive litigation.

Practical Difficulties of Revision.

The advocates of the repeal of the law of apex have given but little consideration to the serious consequences which will in-

24 "Should the Apex Law be now Repealed?" Transactions of the American Institute of Mining Engineers, Vol. XLVIII, p. 312.
25 Senate Document No. 233 (64th Congress, 1st Session), p. 65.
26 The vast amount of costly litigation arising in the oil fields of California is strong proof that the vertical boundary system is not immune from this evil. Shamel cites the famous litigation involving vertically bounded zinc deposits in New Jersey, lasting for nearly half a century. Transactions of American Institute of Mining Engineers, Vol. XLVIII, p. 347.
evitably result unless other features of our public land law are simultaneously profoundly amended.

The greatest practical difficulty which will follow from abolishing the extralateral right and confining a locator to the mineral found within the vertical boundaries of his location, is the fact that only in those locations which embrace the apex of the vein can a discovery of mineral be readily made. Discovery of mineral within the boundaries of the location is the most vital essential of our existing mining law.\(^27\)

Locations which include the apices or upper portions of the veins within their boundaries could still readily meet this important requirement of discovery, but surface locations overlying the dip of the vein at considerable distances from the apices or upper terminal edges of the veins could meet the discovery requirement only after the locators had expended considerable labor and time in sinking shafts to encounter the vein in depth. As the vein dipped further into the earth it would be increasingly difficult to make a discovery within the vertical boundaries of the overlying locations and finally at great depth the expense of sinking of such shafts would be absolutely prohibitive. It would be necessary under existing discovery requirements to sink vertical shafts on each surface location in order to perfect a discovery on each claim and there would be a consequent economic waste resulting from the expense of unnecessary duplication of such shafts. Under the extralateral law as it now exists a discovery on the apex of the vein is sufficient and the vein may be developed to great depth by a single shaft advantageously situated.

The consistent advocates of the abolition of the extralateral right cheerfully concede that this practical difficulty is a serious one and they are therefore forced to urge that the discovery re-

\(^{27}\) "Discovery is the all-important fact upon which title to mines depends." Lawson v. United States Mining Co. (1907), 207 U. S. 1, 13, 52 L. Ed. 65, 28 Sup. Ct. Rep. 15. Discovery is the initial fact without which no rights to mineral lands can be acquired. Creede and Cripple Creek M. and M. Co. v. Uinta T. M. & T. Co. (1905), 196 U. S. 337, 345, 49 L. Ed. 501, 25 Sup. Ct. Rep. 266. Discovery is the source of title to mining claims and the first discoverer must be protected in the possession of his claim. "Otherwise, the whole purpose of allowing free exploration of the public lands for the precious metals would in such cases be defeated, and force and violence in the struggle for possession, instead of previous discovery, would determine the rights of claimants." Ehardt v. Boaro (1885), 113 U. S. 527, 535, 28 L. Ed. 1113, 5 Sup. Ct. Rep. 560.
quirement of our mining law be abolished also.\textsuperscript{28} Those who are familiar with the main features of our existing mining law will at once appreciate that if these two fundamental features—discovery and extralateral right—are eliminated, that our system of American mining law built up as a result of the years of experience and intelligence of the practical pioneer miners will have been virtually emasculated. Very little more than an empty shell will remain.

Let us pause for a moment to examine critically just where this radical alteration will lead. Many critics have stated that the discovery requirement is a feature characteristic of American mining law exclusively and that it is a useless requirement unnecessarily suffered by the American miner. Both of these statements are erroneous. The discovery requirement is characteristic of most of the systems of mining law in the world.\textsuperscript{29}

The elimination of the discovery feature from our law would wipe out the simplest and most practical form of test as to whether land is mineral or not. As the writer has already pointed out in an article discussing the proposal to abolish the discovery requirement,\textsuperscript{30} it would be a grave mistake to eliminate this salutary provision from our law. Such elimination would destroy the simple test whereby mineral lands are now practically and easily classified under existing law so that mineral locators are able to readily defeat agricultural claimants desiring to obtain the same lands. The only alternative test that has been suggested would be to leave such classification to an appropriate branch of the Federal Government. Even this alternative would be open to serious objection. It would substitute the opinion of mineral experts and representatives of the Federal Government as to mineral character of land in place of the views of the practical miner; it would mean aggravating delays where mines were dis-

\textsuperscript{28} "You cannot abolish the extralateral right without abolishing the right of discovery. They are all tied up together." Transactions of American Institute of Mining Engineers, Vol. XLVIII, p. 383.

\textsuperscript{29} "Discovery in all ages and all countries has been regarded as conferring rights or claims to reward. Gamea, who represented the general thought of his age on this subject, was of the opinion that the discoverer of mines was even more worthy of reward than the inventor of a useful art. Hence, in the mining laws of all civilized countries the great consideration for granting mines to individuals is discovery." Lindley on Mines, p. 335.

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covered in rugged or desert regions remote from centers of travel; it would overturn a fundamental principle which was embodied in our mining laws by the pioneer miners, a principle which was already the heritage of ages of mining experience; and finally it would tear down and destroy to a large extent the great body of law that has gradually been built up with infinite patience and practical wisdom as a result of judicial interpretation operating through more than half a century. The law of discovery is now well settled and understood and to substitute for it an unknown and untried quantity would mean another period of uncertainty and litigation until a similar line of interpretative decisions had been rendered with respect to the new law. This superstructure of judicial interpretation is as important a part of the law and is as necessary for its satisfactory working as is the organic law which it interprets. It is even more important in one sense, for the organic law may be created "overnight" as it were, while the interpretation and harmonizing of this organic law, especially in its relation to other laws, necessarily takes years to accomplish.

Another practical difficulty to which the elimination of the extralateral right will give rise and which must not be overlooked is the fact that in certain of the western states condemnation of private rights of way for mining purposes is not permissible.\(^{31}\)

The courts of these states have not taken the broader view followed in other states where it is held that the public welfare is so dependent upon the mining industry that a private mining operator can exercise the right of condemnation for rights of way for mining purposes.\(^{32}\)

The practical effect of the abolition of the extralateral right in those states which deny the miner such a right of condemna-

\(^{31}\)Inspiration Consolidated Copper Co. v. New Keystone Copper Co. (1914), 16 Ariz. 257, 144 Pac. 277; Consolidated Channel Co. v. Central Pacific R. R. Co. (1876), 51 Cal. 269; Lorenz v. Jacob (1883), 63 Cal. 73; Amador Queen Mining Co. v. Dewitt (1887), 73 Cal. 482, 15 Pac. 74; County of Sutter v. Nicols (1908), 152 Cal. 668, 694, 93 Pac. 872; Const. of New Mexico, § 22; Const. of North Dakota, Art. 1, § 14; Const. of South Dakota, Art. VI, § 13; Const. of Washington, Art. 1, § 16, Art. XII, § 10.

\(^{32}\)People v. District Court (1888), 11 Colo. 147, 17 Pac. 298; Baillie v. Larson (1905), 138 Fed. 177; Ellinghouse v. Taylor (1897), 19 Mont. 462, 48 Pac. 757; Dayton Gold and Silver Mining Co. v. Seawell (1876), 11 Nev. 394, 408; Overman Silver Mining Co. v. Corcoran (1880), 15 Nev. 147; Byrnes v. Douglass (1897), 83 Fed. 45; Strickley v. Highland Boy Gold Mining Co. (1906), 200 U. S. 527, 50 L. Ed. 581, 26 Sup. Ct. Rep. 301. For an excellent discussion of these divergent holdings, see Lindley on Mines, §§ 253-264.
tion would be to render him unable to operate as one mine two separated segments of the vein underlying two separated parcels of surface land owned by him where the intervening surface owner objected. Under existing extralateral law he has the right to follow his vein on its dip irrespective of surface ownership overlying the dip.33

Another consequence of the elimination of the extralateral right would be to make the ownership of overlying surface all important. Under existing law the extralateral claimant frequently is willing to make a material concession to his neighbor when it comes to a dispute as to the ownership of surface of a portion of his claim. If the surface in controversy does not include any portion of the apex of the vein, the surface right frequently does not assume sufficient importance to justify litigation and controversies are usually amicably settled or the surface proprietor bought out for a comparatively small sum. If the right to the vein should become entirely dependent upon surface ownership, as is the result where no extralateral right exists, it is obvious that surface title becomes so vital that surface disputes would materially increase in number and be contested far more bitterly than in the past. The inevitable result would be to create an additional crop of surface litigation to take the place of extralateral litigation.

Practically all of the states of the West have also legislated on the subject of mining law, supplementing the mining laws of Congress. Most of these have embodied in their legislation the extralateral provisions of the federal statutes. While action by Congress abolishing the extralateral right would doubtless have the effect of rendering these state statutes on the same subject inoperative, yet it would become necessary for each state to wipe this legislation off its statute books and harmonize its laws with the enactments Congress might see fit to substitute therefor.

The writer does not pretend to assert that these obstacles are insuperable, but calls attention to them for the purpose of showing that the repeal of the extralateral law is going to be attended by far-reaching results. No attempt has been made to exhaust the field of objectionable consequences which will flow from such a

33Lindley on Mines, §568.
repeal and as a matter of fact many serious results would only become apparent years after the experiment had been put in operation.

Unavoidable and expensive litigation is admittedly a valid objection to the continued existence of the extralateral right. But we are not confronted by the simple situation which existed prior to the adoption of this right to follow the vein into the depth. If we could erase the slate and start anew in the light of our present day experience, there would be little room for argument that the vertical boundary system, while opposed to the natural economics of mining, would obviate much expensive litigation and on the whole be desirable. But, unfortunately, we can not start anew and we are confronted with the practical situation that during the past sixty-seven years there have been thousands upon thousands of claims located and patented under the law granting extralateral privileges with which we must reckon, as it is inconceivable that any rights already vested will be destroyed.

To have two fundamentally opposed systems of mining law operating side by side, one based on the principle of severance of mineral from the surface and the other based on surface ownership carrying with it the right to everything situated vertically beneath, would not tend to a simplification of our mining laws nor to their ready understanding by those who would avail themselves of their benefits, but would inevitably add an increasing number of problems to be litigated in the courts.34

The fact that the primary questions involved in the interpretation of the extralateral feature of the Mining Act have largely been set at rest by the Supreme Court of the United States is reflected by the diminishing number of cases involving extralateral rights which are presented to the courts each year, and this in spite of the continually increasing number of locations and operating mines where such questions might be raised. There are questions of extralateral right law still undetermined but these are becoming fewer in number each year. Most of the important

34 "The apex theory of tracing title to a lode has led to much litigation and dispute and ought not to have become the law, but it is so fixed and understood now that the benefit to be gained by a change is altogether outweighed by the inconvenience that would attend the introduction of a new system." From President Taft's Speech at Conservation Congress, Minneapolis, Sept. 5th, 1910.
questions have been adjudicated. Because there are still some problems awaiting determination is not a valid reason for wiping out the great framework of judicial construction of the apex statute which has been built up during half a century. Time will serve to eliminate virtually all of the questions of strict law which may arise over this subject but we cannot, of course, eliminate the questions of fact as to continuity and identity of vein occurrences which arise wherever complex vein conditions exist. Such extralateral questions will continue to arise and the great expense incident to the trial of these problems is admittedly a grave objection to the continued operation of the law of apex. But these cases will arise in any event in connection with rights already vested and a repeal of existing law will not eliminate any extralateral rights which came into existence theretofore.

Many of those who favor revision of our mining laws seem to have the idea that if a particular law gives rise to litigation all that has to be done to remedy the situation is to amend the law or substitute a new law in its place and that litigation will cease automatically if the proper kind of a substitute law is devised. Unfortunately, such an ideal result is seldom if ever attained in actual experience. Until the expression of ideas by means of language has been reduced to an exact science and all people think in the same terms, it is not possible for radical legislation to be enacted which will in its turn have to run the gauntlet of attack based upon every conceivable ground that human ingenuity can devise. The disposition of public mineral lands presents a complex problem and the dovetailing of such a law in with all the other public land laws is no easy task. In innumerable instances a new law must come in conflict with rights that have vested under the older mining law which it will supplant and we are certain to have a new crop of litigation that will

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35 "The large number and wide range of the decisions show that the value of mining laws depends on their status as established by the courts. . . ." Annual Report of Director of the Bureau of Mines (1915), p. 35.

36 "They [the elements of decision contained in the mining statute] are simple enough in expression but the contests of interest and ingenuity, induced or justified by physical conditions, have given rise to much litigation, and quite a body of jurisprudence has been erected in the exposition of the rights conferred by the statute. The number and fullness of the cases spare us much discussion." Stewart Mining Co. vs. Ontario Mining Co. 237 U. S. 350, 357-8.
unquestionably persist for years. The vital question is whether the benefits to be derived from a change in the law will eventually outweigh the hardships and uncertainties of this unavoidable period of statutory interpretation and readjustment.

A Suggested Remedy.

As a matter of fact the situation can be met in another way and valid criticism based on the expense of extralateral trials overcome to a large extent by reform in the present objectionable methods of handling such cases. It is admitted that the reform would have to be radical but it is worth considering, for the extralateral right is bound to be the subject of adjudication in the future, as in the past, at least, as far as existing vested rights are concerned.

In each state there should be a provision added to its laws whereby a judge, specially qualified to try extralateral cases, could be called in to sit where such rights are involved. To the average judge an extralateral suit is like so much Greek and a large portion of the trial is taken up with educating the court on the elementary principles involved. Most of the mining laws of other countries recognize the fact that mining cases involve technical problems that can not be satisfactorily and intelligently adjudicated by the regular courts and, consequently, in practically all foreign countries a special tribunal is established to try mining cases. In some countries jurors, even, are required to be experienced in mining.

Another objectionable feature which can be readily improved, is the present method of employment by each side of an army of experts. Practically all extralateral cases resolve themselves,

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37 As Charles Shamel says: "The fault lies not with the apex law, but with the existing instruments and methods of legal procedure." Transactions of American Institute of Mining Engineers, Vol. XLVIII, p. 34.

38 Any one who was familiar with the trial of mining cases in the federal courts before judges like Hawley or Hallett, who thoroughly understood these technical mining problems, will appreciate the great saving of time and expense which would result from the trial of technical cases by a specially qualified judge.

39 The employment of experts in extralateral litigation is not an unmitigated evil. In many cases ore bodies of considerable value have been encountered as a direct result of litigation work or suggestions of the experts and in many mines the geological conditions are slighted and but poorly understood until an extralateral suit is instituted and then the first scientific information of value is obtained concerning a mining camp.
sooner or later, into a battle between opposing experts. This results in great expense as well as confusing exaggeration of structural details of minor importance. In a great majority of cases justice could be as readily obtained by a board of experts, one to be selected by each side and a third by the judge of the court, the expense to be shared equally by each party. These experts could examine the properties involved and make a report on the geological occurrences. They would agree on most facts, and where there was a difference of opinion litigation work could be ordered to further develop the points of difference. This plan would eliminate much of the expense and time consumed in such trials. The court would accept the facts agreed on as proven and confine the trial to disputed issues. This plan or some other framed along similar lines would do much to remove the stigma of an excess of expensive litigation to which the extralateral right is now properly subject. It would tend to minimize the existing evil which will still continue to abide with us in the case of all existing claims and would obviate a plunge into untried dangers and hazards which are bound to follow a radical change in our present law.

If it is litigation we wish to avoid, then why not also take up the question of compelling all locations in the future to conform to legal subdivisions.\textsuperscript{40} By requiring lode claims to be located in conformity to public land surveys as is now required in the case of placers and also by registering all locations in the land offices, it will readily be seen that a vast amount of litigation arising by reason of conflicting surface rights would be eliminated. An amendment of the mining law as suggested would eliminate ten-fold as many cases as would be eliminated by abolishing the extralateral right. But by each of these remedies the advantage of economic operation of the ore deposit as a geological unit would be sacrificed. The vein on its dip into the earth has nothing in common with the surface and to parcel it out by surface area and vertical boundaries is a structural misfit and so would be the forcing of lode locations into rectangular surface areas conforming to the public land surveys. Such reforms are ideal from the standpoint of minimized litigation but

\textsuperscript{40} This is not a novel suggestion. See Transactions of American Institute of Mining Engineers, Vol. XLVIII, p. 422.
intensely impractical from the standpoint of the most economic mining of the ore deposits.

**Most Countries Recognize Severance of Minerals From Surface.**

One vital point must not be overlooked in this discussion. Most of the mining laws of other countries recognize severance from the surface itself of minerals lying underneath the surface. The owner of the surface does not usually own the minerals lying in depth beneath his surface but a separate property exists in these underlying minerals which the state may grant to another person. As a result there is no serious conflict between the surface owner and the individual who is entitled to work the mineral deposits beneath the surface. The law of ownership of lands acquired on the public domain of the United States, on the contrary, only recognizes such severance to a limited extent.

Recent legislation by Congress does permit agricultural entry of lands valuable for coal, oil, gas, phosphates, nitrates, potash and other non-metallic minerals. "Known lodes" are also excepted from placers and "known mines" from townsites.

The agricultural patentee is further safe-guarded in this country by a statute of limitations, which provides "that suits to vacate and annul patents thereafter issued shall only be brought within six years after the date of issuance of the patent." Not only does this statute of limitations operate to cut off a mining claimant's opportunity to acquire mineral already known to exist in patented agricultural ground but rulings of the Supreme Court of the United States and of various state courts have thrown additional protection around agricultural claimants so that after their *bona fide* entry on land under non-mineral public land laws

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41 Severance of underlying minerals from the surface and their segregation into distinct titles is characteristic of the laws of France, Belgium, Holland, Spain, Austria, Germany, portions of Italy, Greece, Norway, Sweden, portions of Russia, Canada, Australia, Japan, and most of Spanish America.


45 As to patents theretofore issued, the period of limitation was five years after the passage of the Act. Act of Congress approved March 3, 1891, 26 Stats. at L. 1093, § 8. See Lindley on Mines, § 784.
has been made, it is difficult for a mineral claimant to make a valid adverse entry on the same land.\(^4\)

In other words, when the United States grants non-mineral title to land it is usually in practical effect an outright grant of all that the land contains. There is no dual ownership contemplated except in the few limited cases noted. Anyone who recognizes these advantages which the agricultural claimant now possesses in this country as against those desiring to acquire the mineral existing in the same lands, will appreciate to some degree, at least, the hardship which is going to result to the miner if the extralateral right is abolished without the simultaneous enactment of legislation designed to offset this difficulty. The inevitable result of an outright elimination of the extralateral right will be to feed all existing agricultural patents which have veins dipping beneath them with all such extralateral segments of such veins situated vertically beneath these agricultural patented lands, since such segments will fall by gravity into and become merged with the ownership of the overlying surface lands.\(^{47}\)

Some may argue that this is a desirable result. It is doubtful whether the mine operator and prospector will enthuse over such an outcome. To allow minerals to pass into agricultural ownership is not going to facilitate the extraction of minerals from the soil. These two fundamental industries have many points of difference. The destruction of soil by actual removal thereof or deposit thereon of tailings, necessary in so many instances in actual mining operations, and the destruction of vegetation resulting from reduction and smelting processes has made the average agriculturist apprehensive and difficult to persuade that mining in his immediate vicinity is always for his best interests. Neither has the agriculturist any adequate conception of the true value of a mine and is inclined to place on the mineral existing within his ground an exorbitant and exaggerated price based on gross output. He does not take into consideration the vicissitudes of

47 While there is a difference of opinion on the subject, the weight of reason and views of the text writers support the contention that a miner who locates the apex of a vein within ground that is open to location, even though his location is made later in time than the date of the patent to agricultural land which overlies the dip of the vein, may follow his vein extralaterally underneath the prior patented agricultural surface. Lindley on Mines, § 612.
mining operations and the difficulties which must be overcome before a mine can be put on a paying basis. The abolition of the extralateral right will further fortify the farmer in this position and make him increasingly hard to deal with. With the extralateral right in existence, the agricultural surface owner can now be usually induced, for a small consideration, to part with any claim he may assert to underlying mineral rights, for he is aware of the right of the lawful apex proprietor to follow the vein and penetrate beneath his land without his consent. It will be quite a different matter to deal with him when he realizes that he has become the actual and undisputed owner of the vein situated vertically beneath his surface.

The Extralateral Right is Based on the Principle of Severance.

The main exception in the public land law of the United States existing today which takes the place of severance in other countries, is the right of the owner of a valid lode location embracing the apex of a vein to follow the vein extralaterally underneath adjacent surface. In other words, the extralateral feature of American mining law operates to segregate mineral deposits in the nature of lodes or veins from the surface land overlying the dip of such veins or lodes. The practical result of abolishing the right to follow a vein extralaterally and confining the locator to his vertical boundaries and of also abolishing the discovery requirement would be that agricultural claimants could readily file on and enter upon land overlying the dip of the vein. Under our existing land laws there is no way to prevent such action unless the Land Department can be persuaded to withdraw the land from agricultural entry pending its classification which would be manifestly impossible in every instance, as well as interfering with bona fide acquisition of agricultural titles. With the extralateral law in force, the locator can locate a claim embracing the apex of the vein and make a valid discovery on the portion of

48 "The Act of 1866 was in effect a proclamation severing veins and lodes of the character specified from the body of the public domain. It was the announcement of a governmental policy, whereby ledges within the earth were to be considered as distinct entities, and to be dealt with as such in administering the public land system. This policy has never been entirely changed. In the main it is as much a part of the existing system as it was of the one which it succeeded." Lindley on Mines, § 568.
the vein which is nearest to the surface. This serves to carve out the vein on its dip beneath agricultural land and it is usually immaterial whether the agricultural claimant acquires title to the surface overlying the dip or not. Abolish the extralateral right and it becomes difficult and in many cases impossible to discover mineral within the vertical boundaries of claims overlying the dip of the vein. Agricultural claimants might be first on the ground and under the land laws as now interpreted they could prevent prospective locators from coming on the ground for the purpose of making a discovery. As already pointed out, discoveries perfected by sinking shafts to encounter the vein in depth, even if made without opposition, become economically wasteful and undesirable.

**The Only Logical Alternative is to Sever Minerals From Surface.**

After giving this subject serious consideration for a number of years it is the writer’s deliberate opinion that, if any change is to be made in existing law and if conditions are to be improved rather than made worse, instead of abolishing the extralateral right principle, it should be carried even further by amendment of our public land laws providing for the severance from surface lands of all minerals except superficial deposits. Surface lands could be disposed of under existing laws providing for the acquisition of agricultural and other non-mineral titles except that the mineral should be permanently reserved from such surface grants. As the law now stands, and as has already been noted, only minerals known to exist at the date of the agricultural grant are reserved and even such minerals become the property of the surface proprietor by virtue of the existing statute of limitations and also the additional protection thrown by the courts about a surface proprietor in possession.

By reserving minerals from agricultural lands and allowing the miner the right of entry for purposes of prospecting under restrictions with the added requirement that the surface proprietor be compensated for damage, the interests of both the miner and the agriculturist would be conserved. In all the important mining countries of the world this segregation has taken place and this is the reason why in such countries the extralateral principle is not essential, whereas, in the United States, without such segre-
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gation or severance of minerals from the surface, the extralateral right has a most powerful additional reason for existence. With severance of minerals and segregation of agricultural and mineral interests, the element of discovery also, now so vital in the mining law of the United States, would assume secondary importance. Discovery instead of being of prime importance, as of necessity it must be under existing law where no segregation of minerals from the surface exists, could be made a secondary requisite, only required after the mineral locator had plenty of time in which to make a discovery, taking into consideration the difficulty of so doing in particular cases. If the principle of severance is incorporated in a revised public land law, a vertical boundary system for the acquisition of mineral lands could be simultaneously adopted without resulting in great hardship to the miner, for the agricultural surface claimant could no longer claim the underlying minerals. The surface perimeter within which the miner could work should be so adjusted as to give him as much opportunity as possible to mine in depth on the vein. This would in effect be an adoption of the French system of mining law. However, a radical change of this sort would unquestionably result in increased supervision of mining operations by the Federal Government and conversely a material sacrifice of individual control over such operations. It might even result in permanent reservation by the Federal Government of all minerals, both metalliferous as well as non-metalliferous, and their disposition under a leasing system. This would be in line with the new public land policy as evidenced by recent acts of Congress and of the executive branch of the government which have been upheld by the United States Supreme Court.

Whether such segregation is at this late day practical is a question that can only be determined after it has been thoroughly considered from every standpoint. As already noted, the Federal Government has provided for such severance in the case of lands containing coal, oil, gas, phosphate and similar minerals and it may be that the experience derived from the practical development of such lands will aid in determining this serious problem when applied to the metalliferous minerals.

49 This is conspicuous in the administration of the French mining law.
The suggestion that severance of minerals from the surface will solve many of the difficulties standing in the way of the outright abolition of the extralateral right is not new. The logic of the situation has caused others to advocate the change. 51

The severance of surface title from the underground minerals would also discourage speculators and blackmailers who now fraudulently seek to acquire title to surface lands under agricultural laws in order to levy tribute upon the bona fide mining operator. There are many problems that would have to be carefully considered if such a material change were made in our

"The one great thing which would do away with all of our troubles on the discovery question, and also a lot of other mining law troubles, is the divorce of surface and mineral titles... The use of the surface and the extraction of minerals do not, except to a limited extent, naturally belong together, and any law which persists in keeping the two inseparable must be full of injustice and trouble brooding." Victor G. Hills in Transactions of American Institute of Mining Engineers, (Dec. 1916), p. 2202.

An able paper entitled "The Segregation and Classification of the Natural Resources of the Public Domain," by Frederick F. Sharpless appears in the Transactions of the American Institute of Mining Engineers, Vol. XX, pp. 386-400. The author points out the many advantages of segregating the surface from the mineral title and calls attention to the fact that: "In nearly all of the Provinces of Canada, there are three distinct rights in every parcel of land—timber rights, mineral rights and agricultural rights.... In Australia, the segregation of surface from mineral rights has been the custom in most of the colonies for many years.... While segregation of surface from mineral rights would not cure all existing difficulties connected with our present mining laws, it would, because of the very different nature of these rights, simplify the application of remedies."

After the main report of the Public Land Commission had been submitted to Congress, Maj. J. W. Powell, one of the Commission, qualified his approval of the report by adding a provision in the case of certain agricultural lands classified by the commission as pasturage lands, that "all subterranean mining property and rights for mining purposes, are hereby severed from the surface property," and that in the case of all such patents issued, the same reservation should be inserted and the property "shall be servient to the easements necessary for discovering and working mines therein." He also urged that in the case of mineral lands every patent should have inserted the following clause: "Except and excluding from these presents all surface property rights, provided that there shall be dominant in the property conveyed in this patent the easements on the surface property necessary for discovering and working mines therein."

The Commission had recommended that lands more valuable for mineral than agricultural purposes should be classified as mineral lands and subject to sale and entry only under mineral laws. Major Powell argued that since one-half of the mineral lands in the western United States were forest lands from which, under the Commission's recommendation, the timber alone was to be sold to timber claimants, thus leaving such lands open to mineral exploration, and since the other half of the mineral lands were largely pasturage lands, that this severance recommended by him would quite thoroughly protect the mining industry.
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mining law, but the experience of other countries which have successfully operated their mines under laws based on this principle would afford great assistance in framing such legislation.52

The complex problem here presented is surrounded with profound difficulties and no matter in which direction we turn, we are confronted with unknown quantities and untried conditions. Any critic who ventures to prophesy with any degree of assurance that, by abolishing the extralateral right and also the time-honored principle of discovery, the millenium in mining operations will be attained, has closed his eyes to these uncertainties and is acting on blind faith. The writer does not claim to have received any information from an inspired source and is free to confess that the more the situation is studied the graver its uncertainties become. It will take a master mind to hew the way and devise a substitute law which will work in harmony with our other land laws and which will not bring chaos in its wake.

A commission composed of the best talent available has been proposed but legislation to bring about this result failed at the last session of Congress. It is certain that if revision is desirable it should not take place piece-meal and without due consideration of its effect on other land laws.53

52 "An enlightened public sentiment concerning our mineral land policies can be formed only in the light that is afforded by knowledge of the kindred systems of the progressive peoples of the earth." United States Senator Thomas J. Walsh, Transactions of American Institute of Mining Engineers, Vol. XLVIII, p. 411.

53 The provisions of the proposed Revision Commission Bill were explained at length in Transactions of the American Institute of Mining Engineers, Vol. XLVIII, pp. 405-411. Unquestionably, the plan there urged of general revision rather than "tinkering or patchwork revision" cannot be successfully controverted. Writing of the present laws, Edmund H. Kirby there says (p. 406): "... Their various parts are so interdependent that it is practically impossible to correct individual faults without revising the laws as a whole."

There were several bills introduced in the 64th Congress having for their object the revision of the mining law. One in particular (Senate 42) provided for an outright repeal of the extralateral right without any attempt to revise other features of the law so as to minimize the hardships that would inevitably result. The opinion of the Department of the Interior was requested and Secretary Lane on Jan. 21, 1916, wrote the Chairman of the Senate Committee on Public Lands as follows: "It is certainly undesirable to attempt revision by partial and piecemeal methods. The entire mining field should be surveyed and the existing mining statutes revised only after thorough examination in all particulars. This can be best accomplished by a commission such as is contemplated. In view of the probable creation of such a commission, whose duties will include consideration of the very matters included in the present bill, Senate 42, I deem it inadvisable to make any comment upon the merits of the proposed
The writer feels justified in asserting that the following summarized statements are amply supported by the facts presented in the course of this discussion:

1. The extralateral right principle has existed in one form or another in many of the mining laws of the world but in nearly all instances this feature has been eventually abolished because of the litigation and uncertainty which it produced.

2. The extralateral right was adopted as a part of the mining law of the West by the pioneer miners when they made their earliest quartz locations in 1850 and 1851 and it became the almost universal custom and usage of the miners throughout the mining districts to exercise "dip rights."[54]

Dr. Rossiter W. Raymond, who was intimately associated with the development of the mining law of the public domain, has contributed many learned and illuminating articles on the general subject and particularly on "The Law of the Apex" (Transactions American Institute of Mining Engineers, Vol. XII, p. 387) which descriptive phrase as well as the term "extralateral," he introduced into the literature of American mining law. He calls attention to the fact that "the term 'extralateral' could not have been applied under the Act of 1866," for the reason that the locator was entitled to a certain length of vein without regard to any width of surface ground. (Transactions of American Institute of Mining Engineers, Vol. XLVIII, p. 302). In other words, the miner's surface claim was not restricted under the Act of 1866 by lateral boundaries and hence extralateral pursuit of the vein would necessarily be a misnomer. The "dip right" as applied to this early appearance of the right to follow down indefinitely on the vein is technically a more accurate use of terms. ("The 'dip right' of the early miner was the forerunner of the modern extralateral right." Lindley on Mines, § 566). However, this differentiation of terms is more or less academic, for as a matter of fact, most of the early local rules and customs of the mining districts (See 4 California Law Review, pp. 448, 449, n., p. 47) and many of the territorial legislatures (See id., pp. 450-452) prescribed a definite lateral surface boundary limitation for lode claims and even in those districts where no such limitation was imposed, the location and occupation of all the available surface territory in the vicinity of important mines necessarily resulted in a definite lateral surface limitation for each lode claim and under such circumstances it is not a misuse of words to apply the term "extralateral" to the right that the miner exercised even in the earliest days. The same may be said of the use of the phrase "the law of the apex." Dr. Raymond points out (Transactions of American Institute of Mining and Engineering, Vol. XLVIII, p. 302; also Vol. XLIV, p. 61) that the word "apex" first appeared in the Act of 1872. As a matter of fact the apex or upper terminal edge of the vein was just as essential and its possession constituted the prime basis of the miner's right to follow the vein down on its dip in the early 50's and under the Act of 1866 as under the Act of 1872, which expressly called it by name. All of the extralateral cases decided under the Act of 1866 bear out this statement.

No attempt has been made in the course of this discussion to keep
3. The legislatures of practically all of the western states and territories had by statute declared the extralateral right to be the mining law in force in their respective jurisdictions when Congress passed the Act of 1866 which adopted and crystallized this miner's law without material alteration.

4. The Act of Congress of 1872, which is still in force, further codified and confirmed this miner-made law, changing it only in minor respects and leaving the fundamental principle of extralateral pursuit substantially as the miners had originally adopted it.

5. The law of discovery is not only handed down to us by the pioneer miners of the West but is also a heritage of centuries of mining experience throughout the world.

6. To abolish the extralateral right will result in forcing the abolition of the principle of discovery as applied to lode mines as well, and these are two of the most vital features of our mining law.

7. With the extralateral right repealed, the only important feature of our law which has the effect of severing the underlying mineral from the surface will have been eliminated and with the principle of discovery eradicated, the simple and practical test, now thoroughly understood, will no longer be available to the prospector and locator, and unless some substitute is furnished he will find himself at the mercy of the agricultural claimant or the unscrupulous speculator.

8. The alternative suggested of leaving classification of lands to government agents will shift the initiative in determining mineral character from the individual locator, as it exists at present, and will be a long step in the direction of complete government control of metalliferous mining.

9. The logical solution based on world experience is to sever all mineral except superficial deposits from the surface and dispose of the minerals and the surface separately.

10. Whether a workable system based on this principle of severance can be devised at this late day which will not result

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this refinement of terms in mind for it would serve no practical purpose and would merely result in confusion. The expressions "extralateral right," "law of apex," and "dip right" have been used to convey the same general idea of a right to follow a certain length of vein on its dip into the earth indefinitely.
in producing greater confusion and more litigation by reason of new and untried problems and conflict with innumerable rights vested under the former system, is a question which would tax the wisdom of Solomon.

ii. In any event, revision, if attempted, must be general and not piecemeal and should be enacted only as the result of the most careful deliberation by a commission composed of the best talent available.\textsuperscript{55}

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\textsuperscript{55} On April 4, 1917, Senator Smoot introduced in the United States Senate (S. 104) a bill "To provide for a commission to codify and suggest amendments to the general mining laws," with power "to hold public hearings in the principal mining centers in the Western United States and Alaska," etc., and to "consider the laws and experience of other countries with respect to disposition and development of mines and minerals" and "within one year" to submit to the President a report and "a tentative code of mineral laws."