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CONTROLLING THE PRODUCTION OF OIL*

Donald H. Ford†

I

THE NATURE OF THE PROBLEM

THE present pressing need for controlling the production of oil¹ is due to a variety of causes. The principal factors that have contributed to the existing situation—to “the flood of oil that takes on the proportions of a national disaster”² are: (1) A rapid improvement in exploratory technique, geological and geophysical, which has resulted in “bringing in” too many new oil fields. (2) Enormous advances in the art of drilling, especially as regards rapidity of drilling and the depths attained. (3) Improved methods of refining which furnish an ever-increasing percentage of gasoline from the crude. (4) The development of high-compression motors, reducing total gasoline consumption.³ (5) Inability of American producers to compete on the foreign markets, with the result that the export trade in oil is rapidly dying.⁴ And (6), perhaps the most important fact of all, the maladjustment of our legal principles to the nature of oil and gas and the methods of producing them. This maladjustment furnishes the occasion for the

* The writer wishes to acknowledge his indebtedness to Professor Burke Shartel of the Michigan Law School, and Robert E. Hardwicke of the Fort Worth Texas Bar, for suggestions and criticisms, although neither is to be committed as approving all that is said herein.

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¹ The importance of oil in the United States: Save the products of agriculture, the products of oil are the most essential to the processes and requirements of our present civilization. Oil is our greatest exhaustible resource. Our domestic demand for all oils in 1931 amounted to 900,982,000 barrels. (7 U. S. Daily 17-3, March 7, 1932.) The United States produces 62% of the total supply of the world. On Jan. 1, 1930, there were 7,000 companies, partnerships, and individuals producing oil in the United States. The total investment in the industry is \$12,000,000,000.00. In average times it employs 1,500,000 men, pays \$2,500,000,000.00 in wages. Blythe, “A Crippled Giant,” SATURDAY EVENING POST, April 30, 1932, p. 12. And see 7 U. S. Daily 503, May 16, 1932.

² Hubert Work’s characterization of the industry. “Conservation’s Need of Legal Advice,” 52 A. B. A. REP. 566, 568 (1927).

³ The four examples are taken from Thomas, “Changing Trends in Petroleum Economics,” 55 A. B. A. REP. 703 (1930).

⁴ “Displacement of American gasoline in the European markets, rather than a decline in European imports, was the apparent cause of a drop of 28% [in 1931] in exports of gasoline from this country.” 7 U. S. Daily 359-2, April 25, 1932.

present paper which will deal with existing and proposed legislation controlling the production of oil.⁵

Before entering on a discussion of oil legislation, it will be useful to describe briefly the geological features of a typical oil pool and refer to the law as it exists apart from statute.

Reservoirs yielding oil and gas are generally found in sedimentary rocks, in porous, sandy strata varying in texture from fine-grained sandstone to conglomerate. These rocks are termed "oil sands," and the strata may vary in thickness from a few feet to as much as three thousand.⁶ At the top of such strata there is generally found an anticlinal structure or "dome," with a considerable amount of free gas in contact with the oil-saturated sands. The oil in turn is generally in contact with water. (See Plate I, p. 1176, *infra*.) As a rule the gas pressure is very high, with the result that what would be natural gas at surface temperatures and pressures will be found existing either as free gas in the upper structural parts of the reservoir or distributed through the oil in the form of liquid or dissolved gas.

The sinking of a well into the reservoir upsets the equilibrium by establishing an area of low pressure; this results in a flow of expanding gas towards the well—the center of reduced pressure. The gas carries with it oil, partly by actually pushing the oil through the pores of the sand and partly by transporting it as a film around the gas bubbles.⁷ The gradual lessening of the gas pressure also permits the

⁵ Other factors that might be mentioned that add to the difficulty: 1. Increased confidence in the adequacy of the immediate oil supply, which tends to making the market sensitive to over-production and to reduce storage—hence, overproduction is less likely to be absorbed by storage motivated for speculative purposes; 2. Individualist character of the "oil game." "If the so-called big men of industry would cooperate a little more, use intelligence, cease destroying values and giving the refined product away, the oil business would be something to be proud of, but now I have to hang my head in shame when I see what has been done."—Mr. L. P. St. Clair, President of the Union Oil Co. of California (address before stockholders, March 1, 1932), reported by Blythe, "A Crippled Giant," *SATURDAY EVENING POST*, April 30, 1932, p. 95; 3. Wasteful methods of retailing the product—the evil of too many service stations. "The spectacle of four filling-stations at every cross-roads should give pause to every thoughtful motorist." Thomas, "Changing Trends in Petroleum Economics," 55 *A. B. A. REP.* 703, 710 (1930).

⁶ MILLER, *FUNCTION OF NATURAL GAS IN THE PRODUCTION OF OIL* 19 (1929).

⁷ Gas also plays a very important part in reducing surface tension. See MILLER, *FUNCTION OF NATURAL GAS IN THE PRODUCTION OF OIL* 42 (1929).

Gas reduces what is known as the "jamin effect"—which is described by H. A. Wilson, Professor of Physics, Rice Institute, p. 228 of the above, "as an increase in the forces required to produce a given flow of a liquid through narrow spaces due to the presence of bubbles in the liquid." The effect is due to surface tension. The release of pressure permits the absorbed and dissolved gas to come out of the oil in the

water level to rise, which is an additional propulsive force if properly controlled. The well flows at first without difficulty. In time, however, as the drainage area increases, and the oil and gas must move over a longer distance to reach the well, the resistance increases; eventually resistance becomes so great that the well stops flowing.

Oil sands are not uniform in texture. There are "tight areas" and "loose areas." Gas and oil seek the lines of least resistance, establishing drainage channels, and since gas is more mobile than oil there is a tendency for it to "by-pass" the oil. If a well is permitted to "blow" (flow unchecked) two evils may follow. The rush of gas increases the tendency towards by-passing oil, and the water level may rise too rapidly with the result that water may also by-pass the less permeable sands, causing the "drowning" of these areas. By the proper use of back-pressure,⁸ both of these ill effects can be averted and the rate of flow can be regulated so as to prevent excessive by-passing and to give the gas and water an opportunity to remove the oil from the tighter areas.⁹

It can be seen, then, that gas is the prime factor in oil production. It need hardly be added that its control and conservation is of the greatest importance to the oil industry. Yet the tendency of our existing law is to encourage the waste of gas pressure rather than to conserve it.

Seventy-five years ago there was no law of oil and gas.¹⁰ Its development has been comparatively recent, and in many respects illogical. There have been not a few unfortunate and contradictory decisions, due partly to misconceptions of the physical characteristics of oil and gas or partly to the following of precedents which were based

form of bubbles that materially increase the resistance of the sands to the passage of the oil.

⁸ "Back pressure" is the term applied to the many devices for placing a check upon the flow of the well. "Re-pressuring" means the pumping of gas back into the well. For a discussion of the various methods of back pressuring see MILLER, *FUNCTION OF NATURAL GAS IN THE PRODUCTION OF OIL* (1929).

⁹ For articles presenting the geological aspect see: Robert E. Hardwicke, "Legal Aspects of Gas Conservation in Oil Production," *AM. PETROLEUM INST., BUL. NO. 207*, p. 23 (1931), *OIL AND GAS J.*, p. 17, June 25, 1931; Earl Oliver's report as Chairman, Amer. Institute of Mining and Metallurgical Engineers, Committee on Unit Operation of Oil Pools, in 55 *A. B. A. REP.* 712 (1930); MILLER, *FUNCTION OF NATURAL GAS IN THE PRODUCTION OF OIL* (Report of the U. S. Bur. of Mines and the Am. Petroleum Inst. 1929). See also the court's discussion in *Bandini Petroleum Co. v. Superior Court*, 284 U. S. 8, 52 Sup. Ct. 103, 76 L. ed. 123 (1931), and *Champlin Refining Co. v. Corp. Comm.* (U. S. 1932) 7 U. S. Daily 516, May 17, 1932.

¹⁰ The first commercial well was drilled near Titusville, Pennsylvania, in 1859.

upon what are now known to be erroneous fact presumptions.¹¹ The early cases were decided upon analogies long established in the law of real property. For example, some judges compared gas and oil to coal and iron, treating them as stationary minerals.¹² Others, reasoning that gas and oil move underground with considerable freedom, likened them to wild beasts, "minerals *ferae naturae*," that were not subject to ownership in place, but become the property of the man who is first to control them and to reduce them to his possession.¹³ Still a third view expressed was that oil and gas were similar to percolating, or underground waters,¹⁴ and that the law applicable to such waters should be applied to them.¹⁵

Present scientific knowledge clashes in varying degrees with all of these theories, yet their influence is still apparent in our legal thinking,¹⁶ as can be seen from a typical conglomerate statement of the law

¹¹ Veasey, "Law of Oil and Gas," 18 MICH. L. REV. 445, 455 (1920).

¹² "Petroleum or mineral oil in place is as much a part of the realty as timber, coal, iron ore, or salt water." *Williamson v. Jones*, 39 W. Va. 231, 19 S. E. 436, 25 L. R. A. 222 (1894).

¹³ *Westmoreland & Cambria Gas Co. v. De Witt*, 130 Pa. St. 235, 18 Atl. 724, 5 L. R. A. 731 (1889); *Ohio Oil Co. v. Indiana*, 177 U. S. 190, 20 Sup. Ct. 585, 44 L. ed. 729 (1900); *Brown v. Spilman*, 155 U. S. 665, 15 Sup. Ct. 245, 39 L. ed. 304 (1894).

¹⁴ *Dark v. Johnston*, 55 Pa. St. 164 (1867); *Peoples' Gas and Oil Co. v. Tyner*, 131 Ind. 277, 31 N. E. 59 (1892). See 85 CENT. L. J. 261 (1917).

¹⁵ For general references that discuss these various views and the results to be drawn see: 48 CENT. L. J. 470 (1899); 60 CENT. L. J. 465 (1905); 18 MICH. L. REV. 445 (1920); 6 TEX. L. REV. 125 (1928).

¹⁶ An example of the effect of these early cases on our present law is found in the holdings of the various states as to the nature of the interest that the owner of the surface has in the oil below. The so-called "Indiana rule," or absolute property theory, enunciated in *Peoples' Gas and Oil Co. v. Tyner*, 131 Ind. 277, 31 N. E. 59 (1892), that gives the owner of the fee an absolute title to the oil and gas in place is a result of an acceptance by the court of the analogy of oil and gas to minerals such as coal. The contrary view, or qualified property theory, adopted by the United States Supreme Court in *Ohio Oil Co. v. Indiana*, 177 U. S. 190, 20 Sup. Ct. 585, 44 L. ed. 729 (1900), to the effect that the owner in fee has no absolute title to oil and gas in place, but the right only to drill for oil and gas, coupled with the further right of absolute ownership in the substance when reduced to possession by the operations, is a result of the mineral *ferae naturae* view. See *Simonton*, "Has a Landowner any Property in Oil and Gas in Place?" 27 W. VA. L. Q. 281 (1921); see also 63 U. PA. L. REV. 471 (1915); 29 YALE L. J. 174 (1919).

The present status of the two rules is as follows: In the following jurisdictions the owner of a tract of land is the owner of the oil and gas beneath it—*Arkansas*, *Bodcaw Lumber Co. v. Goode*, 160 Ark. 48, 254 S. W. 345, 29 A. L. R. 578 (1923); *Indiana*, *Rupel v. Ohio Oil Co.*, 176 Ind. 4, 95 N. E. 225, Ann. Cas. 1913E 836 (1911); *Kansas*, *Kansas Natural Gas Co. v. Neosho County*, 75 Kan. 335, 89 Pac. 750 (1907), but see *Marrs v. City of Oxford*, 32 F. (2d) 134, 67 A. L. R. 1336 (1929); *Montana*, *Gas Products Co. v. Rankin*, 63 Mont. 372, 207 Pac. 993,

as it exists today.¹⁷

“The owner of the land has the right to recover from his land all the oil that can be produced therefrom, regardless of whether that oil was originally in place in his ground or has been caused to flow from the ground of others by his action in opening

24 A. L. R. 294 (1922); *Ohio*, *Kelly v. Ohio Oil Co.*, 57 Ohio St. 317, 49 N. E. 399, 39 L. R. A. 765 (1897); *Pennsylvania*, *Erie v. Commission*, 278 Pa. 512, 123 Atl. 471 (1924); *Tennessee*, *Murray v. Allard*, 100 Tenn. 100, 43 S. W. 355, 39 L. R. A. 249 (1897); *Texas*, *Waggoner Estate v. Sigler Oil Co.*, 118 Tex. 509, 19 S. W. (2d) 27 (1929); and *West Virginia*, *Musgrave v. Musgrave*, 86 W. Va. 119, 103 S. E. 302, 16 A. L. R. 564 (1920).

In the following jurisdictions the owner of a tract of land does not own the oil and gas which lie beneath it, but only has the right to take such minerals by operations conducted on his land: *Illinois*, *Watford Co. v. Shipman*, 233 Ill. 9, 84 N. E. 53 (1908); *Kentucky*, *Louisville Gas Co. v. Ky. Heating Co.*, 117 Ky. 71, 77 S. W. 368, 70 L. R. A. 558 (1903); *Louisiana*, *Frost-Johnson Co. v. Stallings' Heirs*, 150 La. 756, 91 So. 207 (1920); *New York*, *Hathorne v. Natural Carbonic*, 194 N. Y. 326, 87 N. E. 504, 23 L. R. A. (N. S.) 436 (1909); *Oklahoma*, *Julian v. Capshaw*, 145 Okla. 237, 292 Pac. 841 (1930); and *the United States*, *Ohio Oil Co. v. Indiana*, 177 U. S. 190, 20 Sup. Ct. 576, 44 L. ed. 729 (1900).

California has taken what is probably the most sensible view. In *People v. Associated Oil Co.*, 211 Cal. 93, 105, 294 Pac. 717, 723 (1930), the court concluded a discussion of the various property rules as follows:

“Whatever refinements may be suggested as to the definition of the nature of the property right in gas and oil beneath the surface and uncaptured, we are entirely satisfied that the waste of these natural resources may be regulated and the unreasonable waste thereof may be prohibited in the exercise of the police power of the state. . . .”

“The long discussion over the nature of property in oil and gas has resulted in two schools of thought. One school insists that oil and gas are not capable of ownership in place, but are susceptible only of a temporary, transient, usufructuary use. The other argues that oil and gas are substances inhering in the subterranean sands and belonging to the owner of the soil. The ultimate result must be the same, whatever basic postulate is accepted.”—WILLIS, INTRODUCTION TO THORNTON, OIL AND GAS, 1932 ed. See also *Danciger Refining Co. v. Railroad Comm.* (Texas, 1932) 47 S. W. (2d); SUMMERS, OIL AND GAS 135 (1927).

For the above reasons, throughout the balance of this discussion the writer will make no attempt to distinguish between the two theories of ownership.

¹⁷ Report of Committee of Nine, p. 4 (1928).

In all jurisdictions, irrespective of the rule as to ownership of oil and gas in place, and where no question of police power or waste is presented, it is held that no cause of action exists in a landowner when a well on the neighboring tract drains oil or gas from his lands, and such operations cannot be enjoined, at least as long as the operations are conducted in accordance with sound operating practices and are not designed to injure maliciously the owner of neighboring lands. *Hermann v. Thomas* (Tex. Civ. App. 1912) 143 S. W. 195; *Peterson v. Grayce Oil Co.* (Texas 1931) 37 S. W. (2d) 367; *State v. Ohio Oil Co.*, 150 Ind. 21, 49 N. E. 809, 47 L. R. A. 627 (1898); *Louisville Gas Co. v. Ky. Heating Co.*, 132 Ky. 435, 111 S. W. 374 (1908); *Higgins Co. v. Guaranty Co.*, 145 La. 233, 82 So. 206, 5 A. L. R. 411 (1919); *Kelly v. Ohio Oil Co.*, 57 Ohio St. 317, 49 N. E. 399, 39 L. R. A. 765 (1898); *Hague v. Wheeler*, 157 Pa. St. 324, 27 Atl. 714, 22 L. R. A. 141

and operating a well on his property. There is no 'property', in the strict sense, in the oil until it is recovered any more than there is in underground waters, and the oil belongs to him who first gets it."

The result of existing legal rules is to force a mad competitive race of owners to extract the oil. Immediate extraction is the price of ownership. Rate of extraction is controlled, not by the rate of consumption or demand, but by the rate of discovery. To save the oil under his own property the surface owner is forced to drill more and more off-set wells in order that he may equal or exceed his neighbor's production.¹⁸ In fact, if he is operating under a lease, the law places this burden upon him and failure to comply therewith is ground for forfeiture of the lease.¹⁹

The methods of competitive production are wasteful in the extreme. Too many wells are drilled.²⁰ Production motivated by a race to get all one can before one's neighbor sinks his wells, means that market demand is ignored. Oil has to be stored on the surface, which could have been better stored in the ground. This means expenditure for storage tanks, and excessive evaporation losses, as well as the risk of fire.²¹ Gas is wasted. Competitive production is not concerned with the gas pressure in other persons' wells, or with the evils of by-passing oil under neighboring lands. The first man in the field will get more than his proportional share of the oil, largely by drawing on his neigh-

(1893); *Barnard v. Monongahela Co.*, 216 Pa. St. 362, 65 Atl. 801 (1907); *Gain v. South Penn Oil Co.*, 76 W. Va. 769, 86 S. E. 883, L. R. A. 1916B 1002 (1915); and *Acme Oil Co. v. Williams*, 140 Cal. 681, 74 Pac. 296 (1903). See SUMMERS, OIL AND GAS, sec. 138 *et seq.* (1928); THORNTON, LAW OF OIL AND GAS, sec. 111 (a) *et seq.* (1925); and address by W. S. Farish, What the Oil Industry Needs, pp. 9-12 (May 19, 1932).

¹⁸ "Where proportional taking from the wells in flush pools is not enforced, operators who do not have physical or market outlets are forced to produce to capacity in order to prevent draining to others having adequate outlets." Butler, J., in *Champlin Refining Co. v. Corp. Comm.* (U. S. 1932) 7 U. S. Daily 516, May 17, 1932.

See also: Oliver, "Oil Law Responsible for Overproduction and Waste," 55 A. B. A. REP. 712, 720 (1930).

¹⁹ Veasey, 18 MICH. L. REV. 445 at 455 (1920).

²⁰ Oliver, 55 A. B. A. REP. 719, *supra*, cites the Oklahoma City Pool as an example: 765 wells were drilled or started, costing \$125,000,000. These developed a potential production 20 times that which could be disposed of, so that the wells are permitted to flow approximately 5% of the time.

²¹ *Champlin Refining Co. v. Corporation Commission* (U. S. 1932) 7 U. S. Daily 516, May 17, 1932; *Danciger Oil and Refining Co. v. Railroad Commission* (Tex. Civ. App. 1932) 47 S. W. (2d). See also note 112.

bor's gas pressure.²² Another waste results from the location of wells. Normally, wells drilled at the crest or dome of the pool will produce nothing but gas. The wells "down structure," which penetrate oil sands, will be oil producers. A well on the dome, however, as it produces nothing but gas means a loss of oil which this gas would otherwise have carried from wells "down structure." Thus, from an engineering and conservation standpoint it would be preferable to close the dome well altogether as a producer, and to use it for the purpose of pumping gas back into the pool so as to keep the pressure uniform, and make possible the maximum recovery of oil from the reservoir. (See Plates I and II, below). However, a gas well has commercial value. It seems clear that the surface owners of the dome should not be forced without compensation to close their gas wells for the benefit of the remaining owners. Still, it seems equally unfortunate, from a public point of view, that great losses of oil should be permitted to occur because of the production of free gas.²³

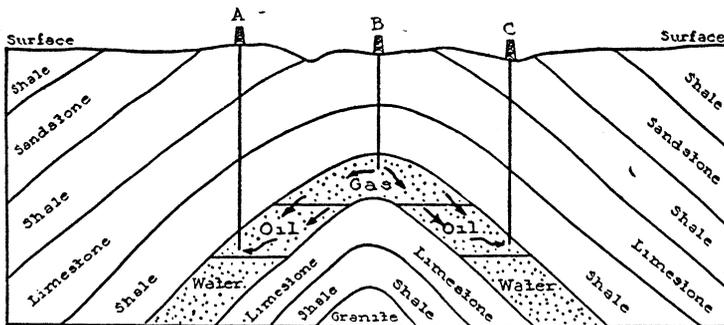


PLATE I

Plate I shows a cross-section of the typical oil pool in its virgin state, and "shows the ideal method of developing an oil pool. For efficient extraction wells through which the reservoir contents are to be extracted should be located far down on the slope towards the water line. Wells drilled into the free gas area should be utilized only for returning gas to the reservoir—not for taking it out of the reservoir. When wells "A" and "C" down the slope are open, reducing pressure at those points, the gas content of the reservoir expands, occupying

²² See comment of court in *Bandini Petroleum Co. v. Superior Court*, 284 U. S. 8, 52 Sup. Ct. 103, 76 L. ed. 123 (1931), whereby the court takes judicial notice of the fact that less than 25% of the oil was being recovered.

²³ Hardwicke, "Legal Aspects of Gas Conservation in Oil Production," *AM. PETROLEUM INST. BUL.* 207, p. 23 (1931). *OIL AND GAS J.*, p. 17, June 25, 1931.

more room, and drives oil ahead of it through the sand pores to wells "A" and "C" and through them to the surface. Some gas comes out of the reservoir with the oil and this should be separated and forced back into the free gas area of the reservoir through well "B" in order that reservoir pressure might be maintained."

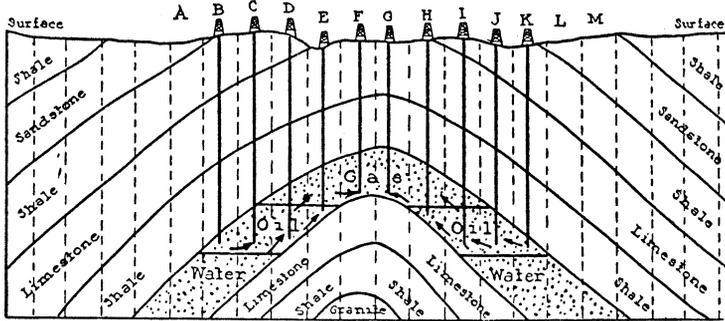


PLATE II

Plate II is "a cross-section that illustrates the characteristic method of developing United States oil fields. . . . It will be noted . . . that wells drilled on tracts "F" and "G" penetrate the gas zone only; that wells drilled on tracts "E" and "H" penetrate that part of the reservoir that contains very little oil and much gas, also that under the theory of ideal operation (as suggested by Plate I) the only points from which oil and gas should be extracted from this reservoir would be through wells "B", "C", "J", and "K." However, as a matter of actual practice in the United States, owners of tracts "F" and "G" extract gas directly through wells "F" and "G" in the hope that oil might migrate from other points in the reservoir to wells "F" and "G" and be recovered through them to the credit of "F" and "G" notwithstanding there was originally no oil under their lands. In like manner, "E" and "H", having wells that produce small quantities of oil and large quantities of gas, permit their wells to flow freely in the hope that gas will become exhausted and oil will migrate from other portions of the reservoir to these wells and be recovered through them to the credit of "E" and "H." "

(Plates and explanatory material are reprinted with permission from "Oil and Gas Law Responsible for Overproduction and Waste," 55 A. B. A. Rep. 712, 714-717 (1930), by Mr. Earle Oliver, Chairman, American Institute of Mining and Metallurgical Engineers Committee on Unit Operation of Oil Pools.)

Thus it can be seen that we are confronted with two problems: (1) to protect the public against the waste of an exhaustible natural resource, in other words a problem of conservation; and (2) to secure to the respective owners of the land over the oil pool a fair distribution of the resources of that pool without forcing them into a ruinous competitive race of exploitation; this we may fairly term a problem of regulation. The remainder of this paper will be devoted to legislative means, existing or proposed, for meeting these problems.

II

EXISTING LEGISLATION

Our legislatures have already passed not a few statutes designed to meet particular needs of the industry. Such enactments can be roughly divided into five general classes:

I. *Statutes Governing the "Casing" and "Plugging" of Wells*

In 1878 Pennsylvania passed the first legislative enactment²⁴ designed to regulate the development of gas and oil. Operators, upon abandoning their wells, were required to plug them in order to prevent the escape of the water that might be impregnated with salt or other substances which would make it unfit for use. In 1879 the New York legislature enacted a conservation statute²⁵ identical with the one adopted in Pennsylvania. Ohio enacted its first conservation law in 1883.²⁶ This statute brought in a new element in that it required the operator, before drilling into oil-bearing sand, to case wells so as to prevent fresh water from penetrating the oil sand. Soon this general type of enactment was to be found in all the oil-producing states.²⁷ These statutes have been epitomized by Mr. Veasey:²⁸

"(1) Before drilling into the production formation, an operator is required to case off all water. (2) Before abandoning an oil or gas well, the operator is required to plug the well in a specified manner, frequently under the direction and supervision

²⁴ Purdon's Pa. Stats., ann., title 58, sec. 1, p. 290. This is the present Pennsylvania statute, passed in 1891, which simply broadens the application of the 1878 act.

²⁵ N. Y. Sess. Laws, 1879, c. 217.

²⁶ Ohio Acts of 1883, p. 190.

²⁷ This legislation is conveniently summarized in Federal Oil Conservation Board, State and Federal Conservation Laws and Regulations Relating to Production of Oil and Gas 278 (1931). See also, THORNTON, OIL AND GAS, 5th ed., vols. 4 and 5 (1932).

²⁸ Veasey, "Legislative Control of the Business of Producing Oil and Gas," 52 A. B. A. REP. 577, 590 (1927).

of a state official, to prevent the penetration of the producing strata by water. (3) A violation of the statute is declared a misdemeanor and punished accordingly. (4) As a further remedy the owner or lessee of adjacent or neighboring land underlaid by the same deposit may enter and plug the well if the operator controlling the same fails or neglects to do so, the statute providing that in such circumstances the expenses of plugging may be recovered from the delinquent operator."

In several jurisdictions prosecutions under these statutes have been upheld.²⁹

Generally the constitutionality of these statutes has been taken for granted.³⁰ Such enactments seem clearly valid expressions of the police power of the state.³¹ They are regulatory in their nature and seem to be designed to abate private nuisances in that they forbid one owner to use his property to the injury of his neighbor.

2. *Statutes Designed to Prevent the Wasting of Gas and Oil*³²

In 1893, Indiana, as a result of an unjustifiable practice of producers while drilling to greater depths for oil to permit gas to go to waste, passed a statute³³ that provided that neither oil nor gas should be permitted to flow or escape into the open air for a period longer than two days following the striking of the oil. After this period, the substances

²⁹ *Verland Oil & Gas Co. v. Walker*, 100 Okla. 258, 229 Pac. 137 (1924); *State v. Lebow*, 128 Kan. 715, 280 Pac. 773 (1929). See also: *Southwestern Oil & Gas Co. v. Kimball Oil & Develop. Co.* (Tex. Civ. App. 1920) 224 S. W. 1111.

³⁰ *State v. Lebow*, 128 Kan. 715, 280 Pac. 773 (1929), however, specifically raises the question of constitutionality and holds the Kansas act constitutional.

³¹ In *Bandini Petroleum Co. v. Superior Ct.*, 284 U. S. 8, 52 Sup. Ct. 103, 76 L. ed. 123 (1931), Hughes, speaking for the court, said: "If the statute be viewed as one regulating the exercise of the correlative rights of surface owners with respect to a common source of supply of oil and gas, the conclusion that the statute is valid upon its face . . . is fully supported by the decisions of this court." Apparently the Supreme Court is willing to go a long way with this type of statute.

³² In the absence of statute does the common law afford a remedy for waste? For example, if A permits a gas well to waste into the air, does B, an adjoining property owner, have a remedy, either in law or in equity? The cases in point are in conflict. The leading case denying B a remedy is *Hague v. Wheeler*, 157 Pa. St. 324, 27 Atl. 714, 22 L. R. A. 141 (1893). And see *Jones v. Forest Oil Co.*, 194 Pa. St. 379, 44 Atl. 1074 (1900). Cases *contra*, giving relief: *Mfg. Gas & Oil Co. v. Indiana Natural Gas & Oil Co.*, 155 Ind. 461, 57 N. E. 912, 50 L. R. A. 768 (1900); *Louisville Gas Co. v. Ky. Heating Co.*, 117 Ky. 71, 77 S. W. 368, 70 L. R. A. 588 (1903); and *Higgins Oil & Fuel Co. v. Guaranty Oil Co.*, 145 La. 233, 82 So. 206, 5 A. L. R. 411 (1919).

³³ Ind. Sess. Laws, 1893, p. 300, Burns' Stats., 1926, sec. 4802.

were required to be safely and securely confined in the well, pipes, or other receptacles. The constitutionality of this statute was sustained by the United States Supreme Court in what is now considered to be the most celebrated case in the law of oil and gas—*Ohio Oil Co. v. Indiana*.³⁴

The supreme court of Indiana had held that the statute was constitutional,³⁵ and that it was not an unwarranted interference with private property, as the title to such gas or oil did not vest in any private owner until it had been reduced to actual possession. The court concluded its decision with this language:

“We cannot have the blessings of natural gas unless the measures for the preservation thereof in this state are enforced against the lawless. We therefore conclude that the facts stated in the complaint make a case of *public nuisance* which the appellant has a right to have abated by an injunction and that the complaint states facts sufficient to constitute a cause of action.”

On appeal to the Supreme Court of the United States,³⁶ Mr. Justice White, who delivered the opinion, committed the court to a recognition of the fugacious character of oil and gas, and held that the surface owners have a co-equal right in the common source of supply.

“It follows, from the essence of their right and from the situation of things as to which it can be exerted, that the use by one of his power to seek to convert a part of the common fund to actual possession may result in undue proportions being attributed to one by the possessors of the right, to the detriment of the others, or by waste by one or more, to the annihilation of the rights of the remainder. Hence it is that the legislative power, from the peculiar nature of the right and the objects for which it is exerted, can be manifested for the purpose of protecting all the collective owners, by securing a just distribution, to arise from the enjoyment by them of their privilege to reduce to possession and to reach the like end by preventing waste. . . . [This] is a statute protecting *private property* and preventing it from being taken by one of the common owners without regard to the enjoyment of the others.”³⁷

³⁴ *Ohio Oil Co. v. Indiana*, 177 U. S. 190, 20 Sup. Ct. 585, 44 L. ed. 729, 47 L. R. A. 625 (1900).

³⁵ *State v. Ohio Oil Co.*, 150 Ind. 21, 49 N. E. 809, 47 L. R. A. 627 (1898) (italics ours).

³⁶ *Ohio Oil Co. v. Indiana*, 177 U. S. 190, 210 (1900) (italics ours).

³⁷ It is well, perhaps, at this point, to call the attention of the reader to the tend-

The two cases just considered leave some doubt as to the constitutional justification of this legislation, whether it is to be justified as a regulation of the rights of the claimants to the oil, as a conservation measure, or both. However, a more recent Supreme Court case, *Walls v. Midland Carbon Co.*,³⁸ has interpreted the language used by the Supreme Court to mean both, with the result that it is fair to conclude that this type of legislation can be sustained today upon either basis.

The "wasting statutes" are now firmly entrenched in the oil-producing states. Recent years have shown a marked broadening in this type of legislation. A common device is to enact a general prohibition against waste, followed by a rather detailed definition of what constitutes waste, and to intrust the enforcement of the statute to some state agency.³⁹ This is illustrated by the Rules and Regulations of the Department of Conservation of Louisiana:⁴⁰

"Rule 1. Natural gas and crude oil or petroleum shall not be produced in the State of Louisiana in such a manner and under such conditions as to constitute waste.

"Rule 2. The term 'waste' as used herein, in addition to its ordinary meaning, shall include economic waste, underground waste, surface waste and waste incident to the production of crude oil or petroleum in excess of transportation, storage or marketing facilities."

Oklahoma, Arkansas, Texas, Kansas, California, Michigan, Montana, and Wyoming have somewhat similar statutes.⁴¹ California has made

ency of the courts to shift back and forth on the question of whether the particular statute is to be justified upon the grounds of regulation—a balancing of the correlative rights of the common owners—or upon the ground of conservation—a recognition of the public interest involved. The vacillating character of the decisions is shown clearly in the two cases just discussed. In the state court the interest of the public—conservation—was the factor emphasized. In the Supreme Court the public interest was apparently ignored.

³⁸ *Walls v. Midland Carbon Co.*, 254 U. S. 300, 317, 41 Sup. Ct. 118, 122, 65 L. ed. 276 (1920). Mr. Justice McKenna, in interpreting the holding in *Ohio Oil Co. v. Indiana*, said, [there] "it was decided that . . . the state may interpose its power to prevent a waste or disproportionate use of either oil or gas by a particular owner, in order to conserve the equal right of other owners and advance the public interest."

See also: *Lindsley v. Natural Carbonic Gas Co.*, 220 U. S. 61, 31 Sup. Ct. 337, 55 L. ed. 369 (1911); *Commonwealth v. Trent*, 117 Ky. 34, 77 S. W. 390 (1903); *Hague v. Wheeler*, 157 Pa. St. 324, 27 Atl. 714 (1893).

³⁹ The use of the administrative tribunal is discussed in detail on pp. 1186 ff., *infra*.

⁴⁰ THORNTON, *LAW OF OIL AND GAS*, 1925 ed., p. 1982. (See Act 268 of 1918, p. 513).

⁴¹ Federal Oil Conservation Board, *State and Federal Conservation Laws and*

“the blowing, release or escape of natural gas into the air . . . prima facie evidence of unreasonable waste.”⁴² And this presumption has been upheld by the United States Supreme Court.⁴³

3. *Statutes Designed to Restrict the Purposes for Which Gas May Be Used*⁴⁴

In several of the states legislation is to be found that forbids the burning of natural gas in flambeau lights.⁴⁵ The first case to test this type of enactment, which was also the first case to raise the constitutionality of any oil statute, was *Townsend v. State*.⁴⁶ The Indiana flambeau light prohibition was attacked on the ground that it was a deprivation of property without compensation. The court, in upholding the statute, asserted that it did not prevent a landowner from exercising his legal privilege of reducing the gas under his land to possession, and because of the mutual interests of landowners and the interest of the public generally in the use of oil and gas for the greatest economic good, it was clearly within the police power of the state. Analogies were drawn from the game laws showing that their purpose was to restrain the taking of game so that the community generally might receive a greater benefit in the end.⁴⁷

Another type of statute that is apparently gaining popularity is the prohibition⁴⁸ or restriction⁴⁹ placed upon the use of gas for the manu-

Regulations Relating to Production of Oil and Gas, p. 284 (1931). “Economic Waste,” however, is not included in all of the statutes. Texas has a specific provision excepting economic waste.

⁴² California: Act of June 12, 1931 (Laws 1931, c. 971, sec. 8b).

⁴³ *Bandini Petroleum Co. v. Superior Ct.*, 284 U. S. 8, 52 Sup. Ct. 103, 76 L. ed. 123 (1931).

⁴⁴ Various types of “wasteful utilization” statutes are found in the following jurisdictions: United States, Arkansas, California, Colorado, Indiana, Kansas, Louisiana, Michigan, Montana, New Mexico, Ohio, Oklahoma, Texas, West Virginia, and Wyoming. Federal Oil Conservation Board, *State and Federal Conservation Laws and Regulations Relating to Production of Oil and Gas* 288 (1931).

⁴⁵ Prohibitions as to the use of natural gas in flambeau lights are found in: Arkansas, Indiana, Kansas, Louisiana, Michigan, Ohio, Oklahoma, Texas. *Ibid.*, 288.

⁴⁶ *Townsend v. State*, 147 Ind. 624, 47 N. E. 19, 34 L. R. A. 294 (1897).

⁴⁷ As to game laws, see: *Geer v. Conn.*, 161 U. S. 519, 16 Sup. Ct. 600, 40 L. ed. 793 (1896); *Windsor v. State*, 103 Md. 611, 64 Atl. 288, 12 L. R. A. (N. S.) 869 (1906) (oyster laws).

⁴⁸ *Wyoming*, Stats. of 1919, p. 169. *Arkansas* (carbon-black manufacture is prohibited except from casing-head gas from an oil well), Act 664 of 1923, secs. 1, 2, 7; rule 2e. *Montana*, Laws of 1921, p. 1306, sec. 3551—held unconstitutional in *Gas Products Co. v. Rankin*, 63 Mont. 372, 207 Pac. 993, 24 A. L. R. 294 (1922).

⁴⁹ *Louisiana*, Act. 268 of 1918, p. 513. Note general authority given Dep’t. of Conservation to limit use of gas in general in section 3. *Texas*, Rule No. 41 of the

facture of carbon black (lamp black). The Wyoming act, for example, prohibits the use of natural gas for the manufacture of carbon without using the heat generated thereby for other industrial or domestic purposes. The constitutionality of this statute was upheld by the United States Supreme Court in *Walls v. Midland Carbon Co.*⁵⁰ The Court, after considering the fact "that the inefficiency of the process was very high," giving a carbon recovery of less than 5%, held,

"There is great disproportion between the gas and the product, and necessarily there was presented to the judgment and policy of the State a comparison of the utilities which involves, as well, the preservation of the natural resources of the State and the equal participation in them by the people of the State. And the duration of this utility was for the consideration of the state and we do not think that the State was required by the Constitution of the United States to stand idly by while these resources were disproportionately used, in such way that tended to their depletion, having no power of interference."

The case has been rather severely criticized by Mr. Veasey.⁵¹ He approved of a subsequent Montana decision⁵² that reached a contrary result on substantially the same statute. Mr. Veasey characterizes laws regulating the use of gas as "instances of legislative fiat declaring the use to which private property may be put." He concludes his point with this remark:

"The petroleum industry, on both economic and constitutional grounds should never lend its support to a legislative enactment establishing a preferential use for its product. To act otherwise would be to sanction paternalism, submit to discrimination,

Railroad Commissioner, Thornton, p. 2385. *Oklahoma*, Rule of Corp. Comm., Thornton, p. 2146.

⁵⁰ *Walls v. Midland Carbon Co.*, 254 U. S. 300, 41 Sup. Ct. 118, 65 L. ed. 276 (1920). See also: *Quinton Relief Oil and Gas Co. v. Corp. Comm.*, 101 Okla. 164, 224 Pac. 156 (1924).

⁵¹ Veasey, "Legislative Control of the Business of Producing Oil and Gas," 52 A. B. A. Rep. 577, 618 (1927).

⁵² *Gas Products Co. v. Rankin*, 63 Mont. 372, 207 Pac. 993, 24 A. L. R. 294 (1922). The court held that the surface owner has an absolute property in oil and gas *in situ*, justifying this result on the ground that Montana has adopted the common law of England. It denied the *Walls* case on the ground that oil and gas is not a subject matter in which the public has an interest. As to this position Professor SUMMERS, in his text on OIL AND GAS, 103 (1927) comments as follows: "This is of course a blind denial of the economic facts of oil and gas, which cannot be effectually disproved."

and approve a legislative tendency which, if not arrested, may lead to the utter destruction of the property guarantees of the federal and state constitution.”

The correct reply to this criticism, in the estimation of the writer, is found in an opinion of the supreme court of Kentucky, in *Commonwealth v. Trent*,⁵³ an indictment for wilful waste of gas under the pretense of manufacturing lamp black:

“The position that the defendants may do what they please with the gas after it is reduced to possession by them cannot be maintained. For as the gas goes out of the gasometer, its place is taken by other gas coming from the well. Property is the creation of the law. The use of property may be regulated by law. The legislature may protect from waste the natural resources of the state, which are the common heritage of all. The right of the owner of property to do with it as he pleases is subject to the limitation that he must have due regard for the rights of others. To allow the storehouse of nature to be exhausted by the waste of gas would be to deprive the state and its citizens of the many advantages incident to its use. That the legislature may prevent this is well settled.”

In other words, it seems that a fair answer to the objection to this type of legislation is that the use to which gas is put is so connected with its effective conservation that reasonable restrictions may be placed upon its use.⁵⁴

4. *Statutes Designed to Regulate the Manner of Taking, Storing, and Operation*

The earliest legislation within this general classification made it unlawful to use any pump or other artificial process to increase the flow of natural gas.⁵⁵ The constitutionality of a statute of this sort was raised by *Manufacturers' Gas and Oil Co. v. Indiana Natural Gas and Oil Co.*⁵⁶ One gas company sought to restrain another from pumping

⁵³ *Commonwealth v. Trent*, 117 Ky. 34, 46, 77 S. W. 390, 393 (1903).

⁵⁴ It seems quite clear that statutes placing a restriction upon the use of gas are to be justified on the basis of conservation of a natural resource. True, they have an element of regulation, for if A is denied the right to take gas for the manufacture of lamp black, it probably follows that there will be a proportionately larger share left in the common pool for B.

⁵⁵ Acts, Indiana, 1891, c. 74, p. 89. Kan. Rev. Stat., 1923, sec. 55-113.

⁵⁶ *Manufacturers' Gas and Oil Co. v. Indiana Natural Gas and Oil Co.*, 155 Ind. 461, 57 N. E. 912, 50 L. R. A. 768 (1900).

gas from its wells, alleging that such pumping had the effect of reducing the back pressure in the oil and gas reservoir to such an extent that it was permitting salt water to enter and destroy the whole gas field. The principal defense was that the Indiana statute deprived a landowner of his property in the gas without due process of law or just compensation. The court upheld its constitutionality upon the same theories of public control over private rights as were expressed in the *Ohio Oil* case.⁵⁷

The most famous case dealing with this phase of the problem is *Lindsley v. Natural Carbonic Gas Co.*⁵⁸ A New York statute⁵⁹ forbade the wasteful or unreasonable pumping from wells, bored into the rock of a certain class, of mineral water having an excess of carbonic acid gas, for the purpose of extracting or vending such gas as a commodity separate from the water in which it occurred, provided that the mineral water was drawn from a source of supply common to other surface owners. Appellant insisted that his property right was being taken away without due process of law; in fact, he claimed that he was being deprived of the use of the waters entirely since the waters could only be reached by means of pumps or other artificial appliances. Mr. Justice Van Devanter, speaking for the Supreme Court, analyzed the problem as follows:

“The mineral water and carbonic acid gas exist in a commingled state in the underlying rock and neither can be drawn out without the other. They are of value in their commingled form and also when separated, but the greater demand is for the gas alone. Influenced by this demand, some surface owners, having wells bored or drilled into the rock, engage in extensive pumping operations for the purpose of collecting the gas and vending it as a separate commodity. Usually where this is done an undue proportion of the commingled waters and gas is taken from the common supply and a large, if not the larger, portion of the water from which the gas is collected is permitted to run to waste. Thus these pumping operations generally result in an unreasonable and wasteful depletion of the common supply and in a corresponding injury to others equally entitled to resort to it. It is to correct this evil that the statute was adopted. . . . That the

⁵⁷ *Ohio Oil Co. v. Indiana*, 177 U. S. 190, 20 Sup. Ct. 585, 44 L. ed. 729 (1900).

⁵⁸ *Lindsley v. Natural Carbonic Gas Co.*, 220 U. S. 61, 31 Sup. Ct. 337, 55 L. ed. 369, Ann. Cas. 1912C 160 (1911).

⁵⁹ N. Y. Laws, 1908, vol. 2, c. 429, p. 1221.

State, consistent with due process of law, may do this is a necessary conclusion to be drawn from *Ohio Oil Co. v. Indiana*.”

Although this is not an “oil case,” the problem is so closely analogous that it can be treated for all practical purposes as an authority in oil law. It is constantly cited as such.

The present trend in this legislation is for the statute to give a state agency the power to establish rules concerning the use of pumps. Thus, Rule 29 of the Oklahoma Corporation Commission⁶⁰ forbids the use of vacuum pumps. Rule 40 of the Texas Railroad Commission⁶¹ does the same.⁶²

This delegation of power to an administrative tribunal is characteristic of a general trend in the larger oil-producing states. Many of them have given to a state agency rather wide powers to handle the administrative problems that are involved in state control. The Texas statute serves as a good example:⁶³

“The (Railroad) Commission shall make and enforce rules and regulations for the conservation of oil and gas:

“1. To prevent the physical waste, as hereinbefore defined, of oil and gas in drilling and producing operations and in the storage, piping and distribution thereof.

“2. To require dry or abandoned wells to be plugged in such a way as to confine oil, gas and water in the strata in which they are found and to prevent them escaping into other strata.

⁶⁰ THORNTON, *LAW OF OIL AND GAS* 2146 (1925).

⁶¹ Except in certain instances which the rule specifies. THORNTON, *LAW OF OIL AND GAS* 2385 (1925). Rule 40 of the Texas Railroad Commission has recently been upheld by the Texas civil court of appeals in *Peterson v. Grayce Oil Co.* (Texas 1931) 37 S. W. (2d.) 367. See 10 TEX. L. REV. 207 (1932).

⁶² La. Act 268 of 1918, p. 513, gives the Department of Conservation the power to forbid the use of pumps. *Michigan*: Use of vacuum pumps, except for casing-head gas or depleted field, is prohibited. Regulation 26. *Arkansas*: (similar to Michigan) Rule 30.

⁶³ Act 6029 R. C. S. of Texas of 1925, as amended, Acts 1931, 42d Leg., 1st Called Session, c. 26, sec. 15, p. 54. The following states, in addition to Texas, have established administrative agencies with wide powers: *California*, see Cal. Laws for Conservation of Petroleum and Gas, 1921, sec. 1-14; *Louisiana*, Act. 250 of 1920, 481; *Oklahoma*, Snyder's Compiled Laws, art. viii, Oil and Gas.

Lesser state agencies have been created in *Arkansas* (a state gas inspector), *Colorado* (state oil inspector), *Indiana* (natural gas supervisor), *Kansas* (county gas inspector), *Michigan* (Director of Conservation), *Montana* (Railroad Commission), *New Mexico* (State geologist), *Oregon* (county inspector), *Ohio* (mining inspectors), and *Wyoming* (State geologist). See THORNTON, *LAW OF OIL AND GAS*, Appendix 1925 ed. See also: Federal Oil Conservation Board, *State and Federal Conservation Laws and Regulations Relating to Production of Oil and Gas* 268 (1931).

"3. For the drilling of wells and preserving a record thereof.

"4. To require such wells to be drilled in such manner as to prevent injury to the adjoining property.

"5. To prevent oil and gas and water from escaping from the strata in which they are found into other strata.

"6. To establish rules and regulations for shooting wells and for separating oil from gas.

"7. To require records to be kept and reports made by oil and gas drillers, operators, and pipe line companies and by its inspectors.

"8. It shall do all things necessary to prevent physical waste of oil and gas as hereinbefore defined whether here enumerated or not and shall establish such rules and regulations as will be necessary to carry into effect this law and to conserve the oil and gas of this State by preventing physical waste as herein defined."⁶⁴

The value of a trained board to administer the policies of the state is apparent. A uniform, intelligent administration should help materially. The suspicion that the public frequently has of an industry controlled by large operating units will be allayed to a considerable extent if the people believe that the state agency is truly guarding their interests. Thus the industry will eventually become more stable and the public confidence and interest gained will undoubtedly give expression to a more intelligent solution of the problem of oil.⁶⁵

One particular function generally given to such an agency warrants further consideration. Paragraph four of the Texas Act, *supra*, gives the railroad commission power "To require such wells to be drilled in such manner as to prevent injury to the adjoining property." Pursuant to this statute the commission adopted a rule which provided that

⁶⁴ One of the stumbling blocks to the creation of a state administrative tribunal is the troublesome question of delegation of legislative power, and the sufficiency of the standard governing the commission. This is obviously a problem of statute draftsmanship. One wishing to consider this aspect of the problem should read the opinion in *Bandini Petroleum Co. v. Superior Ct.*, 284 U. S. 8, 52 Sup. Ct. 103, 76 L. ed. 123 (1931), where the court holds that the delegation of power to prohibit "unreasonable waste" of gas was a standard sufficiently definite.

⁶⁵ In February, 1928, A. W. Walker, Jr., of the University of Texas, made the following statement: "It is a splendid tribute to the fair and efficient work of the Railroad Commission that the appellate courts have in only one case been directly asked to pass upon the constitutionality of any particular rule or regulation." Walker, "Fee Simple Ownership of Oil and Gas in Texas," 6 TEX. L. REV. 125, 138 (1928).

no well be drilled nearer than 300 feet to any completed well or within 150 feet of any property line.⁶⁶ In *Oxford Oil Co. v. Atlantic Oil Producing Co.*,⁶⁷ this rule was attacked as a violation of due process in that it deprived plaintiff of the right to drill for oil on his land. (The commission had limited appellant to four wells on a narrow strip of land, and he insisted that he wanted to drill ten.) In reply the federal circuit court said:

“The right of the state to so regulate the drilling of wells for oil and gas as to conserve the rights of adjoining owners is too well settled to admit of serious controversy.”^{68, 69}

Mr. Veasey insists that the principle of this legislation is unsound. He feels that an operator, by virtue of his leasehold, should be per-

⁶⁶ Under a proper fact-showing the rule could be relaxed.

The requirement of spacing of wells is perhaps intended to reduce fire hazards, rather than to equalize production among adjoining owners. (But see remarks of Veasey, considered in next paragraph of text). This appears probable from the fact that the uniform spacing is required throughout. Of course, protection against fire hazard is also a regulation of the correlative rights of the common owners. See also note 69, first paragraph.

⁶⁷ *Oxford Oil Co. v. Atlantic Oil Producing Co.* (C. C. A. 5th, 1927) 22 F. (2d) 597. Same in (D. C. Tex.) 16 F. (2d) 639 (1926).

⁶⁸ The regulation has been upheld in the state courts. *Texas v. Bass* (Tex. 1928) 10 S. W. (2d) 586 and 589.

In *State v. Jarmon* (Texas 1930) 25 S. W. (2d) 936, defendant asked for permission to drill, and waited four months for a ruling. As he believed that his neighbors were draining the oil beneath him, he started drilling. The Commission brought a bill to restrain his operations. Held, as the Commission had failed to do equity, had acted arbitrarily, the bill should be dismissed.

⁶⁹ Early statutory restrictions placed upon the location of wells: Kan. Rev. Stat., 1923, sec. 55-110, forbids the drilling of an oil or gas well within 100 feet of the center line of any steam or electric railroad. The constitutionality of this statute was upheld in *Winkler v. Anderson*, 104 Kan. 1, 177 Pac. 521, 3 A. L. R. 268 (1919). Ill. Rev. Stat. (Smith-Hurd, 1925) c. 93, sec. 85, forbids the drilling of an oil or gas well nearer than 250 feet to any mine opening or air shaft. See also *Cline v. Kirkbridge*, 22 Ohio C. C. 527 (1901), which based an injunction on an ordinance forbidding the drilling of an oil or gas well within 200 feet of any dwelling.

Recent legislation: *United States* (spacing of 200 feet from lease boundaries, unless the adjoining lands are privately owned. Spacing of 660 feet between wells on naval reserves is required, unless the adjoining lessee consents.); *Arkansas* (wells must be spaced 300 feet for oil and 600 for gas); *California* (1931 act declares to be a “public nuisance” any well within 100 feet of a street, 150 feet of another productive . . . well); *Louisiana* (40 acres per well, under exceptional circumstances may be reduced to 20 acres); *Michigan* (200 feet from the outer boundaries); *Montana* (on state lands one oil well to each 40 acres, one gas well to each 160 acres, unless drainage is threatened. All lands, 220 feet from boundaries); *New Mexico* (200 feet from lease boundaries and 300 feet from another well); *Wyoming* (200 feet from outer boundary.) See Federal Oil Conservation Board, State and Federal Conservation Laws, etc. (1931).

mitted to locate his wells anywhere on the leased premises, even though his wells are so located as to drain much or the greater part of their production from adjacent lands. He terms this a property right of the highest sanctity.⁷⁰

However, he cites but one authority, *Pennsylvania v. Mahon*,⁷¹ a case holding that to make it commercially impractical to mine certain coal has very nearly the same effect for constitutional purposes as appropriating or destroying it. Veasey, himself, has already pointed out the error of comparing oil and gas to minerals *in situ*,⁷² such as coal and iron, and it is submitted that his criticism should still apply. It seems hard, in the face of *Ohio Oil Co. v. Indiana*,⁷³ *Lindsley v. Natural Carbonic Gas Co.*,⁷⁴ *Walls v. Midland Carbon Co.*,⁷⁵ *Bandini Petroleum Co. v. Superior Court*,⁷⁶ and the recent decision of *Champlin Refining Co. v. Corporation Commission*,⁷⁷ to believe that the Supreme Court of the United States will ever come to Veasey's position. The cases show a willingness to go a long way "if the statute be viewed as one regulating the exercise of the correlative rights of the surface owners with respect to a common source of supply of oil and gas."⁷⁸

Before turning to the next class of statutes, concerning which a storm is now raging, it will be well to see how far we have advanced. The statutes discussed have been classified into three groups: (1) statutes governing the "casing and plugging" of wells, (2) statutes

⁷⁰ "The drill alone determines the presence or absence of oil at a particular location. Until the sand is actually penetrated, the project is shrouded in uncertainty. A dry hole may be drilled within a single location of a producing well; a well of small capacity may be drilled within a few feet of a gusher. The essence of the operator's entire property right consists in drilling as many wells on his lease as he wishes and in locating them as his judgment commands. . . . Such a statute is unreasonable, arbitrary, and oppressive in its operation, and hence, clearly within the condemnation of the authorities." Veasey, *Legislative Control of the Business of Producing Oil and Gas*, 52 A. B. A. REP. 577, 616 (1927).

⁷¹ *Pennsylvania Coal Co. v. Mahon*, 260 U. S. 393, 43 Sup. Ct. 158, 67 L. ed. 322 (1922).

⁷² Veasey, "Law of Oil and Gas," 18 MICH. L. REV. 445 at 455 (1920).

⁷³ *Ohio Oil v. Indiana*, 177 U. S. 190, 20 Sup. Ct. 585, 44 L. ed. 729 (1900).

⁷⁴ *Lindsley v. Natural Carbonic Gas*, 220 U. S. 61, 31 Sup. Ct. 337, 55 L. ed. 369 (1911).

⁷⁵ *Walls v. Midland Carbon Co.*, 245 U. S. 300, 41 Sup. Ct. 118, 65 L. ed. 276 (1920).

⁷⁶ *Bandini Petroleum Co. v. Superior Court*, 284 U. S. 8, 52 Sup. Ct. 103, 76 L. ed. 123 (1931).

⁷⁷ *Champlin Refining Co. v. Corp. Comm.* (U. S. 1932) 7 U. S. Daily 516, May 17, 1932.

⁷⁸ *Bandini Petroleum Co. v. Superior Ct.*, 284 U. S. 8, 22, 52 Sup. Ct. 103, 108 (1931).

designed to prevent the wasting of natural gas and oil, (3) statutes designed to restrict the purposes for which gas may be used, and (4) statutes designed to regulate the manner of taking, storing, and operation. This legislation has been sustained either on the ground of regulation, of conservation, or on a combination of both. Unquestionably conservation has offered the courts the higher hurdle.⁷⁹ Yet we have found but one court, the supreme court of Montana,⁸⁰ that has drawn back. The spirit of Holmes' constructive attitude, as expressed in *Hudson County Water Co. v. McCarter*,⁸¹ is to be found in the cases.⁸²

"It is sometimes difficult to fix boundary stones between the private right of property and the police power. . . . But it is recognized that the state, as quasi-sovereign and representative of the interests of the public, has a standing in court to protect the atmosphere, the water, and the forests within its territory, irrespective of the assent or dissent of the private owners of the land most immediately concerned.

"We are of opinion further, that the constitutional power of the state to insist that its natural advantages shall remain unimpaired by its citizens is not dependent upon any nice estimate of the extent of present use or speculation as to future needs. The legal conception of the necessary is apt to be confined to somewhat rudimentary wants, and there are benefits from a great river that might escape a lawyer's view. But the state is not required to submit even to an aesthetic analysis. Any analysis may be inadequate. It finds itself in possession of what all admit to be a great public good, and what it has it may keep and give no one a reason for its will."

5. *Statutes Designed to Regulate the Amount of Taking—Proration*⁸³

(a) *Percentage Limitation* (applied to gas production). In 1913

⁷⁹ 19 CAL. L. REV. 416 (1931).

⁸⁰ *Gas Products Co. v. Rankin*, 63 Mont. 372, 207 Pac. 993 (1922). And, of course, even this court does not deny that physical waste could be forbidden; it merely declares invalid a statute which places a restriction on the use of gas.

⁸¹ *Hudson County Water Co. v. McCarter*, 209 U. S. 349, 356, 28 Sup. Ct. 529, 531, 52 L. ed. 828, 14 Ann. Cas. 560 (1908).

⁸² See also, *Questions and Answers*, 103 Me. 506, 69 Atl. 627 (1907).

⁸³ The usage of "proration" is ambiguous. It has at least three meanings: 1. Proration in the sense of fixing an "allowable" production for the entire state and an establishment of the percentage of this allowable for each field; 2. a similar use, proration in the sense of fixing an allowable for each well in a field; 3. proration in the

Oklahoma passed the first legislation⁸⁴ to place a restraint upon the amount of taking. It provided: Each producer "is prohibited from taking more than 25% of the daily natural flow of any gas well, unless for good cause shown, the Corporation Commission shall establish a different per centum." A meter is to be attached to each well and daily records must be kept.⁸⁵

The purpose of such legislation⁸⁶ is given in *Nowata County Gas Co. v. Henry Oil Co.*:⁸⁷

"When natural gas is permitted to flow freely, it tends to drain the gas from the underlying sands in the neighborhood of the well too rapidly, with the result that the water below the gas sands finds its way up toward the outlet of the gas at the base of the well, cuts off the lateral inflow of the gas and drowns the well; if the outflow of the gas is under pressure, the lateral flow toward the well will be more extensive and long continued, and in the end the gas will be more completely removed from the gas sands, and the gas field, more thoroughly exhausted."

On this basis these statutes have been upheld⁸⁸ as a valid expression of the police power, designed to regulate the correlative rights of the surface owners in the common pool and to prevent waste of a natural resource.

(b) "*Optimum Oil-Gas Ratio.*" The legislature of California, in recognition of the great importance of gas in oil production, enacted special legislation in 1929⁸⁹ to prevent its waste. Section 8b of the

sense of establishing an "optimum oil-gas ratio," or the allowable open-flow percentage for gas wells.

⁸⁴ Okla. Comp. Stat., 1921, c. 68, art. ii, sec. 7913.

⁸⁵ *Ibid.*, sec. 7914.

⁸⁶ Similar legislation is to be found in *United States* (the supervisor may fix the percentage of potential of a gas well which may be utilized—Regulation 1 f), *Arkansas* (35% of potential, excepting casing-head gas), *Kansas* (50% of potential), *Louisiana* (25% of potential), *Michigan* (Allowable percentage of open flow of a gas well is determined by the supervisor of wells), *Montana* (State Supervisor authorized to determine the percentage), *Texas* (50% of potential), *Wyoming* (State inspector authorized to determine the percentage). See Federal Oil Conservation Board, State and Federal Conservation Laws, etc. (1931).

⁸⁷ *Nowata County Gas Co. v. Henry Oil Co.* (C. C. A. 8th, 1920) 269 Fed. 742, 748.

⁸⁸ *Oklahoma Natural Gas Co. v. State*, 47 Okla. 601, 150 Pac. 475 (1915); *Marrs v. City of Oxford*, 24 F. (2d) 541, 551 (1928); *State v. Thrift Oil and Gas Co.*, 162 La. 165, 110 So. 188 (1926); *State v. Carson Carbon Co.*, 162 La. 781, 111 So. 162 (1926).

⁸⁹ Cal. Stat., 1929, c. 535, p. 927. Italics ours.

act reads: "The unreasonable waste of natural gas . . . is hereby declared to be opposed to the public interest and is hereby prohibited and declared unlawful. The blowing, release or escape of natural gas into the air shall be prima facie evidence of unreasonable waste." Section 8d relates to the procedure upon complaint of undue waste and "if it shall appear that gas is being produced from any oil well . . . in quantities exceeding a reasonable proportion to the amount of oil produced from the same well" even though the producer can show that the gas is being used commercially, if it is shown that the commercial demand can be met by other wells producing without such waste, ". . . the state oil and gas supervisor shall hold that such excess production of gas is an unreasonable waste thereof" if the holding will not cause an unreasonable waste of gas in another field in order to meet the market.

Pursuant to this statute proceedings were brought against forty-three defendants, oil producers in the Santa Fe field in Los Angeles County in the fall of 1929. Affidavits were introduced to prove that the Santa Fe field alone, at the time of the commencement of the action, showed a wastage of natural gas to the approximate extent of 500,000,000 cu. ft. per day. An injunction was granted specifying in detail the allowable production in gas in cubic feet to a potential barrel of oil. From this order an appeal was directed to the supreme court of the state,⁹⁰ where the statute and order were upheld; the court rested its decision upon the police power to regulate where there is a community of interest and upon the "public interest in the preservation of oil and gas."

The same order was also attacked in the federal court and was appealed to the Supreme Court, in *Bandini Petroleum Co. v. Superior Court*.⁹¹ Chief Justice Hughes, speaking for a unanimous court, upheld the statute; he justified it under the police power of the state to regulate the exercise of the correlative rights of the surface owners with respect to the common source of supply. He definitely avoided the issue of the validity of such a statute from the standpoint of the conservation of a natural resource, saying that that feature of the case had not been raised.⁹²

The constitutionality of this type of "proration" statute being definitely established, it is desirable to consider the economic value of such

⁹⁰ *People v. Associated Oil Co.*, 211 Cal. 93, 294 Pac. 717 (1930).

⁹¹ *Bandini Petroleum Co. v. Superior Ct.*, 284 U. S. 8, 52 Sup. Ct. 103, 76 L. ed. 123 (1931). 20 CAL. L. REV. 203 (1932).

⁹² Last paragraph of the decision.

legislation. It has merit in that it does conserve gas pressure, which means an increased recovery from the entire field.⁹³ From the standpoint of curtailing production of oil, it has only limited value, for wherever a proper "oil-gas ratio" happens to exist an owner can produce without regard to the market, and consequently the evils of overproduction may still be present. In addition, there is a strong practical objection to the California act; it is difficult to administer. Each well will normally have a different optimum ratio, and one that is constantly changing, for, as the well produces, oil must be carried from a greater distance which requires a higher gas percentage to bring the oil to the surface.⁹⁴ Proper administration, then, would require the state to keep an army of supervisors in the field, which would be expensive and probably a constant source of irritation to the producers.⁹⁵

(c) "*Curtailment Acts.*" *Oklahoma*:⁹⁶ In the summer of 1931, Governor Murray made one of the most spectacular conservation gestures of all time. His National Guards, flying the banner of the school children of the state, marched into the oil fields and closed the flush wells.⁹⁷ The ultimate justification of this show of military force was the alleged violation of the "Curtailment Act,"⁹⁸ of the Oil and Gas Conservation Law of Oklahoma. It provides:

"Section 1.—That the production of crude oil or petroleum in the State of Oklahoma, in such a manner and under such conditions as to constitute waste is hereby prohibited.

⁹³ It generally follows that when an operator is forced to produce at an efficient gas-oil ratio, his total daily production of oil will be materially reduced.

⁹⁴ "The proper utilization of gas energy in a field usually requires a variation of operating methods from well to well to best suit the conditions in the individual wells. The many conditions to be dealt with are rarely alike in different fields or in different wells in the same field. This is illustrated by conditions in the Rainbow Bend field, Kansas, where the gas oil ratio increased progressively from 2,000 cubic feet per barrel on the flanks to 7,000 cubic feet per barrel on the crest of the structure." MILLER, *FUNCTION OF NATURAL GAS IN THE PRODUCTION OF OIL* 45 (1929) (A report of the U. S. Bur. of Mines.)

⁹⁵ For a discussion of recent California legislation in regard to oil, see 16 *ST. LOUIS L. REV.* 234 (1931).

⁹⁶ For a history of curtailment legislation in Oklahoma see 16 *ST. LOUIS L. REV.* 227 (1931).

⁹⁷ See the executive order calling out the National Guards, declaring martial law, and ordering military control to close down all prorated wells, Aug. 4, 1931. (Reprinted in 30 *OIL AND GAS J.*, nos 12, 13.)

There has been considerable speculation as to the constitutionality of using National Guards for such a purpose. This question has been considered by Logan, "The Use of Martial Law to Regulate the Economic Welfare of the State and Its Citizens: A Recent Instance," 17 *IOWA L. REV.* 40 (1931). See also Marshall and Meyers, "Legal Planning of Petroleum Production," 41 *YALE L. J.* 33, 52-55 (1931).

⁹⁸ *Okl. Comp. Stat.*, 1921, vol. II, c. 68, sec. 7955. Italics ours.

"Section 3.—That the term 'waste' as used herein, in addition to its ordinary meaning shall include economic waste, underground waste, surface waste, and waste incident to the production of crude oil or petroleum in excess of transportation or marketing facilities or reasonable market demands. . . .

"Section 4.—That whenever the full production from a common source of supply of crude oil or petroleum in this State can only be obtained under conditions constituting waste as herein defined, then any [producer] . . . having the right to drill into any such common source of supply, may take therefrom only such proportion of all crude oil and petroleum that may be produced therefrom, without waste, as the production of the well or wells of any such [producer] . . . bear to the total production of such common supply . . . [Other provisions follow authorizing the Corporation Commission to prorate the state.]"

Two cases have considered the Oklahoma statute. The first was *Julian Oil Company v. Capshaw*.⁹⁹ Pursuant to the statute (sections 1, 3, 4, 5 and 6), the corporation commission issued a general proration order for the state. The plaintiff oil company attacked the order as a violation of the state and federal constitutions. The supreme court of Oklahoma, after emphasizing the fact that the production of petroleum was one of the major industries of the state—one of the major sources of the state's revenue—concluded that such a regulation was within the police power of the state, "a valid method of preventing the waste of oil." The second case, *Champlin Refining Company v. Corporation Commission of Oklahoma*, attacked the validity of the statute in the United States district court for the western district of Oklahoma. The statute and the orders were upheld.¹⁰⁰ The case was appealed to the United States Supreme Court which, by a unanimous decision, sustained the act.¹⁰¹ The Supreme Court approved the legislation as a regulation of the correlative rights of the common owners and as a provision for the conservation of a natural resource. Mr. Justice Butler, speaking for the court, said:

"Every person has the right to drill wells on his own land and take from the pools below all the gas and oil that he may be able to reduce to possession including that coming from land be-

⁹⁹ *Julian Oil and Royalties Co. v. Capshaw*, 145 Okla. 237, 292 Pac. 841 (1930).

¹⁰⁰ *Champlin Refining Co. v. Corp. Comm. of Okla.*, 51 F. (2d) 823 (1931).

¹⁰¹ *Champlin Refining Co. v. Corp. Comm. of Okla.* (U. S. 1932) 7 U. S. Daily 516, May 17, 1932.

longing to others, but the right to take and thus to acquire ownership is subject to the reasonable exertion of the power of the State to prevent unnecessary loss, destruction or waste.

“And that power extends to the taker’s unreasonable and wasteful use of natural gas pressure available for lifting the oil to the surface and the unreasonable and wasteful depletion of a common supply of gas and oil to the injury of others entitled to resort to and take from the same pool.”

Kansas and California: Kansas, in March, 1931, enacted a statute similar to that of Oklahoma.¹⁰² In June, the California legislature, dissatisfied with the “optimum oil-gas proration law” due to its cumbersome nature, enacted a conservation statute, fashioned after the Oklahoma model.¹⁰³

Texas: In August, 1930, the Railroad Commission, acting under its general conservation power and in particular under its power and authority to prevent waste, began to prorate the state “by fixing a low allowable production for each owner,” based on acreage. In July, 1931, the enforcement of its orders in the East Texas field was enjoined by the United States district court for the western district of Texas on the ground that the commission had issued orders “in the attempted exercise, not of delegated, but of usurped powers.”¹⁰⁴ The validity of the proration order as to the Panhandle district was presented to the Texas circuit court of appeals, third district, in *Danciger Oil and Refining Company v. Railroad Commission*.¹⁰⁵ The allowable production for appellant amounted to about 25% of his potential production. The court upheld the order, finding “ample proof by compe-

¹⁰² Kan. Laws, 1931, c. 226, p. 332. The Kansas act, however, does not include economic waste.

¹⁰³ Cal. Sen. Bill No. 232, signed June 1931, U. S. Daily, p. 993, June 20, 1931. This statute is subject to a referendum in the coming fall elections.

The California act is believed to be an improvement over the Oklahoma and Kansas acts in that production may be limited to oil required for current use and consumption as distinguished from mere market demand which could include storage of oil for speculation.

¹⁰⁴ *MacMillan v. Railroad Commission*, 51 F. (2d) 400 (1931).

Texas, also, employed troops for the enforcement of the proration order. On Feb. 20, 1932, a three-judge federal court at Tyler made permanent a temporary injunction forbidding martial law in the east Texas field. (7 U. S. Daily 2879). On Feb. 23, 1932, Governor Ross Sterling announced that military control had been resumed as a result of an oral statement made by federal circuit judge Hutcheson that the recent three-judge decision did not include an injunction against the use of troops. (7 U. S. Daily 2893.)

¹⁰⁵ *Danciger Oil and Refining Co. v. Railroad Commission of Texas* (Tex. Civ. App. 1932) 47 S. W. (2d).

tent evidence to show a reasonable relation between proration of production from the field as a whole, and a reduction thereof below its potential and the prevention of waste," thereby reaching a conclusion directly contrary to that of the federal court. (Appeals are pending in both cases.)

On August 12, 1931, and subsequent to the commencement of the two cases just discussed, the legislature of Texas passed a new conservation bill.¹⁰⁶ It provides:

"Neither natural gas nor crude petroleum shall be produced, transported, stored, or used in such manner or under such conditions as to constitute waste; provided, however, this shall not be construed to mean economic waste, and the Commission shall not have the power to attempt by order, or otherwise, directly or indirectly, to limit the production of oil to equal the existing market demand for oil; and that power is expressly withheld from the Commission, and no part of this Act shall ever be construed so as to prevent the storage of oil except for the prevention of physical waste."

This change in the statute, plus the conflicting holdings in the two cases, leave the law of Texas in regard to proration in an unsettled state. It is rather difficult to see what the legislature had in mind in forbidding proration in relation to market demand.¹⁰⁷ Perhaps it was feared that proration by this standard would be held invalid as a price-fixing measure.

¹⁰⁶ Article 6014, Acts of August 12, 1931.

¹⁰⁷ Unquestionably there is a great deal of confusion as to the relation of market demand to physical waste. The Railroad Commission, under the present statute, is charged with the prevention of waste, but waste is definitely declared not to include economic waste. It is submitted that it is not possible to prorate so as to prevent physical waste and at the same time ignore the market. As is pointed out in the Dancier case: "It is obvious we think that physical waste of such resources must of necessity result in economic waste." The writer believes that the only way the two can be reconciled is that taken by the Dancier case:

"Such limitation is not a denial to the Commission of power to take into consideration an economic standard or economic conditions if such condition bears a direct or reasonable relation to *physical waste*. That is, if economic conditions be such as to cause physical waste of these valuable resources, and it is necessary for the Commission in order to prevent that waste, to regulate production with reference to an economic standard or else permit such physical waste to continue, undoubtedly, we think, there is sufficient reasonable relationship between the power granted, the end sought to be attained, and the method used, to sustain the orders based thereon."

While this view in a sense nullifies a part of the statute, it seems the only logical way of settling the inconsistency. As to the physical waste argument, see p. 1198 and note 112, *infra*.

Other Jurisdictions: Colorado, Louisiana, Michigan, Montana, and the United States have legislation prohibiting economic waste.¹⁰⁸ And it is to be noted that the recent decision of the *Champlin* case was based entirely upon the sections of the Oklahoma act prohibiting economic waste.

The value and the possibilities of curtailment legislation are great. Proration to prevent economic waste, which also prevents physical waste, should solve many of the problems of overproduction.¹⁰⁹ Proration means less oil production, which means conservation for the future. Oil that is produced is less likely to go into an inferior use of the product, a result that frequently follows when oil "gluts" the markets. From an economic point of view, barring the always-present danger of administrative abuse, curtailment legislation is highly desirable. However, two constitutional arguments have been brought against this type of statute: (1) That curtailment legislation violates the Fourteenth Amendment in that it is a price-fixing measure; (2) that the statute interferes with and places a burden upon interstate commerce.

1. The argument that it is a violation of the Fourteenth Amendment is: Such legislation deprives the producer of his liberty of contract, of his right to negotiate his own price without regard to the price which adjacent producers are willing to take for their oil coming from the same field. This argument was strongly urged by counsel for appellant in the *Champlin* case, just decided by the Supreme Court.¹¹⁰ The Court dismissed the argument with this language:

"None of the Commission's orders has been made for the purpose of fixing the price of crude oil or has had that effect. When the first order was made the price was more than \$2 per barrel but it declined until at the time of the trial it was only 35 cents. In each case the Commission has allowed to be produced the full amount of the market demand for each pool."

The conclusion of the court seems unassailable. The primary purpose of proration to market demand is to prevent the waste of a natural resource. Proration by reference to this standard does not fix prices at which petroleum may be sold or abolish the bargaining system. After

¹⁰⁸ See Federal Oil Conservation Board, *State and Federal Conservation Laws and Regulations Relating to Production of Oil and Gas* (1931).

¹⁰⁹ For a consideration of the possibilities of interstate agreements, see note 171 p. 1211 *infra*.

¹¹⁰ *Champlin Refining Co. v. Corp. Com.* (U. S. 1932) 7 U. S. Daily 516, May 17, 1932.

the oil is produced, the individual producer may sell at any price he chooses. "Market demand" is a gauge¹¹¹ with reference to which the state limits production in order to conserve a natural resource and avoid the physical waste which is bound to follow if the market is unable to absorb the product. It is elementary economics that low prices will force the "marginal well," which generally is to be found in older fields, to be shut down or abandoned, as the producer can only afford to keep his flush wells open. Premature closing often means ruin of the field—water infiltration and wastage of gas pressure—which of necessity means that oil that could have been produced is lost forever. This is physical waste. In addition, oversupply puts a great strain on storage facilities, which usually results in open-pit storage of oil, with its constant fire hazard and excessive evaporation losses.¹¹² Oversupply means lower prices, and this in turn leads to a less economical use of the product.

Section 2 of the Oklahoma "Curtailement Act" authorizes proration "at a time when there is not a market demand . . . at the well

¹¹¹ For example, the gauge in earlier legislation in the production of gas was a percentage limitation.

¹¹² Discussing the effect of overproduction, the court in the Danciger case summarized the evidence before it as follows:

"It showed that tremendous physical waste was occurring in the Panhandle area when the orders attacked were issued. . . . Vast quantities of oil had been stored, approximately 147,000,000 barrels in the State of which approximately 18,000,000 was in the Panhandle area. That while the Panhandle District had a potential of 140,000 barrels daily, a market for only about 40,000 barrels was available. That because of the withdrawal from that field in November, 1930, of some of the major purchasers of oil, some 220 leases were without any outlet for their oil, while others were being operated in varying degrees of production from a small percentage of their potential to the maximum of which they were capable. . . . That this condition was directly attributable to a limited market demand for oil due to overproduction in the industry as a whole. That because of these facts unequal withdrawals resulted, causing underground waste; and excessive storage had accumulated causing above ground waste and fire hazards. There was also ample evidence to show that restriction of production to prevailing market demand and prorating same over the field as a whole would directly tend to minimize such waste." (Tex. Civ. App. 1932) 47 S. W. (2d).

The brief for the State, in the above case, further referred to evidence showing "that unless production should be ratable over the field the gas energy of the reservoir would be dissipated and more than was necessary would be used in the wide-open wells, the water underlying the oil would not rise as a level table but would 'finger' or 'channel' into the oil-saturated section of the reservoir or would 'cone' up around rapidly-producing wells, tapping off oil in the formation; that by these means large quantities of oil would be left underground that would have otherwise been produced, and the total amount of oil recovered from the pool ultimately would be seriously decreased (page 214 of the brief for the State).

The recent decision of the Supreme Court in the Champlin case is fully in accord with the above.

at a price equivalent to the actual value of the crude.”¹¹³ The validity of this section was not passed upon in the *Champlin* case. Had the corporation commission of Oklahoma acted under this section, or if under any statute proration were undertaken for the definite purpose of raising or fixing prices, an interesting question would be presented for decision.

A consideration of the decisions of the Supreme Court in regard to price fixing indicate that the control of price within a business depends upon whether that business is affected with a public interest.¹¹⁴ All business, of course, may affect the public interest to some extent.¹¹⁵ Ultimately, the question of public control of price will depend upon the degree to which the public interest is affected. Thus, in *Tyson v. Banton*¹¹⁶ a New York statute was held invalid that attempted to fix the price at which theater tickets could be resold by ticket brokers. *Ribnik v. McBride*¹¹⁷ condemned a New Jersey price regulation statute for employment agencies. And *New State Ice Company v. Liebmann*¹¹⁸ held void an attempt by Oklahoma to make ice companies public utili-

¹¹³ “Section 2— . . . the taking of crude oil . . . at a time when there is not a market demand therefor at the well at a price equivalent to the actual value of such crude oil is prohibited, and the actual value of such crude oil at any time shall be the average value as near as may be ascertained in the United States at retail of the by-products of such crude oil when refined, less the cost and a reasonable profit in the business of transportation, refining, and marketing the same, and the Corporation Commission of this State is hereby invested with the authority and power to investigate and determine from time to time the actual value of such crude oil or petroleum.”—Okla. Comp. Stat. 1921, sec. 7955.

¹¹⁴ *Munn v. Illinois*, 94 U. S. 113, 126, 24 L. ed. 77 (1876).

¹¹⁵ Looked at from the point of view of private rights, it is submitted that there is a valid distinction between legislation affecting freedom of contract to one's advantage and legislation affecting freedom of contract to one's disadvantage. Or, stated differently, from the standpoint of the producer, there is a difference between legislation fixing a minimum price at which a commodity may be sold, and legislation establishing a maximum price. For example, in September, 1931, oil sold for about 10c a barrel; in March, 1932, it sold for 75c a barrel. Proration was responsible in part for this increase in price. (7 U. S. Daily 17, March 7, 1932. In 7 U. S. Daily 169, March 28, 1932, Governor Ross Sterling reports oil profits averaging 24c a barrel as a result of martial law in Texas.) Thus in September, 1931, it took 75 barrels of oil to give a \$7.50 return; in March, 1932, 10 barrels of oil gave the same return, and the producer had 65 barrels left in the pool below. Also, proration, by fixing an “allowable” for each producer, removed the danger of his neighbor taking this. The effect of the legislation, then, was to increase his ultimate return and at the same time to conserve a natural resource for the benefit of the public, and so far as it affected his freedom of contract it was to his advantage rather than to his disadvantage.

¹¹⁶ *Tyson v. Banton*, 273 U. S. 418, 47 Sup. Ct. 426, 71 L. ed. 718 (1926).

¹¹⁷ *Ribnik v. McBride*, 277 U. S. 350, 48 Sup. Ct. 545, 72 L. ed. 913 (1927).

¹¹⁸ *New State Ice Company v. Liebmann* (U. S. Sup. Ct. Adv. Op., March 21, 1932) 76 L. ed. (adv. sheet) 474.

ties and to control the price of ice. But none of these cases presents a situation in which the public need for control is so vital as in the oil industry. And none of these cases indicates that the question has been closed whether the state is able to control prices where an unchecked adherence to the competitive system is undermining the value of that industry to the state.¹¹⁹

The phrase "affected with a public interest," which is often used as a touch-stone for the solution of problems such as these, is not entirely satisfactory.¹²⁰ Without reference to particular concrete situations the phrase, like all generalities, is valueless.¹²¹ It is submitted that the phrase imports nothing more than the application of a vague standard of reasonableness to legislation controlling prices in industry; that the standard to apply to price-fixing legislation is the same as the standard applied to any general regulatory enactment. There is no fundamental difference between reasonable regulation of price and reasonable regulation of property which affects its price or economic return. The privilege of free contract and the free use of property are as seriously cut down in the one case as in the other.¹²²

Proration so as to secure a fair return to oil producers seems to satisfy the test of a valid exercise of the police power, whether the test be phrased in terms of public interest or of reasonableness. As to the public interest, the industry is monopolistic in its character, and has a tre-

¹¹⁹ In *Standard Oil Co. v. Williams*, 278 U. S. 235, 49 Sup. Ct. 115, 73 L. ed. 287 (1928), it was held that the retail price of gasoline could not be fixed, for the reason that the retail selling of gasoline was not a business affected with a public interest. However, the retail sale of gasoline is quite different from the production of oil. It presents no problems of waste, of the correlative rights of the common owners, or of conservation.

¹²⁰ ". . . that the notion that a business is clothed with a public interest and has been devoted to the public use is little more than a fiction intended to beautify what is disagreeable to the sufferers. The truth seems to me to be that, subject to compensation when compensation is due, the legislature may forbid or restrict any business when it has a sufficient force of public opinion behind it."—Holmes, J, in *Tyson v. Banton*, 273 U. S. 418, 446 (1926) (dissenting opinion). See also dissent of Clark, J., on p. 451 of the same opinion.

¹²¹ In *New State Ice Co. v. Liebmann* (U. S. 1932), see note 118, *supra*, Mr. Justice Sutherland pointed out "that there is always danger of our being led afield by relying over much upon analogies."

¹²² "To say that there is constitutional power to regulate a business or a particular use of property because of the public interest in the welfare of a class peculiarly affected and to deny such power to regulate price for the accomplishment of the same end, when that alone appears to be an appropriate and effective remedy, is to make a distinction based on no real economic difference, and for which I can find no warrant in the Constitution itself nor any justification in the opinions of this court."—Stone, J, in *Ribnik v. McBride*, 277 U. S. 350, 374 (1927) (dissenting opinion.)

mendous hold upon our economic life. As to its reasonableness, the curtailment legislation falls uniformly on all producers; it stabilizes a great industry; it conserves an exhaustible natural resource.¹²³ In short, even if curtailment were to be used as a price-fixing device, it should be sustained if the prices fixed were reasonable, as the oil industry seems to be sufficiently affected with a public interest.

2. The second argument is that the statute interferes with and places a burden upon interstate commerce. Oklahoma's corporation commission has forbidden all purchasers and carriers of oil in the state to purchase oil produced in violation of the proration orders.¹²⁴ Counsel in the *Champlin* case insisted that this order and the act itself were unconstitutional in that they placed a burden upon interstate commerce. The Supreme Court met this argument as follows:¹²⁵

"It is clear that the regulations prescribed and authorized by the Act and the proration established by the Commission apply only to production and not in sales or transportation of crude oil or its products.

"Such production is essentially a mining operation and therefore is not a part of interstate commerce even though the product obtained is intended to be and in fact is immediately shipped in such commerce."^{126, 127}

¹²³ Legislation designed to improve the economic conditions of a class is a valid exercise of the police power. Thus *Hall v. Geiger-Jones Co.*, 242 U. S. 539, 37 Sup. Ct. 217 (1917), upheld the Blue Sky laws to protect stock buyers. *Muller v. Oregon*, 208 U. S. 412, 28 Sup. Ct. 324, 52 L. ed. 551, 13 Ann. Cas. 957 (1908), sustained an eight hour day law for women. *Euclid v. Ambler Co.*, 272 U. S. 365, 45 Sup. Ct. 114, 71 L. ed. 303 (1926), upheld zoning. *Lindsley v. Natural Carbonic Gas Co.*, 220 U. S. 61, 31 Sup. Ct. 337, 55 L. ed. 369 (1911), sustained an ordinance designed to protect the correlative rights of the owners in the common source of supply.

¹²⁴ Order number 5189, subdivision N. of the Corp. Commission of Oklahoma, June 30, 1930. Taken from appellate brief to the United States Supreme Court for *Champlin Refining Co. v. Corp. Com. of Okla.*, p 30.

¹²⁵ *Champlin Refining Co. v. Corp. Com. (U. S. 1932)* 7 U. S. Daily 516, May 17, 1932.

¹²⁶ *Lemke v. Farmers' Grain Co.*, 258 U. S. 50, 42 Sup. Ct. 244, 66 L. ed. 458, 19 A. L. R. 148 (1921), was counsels' key case. It held invalid a North Dakota statute that provided for grain inspection, required each buyer to have a state license, and gave the state grain inspector authority to fix the profit at which grain could be sold. The majority opinion treated the purchase of grain for export from the state and the restrictions on purchase as a burden on interstate commerce. It is submitted that the situations are not analogous. Proration precedes purchase for shipment several steps. Proration is control of production. To have a comparable situation, North Dakota would have had to have a statute controlling the growing of grain. And if the interstate commerce clause can be stretched to cover the methods employed in farming on the basis that the product might eventually reach interstate commerce, it is submitted

III

LEGISLATIVE DEVELOPMENTS FOR THE FUTURE

So far we have discussed existing legislation and have attempted in a measure to consider its value and its constitutionality. At this point we shall turn our attention to possible legislation for the future. Most of the perplexing problems of the industry mentioned in the foregoing discussion still remain untouched and unsolved. The only legislation that strikes deeply into the problems is proration. And it does not accomplish enough. Proration can only, in a limited degree, give an opportunity for the scientific development of an oil pool. There is no necessary relation between proration (based on market) and the engineering problem of controlling the rate of flow so as to conserve gas energy and control water drive. No mere scheme of proration will curtail excess drilling and eliminate the cost of unnecessary offset wells. Nor will it insure the proper location of the wells on the geologic structure so as to obtain maximum recovery. The solution which promises most in relation to production problems is unit operation.¹²⁸

I. *Unit Operation*

Unit operation means simply that all the properties in a pool shall be consolidated into a single producing unit. Competition in production is entirely avoided and the maximum recovery from the reservoir is secured.¹²⁹

The advantages of complete unit operation are strikingly illustrated by the Masjid-i-Suleman (Temple of Solomon) field in Persia. Since 1912 this reservoir, 20 miles long by 4 miles wide, has produced 300,000,000 barrels of oil by flush flow. Many years more of flush flow are

that the commerce clause is all-inclusive and that the police power of the state becomes only a judicial myth. See also: *Utah Power and Light Co. v. Pfof*, U. S. Sup. Ct. Adv. Op. No. 722 (May 16, 1932).

¹²⁷ A closely related question is whether proration is a violation of the anti-trust laws. As this is a statutory difficulty it has not been discussed in the text, as it presents no inherent difficulty in the way of proration. The anti-trust laws being statutory can always be changed. The Champlin case dismissed this argument with the following statement: "It was not shown . . . that there was any combination among plaintiff's competitors for the purpose of restricting interstate commerce in crude oil or its products or that any operators' committee made of plaintiff's competitors formulated the proration orders."

¹²⁸ Marshall and Meyers, "Legal Planning of Petroleum Production," 41 *YALE L. J.* 33, 59 (1931).

¹²⁹ Oliver and Umpleby, "Principles of Unit Operation," *TRANSACTIONS, A. I. M. E.* 105 (1930). The two plates on pages 1176, 1177 illustrate nicely the skeleton of unit operation.

expected, and in the words of Sir John Cadman, president of the Anglo-Persian Oil Co.:¹³⁰

“To secure the production of crude required for export, all that has to be done now is to open the necessary valves by means of which the production of crude can from day to day or from hour to hour be regulated to our requirements to a nicety, just as regularly and as accurately as when one turns on the water for one’s bath.”

Concerning oil production, Secretary Ray Lyman Wilbur of the Department of the Interior has recently said:¹³¹ “Unit operation of the oil pools offers the most substantial realizable basis yet developed for the constructive handling of oil conservation.”

The more obvious advantages of a properly-administered plan of unit operation may be briefly summarized: 1. It will bring sanity to an industry that has been well-nigh wrecked by a mad adherence to competition. No longer will one be required to produce oil that he cannot advantageously dispose of, simply to beat his neighbor to the common supply, or to save that which he is proportionately entitled to. The owner will not only get his proportionate share, but, due to unified scientific development, a greater amount will be recovered ultimately from the entire pool. 2. It will dispense with the present wasteful methods of drilling. Wells will be located on a scientific basis in order to give the maximum recovery from the pool; and the old costly offset well will be eliminated. 3. It will give the greatest recovery possible for the entire field. By conserving gas pressure more oil will be recovered. True conservation will become a reality. 4. The cost, the hazard, and the waste of surface storage will be removed. Oil and gas will be kept underground until the market is ready to receive them. 5. The disastrous effect of excessive overproduction and underproduction on the market will be checked. Oil will be produced only when it is needed.¹³²

¹³⁰ Illustration taken verbatim from Marshall and Meyers, *op. cit.*, note 128, 41 YALE L. J. 33, 61. For source see Cadman, “Unit Operation in Persia,” A. P. I. PRODUCTION BUL. No. 204, p. 31 (1929).

¹³¹ 7 U. S. Daily 221-5, April 5, 1932.

¹³² German, “Compulsory Unit Operation of Oil Pools,” 17 A. B. A. J. 393 (1931), 20 CAL. L. REV. 111 (1932); Address by W. S. Farish, “What the Oil Industry Needs,” pp. 8-9, 12-17 (May 19, 1932). On page 13 Mr. Farish states:

“Intelligent control of production in a pool may easily mean the recovery of twice as much oil as uncontrolled production methods would yield, with only one-third as much expense for drilling wells and less than one-half the cost per barrel for lifting the oil.”

(a) *Voluntary Unit Operation.* There is nothing in the law today that prevents the collective owners from consolidating their interests for the purpose of unit development, except perhaps a fear of the anti-trust laws.¹³³ And there are splendid examples of cooperative development in the United States. The Yates pool and the Van pool in Texas,¹³⁴ and the Kettleman Hills development¹³⁵ in California have proved highly successful. Unfortunately, these cooperative agreements have been the exception, rather than the rule. The reasons are obvious. The big practical difficulty in the way of such a movement is human greed.¹³⁶ By rapid exploitation the first producer in the field gets a larger proportional recovery from the common source than does his slower neighbor; hence, a mad competitive rush. In addition there has been the serious difficulty of obtaining the consent of all interested land owners or lease owners. Often these number into the thousands. Consequently, if unit operation is to be made practically operative, some degree of compulsion is necessary. The scheme cannot be wholly cooperative.

(b) *Compulsory Unit Operation.* In 1928 the "Committee of Nine"¹³⁷ submitted to the Federal Oil Conservation Board a report

¹³³ Quoting from the report of the Committee of Nine, p. 8 (1928):

"One great difficulty which has stood in the way of a voluntary agreement for cooperative development and operation is the fear that such agreement may be held to be in violation of the so-called anti-trust laws, both federal and state. . . . We do not believe the fear to be well founded. It seems clear to us that any agreement for the cooperative development and operation of a single pool, even though it involve the control or curtailment of production from that pool, is not a contract or agreement in violation of any anti-trust law, either state or federal. Nevertheless the fear exists. . . . We recommend that both Congress and the legislatures of the oil producing states be asked to pass legislation which will unequivocally remove such agreements from the purview of laws forbidding restraints on commerce."

And see 54 A. B. A. REP. 739, 746 (1929).

See Meyers, "Relation of the Federal Anti-Trust Laws to Problems of Mineral Conservation," 55 A. B. A. REP. 672 (1930).

California, New Mexico, and Wyoming have enacted legislation in the past two years authorizing unit cooperative development. Federal Oil Conservation Board, State and Federal Conservation Laws and Regulations Relating to Production of Oil and Gas, 298 (1931).

¹³⁴ MARSHALL AND MEYERS, op. cit., note 128, 41 YALE L. J. 33, 60 (1931).

¹³⁵ See A. P. I. PRODUCTION BUL. No. 206, p. 79 (1930); also 7 U. S. Daily 221-5, April 5, 1932.

¹³⁶ Merrill, "Stabilization of the Oil Industry and Due Process of Law," 3 So. CAL. L. REV. 396 (1930).

¹³⁷ In 1924 President Coolidge appointed the Federal Oil Conservation Board. The Committee of Nine represents a sub-committee of this Board that was assigned the

dealing with the legislative needs of the petroleum industry. Their conclusion for the problems of the industry was compulsory unit development. The following language of their report is significant:¹³⁸

“In every pursuit save the petroleum industry a producer may either cease to produce or limit his production to meet the market demand. Your committee is of the opinion that one operator in an oil pool has the same constitutional right to refrain or limit his production as has another operator therein the right to drill without restriction and to produce to capacity. This conflict with the community nature of an oil and gas pool, irresistibly suggests the solution of this important problem in the minds of your committee. The state under the police power may adjust and regulate these conflicting rights in a community property.”

The Committee then submitted a model statute,¹³⁹ the validity of which they contended could be justified on the police power of the state to regulate the correlative rights of the common owners of the oil pool and on the public interest in conservation of an irreplaceable and indispensable natural resource.¹⁴⁰

That the possibility of a controlled scientific development of an oil pool should be hazarded by our existing legal concepts is, in a sense, an indictment of our legal system. As the movement towards compulsory unit operation is developing rapidly,¹⁴¹ it is desirable to consider the constitutional possibilities of such legislation. At the outset it is

task of investigation for the purpose of legislative suggestion. Its personnel consisted of three members of the bar, three representatives of the oil industry, and three members of the administration. The membership of the Committee was as follows: Representing the legal profession—Dean Henry M. Bates, University of Michigan Law School, James A. Veasey, Carter Oil Company, and Warren Olney, Jr., San Francisco, Cal.; representing the oil companies—Thomas A. O'Donnell, Cal. Petroleum Co., J. Edgar Pew, Sun Oil Co., and W. S. Farish, Humble Oil and Refining Co.; representing the federal government—Edward C. Finney, Ass't Sec'y of the Interior, Walter F. Brown, Ass't Sec'y of Commerce, and Abram F. Meyers, Federal Trade Commissioner.

The report is discussed in 54 A. B. A. REP. 739 (1928).

¹³⁸ Report and Recommendations of the Committee of Nine, 54 A. B. A. REP. 739 at 750 (1928).

¹³⁹ The model statute is to be found as an appendix to the Committee's report, or in 54 A. B. A. REP. 739, 752 (1928).

¹⁴⁰ The similarity of the arguments to those that are given justifying proration should be noted.

¹⁴¹ “The thought is growing that mineral deposits, so slowly accumulated by nature are the heritage of all the people and are not to be exploited exclusively for private gain,—or that if the exploitation is left in private hands it must be done in trust for the public.” Leith, “The Political Control of Mineral Resources,” 3 Foreign Affairs 540, 551 (1925).

evident that unit operation does not require a merger of the titles of the various owners into one. It simply is a device whereby all common owners may develop their mutual interests as one operating unit.¹⁴²

A compulsory unit operation statute represents a natural evolution in the law of oil and gas. 1. The earliest statutes,¹⁴³ those designed to protect oil and gas strata from fresh and salt water intrusion, were justified as regulations of the correlative rights of the common owners. They required the operator to case his well and to plug it upon abandonment so as not to injure his neighbor. The unit plan of development likewise is calculated to protect all owners from injury by inconsiderate development by individuals. 2. The statutes designed to prevent waste¹⁴⁴ are also analogous in purpose to unit operation legislation. From the public point of view the foremost object should be to obtain the maximum recovery of oil from each pool. This depends upon the efficient utilization of the "drive" from the gas. The conservation of this drive may be said to be the essence of unit operation. Thus, *Ohio Oil v. Indiana*¹⁴⁵ becomes the foundation case of such legislation. There the court said, as a result of the fact that all had a correlative right in the common source, "the legislative power, from the peculiar nature of the right and the objects for which it is exerted, can be manifested for the purpose of protecting all the collective owners, by securing a just distribution." 3. Statutes placing restrictions on the use of gas,¹⁴⁶ and *Walls v. Midland Carbon Co.*¹⁴⁷ upholding these statutes, are pertinent. They recognize the power of the state to conserve its natural resources. The unit plan restricts the use of gas so that the maximum recovery of oil can be obtained through its use. 4. Statutes designed to regulate the manner of taking¹⁴⁸ foreshadow unit operation. If, as we have already seen, a state has the power to forbid the use of pumps,¹⁴⁹ and the power to say where a well may be located,¹⁵⁰ it logically follows that the state can enforce a plan calling for the scientific development of the oil pool as a unit. 5. Inasmuch

¹⁴² German, "Compulsory Unit Operation of Oil Pools," 17 A. B. A. J. 393 (1931), 20 CAL. L. REV. 111 (1932).

¹⁴³ See page 1178, supra.

¹⁴⁴ See page 1179, supra.

¹⁴⁵ *Ohio Oil Co. v. Indiana*, 177 U. S. 190, 20 Sup. Ct. 585, 44 L. ed. 729 (1900).

¹⁴⁶ See page 1182, supra.

¹⁴⁷ *Wall v. Midland Carbon Co.*, 245 U. S. 300, 41 Sup. Ct. 118, 65 L. ed. 276 (1920).

¹⁴⁸ See page 1184, supra.

¹⁴⁹ See page 1184, supra.

¹⁵⁰ See page 1187, supra.

as proration¹⁵¹ has been held to be constitutionally permissible, it seems clear that an equitable plan of unit operation should be also valid. The Supreme Court of the United States has already upheld the validity of the California optimum oil-gas statute.¹⁵² This was admittedly a clumsy device to conserve the drive of gas and to prevent the waste of oil. The court would hardly strike down a scientific method designed to attain the same end.

*Marrs v. City of Oxford*¹⁵³ involved a situation which was in effect a compulsory plan of unit operation, although the plan of operation was restricted to a city block. The city of Oxford, Kansas, passed an ordinance restraining and regulating the drilling and operating of oil and gas wells within the city limits. The ordinance provided that only one well should be drilled in each block, and that one-eighth of the whole production of the well should be credited to the surface owners in the block. The statute was upheld upon the police power of the state to regulate for the protection of the public welfare. But the court did not wish to restrict its holding to such a narrow ground. The opinion reads in part:

“But looking at the substance of things as equity does, what are the rights of the plaintiff that will be encroached upon or denied to them by the enforcement of the ordinance? . . . The obvious purpose was to reach the pool as quickly as possible and to take all the oil and gas obtainable before the others could get it, thus seriously encroaching upon and probably destroying the same rights of adjoining lot owners. . . . The regulation makes every effort to protect, rather than to destroy rights. They extend equal opportunity to all who have an interest and eliminate the race between those having equal rights in a common source of wealth, so that some may not take all and leave others nothing.”

The United States Supreme Court denied a petition for a writ of certiorari¹⁵⁴ to bring the case there for review, and thus by implication announced its approval of the decision. Highly significant in this con-

¹⁵¹ See page 1190, *supra*, and *Champlin Refining Co. v. Corp. Com.* (U. S. 1932) 7 U. S. DAILY 516.

¹⁵² *Bandini Petroleum Co. v. Superior Court*, 284 U. S. 8, 52 Sup. Ct. 103, 76 L. ed. 123 (1931).

¹⁵³ *Marrs v. City of Oxford*, 32 F. (2d) 134, 67 A. L. R. 1336 (1929).

¹⁵⁴ *Marrs v. City of Oxford*, 280 U. S. 573, 50 Sup. Ct. 29, 74 L. ed. 51 (1929); *Ramsey v. City of Oxford*, 280 U. S. 563, 50 Sup. Ct. 24, 74 L. ed. 44 (1929).

nection is the fact that the Department of the Interior, recognizing the need for a compulsory plan of unit operation, has recently issued an order calling for this method of development on the public domain. Circular 672 of the Department gives the essence of the order:¹⁵⁵

The applicant for a prospect permit must agree to submit to the Secretary of the Interior for his approval, within two years of date of permit, an acceptable plan for the prospecting and unit development of the pool, with evidence that the plan has been agreed to by the parties in interest and that it will insure effective unit operation if oil and gas are discovered. In the event of failure to agree upon a plan, the applicant covenants to submit to a plan suggested by the Secretary of the Interior.

The applicant must further agree *to conform to the regulations of the Secretary* and *"to conform to any allowance of production fixed for the pool or area by the State in which the permit land is situated and to the proration of market outlet equitably among all producers of said field, pool, or area."*

Thus, under the guise of contract the federal government has devised a most effective plan of compulsory unit operation for the future development of the public domain. The significance of this plan is great, as it pioneers in this field and has the prestige of one of the great departments of our federal government behind it.

Closely analogous to the constitutional problems raised by compulsory unit operation are the problems already decided in the drainage and irrigation cases. In these fields the principle is recognized that—

“. . . it is the power of the government to prescribe public regulations for the better and more economical management of property of persons whose property adjoins, or which, for some other reason, can be better managed and improved by some joint operation, such as the power of regulating the building of party walls, making and maintaining partition fences and ditches, constructing ditches and sewers for the drainage of uplands or marshes, which can more advantageously be drained by a common sewer or ditch.”¹⁵⁶

¹⁵⁵ 7 U. S. DAILY 233-1, Apr. 6, 1932. Italics ours.

¹⁵⁶ *Caster v. Tide Water Co.*, 18 N. J. Eq. 54, 68, 90 Am. Dec. 634 (1866). See also *Wurts v. Hoagland*, 114 U. S. 606, 5 Sup. Ct. 1086, 29 L. ed. 229 (1885); *Head v. Amoskeag Mfg. Co.*, 113 U. S. 9, 5 Sup. Ct. 441, 28 L. ed. 889 (1885); *Fallbrook Irrigation Dist. v. Bradley*, 164 U. S. 112, 17 Sup. Ct. 36, 41 L. ed. 369 (1896).

And the same arguments are applicable to a plan for the scientific development of an oil pool owned in common.

It is submitted that the principle of compulsory unit operation will meet the requirements of the Constitution. The particular plan chosen, however, may raise further perplexing problems.¹⁵⁷ It is beyond the scope of this article to go into detail as to any plan; details can only be formulated after careful study by experts. However, the mention of a few of the plans that have been proposed will be suggestive. A very simple plan is that set up by the city of Oxford, Kansas, already mentioned.¹⁵⁸ Another plan is that suggested by the Committee of Nine.¹⁵⁹ This would require a legislative enactment empowering the majority of the operators in a pool to devise a uniform scheme for the development and operation of the same. A third plan would involve legislation conferring upon some administrative agency of the state the power to devise and enforce a unit method of operation.¹⁶⁰ Still another plan that has been suggested is the formation of a corporation, the respective surface owners to be issued stock in proportion to their interest in the pool.¹⁶¹ Perhaps a combination of the third and fourth would furnish the best general solution; the corporation offers a practical form of organization, and the need for administrative control is obvious. Present scientific knowledge is believed adequate to locate the boundaries and determine the potential production of an oil reservoir.¹⁶² Some state administrative agency will be necessary to pass upon these questions as well as to allocate the share of each surface owner, and to assess to each his proportionate share of the expenses. Another administrative problem would be the surface owner who is financially unable to contribute to the pool's development. These problems may present great difficulties, but the difficulties are practical, and should not stand in the way of working out a fair and reasonable method of extracting and yet conserving our greatest exhaustible resource.¹⁶³

¹⁵⁷ Undoubtedly, most unit operation legislation will be prospective in its operation. Once a field has been opened on a competitive basis, it would be almost impossible to change it over.

¹⁵⁸ Page 1207, *supra*.

¹⁵⁹ 54 A. B. A. REP. 739, appendix (1928).

¹⁶⁰ Veasey, "Legislative Control of the Business of Producing Oil and Gas," 52 A. B. A. REP. 577, 627 (1927).

¹⁶¹ Hardwicke, "Legal Aspects of Gas Conservation in Oil Production," AM. PET. INST. BUL. No. 207, p. 23 (1931), OIL AND GAS J. 17, June 25, 1931.

¹⁶² Hardwicke, "Legal Aspects of Gas Conservation in Oil Production," *supra*, note 161; Oliver, "Cooperation Between Lawyer and Engineer," 56 A. B. A. REP. 691, 698 (1931).

¹⁶³ For recent articles touching upon unit operation, see Hardwicke, "Legal As-

Another trend is to be observed and that is federal control.

2. *Federal Control*

In 1931 the domestic demand for oil in the United States was over 900,000,000 barrels.¹⁶⁴ No further evidence than this is necessary to illustrate the enormous part that oil plays in our economic life. It can be said, with complete justification, that the age of steam has been supplanted by the era of oil. The coal-burning locomotive of yesterday is rapidly being replaced by the oil burner of today. The merchant marine is undergoing the same transformation. In 1930 there were over 26,000,000 registered motor vehicles in the United States.¹⁶⁵ Warfare has turned to oil—air-craft, war vessel, transport truck and tank are all powered by the various products of oil. Startling as it may seem, 75 per cent of the power of the United States is derived from oil.¹⁶⁶

The federal government is fully alive to the need for oil conservation. And the drift is towards some degree of federal control, if such control be possible.¹⁶⁷ In 1924 President Coolidge appointed the Federal Oil Conservation Board.¹⁶⁸ The investigations of this body have

pects of Gas Conservation in Oil Production," AM. PET. INST. BUL. No. 207, p. 23 (1931), OIL & GAS J. 17, June 25, 1931; German, "Compulsory Unit Operation of Oil Pools," 17 A. B. A. J. 393, 20 CAL. L. REV. 111 (1932); "Legislative Stabilization of the Oil Industry," 31 COL. L. REV. 1170 (1931); Thomas, "Changing Trends in Petroleum Economics," 55 A. B. A. REP. (1930); MERRILL, "STABILIZATION OF THE OIL INDUSTRY AND DUE PROCESS OF LAW," 3 SO. CAL. L. REV. 396 (1930); Marshall and Meyers, "Legal Planning of Petroleum Production," 41 YALE L. J. 33 (1931); Hardwicke, "Hurdles for the Oil Industry," 10 TEX. L. REV., June, 1932; Oliver, "Oil and Gas Law Responsible for Overproduction and Waste," 55 A. B. A. REP. 712 (1930).

¹⁶⁴ In 1931 the domestic demand for oil in the United States was 900,982,000 barrels. This represented a decline of 48,000,000 barrels, or 5%, from 1930, and a decline of 15% below the peak figure of 1929 which has 1,007,323,000 barrels. The daily average output of crude increased steadily during the first seven months of 1931, but fell off drastically in August and September due to enforced shutdown in Texas and Oklahoma. 7 U. S. DAILY 17-3, Mar. 7, 1932.

¹⁶⁵ For the same period the gasoline tax netted the states \$494,683,410.00. Figures taken from the World Almanac for 1932.

¹⁶⁶ Electricity, on the other hand, produces but 5% of the total power. TIME, p. 55, April 25, 1932. And see 7 U. S. Daily 503, May 16, 1932.

¹⁶⁷ Leith, "The Political Control of Mineral Resources," 3 FOREIGN AFFAIRS 540 (1925), discusses the world-wide trend towards national control. On page 550 he asserts that in recent years there has been a "pronounced stiffening of public control." STANLEY, THE DRAMA OF THE OIL INDUSTRY—CALLING FOR FEDERAL REGULATION. 56 A. B. A. REP. 669 (1931). Address by W. S. Farish, What the Oil Industry Needs. (May 19, 1932).

¹⁶⁸ See note 137.

been thorough and of considerable value to the industry. Its Committee of Nine, after an extensive period of investigation, recommended compulsory unit control and a clarification of the anti-trust laws. On August 30, 1927, Hubert Work, then Secretary of the Interior and Chairman of the Federal Oil Conservation Board, before a meeting of the Mineral Law Section of the American Bar Association, made the following statement:¹⁶⁹

"I believe the time has arrived when the Federal Government should ask Congress for legislation to protect our oil deposits against waste in production and the public against future high cost of oil products. Never in our national history was the need for conserving in the ground our petroleum resources more apparent than now."

"It must be kept in mind that we are all one people,"¹⁷⁰ that waste of oil in one state not only injures that state but also injures the nation. The individual states are unable to control the oil industry. If Oklahoma today determines upon a stringent proration policy, there is nothing to prevent Texas from increasing her production so that the Oklahoma curtailment results simply in a loss to the producers of Oklahoma, a gain to the Texans, and is nugatory as far as the nation is concerned. To be sure, "gentlemen's agreements" between states may sometimes be effective to prevent state competition,¹⁷¹ but it is submitted that "self-interest" of the states will always be a stumbling block to a true national conservation program.

There are able lawyers who have said that federal control is constitutionally impossible.¹⁷² Such control is unquestionably fraught

¹⁶⁹ 13 A. B. A. J. 549 (1927).

¹⁷⁰ McKenna, J, in *Hoke v. United States*, 227 U. S. 308, 33 Sup. Ct. 281, 57 L. ed. 533 (1913), sustaining the constitutionality of the White Slave Act under the Commerce Power.

¹⁷¹ On Sept. 18, 1931, representatives of the governors of Texas, Oklahoma, and Kansas signed a production compact setting quotas for each state. 19 OIL AND GAS J. 19 (1931). At most, such an agreement is merely a recommendation to the various regulatory bodies of the states. The federal Constitution forbids agreements between states except with the consent of Congress. Article I, sec. 10, clause 3—"No State shall, without the consent of Congress, . . . enter into any Agreement or Compact with another State. . . ." See *Virginia v. Tennessee*, 148 U. S. 518, 13 Sup. Ct. 728, 37 L. ed. 537 (1893). Apparently Texas has wholly ignored the agreement, although Kansas attempted, at least for a time, to prorate according to the compact. Bills have been recently introduced in Congress which undertake to authorize such agreements, which, if enacted, will be binding upon the states.

¹⁷² Veasey, for example, took such a position in his article, "Legislative Control of the Business of Producing Oil and Gas," 52 A. B. A. REP. 577 (1927). Hayden takes a similar view as to direct control in his book, *FEDERAL CONTROL OF OIL* (1928).

with obstacles. But it is believed that there are at least three powers of the federal government under the Constitution that may be exercised for the purpose of controlling oil production: the commerce power, the taxing power, and the treaty power.¹⁷⁸

(a) *The Commerce Power.* Article I, sec. 8, clause 3 of the federal Constitution empowers Congress to regulate commerce with foreign nations among the several states and with the Indian tribes.

The history of the thirteen states under the Articles of Confederation points clearly to the purpose of the commerce clause of the Constitution. The want of a single authority to control the commercial interests of the people as a whole was strongly felt.¹⁷⁴ To give a unified

¹⁷⁸ Other Constitutional possibilities:

(1) *War Power.* Article I, sec. 8, clauses 11, 12, 13 and 16 of the Constitution. During the exigencies of war Congress could undoubtedly provide for the regulation of the production of oil as a war measure. However, even admitting that Congress may in times of peace prepare for war, it is submitted that before Congress could control oil production in peace times something akin to a national emergency would have to exist. If oil were shown to be so scarce that it needed to be conserved for purely war purposes, Congress could probably do so in times of peace. If this were not the case Congress could, under the war power, control practically all basic industries on the theory that they were of value for war purposes—such as the mining of coal, the manufacture of steel, the growing of food stuffs, etc. Mr. Chief Justice White's opinion in *Northern Pacific Ry. Co. v. North Dakota*, 250 U. S. 135, 149, 39 Sup. Ct. 502, 63 L. ed. 897 (1919) points out that the right to exert the war power ceases upon war's termination.

(2) *Indirect Control.* HAYDEN, *FEDERAL CONTROL OF OIL* (1928), argues for an indirect control by Congress. His approach is as follows: Over half the oil produced in the United States is owned by the same interests as own and control the interstate pipe lines. That these pipe lines can be made common carriers has already been established by *United States v. Ohio Oil Co.*, 234 U. S. 548, 34 Sup. Ct. 956, 58 L. ed. 1459 (1914). He urges then that the Hepburn amendment to the Interstate Commerce Act (U. S. C. A., tit. 49, c. 1, sec. 1, par. 8) which forbids carriers to haul their own products commercially, should be altered so as to apply to interstate pipe lines. The effect would be to force the withdrawal of the oil producers from the pipe line business. This would remove the preference now existing against the producer of less than 100,000 barrels per year (the present requirement is that unless 100,000 barrels are offered each year the pipe line can refuse to carry the oil), thus the large and small producer would be placed on an equal footing. This, he insists, would remove the present competitive race between the small producer and the producer who has a market and storage, in that the incentive of the large producer to exhaust the field before the small producer can obtain storage would be gone. The evils of over-production would hit all producers equally, and all would be equally ready to curtail production. See also: Stanley, "The Drama of The Oil Industry—Calling for Federal Regulation," 56 A. B. A. REP. 669 (1931).

Query as to his conclusion. Practically all the states have common-carrier legislation, and a few, as Oklahoma, have made all carriers common purchasers. This legislation apparently has had little influence on competition, though a scheme of this sort of national scope might possibly be more effective.

¹⁷⁴ FEDERALIST, No's 7, 11, 22, and 42. STORY, CONSTITUTION, SECS. 259-263, 1065, 1066.

control, and thus avoid destructive interstate competition, the states surrendered their power over commerce to Congress, giving it exclusive jurisdiction in that field. Mr. Justice Hughes, in the "Shreveport Rate Cases,"¹⁷⁵ refers to the origin and scope of this grant of power in these terms:

"It is unnecessary to repeat what has frequently been said by this court with respect to the complete and paramount character of the power confided to Congress to regulate commerce among the several States. It is of the essence of this power that, where it exists, it dominates. Interstate trade was not left to be destroyed or impeded by the rivalries of local governments. The purpose was to make impossible the recurrence of the evils which had overwhelmed the Confederation and to provide the necessary basis of national unity by insuring 'uniformity of regulation against conflicting and discriminating state legislation.' By virtue of the comprehensive terms of the grant, the authority of Congress is at all times adequate to meet the varying exigencies that arise and to protect the national interest by securing the freedom of interstate commercial intercourse from local control."¹⁷⁶

Nothing could furnish a clearer situation demanding Congressional action to protect the national interest by securing "the freedom of interstate commercial intercourse from local control," than the exigency presented by the existing destructive competitive conditions in oil production and marketing. Rapid exploitation, wasteful production, and unchecked competition injure more than the state of production. The effect is felt in the state of production, in other producing states, in the state of destination, and in the nation. In the state of production, the waste robs the future of the state, lessens its wealth, brings lower prices. In the receiving state, if also an oil-producing state, the oil

¹⁷⁵ The Shreveport Rate Cases (*Houston & Texas Ry. v. United States*) 234 U. S. 342, 350, 34 Sup. Ct. 833, 58 L. ed. 1341 (1914).

¹⁷⁶ "The oppressed and degraded state of commerce, previous to the adoption of the constitution, can scarcely be forgotten. . . . It may be, doubted whether any of the evils proceeding from the feebleness of the federal government, contributed more to that great revolution which introduced the present system, than the deep and general conviction, that commerce ought to be regulated by Congress. It is not, therefore, matter of surprise, that the grant should be as extensive as the mischief, and should comprehend all foreign commerce, and all commerce among the states."

Chief Justice Marshall, in *Brown v. Maryland*, 12 Wheat 419, 446, 6 L. ed. 678 (1827).

unfairly discriminates against the producer who has attempted scientific production and conservation. And so long as there is a single state which, for selfish or other reasons, fails to enact effective conservation legislation, it is beyond the power of every other state to protect effectually its own producers against what may be considered unfair and ruinous competition. Assume that Oklahoma enacts a strict proration law and that Texas does not. It is clear that Oklahoma's interstate business with a third state will be materially restricted, but Texas by expansion of output will soon absorb the market. The result is that Oklahoma's sane efforts to conserve a national resource accomplish nothing. Texas defeats the legislation of Oklahoma. A situation is presented where, like cheap money, bad laws in one state will drive out good laws in another. Yet from the standpoint of the national weal, Oklahoma has attempted highly desirable legislation. And it would be strange indeed if there were no power in the United States that could require that Texas (under our hypothetical situation) cease to compete to Oklahoma's disadvantage.

The state does not have this power, either in fact, or under the Constitution. Each state retains control over its own internal commerce,¹⁷⁷ but it has surrendered what control over interstate commerce it might have as an independent sovereignty, to Congress.¹⁷⁸ A series of cases has held invalid state statutes, innocuous in themselves, attempting to regulate the interstate movement of commodities.¹⁷⁹ If

¹⁷⁷ Thus it is that a state may prorate its own fields, require unit operation, and the like. See section II, Existing Legislation, p. 1178, *supra*.

¹⁷⁸ "The power," said Chief Justice Marshall in *Gibbons v. Ogden*, 9 Wheat. 1, 196 (1824), "like all others vested in Congress, is complete in itself, may be exercised to its utmost extent, and acknowledges no limitation, other than are prescribed in the constitution . . . the power over commerce with foreign nations, and among the several states, is vested in Congress as absolutely as it would be in a single government."

The proposition is reaffirmed in *Hipolite Egg Co. v. United States*, 220 U. S. 45, 31 Sup. Ct. 364, 55 L. ed. 364 (1911).

¹⁷⁹ *Railroad v. Husen*, 95 U. S. 465, 24 L. ed. 527 (1878), held invalid a Missouri statute that forbade the importation into Missouri of Texas, Mexican or Indian cattle. *Leisy v. Hardin*, 135 U. S. 100, 10 Sup. Ct. 681, 34 L. ed. 128 (1890), held invalid an attempt by Iowa to prohibit importation of liquor. *Schollenberger v. Pennsylvania*, 171 U. S. 1, 18 Sup. Ct. 757, 43 L. ed. 49 (1898), held invalid a state statute which forbade the sale of oleomargarine in the original packages brought from another state.

See also: *Reid v. Colorado*, 187 U. S. 137, 23 Sup. Ct. 92, 47 L. ed. 108 (1902); *M. K. & T. Ry. Co. v. Haber*, 169 U. S. 613, 18 Sup. Ct. 488, 42 L. ed. 878 (1898); *Welton v. Missouri*, 91 U. S. 275, 23 L. ed. 336 (1875); *Brimmer v. Rebman*, 138 U. S. 78, 11 Sup. Ct. 213, 34 L. ed. 862 (1891); *Voight v. Wright*, 141 U. S. 62, 11 Sup. Ct. 855, 35 L. ed. 638 (1891); *Minnesota v. Barber*, 136 U. S. 313, 10 Sup. Ct. 862, 34 L. ed. 455 (1890); *McDermott v. Wisconsin*, 228 U. S.

Congress does not have this power it is non-existent under our government. It may be fairly asked, what has become of the power surrendered by the states if Congress does not have all the authority that the states themselves have given up. Indeed, as has already been pointed out,¹⁸⁰ it was to meet just such a situation that our Constitution was adopted.

In the light of its history and of its original purpose, the Commerce clause should be construed to confer on Congress authority to control destructive competition in oil production and marketing. But it is not necessary to consider this question *de novo* and to refer simply to the history and original purpose of the clause; both Congress by its legislation and the Supreme Court in its decisions have asserted that "the authority of Congress is at all times adequate to meet the varying exigencies that arise and to protect the national interest by securing the freedom of interstate commercial intercourse from local control."¹⁸¹ The legislation and decisions furnish ample precedents for federal control of the sort here proposed.

Thus, the federal government does not permit one state to lower its intrastate rates for carriers if its action will affect unfavorably the return of interstate carriers or prejudice localities in another state.¹⁸² The *Shreveport Rate Cases*¹⁸³ upheld orders of the Interstate Com-

115, 33 Sup. Ct. 431, 57 L. ed. 754 (1913).

In *People v. Hawkins*, 157 N. Y. 1, 51 N. E. 257 (1898) and *Opinion of the Justices*, 211 Mass. 605, 98 N. E. 334 (1912), it was held by state courts that state statutes prohibiting shipment into the state from other states of convict-made goods was invalid.

¹⁸⁰ P. 1212, *supra*.

¹⁸¹ Taken from the *Shreveport Rate Cases*, 234 U. S. 342, 350 (1913). The paragraph from which this quotation was taken will be found on page 1213 of this article.

Note also the language of Chief Justice Marshall in *Brown v. Maryland*, 12 Wheat. 419, 446 (1827): "It is not, therefore, matter of surprise, that the grant should be as extensive as the mischief, and should comprehend all foreign commerce, and all commerce among the states." See notes 139 and 141.

¹⁸² In *Louisiana Public Service Comm. v. Texas & New Orleans R. Co.*, 284 U. S. 125, 130, 52 Sup. Ct. 74, 76 L. ed. 76 (1931): Louisiana lowered the intrastate rates on road materials, thereby making it possible for Louisiana producers to serve West Louisiana at prices cheaper than could producers in Arkansas, Oklahoma and Texas, although they were considerably closer to West Louisiana. The Supreme Court held this invalid, saying through Mr. Justice Butler: "Congress may adopt measures effectually to prevent every unreasonable, undue, or unjust obstruction to burden upon or discrimination against interstate commerce, whether it results from state regulation or the voluntary acts of carriers."

¹⁸³ The *Shreveport Case*, 234 U. S. 342, 34 Sup. Ct. 833, 58 L. ed. 1341 (1914).

merce Commission requiring the intrastate rates charged in Texas on lines running east of Houston and Dallas to be raised because the Texas rates gave "an unlawful and undue preference and advantage" to Texas cities as against Shreveport, Louisiana. The Supreme Court affirmed the "complete and paramount" character of the power delegated to Congress to regulate commerce. According to Mr. Justice Hughes,¹⁸⁴ "Interstate trade was not left to be destroyed or impeded by the rivalries of local governments."¹⁸⁵

Federal control is also exercised to restrain unfair intrastate activities of carriers under section 1 (paragraphs 18-20) of the Transportation Act of 1920.¹⁸⁶ Carriers must, according to the Act, obtain from the Interstate Commerce Commission certificates of convenience and necessity for the extension or construction of any line which competes or threatens to compete with an interstate carrier. The Interstate Commerce Commission has consistently exercised the power conferred by these sections.¹⁸⁷ In "*M. K. & T.*" *R. Co. v. Northern Oklahoma R.* an intrastate carrier was enjoined from new construction on the ground that it had no certificate of convenience or necessity from the Interstate Commerce Commission. The circuit court of appeals held:¹⁸⁸

"New construction by an existing carrier might prejudicially affect the public by financially hampering that carrier in performing its functions in furnishing an adequate interstate service to the public; by invading a territory already adequately served by another interstate carrier and thus injuring one or both of them, by causing an increase in the group rates or by other means."¹⁸⁹

¹⁸⁴ 234 U. S. 342, 350.

¹⁸⁵ See also: *Railroad Comm. of Wis. v. C. B. & O. R. Co.*, 257 U. S. 563, 42 Sup. Ct. 232, 66 L. ed. 371, 22 A. L. R. 1086 (1922); *American Exp. Co. v. S. Dak. ex. rel. Caldwell*, 244 U. S. 617, 37 Sup. Ct. 656, 61 L. ed. 1352 (1917); *Illinois Cent. R. R. Co. v. Public Utilities Comm. of Ill.*, 245 U. S. 493, 38 Sup. Ct. 170, 62 L. ed. 425 (1918); *New York v. United States*, 257 U. S. 591, 42 Sup. Ct. 239, 66 L. ed. 385 (1922), and *Florida v. United States*, 282 U. S. 194, 210, 50 Sup. Ct. 161, 74 L. ed. 1179 (1930), in which Mr. Justice Hughes says that this power of Congress to prevent discrimination against interstate commerce is not open to dispute.

¹⁸⁶ U. S. C. A., title 49.

¹⁸⁷ In a long note to *Texas, etc., R. R. v. Northside R. R.*, 276 U. S. 475, 48 Sup. Ct. 361, 72 L. ed. 661 (1928), Mr. Justice Brandeis collects the "cases in which the Interstate Commerce Commission has granted or denied certificates of convenience and necessity for the construction and operation of new lines . . . lying wholly within the limits of one state." See also: *Piedmont & Northern R. R. v. I. C. C.*, U. S. Sup. Ct. Adv. Op. 664 (May 10, 1932).

¹⁸⁸ *M. K. & T. R. R. v. Northern Oklahoma R. R.* (C. C. A. 8th, 1928) 25 F. (2d) 689, 671.

¹⁸⁹ See also: *Texas and Pacific R. R. v. Gulf, etc., R. R.*, 270 U. S. 266, 46 Sup.

Conversely, the Commission has exercised its authority to prevent unnecessary extensions or construction by interstate lines designed to compete with established intrastate lines.¹⁹⁰

The lines of authority just referred to establish the power of the federal government under the Commerce Clause to control both the rates and the quantity of transportation service with reference to the national interest and to prevent injury to interstate trade by the rivalries of local governments. The analogy to oil production is complete. If the federal government, through its legislative and administrative agencies, can thus control the rates and quantity of transportation service, it is hard to see why it cannot control the quantity of oil transported in interstate commerce; why it cannot establish a system of state proration, under which the quantity shipped by each producing state is limited by reference to production capacity and the existing national market. In so far as the production of oil represents a service to the nation, and in so far as it depends upon the national transportation system for its outlet, it should be subject to federal control.¹⁹¹

Congress has also exerted its power to close the nation to goods that tend to lower American standards, or that tend to injure American lives or institutions. Our protective tariff system is built upon this scheme. The immigration law prohibits the introduction of alien contract labor.¹⁹² And Congress has forbidden the importation of convict-

Ct. 263, 70 L. ed. 578 (1925). For cases holding that the railroad in question was a purely intrastate carrier, and as no interference with interstate commerce was shown, these carriers were not required to obtain certificates of public convenience and necessity: *Smyth v. Asphalt Belt Ry.*, 267 U. S. 326, 45 Sup. Ct. 242, 69 L. ed. 629 (1925); *Texas, etc. R. R. v. Northside R. R.*, 276 U. S. 475, 48 Sup. Ct. 361, 72 L. ed. 661 (1928).

¹⁹⁰ *Western Pacific R. R. v. Southern Pacific R. R.*, 284 U. S. 47, 52 Sup. Ct. 56, 76 L. ed. 120 (1931).

¹⁹¹ The analogies are numerous. The Supreme Court has held that Wisconsin could not require that the federal labels conforming to the Pure Foods and Drugs Act be replaced by state labels, *McDermott v. Wisconsin*, 228 U. S. 115, 33 Sup. Ct. 431, 57 L. ed. 754 (1913); that Minnesota could not place restrictions on the inspection of meats that in effect would close Minnesota's markets to other states, *Minnesota v. Barber*, 136 U. S. 313, 10 Sup. Ct. 862, 34 L. ed. 455 (1890); that North Dakota could not hamper the shipment of grain by adding an additional inspection requirement, *Lemke v. Farmer's Grain Co.*, 258 U. S. 50, 42 Sup. Ct. 244, 66 L. ed. 458, 19 A. L. R. 148 (1921), etc. The upholding of the Safety Appliance Act (*Southern Railway v. United States*, 222 U. S. 20, 32 Sup. Ct. 2, 56 L. ed. 72 (1911)), of the Employers' Liability Act (*Second Employers' Liability Cases*, 223 U. S. 1, 32 Sup. Ct. 169, 56 L. ed. 327, 38 L. R. A. (N. S.) 44 (1912)), and the numerous laws governing the operation of railroads has repeatedly shown that Congress has the exclusive power to keep the channels of commerce free and unhindered.

¹⁹² Act of 1907, 34 Stat. 898, c. 1134, secs. 4 and 5. See *Church of the Holy*

made goods.¹⁹³ True, we are dealing here with foreign, not interstate, commerce. But it must be remembered that the grant of power to Congress over foreign commerce is in the same sentence as the grant of power over interstate commerce; it is submitted that from the point of view of exclusion from commerce for the national good, the extent of the Congressional power ought to be the same.¹⁹⁴ As has been shown, the state cannot exclude convict-made goods.¹⁹⁵ If the federal government can exclude foreign trade in these articles but not interstate trade, the legitimate industry of one state may be placed at the mercy of the convict labor of another state. And as to oil production, the same possibility of injury exists. One state that refuses to conserve its oil can nullify the acts of all other states and produce incalculable injury to them and to the nation. To say that Congress cannot meet this situation seems absurd.¹⁹⁶

One further analogy: In exercising its power over commerce, Congress has frequently enacted prohibitory legislation purporting to regulate interstate commerce, but which was enacted primarily for the purpose of police regulation. Such legislation in general has been ap-

Trinity v. United States, 143 U. S. 457, 12 Sup. Ct. 511, 36 L. ed. 226 (1892); *Scharrenberg v. Dollar S. S. Co.*, 245 U. S. 122, 38 Sup. Ct. 28, 61 L. ed. 542 (1917).

¹⁹³ U. S. C. A., tit. 19, sec. 1305, p. 150.

¹⁹⁴ "This power the Constitution extends to commerce with foreign nations, and among the several states. . . . In regard to foreign nations, it is universally admitted that the words comprehend every species of commercial intercourse. No sort of trade or intercourse can be carried on between this country and another, to which they do not extend. Commerce, as used in the Constitution, is a unit, every part of which is indicated by the term. If this be its admitted meaning in its application to foreign nations, it must carry the same meaning throughout the sentence." STORY, CONSTITUTION, sec. 1065.

Jones, "The Child Labor Decision," 6 CAL. L. REV. 396, 403 (1918), points out that the only limitations on the power over interstate commerce are such as are found in the Constitution itself, and these limitations are the general statement of the principle contained in the Tenth Amendment, and the restriction of due process in the Fifth Amendment.

¹⁹⁵ See note 179, *supra*.

¹⁹⁶ "They [the state] may regulate their internal affairs and domestic commerce as they like. But when they seek to send their products across the state line they are no longer within their rights. If there were no constitution and no Congress, then power to cross the line would depend upon their neighbors. Under the Constitution such commerce belongs not to the States but to Congress to regulate. It may carry out its views of public policy whatever indirect effect they may have on the activities of the States. Instead of being encountered by a prohibitive tariff at her boundaries, the State encounters the public policy of the United States which is for congress to express."—Mr. Justice Holmes, dissenting opinion in *Hammer v. Dagenhart*, 247 U. S. 251, 38 Sup. Ct. 529, 62 L. ed. 1101 (1918).

proved by the Supreme Court. Thus, it was held that interstate commerce could be closed to lottery tickets,¹⁹⁷ to impure and adulterated foods and drugs,¹⁹⁸ to products improperly labelled,¹⁹⁹ to women being transported for the purpose of prostitution,²⁰⁰ to diseased persons or cattle,²⁰¹ to obscene literature,²⁰² to stolen automobiles,²⁰³ to game killed in violation of state game laws,²⁰⁴ to prize fight films,²⁰⁵ to liquor,²⁰⁶ and to goods made in violation of the anti-trust laws.²⁰⁷ Congress has

¹⁹⁷ *Champion v. Ames*, 188 U. S. 321, 23 Sup. Ct. 321, 47 L. ed. 492 (1903).

¹⁹⁸ *Hipolite Egg Co. v. United States*, 220 U. S. 45, 31 Sup. Ct. 364, 55 L. ed. 364 (1911).

¹⁹⁹ *Seven Cases of Eckman's Alternative v. United States*, 239 U. S. 510, 36 Sup. Ct. 190, 60 L. ed. 411 (1916).

²⁰⁰ *Hoke v. United States*, 227 U. S. 308, 33 Sup. Ct. 281, 57 L. ed. 523 (1913); *Athanasaw v. United States*, 227 U. S. 326, 33 Sup. Ct. 285, 57 L. ed. 528 (1913); *Caminetti v. United States*, 242 U. S. 470, 37 Sup. Ct. 192, 61 L. ed. 442, L. R. A. 1917 F. 502 (1917).

²⁰¹ *Thornton v. United States*, 271 U. S. 414, 46 Sup. Ct. 585, 70 L. ed. 1013 (1926).

²⁰² *United States v. Popper*, 98 Fed. 423 (1899), cited with approval in *Hoke v. United States*, 227 U. S. 308.

²⁰³ *Brooks v. United States*, 267 U. S. 432, 45 Sup. Ct. 345, 69 L. ed. 699 (1925).

²⁰⁴ *Rupert v. United States* (C. C. A. 8th, 1910) 181 Fed. 87.

²⁰⁵ Act of July 31, 1921, 37 Stat. 240, made it unlawful to bring prize-fight films into the United States or to deposit them from transport by interstate carriers. The prohibition as to foreign films was upheld in *Weber v. Freed*, 239 U. S. 325, 36 Sup. Ct. 131, 60 L. ed. 308 (1915). Apparently the interstate feature of the act has not been questioned.

²⁰⁶ Prior to the passage of the Wilson Act (26 Stat. 313) the cases were quite uniform in holding that a state could not prevent the importation of intoxicating liquor. *Bowman v. Chicago & N. W. Ry. Co.*, 125 U. S. 465, 8 Sup. Ct. 689, 31 L. ed. 700 (1888); *Leisy v. Hardin*, 125 U. S. 100, 10 Sup. Ct. 681, 34 L. ed. 128 (1890). The Wilson Act purported to give to the control of the states the right to place imported liquors under the same control as liquor produced in the state. This act was upheld in *Re Raher*, 140 U. S. 545, 11 Sup. Ct. 865, 35 L. ed. 572 (1891). In 1913 the Webb-Kenyon Act (37 Stat. 699), entitled "An Act Divesting Intoxicating Liquors of Their Interstate Character in Certain Cases," was passed. Upheld in *Clark Distilling Co. v. Western Maryland R. Co.*, 238 U. S. 190, 37 Sup. Ct. 180, 61 L. ed. 326, L. R. A. 1917B, 1218 (1917). And in 1917 the Reed or "Bone Dry" Act was passed (39 Stat. 1058 at 1069) that made unlawful transportation of liquor into a state or territory, the laws of which prohibited the manufacture or sale therein of intoxicating liquor for beverage purposes. As affecting interstate commerce the act was upheld in *United States v. Hill*, 248 U. S. 420, 39 Sup. Ct. 193, 63 L. ed. 337 (1919).

²⁰⁷ Section 6 of the Sherman Anti-Trust Act, U. S. C. A., tit. 15, sec. 6, p. 145. The act provides that the property of an organization coming under the act, "being in the course of transportation from one State to another, or to a foreign country shall be forfeited to the United States, and may be seized and condemned. . . ." While this is a penalty rather than a prohibition, it is submitted that the effect is the same.

The constitutionality of this act has been settled. See, for example, *Northern*

made these goods "outlaws of commerce."^{208, 209}

Analyzing these statutes: Each is designed to conserve some general interest such as the national health, the national morals, or the national wealth. If Congress can close interstate commerce to goods produced by monopolies, why can it not close the same channels to goods produced under destructive competitive conditions? Monopoly tends to under-production and over-charging; unrestrained competition in the oil industry leads to overproduction and waste; the one is as detrimental to the public interest as the other. It is hard to see why the wasteful production of oil does not fit into the same picture, why Congress is not empowered to take appropriate steps to conserve a natural resource, vital to our economic life. To this end Congress should be able to provide for proration, to prescribe methods of production so as to prevent waste, and to establish a system of inspection similar in all substantial respects to the control of production which is exercised by the Pure Food and Drugs administration. Perhaps it would be undesirable for Congress to go this far, but it is believed that the power of Congress to do so is amply supported by analogy to the legislation already enacted and upheld.

(b) *The Taxing Power*.²¹⁰ To substantiate federal control of the oil industry under the taxing power, an argument parallel in many respects to that just completed in relation to the commerce power could be made. As in the case of the commerce power, Congress has frequently enacted legislation purporting to be a tax measure, but which was enacted primarily for the purpose of police regulation. Thus, Congress has levied upon oleomargarine, when colored so as to resemble butter, a tax so great as obviously to prohibit its manufacture

Securities Co. v. United States, 193 U. S. 197, 24 Sup. Ct. 436, 48 L. ed. 679 (1904); *United States v. American Tobacco Co.*, 221 U. S. 106, 31 Sup. Ct. 632, 55 L. ed. 663 (1911).

²⁰⁸ *Hipolite Egg Co. v. United States*, 220 U. S. 45, 31 Sup. Ct. 364, 55 L. ed. 523 (1913).

²⁰⁹ It is to be noted that *Hammer v. Dagenhart* (the first child labor case), 247 U. S. 251, 38 Sup. Ct. 529, 62 L. ed. 1101, 3 A. L. R. 649 (1918), denied to Congress the power to make the products of child labor "outlaws of commerce." It is submitted that this case is out of line with the cases on this point. For articles criticizing the decision, see: Bates, "Child Labor Law Case—Commerce Power of Congress and Reserved Powers of the States," 17 MICH. L. REV. 83 (1918); Gordon, "The Child Labor Law Case," 32 HARV. L. REV. 45 (1918); Jones, "The Child Labor Decision," 6 CAL. L. REV. 395 (1918); Biklé, "The Commerce Power and *Hammer v. Dagenhart*," 67 U. OF PA. L. REV. 21 (1919); Powell, "The Child Labor Law, the Tenth Amendment, and the Commerce Clause," 3 SO. L. Q. 175 (1918).

²¹⁰ For the taxing power see the Constitution, Art. I, sec. 8.

and sale in competition with butter.²¹¹ It has levied a tax on state banks, the purpose and actual effect of which was to drive them, or at least their circulation, out of existence.²¹² In the same sense Congress might lay a tax upon oil wastefully produced, or upon oil produced in excess of a given allowable.²¹³ However, it does not seem necessary to dwell upon the possibilities of this method of controlling interstate trade in oil as the commerce power seems to furnish a more natural and direct method of achieving the same end.

(c) *The Treaty Power.* The Constitution provides that the President "shall have power, by and with the advice and consent of the Senate," to make treaties.²¹⁴ "This Constitution and the laws of the United States which shall be made in pursuance thereof, and all treaties made or which shall be made under the authority of the United States shall be the Supreme law of the land."²¹⁵

Does this treaty-making power of the United States offer a method of enacting constitutionally valid federal laws which, under other delegated federal powers, would be unconstitutional? The cases apparently answer this query in the affirmative. In *Missouri v. Holland*²¹⁶ the constitutionality of statutes effectuating a treaty between the United States and Canada for the protection of migratory birds was upheld, although a prior federal enactment to the same effect, but not based on treaty, was held invalid as a violation of state rights.²¹⁷ The language of Mr. Justice Holmes in the *Holland* case is significant:

"It is obvious that there may be matters of the sharpest exigency for the national well-being that an act of Congress could not deal with, but that a treaty followed by such an act could, and it is not lightly to be assumed that in matters requiring na-

²¹¹ Upheld in *McCray v. United States*, 195 U. S. 27, 24 Sup. Ct. 769, 49 L. ed. 78, 1 Ann. Cas. 561 (1904): In an elaborate discussion Chief Justice White excluded any inquiry into the purpose of the act which, apart from that purpose, was within the power of Congress.

²¹² Upheld in *Veasie Bank v. Fenno*, 8 Wall 533, 19 L. ed. 482 (1869).

²¹³ In 1922, *Bailey v. Drexel Furniture Co.*, 259 U. S. 20, 42 Sup. Ct. 449, 66 L. ed. 817, held an attempt on the part of Congress to control child labor under the taxing power invalid. The decision has little bearing upon our problem as the statute was so poorly framed that there was little question of its invalidity. (For example, the tax applied with equal force upon manufacturers whether they employed one child or five thousand.)

²¹⁴ United States Constitution, Art. 2, sec. 2, cl. 2.

²¹⁵ Constitution, Art. 6, cl. 2.

²¹⁶ *Missouri v. Holland*, 252 U. S. 416, 40 Sup. Ct. 382, 64 L. ed. 641, 11 A. L. R. 985 (1920).

²¹⁷ *United States v. Shauver*, 214 Fed. 154 (1914).

tional action a 'power which must belong to and somewhere reside in every civilized government' is not to be found."²¹⁸

That this power is broad is pointed out in *Geofroy v. Riggs*.²¹⁹

"That the treaty making power of the United States extends to all proper subjects of negotiation between our government and the governments of other nations is clear. The treaty power, as expressed in the constitution is in terms unlimited, except by those restraints which are found in the instrument. . . . It would not be contended that it extends so far as to authorize what the Constitution forbids, or a change in the character of government, or in that of one of the states, or a cession of any portion of the territory of the latter, without its consent. . . . But with these exceptions, it is not perceived that there is any limit to the questions which can be adjusted touching any matter which is properly the subject of negotiation with a foreign country."²²⁰

To bring the control of oil under the treaty-making power requires, then, but a showing that it is of a nature properly within the scope of international negotiation and agreement. That oil does have such a character is self-evident. One hears of reports of a movement in the League of Nations towards "internationalization of the mineral resources of the world."²²¹ Treaties involving oil have already been signed.²²² The diplomatic exchange of notes between the United States and Mexico over the oil difficulties in the latter country is recent news.²²³ Oil has become an international problem of the first rank. To deny the United States the right to negotiate a treaty of conservation and to pass the necessary legislation to effectuate the treaty would

²¹⁸ See *Hauenstein v. Lynham*, 100 U. S. 483, 25 L. ed. 628 (1800), upholding as against the Law of Virginia a treaty securing to Swiss citizens, heirs of owners of land in the United States, certain rights to the proceeds of a sale thereof. Also *Techt v. Hughes*, 229 N. Y. 222, 128 N. E. 185, 19 MICH. L. REV. 104 (1920).

²¹⁹ *Geofroy v. Riggs*, 133 U. S. 258, 266, 10 Sup. Ct. 295, 297, 33 L. ed. 642 (1890).

²²⁰ See: *Ware v. Hylton*, 3 Call. 199, 1 L. ed. 568 (1796); *Chirac v. Chirac*, 2 Wheat. 259, 4 L. ed. 234 (1817); 8 Ops. Atty. Gen. 417; *People v. Gerke*, 5 Cal. 381 (1855); *Wyman, Petitioner*, 191 Mass. 276, 77 N. E. 379, 114 Am. St. Rep. 601 (1906); *Rocca v. Thompson*, 223 U. S. 317, 32 Sup. Ct. 207, 56 L. ed. 453 (1912).

²²¹ *Brokaw*, "Oil," 6 FOREIGN AFFAIRS 89 (1927).

²²² I LEAGUE OF NATIONS: TREATY SERIES 282 (1920)—France and Great Britain. 43 LEAGUE OF NATIONS: TREATY SERIES 415 (1926)—France and Poland.

²²³ 23 AM. J. INT. L. 30-49, Jan. 1929.

be to deny that "power which must belong to and somewhere reside in every civilized government."²²⁴

Major legislative development in the law of oil and gas has been very recent. The legislative emphasis has shifted from matters of purely local or individual interest to matters of state and national concern. The aims of legislation have changed from the purpose to protect one neighbor against the injurious acts of another to the purpose of protecting groups of owners, and of conserving the resources of state and nation. The major issues of today are issues of administrative control: proration, compulsory unit development, and national control to supplement the measures adopted by the states. With these practical issues of administration are involved at every turn important constitutional questions; some of these have already been determined, others remain to be decided, but it is submitted that they will all be settled ultimately in a manner to allow the needed administrative control of production.

²²⁴ 22 MICH. L. REV. 457 (1924) discusses the treaty-making power in respect to child labor legislation, and Stoke, "The Constitution and the International Labor Conventions," 30 MICH. L. REV. 531 (1932).