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NOTES AND COMMENTS

RAIN MAKING AND THE LAW*

The advent of recent technological advances in the field of meteorology, frequently referred to as rain-making or weather control, have propounded new and interesting problems to the lawyer as well as to the scientist. It is clear, from a description of the methods employed in weather control, that not only will the environment of the social group be affected, but that the rights of individuals are also likely to be concerned. The technique used most generally, at the present time, is one by which iodide particles are injected into rain clouds, either by dispersal from aircraft or by sending the same up from the ground in the form of smoke. These dispersed particles, due to their temperature and mass, hasten the coming of the point at which the moisture in the clouds normally condenses and falls as rain or snow. The accelerated precipitation induced thereby then falls upon the terrain beneath, which land area might not, by reason of the movement of the clouds, otherwise receive the benefit of such moisture.

It is obvious that rights in land, air and water may be affected by such activity. Benefits, unquestionably, are to be derived from the new technique. In California, for example, many acres of valuable timber land were recently saved from forest fire in this way. Water-parched communities in the east have replenished water sources in advance of normal dates. But there is no doubt that "wrongs" done by these rain makers will bring problems to the attorney's office for solution and courts will be faced with the job of making new law.

At present, the attorney faced with a problem concerning rain-making

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* This comment summarizes the arguments advanced by a team representing Chicago-Kent College of Law in the 1950 National Law School Moot Court Competition. The team, consisting of John P. Demling and Russell L. Engber, with Alan D. Katz and David S. Pochis on the brief, defeated representatives of the University of Illinois College of Law, the University of Chicago Law School and the University of Notre Dame School of Law to win the championship both in Illinois and the area covered by the Court of Appeals for the Seventh Circuit.

1 See article entitled "Weather Under Control," Fortune Magazine, February, 1948. Rain making activities may have an adverse effect upon the operator of aircraft although this phase of the problem is not discussed herein. See, for example, Section 5 of the Uniform Aeronautical Regulatory Act, 11 Unif. Laws Anno., p. 177.

2 The blessings are not always unmixed, even to the rainmakers. Time Magazine, Vol. LVII, No. 11, p. 54, under date of March 12, 1951, reports the experience of two California weather consultants who ascended a mountain near Santa Barbara to fulfill a contract with the city. Their machinery worked too well. When they were ready to quit for the day they found they were snowbound. Rescue squads summoned by radio had to bulldoze their way through four-foot drifts for three days before it was possible to bring the snowmakers down to civilization.

will, unfortunately, find little to aid him in the form of reported precedent bearing directly in point. One decision has served, thus far, to introduce the problem to the law reports. In the case of Slutsky v. City of New York, a hotel resort owner sought to enjoin the city from carrying on its rain-making activities on the ground that the same were endangering his resort business. The court, denying relief, stated: "The relief which the plaintiffs ask is opposed to the general welfare and public good; and the dangers which plaintiffs apprehend are purely speculative. This court will not protect a possible private injury at the expense of a positive public advantage." Because of the superior public interest involved, and because the plaintiffs had not otherwise shown themselves sufficiently damaged, or even in danger of being damaged, the case is one of limited value.

Lacking direct precedent upon the point, a pure logical analysis of the problem may be made in an effort to understand the issues likely to be raised by weather control as well as to point the way toward their solution. In much the same way, the existing body of the common law may be examined in order to achieve the same goals. To a limited extent, this note is directed to that end but in any discussion of pertinent principles of the common law it will be assumed that the rights involved are private rather than public, at least to the extent that those concepts may be disconnected. It will also be assumed that the "wrongs" complained of have arisen from an individual's relationship to his real property, for the initial problems in this field will arise when one person, in his successful effort to supply himself and his land with water, has thereby either deprived another person of that water or has, without that intention, over-supplied the other with it. Again, the problem will be considered primarily from the point of view involved.

The question first presents itself, upon learning that rain making involves an alteration in both cloud formation and cloud constituency, whether one may, in any way, lay claim to a legal title to the clouds themselves so as to be in a position to claim damages, even if nominal, from the rain maker who has "seeded" the clouds. The layman, it is submitted, would have little difficulty giving an answer to such a query. He would say that, clouds being but a part of things natural, only nature, or the deities, might lay claim to them. The essence of such thinking is also found in the law. Some things have been said to be the proper subject of private ownership; other things are not. According to Blackstone, most things are naturally subject to private ownership, but other things,

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5 197 Misc. 730, 97 N. Y. S. (2d) 238 (1950).
6 The City of New York was, at the time, suffering from a severe water shortage: New York Times, August 18, 1950, p. 23.
7 197 Misc. 730, 97 N. Y. S. (2d) 238 at 240.
8 Just. Inst., Lib. 2, Tit. 1.
at least while in their natural state, are not. These latter, he has said, must be reduced to possession before they may be classified as being subject to private ownership. Among such things, he has categorized light, air, water, and animals *ferae naturae.*

Upon this ground, it may be said that clouds, in their natural state, are not the proper subject of private ownership, hence one may not claim injury to his property in the clouds themselves for he has no such property. But what of the rain maker? May he be said to act so as to reduce the clouds to his possession? Beside the extreme burden of proving such a possession, it would seem that one can never be said to possess that which he cannot contain, either as fish are caught in a net or as land is circumscribed by a boundary. It is submitted, then, that one may not be said to possess clouds, as that term is used in the common law, they being of such vague and fugitive nature as to remain among those things which can never be subjected to private ownership.

Denying that one might claim legal title to the clouds as such, does it follow that the individual may not claim a beneficial interest in the use of the clouds? The common law theory of natural rights derived from one's ownership of land is not limited merely to the right to exclusive occupancy of the surface. It embraces many aspects of property rights, often designated by special names, such as the right to enjoyment, to lateral support, to riparian rights, and others. May ownership not also encompass another natural right to the uninterrupted fall of rain thereon? It is possible that analogy may be found in the law respecting water rights which may indicate the extent to which one may enjoy rights to the fall of rain. The fact that clouds are essentially nothing more than floating bodies of tiny droplets of water causes the mind to look first to the latter possibility.

The law concerning natural watercourses, a portion of the law of water, defines a natural watercourse as a body of water which flows in a known and defined channel. Generally speaking, if land touches upon such a watercourse, the owner thereof is called a riparian owner and, as such, is entitled to certain benefits in the water supply. He may use the stream flowing past his land for "domestic" or agricultural purposes, but may not, according to the common law, divert the water for other pur-

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*9 Bl. Com., Vol. 1, Book 2, *14. The theory of ownership of even tangible personality, at common law, involved occupancy as an element: 2 Co. Litt., § 416. See also Holmes, The Common Law, p. 216. An example of this element of occupancy, at least as to the ownership of animals *ferae naturae,* may be found in Pierson v. Post, 3 Caines (N. Y.) 175, 2 Am. Dec. 264 (1805).


poses nor pollute the same. The basis of such a rule lies in the fact that the owner of land situate upon a watercourse is said to have a "natural" right, from his favored position adjacent thereto, to the use of the water as a concomitant to his use of the land. In addition, he is said to have a right to have the stream flow along its natural course at its natural rate. This common law view has been expanded into the "reasonable user" rule, which doctrine contemplates that he will make no more than a reasonable use of the riparian stream so as to allow others to enjoy its benefits. One attempting to find analogy in this body of law to the situation here considered, may find substantiation to a large degree in the exercise of common sense.

A farmer who owns land considers himself as owning more than the mineral and carbon compounds of the soil itself. He considers the adjacent stream a necessary element to the beneficial use of that soil. It may well be said that rain is no less a necessary element. To deprive him of the rain that would ordinarily fall on his land is to injure him; to aid him by causing the proper amount of rain to be deposited on his soil benefits him. The artificial rain-maker may act so as to produce either result. But is the similarity of situation one of sufficient degree to warrant the application of the law of natural watercourses to the art of rain making? It should be remembered that that body of law grew out of the idea that watercourses follow defined channels; that they flow with sufficient constancy as to enable the taking of a measurement of the degree of interference with their natural states. Clouds seldom flow, over a period of time and over a single parcel of land, at anything near so constant a form or at so constant a rate. They are vague and wandering things; now here, now gone. This factual difference should cause the attempted analogy to fail, for the mind would have little trouble distinguishing between the two factual situations.

There exists, however, in addition to the common law views concerning rights in natural watercourses, another view known as the doctrine of prior appropriation. This doctrine, followed in many of the western states, treats water as belonging to all people in common but permits one to acquire preferential rights in the water if he can (1) show an intent to apply the water to some beneficial use; (2) demonstrates that he has

13 Taylor v. Rudy, 99 Ark. 128, 137 S. W. 574 (1911); Druley v. Adams, 102 Ill. 177 (1882); Lawrence v. Whitney, 115 N. Y. 410, 22 N. E. 174 (1889).
made a diversion thereof from the natural channel, as by a canal; and (3) has made an application of the water, within a reasonable time, to some useful industry.\textsuperscript{17} Under this view, if one has met the requirements in order to be a prior appropriater, he may appropriate the entire stream.\textsuperscript{18} Now, what of the rain maker? May he be said to be a prior appropriater? It would seem not. He may have intended to appropriate the water in the clouds, may wish to make an appropriation thereof for some useful purpose, but he could hardly be said to have diverted the "natural stream" of moisture from its course, as by some canal or conduit. He has no control over the rain after it begins to fall. He hopes that the force of gravity, and the wind, will cause "his" rain to fall where he desires it, but there is no assurance that it will do so.\textsuperscript{19}

Having thus seen that the law as to natural water courses provides a seeming, but nevertheless inexact, analogy to the problem of weather control, one should consider whether some other aspect of water law provides a better analogy. If clouds are vague and wandering things, not apt to travel in well-defined courses, may the law as to percolating waters be of help? Waters of that character move beneath the surface of the earth but are not confined to any known and well defined channel.\textsuperscript{20} To that extent, they possess characteristics similar to those of clouds and, unlike the waters flowing along natural watercourses or underground streams, they also possess the characteristic of not being readily accessible for the purpose of measurement either as to quantity or rate of flow. If land be likened to air space, and percolating water within the land considered to be like the moisture within the clouds, a rather persuasive analogy begins to appear. Now what would be the result if the law of percolating waters were to be applied to the activities of the rain-maker?

In the first place, two distinct views exist as to the right to claim enjoyment of percolating waters. The common law rule treats such percolating waters as being at the absolute disposal of the owner of the land where the same may be found. According to that rule, the land owner

\textsuperscript{17} McDonald v. Bear River Min. Co., 13 Cal. 233 (1859); State ex rel. Crowley v. District Court, 108 Mont. 89, 88 P. (2d) 23 (1939); Tammer v. Provo Reservoir Co., 99 Utah 139, 98 P. (2d) 695 (1940).
\textsuperscript{18} Hammon v. Rose, 11 Colo. 524, 19 P. 466 (1888); Boltar v. Garrett, 44 Ore. 304, 75 P. 142 (1904).
\textsuperscript{19} It is precisely this lack of control over the fall of rain water which may lead to the institution of tort actions. An extremely effective job of rain making may cause the inundation of land owned by one who has not bargained with the rain maker for any rain at all and who may resent the damage so caused. The case of Slutsky v. City of New York, 197 Misc. 730, 97 N. Y. S. (2d) 238 (1950), may have reached a different result if the resort proprietor had been able to show a real injury to his seasonal prospects from too much rain making in his area.
\textsuperscript{20} Barclay v. Abraham, 21 Iowa 619, 96 N. W. 1080 (1903); Williams v. Ladew, 161 Pa. 283, 29 A. 54 (1894); Herriman Irrigation Co. v. Keil, 25 Utah 96, 69 P. 719 (1902).
would not be liable, in damages, if his taking of the water prevents, or injures, others in their use of the percolating waters.\textsuperscript{21} Most courts in this country, however, have followed a doctrine described as the "reasonable user" rule,\textsuperscript{22} one which limits the right to take percolating water to the extent that the taking thereof is necessary for some useful purpose having a relation to the land from within which the water is taken.\textsuperscript{23} Either aspect of the rule could possess usefulness in the rain making situation. For example, one who seeks to cause rain clouds to condense over his land could claim, under the common law doctrine, that he had an absolute right to appropriate the water if he could extract it from the clouds. The other, injured by being deprived of his prospective rain, might complain under the "reasonable user" doctrine. The outcome would, of course, depend on the court's acceptance of the analogy and also, assuming proof to be possible, on the particular version of the doctrine followed in the jurisdiction. It is submitted, however, that the analogy between percolating waters and waters present in rain clouds has some persuasion in reason. There is value also in the fact that the law relating to percolating waters provides a substantial and well-known body of precedent ready for application in suit based upon the use or deprivation of rain water.

There is the further possibility that the law relating to surface waters may also be applied, by analogy, to the problem at hand. Waters of that kind, as the name implies, exist on the face of the earth but not contained in defined streams, channels, or basins, and the nature thereof is such that the landowner may make use thereof absolutely.\textsuperscript{24} Particularly pertinent may be that portion of the law relating to the obstruction of surface waters. In that regard, three general rules have been developed. One such rule, evolved at common law, holds that a landowner may, at will, prevent surface waters from coming onto his land.\textsuperscript{25} In contrast, the civil law rule declares that all land is under a servitude to receive the


\textsuperscript{22} See, for example, O'Leary v. Herbert, 5 Cal. (2d) 416, 55 P. (2d) 834 (1936); Meeker v. City of East Orange, 77 N. J. L. 623, 74 A. 379 (1909); Forbell v. New York, 164 N. Y. 522, 58 N. E. 644 (1900).


\textsuperscript{25} Levy v. Nash, 87 Ark. 41, 112 S. W. 173 (1908); Bates v. Smith, 100 Mass. 181 (1868).
flow of surface water. There is a third view, seemingly a minority one, which uses the test of reasonableness of conduct. While these rules may be of little value in determining the right of the rain-maker to remove moisture from the clouds, they may be helpful in determining his liability, if any, to adjacent landowners upon whose land the excess waters may be cast. The particular rule to be urged, on the basis of analogy, will, of course, depend upon the given facts and the interest sought to be advanced or protected.

It is not possible to leave the subject without making some reference to the law relating to oil and gas, a body of principles which, at least in the early stages of its development in this country, sprang to a large degree from analogy to common law principles. It may be remembered that a landowner may appropriate all the oil and gas which he can reduce to his possession, even though, by so doing, he may exhaust the supply beneath his neighbor's land, for oil and gas are of fugacious nature. The only qualification that has been expressed to that doctrine, except for statutory regulation, has been based on the idea that the landowner may not wastefully or unnecessarily injure the common reservoir of oil or gas. Decisions respecting oil and gas may have utility, but cases concerning percolating and surface waters should prove more useful. Since they have to do with water, they should possess an inherent psychological effect which might not be gained from the use of cases concerning other fluids or gases.

To this point, the problem has been considered as one arising between individuals. History records that nations have collapsed, entire civilizations have been blotted out, for lack of rainfall or access to water. It is easy to see, therefore, that the public at large has an interest in the supply of rain. Since the public interest may be involved, there is just reason for application of the principle of sovereignty reflected in the exercise of the power of eminent domain. Rain-making activities, from their very nature, take effect beyond the land boundaries of but a few persons; in fact, may well extend beyond the boundaries of a state. Interstate compacts over the use of waters in certain transcontinental rivers are not unknown, so it well may be that the art of rain-making presents a field ripe for legislature regulation. Of necessity, that regulation should be by the federal government to avoid internicine conflict. No attempt will be made to discuss constitutional and policy questions inherent in such a proposal. It is only submitted that, if put to the test, the common law may furnish a working

26 Gormley v. Sanford, 52 Ill. 158 (1869); West v. Taylor, 16 Ore. 165, 13 P. 665 (1888).
basis for the solution of problems which could arise out of litigation between private parties; but, due to the far-reaching effect which weather control may have on the nation, the common law will probably fall short of furnishing a solution for all of the conceivable situations which might arise.  

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29 For other discussions on the subject, see Brooks, "Legal Aspects of Rain-making," 37 Cal. L. R. 114 (1949); Ball, "Shaping the Law of Weather Control," 58 Yale L. J. 213 (1949); and notes in 1 Stan. L. Rev. 43 and 508.