

Michigan Law Review

Volume 68 | Issue 6

1970

Securing, Examining, and Cross-Examining Expert Witnesses in Environmental Cases

David Sive

Follow this and additional works at: <https://repository.law.umich.edu/mlr>



Part of the [Environmental Law Commons](#), [Evidence Commons](#), and the [Litigation Commons](#)

Recommended Citation

David Sive, *Securing, Examining, and Cross-Examining Expert Witnesses in Environmental Cases*, 68 MICH. L. REV. 1175 (1970).

Available at: <https://repository.law.umich.edu/mlr/vol68/iss6/7>

This Article is brought to you for free and open access by the Michigan Law Review at University of Michigan Law School Scholarship Repository. It has been accepted for inclusion in Michigan Law Review by an authorized editor of University of Michigan Law School Scholarship Repository. For more information, please contact mlaw.repository@umich.edu.

SECURING, EXAMINING, AND CROSS- EXAMINING EXPERT WITNESSES IN ENVIRONMENTAL CASES

*David Sive**

IT is a known lawyer's joke, kept carefully from laymen, that if a lawyer does a particular job once, he may deem himself an expert. This observation is even more applicable to the litigation of environmental matters than it is to matters such as chapter XI arrangement proceedings, Securities and Exchange Commission registration statements, or most other fields of acknowledged legal expertise. The reason is self-evident: The field is so new. The number of cases from which to draw one's experience is small, and the variety of fora and consequently of applicable procedural codes is large. The present situation may not be different from that existing in other fields of law which are currently in an evolutionary stage: midway between, at the one extreme, the stage of borrowing most of their substantive and procedural doctrines from already delineated areas of law, and, at the other extreme, the stage when they are recognized as separate bodies of law, with their own doctrines, their own chapters in the encyclopedias, and their own law school courses.

In light of the newness of the field and the paucity of experience among its practitioners, it becomes apparent that the characterization of a lawyer as an expert in this area is often the result much less of talent than of a fondness for the wild woods. But despite the fact that few lawyers have had any extensive experience in environmental litigation, lawyers will be called on more and more frequently in the coming years to try cases involving environmental matters.¹ One of the problems that these lawyers will face, particularly if they are inexperienced in this area, is that of making effective use of expert witnesses; indeed, the use of expert witnesses in environmental litigation involves problems which lawyers have seldom faced in other fields of litigation. Accordingly—recognizing that this author's expertise stems primarily from a fondness for

* Member of the New York Bar. A.B. 1943, Brooklyn College; LL.B. 1948, Columbia University. Chairman, Committee on Natural Resources and Conservation, Association of the Bar of the City of New York; Executive Director, Committee on Natural Resources and Agriculture, 1967 New York State Constitutional Convention.—Ed.

The author would like to express his gratitude to Albert Butzel, Esq., New York City, for his very helpful comments and criticisms.

1. For a thorough discussion of such cases, see Sax, *Public Rights in Public Resources: The Citizen's Role in Conservation and Development*, in *CONTEMPORARY DEVELOPMENTS IN WATER LAW* 136 (C. Johnson & S. Lewis eds. 1970).

nature—this Article will explore the practicalities involved in securing, examining, and cross-examining expert witnesses in “environmental litigation.”

I. APOLOGIA

A. *Scope of the Problem*

It is necessary at the outset to define the scope of the problem with which this Article will deal. Environmental cases are litigated in both judicial and administrative tribunals. The judicial proceedings include plenary actions and special proceedings² and are heard in both federal and state courts. The administrative proceedings include licensing proceedings before federal agencies such as the Federal Power Commission and Atomic Energy Commission.³ Whether such administrative proceedings are deemed quasi-judicial or not, they are within the scope of this Article so long as they are adversary⁴ and involve testimony under oath, examination and cross-examination of witnesses, a formal record of testimonial and documentary evidence, and findings and conclusions based solely on that record. Of course, many legislative bodies and committees, as well as administrative agencies, conduct nonadversary “hearings” with formal records. Such hearings often involve the testimony and statements of large numbers of renowned experts, and a strong case can be made for urging that they are better instruments for ascertaining truth and wisdom than are adversary proceedings.⁵ The focus of this

2. The most important type of special proceedings is statutory review of determinations by agencies such as the Federal Power Commission or the Atomic Energy Commission. See Administrative Procedure Act § 10, 5 U.S.C. § 701 (1964); Federal Power Act § 313, 16 U.S.C. § 825l (1964); Atomic Energy Act § 189, 42 U.S.C. § 2239 (1964).

3. Federal Power Act § 10, 16 U.S.C. § 803 (1964); Atomic Energy Act §§ 101-10, 42 U.S.C. §§ 2131-40 (1964).

4. Proceedings before administrative bodies may not be completely adversary in the sense that the agency plays a merely passive role. The agency's duty may be “an affirmative duty to inquire into and consider all relevant facts.” *Scenic Hudson Preservation Conference v. FPC*, 354 F.2d 608, 620 (2d Cir. 1965), *cert. denied*, 384 U.S. 941 (1966); *accord*, *Isbrandtsen Co. v. United States*, 96 F. Supp. 883, 892 (S.D.N.Y. 1951), *aff'd.*, 342 U.S. 950 (1952). This affirmative duty was described further in *Scenic Hudson*:

In this case, as in many others, the Commission has claimed to be the representative of the public interest. This role does not permit it to act as an umpire blandly calling balls and strikes for adversaries appearing before it; the right of the public must receive active and affirmative protection at the hands of the Commission.

354 F.2d at 620. Both the decision of the Second Circuit in *Scenic Hudson* and the prior and subsequent proceedings before the Federal Power Commission are referred to as the “*Storm King* proceedings.”

5. In environmental matters, frequently involving broad questions of economic and social policy, the basic question often arises whether an adversary proceeding or a leg-

Article, however, is solely on proceedings which are adversary in nature and which involve the procedural aspects described above.

It is also necessary to examine the "environmental" nature of the litigation with which this Article is concerned. First, the Article deals with proceedings which determine the disposition or use of natural resources or aspects of our natural environment. Second, it is concerned only with the problems of, and it looks at the subject matter only through the eyes of, the conservationist who is attempting to protect the resource or environment from one special disposition, use, or claim. This limitation to the problems of the "protectors" is perhaps contrary to tradition as well as injudicious. Such limitation is absolutely necessary, however, because the problems of the two sides are as vastly different from one another as the refining of the pebbles in David's sling was different from the buildup of the might of Goliath's brawn.

The limitation to the problems of the "protectors" also delineates the party position of the client who is the focus of the discussion here. That delineation is important, for one's party position has significant procedural consequences in this area.⁶ In a plenary action, characteristically an action for a declaratory judgment and an injunction, the party position of the conservationist is generally that of the plaintiff. In an administrative proceeding, the relevant position is usually that of an opposing intervenor, that is, one opposing or seeking to condition the grant of a license to use a resource. Thus, the various procedural possibilities in these cases necessarily dictate that one's policy as to the use of expert witnesses be flexible in order to be effective.

B. *Necessity for Using Expert Witnesses*

It is essential, too, before dealing with the practical problems which are the primary focus of this Article, to examine briefly why expert witnesses should be used at all in environmental cases. The traditional role of the expert witness has been to assist adjudicatory bodies in finding out the "truth" in any given matter. The role has been molded by two primary factors: (1) the specific area about which the expert testifies is one in which he is in fact an expert, and (2) the area is beyond the average layman's scope of comprehension.

islative or other nonadversary type of proceeding is best adapted to discover ultimate truth and wisdom. *See generally* J. SAX, *WATER LAW, PLANNING AND POLICY* 308-59 (1968); Comment, *Of Birds, Bees, and the FPC*, 77 *YALE L.J.* 117 (1967). That problem, however, is beyond the scope of this Article.

6. One important consequence is the general priority of the opposite party, the defendant, in the taking of depositions. *See* text accompanying note 25 *infra*.

The expert witness, then, provides knowledge which he, because of his training, has acquired and which would not be brought out or understood without his testimony. The lawyer for the conservationists in an environmental litigation should realize from the beginning that expert witnesses can be just as valuable in this type of case as in cases involving complex scientific data.⁷ The reasons for the importance of utilizing expert testimony in such cases are many. The expert witness usually knows far more about the type of case at hand than does the lawyer, who, as has been pointed out, generally has had little experience in this area. Thus, at the very least, the expert can quickly give the lawyer basic background knowledge about the specific problem; this knowledge will, of course, provide much of the theoretical framework within which the lawyer will prepare his practical legal strategy. It is fundamental that the more the lawyer really understands about various factors and problems present in any one case, the more able he will be to present as good a case as possible for his client.

In addition, in many cases, the expert witness can fulfill the traditional role of the expert—that of enlightening others on subjects which they could not fully grasp on their own. In this regard the expert may be crucial to the “protectors’” case. A court may not understand why, simply to “save the environment,” it should enjoin the government from building a highway through a marsh or swamp. Indeed, to issue such an injunction on such vague grounds might well seem to a court to be a “step against progress.” But the same court may at least weigh the competing considerations if an expert explains the fundamental theory of the delicate eco-system present in such a marsh. In some environmental cases, then, the expert, simply by fulfilling his traditional role, can make a vast difference in the outcome of the litigation.

The expert witness can also play a vital role in cases in which the question involved is more of aesthetics than of upsetting the balance of nature.⁸ In such cases, expert testimony is, by definition, far less precise because of the more subjective nature of his expertise. It is a much more difficult proposition, it seems, to produce expert testimony on the aesthetics of natural resources than it is to produce such testimony on the ecological balance present in a stream. Yet there are two reasons why such evidence should be intro-

7. See note 34 *infra* and accompanying text. See generally J. SAX, WATER LAW, PLANNING AND POLICY 314-16, 323, 328, 333-34 (1970) (reprinting portions of the briefs in the *Storm King* proceedings that deal with scientific and technical issues).

8. See notes 32-35 *infra* and accompanying text.

duced. First, any testimony, whether aesthetic or scientific, seems more influential if given by an "expert." Thus, as a matter of strategy, testimony as to aesthetics should be given by experts, for no matter how subjective their opinions in reality are, the very fact that the witnesses are introduced as experts would appear to imply objectivity in their critical standards. Second, such testimony may be helpful simply in articulating, in the best possible language, the "protectors'" position. A teacher of the fine arts, for example, is likely to be far more poetic, and thus, it is hoped, persuasive, in his description of aesthetic values than would someone who does not have his background, training, and interest in that field. For these reasons, the attorney for the "protectors" in any environmental litigation should secure and use expert witnesses at the earliest possible stage of the proceedings.

It is in light of the foregoing considerations that this Article will discuss the effective use of expert witnesses in environmental cases. Specifically, the Article will deal with five aspects of the problem: (1) selecting, securing, and compensating the expert witness; (2) the availability and conduct of discovery proceedings; (3) preparing the witness' direct testimony; (4) preparing the witness for cross-examination; and (5) the conduct of the examination and cross-examination at the hearing or trial.

II. SELECTING, SECURING, AND COMPENSATING THE EXPERT

The initial problem in utilizing expert testimony is, of course, that of finding a competent expert witness. Since conservation groups are often concentrated very heavily in college and university communities, it is there that many good expert witnesses may be found. Thus, the conservationists' lawyer should open, and keep open, as many avenues of contact as possible with nearby academic communities. Other useful sources of expert witnesses are the various conservation societies which are rapidly multiplying. A catalogue of the various fields of expertise which members of these organizations may possess is of great help. Such a catalogue can be compiled and maintained through the use of questionnaires periodically sent to members. The conservationists' lawyer should continually be enlarging and updating these files of potential witnesses. He should also be in constant contact with other conservationist lawyers so that as large a pool of common knowledge as possible is built up. "Protectors" have a common cause and should assist one another as much as possible in the pooling of pertinent information.

Once a competent expert is found, the next problem is securing his services for trial. The primary problem in securing the services of an expert is often money. Protectors of resources and their lawyers, with very rare exceptions, simply cannot go out into the market and pay the arms' length fees of experts, since such experts generally receive from three hundred to seven hundred fifty dollars per day plus expenses. Fortunately, there are numerous experts who are willing to contribute their time without charge because they are dedicated to the cause of conservation. That dedication exists to an inspiring degree among surprisingly large numbers of expert physical and social scientists and others who are officers, employees, or merely members of major conservation organizations or citizens' groups which attempt to protect our nation's resources.⁹ Thus, in many environmental cases, the conservationists are able to procure expert testimony without having to pay high fees, simply because the expert witnesses are themselves "protectors" and believe strongly enough in the cause they are advancing not to try to reap large personal gains from their efforts in the case.

Another helpful factor in persuading an expert witness to testify, even though he can be paid very little, is that environmental litigation is a matter of wide public importance and concern. Expert testimony in an important environmental litigation is a mark of prestige in almost anyone's curriculum vitae, although many persons who have rendered great service in such cases hardly need any such additional credentials. It is no derogation of the nobility and selflessness of those who have given many whole days and weeks, with no or ridiculously small compensation, to point out that such recognition may be helpful to the expert witnesses in intangible ways.

Balancing the advantages of dedication and evangelism against those of money, it appears that when the expert testimony is concerned with the resources or planning issue per se and thus requires less background data than does more technical testimony, the conservationist lawyer is fully as able to secure expert witnesses and testimony as is the opposition.¹⁰ When the testimony is more technical in nature, however, the conservationists' zeal cannot match the opposition's dollars.

9. In the *Storm King* proceedings, for example, several scientists, professors, and conservationists were willing to testify for the Scenic Hudson Preservation Conference and the Sierra Club without compensation, including Vincent Scully, Charles Callison, Richard Pough, David Browder, and Richard Edes Harrison. See note 34 *infra*.

10. See note 9 *supra* and note 34 *infra* and accompanying text.

In this connection, the conservationist lawyer should be aware of the tax consequences to the expert if that expert offers to testify. The question is often asked whether the expert may deduct the value of his services against income, as a charitable deduction. The answer is clearly that he may not. The explanation is simple: if the compensation were actually received, it would be ordinary income; and if the amount were then donated back to the organization, the net tax effect would be zero.¹¹ In addition, when the testimony is given in the federal courts, statutory witness fees and mileage are taxable costs,¹² but the amount of compensation of expert witnesses is generally not taxable.¹³

III. THE AVAILABILITY AND CONDUCT OF DISCOVERY PROCEDURES

The conduct of an environmental litigation is governed, perhaps even more than is the conduct of most other litigations, by the availability of discovery proceedings—depositions on oral examination, inspection of documents and physical objects, and written interrogatories. The conservationists' lawyers should therefore make as efficient and effective use of the various discovery proceedings as is possible; the protectors, in other words, have a real need for the discovery procedures. This need for discovery is caused primarily by the tremendous inequality of knowledge, between the conservation organization and the governmental agency or other resource user or developer, concerning the project under examination. The mountains of studies, plans, and relevant files usually are all in possession of or controlled by the resource user. The hard evidentiary facts are often buried deep in the platitudinous gobbledygook in which bureaucrats specialize—a process in which the personnel of agencies dealing with resources seem to approach perfection.

Obtaining the hard evidence prior to trial is of special concern in connection with conservationists' expert testimony, because only with those facts can the experts' affirmative testimony be prepared. If the litigation is a plenary action, the conservationist group is typically the plaintiff, and its case must therefore be presented first.¹⁴

11. Rev. Rul. 67-236, 1967-2 CUM. BULL. 103.

12. See *Baxter & Bros. v. Great Atl. & Pac. Tea Co.*, 44 F.R.D. 49 (D. Me. 1968).

13. See *Firtag v. Gentleman*, 152 F. Supp. 226 (D.D.C. 1957).

14. In an administrative proceeding, however, the case of the project proponent is generally presented first. If at all possible, a gap of time should be secured between the examination and cross-examination of the proponent's witnesses and the presentation of the objector's case. In the *Storm King* proceedings, adequate data

Without discovery proceedings, the very persons who would be examined on pre-trial depositions may have to be called as plaintiff's witnesses; and although under most present-day procedural codes one is not bound by the statements of one's own witness if that witness is hostile,¹⁵ nevertheless learning the facts by day and preparing the testimony of one's expert by night is not an efficient method of trial preparation. Therefore, at the very earliest point in preparing the case—even before the proceeding is brought, and as an important factor in determining whether the proceeding should be brought—the lawyer should ascertain the availability of discovery proceedings.

In a judicial proceeding, if there is a choice between some type of special proceeding and a plenary action, the general availability of discovery in the plenary action is almost enough, in and of itself, to dictate choosing that form of action. The rules governing proceedings before most federal agencies dealing with the regulation of resources do not permit discovery as a matter of right, although they do authorize applications for discovery.¹⁶ In such proceedings, however, discovery can often be obtained on an informal basis, encouraged by a hearing examiner who realizes the great savings in time. For example, in the proceedings involved in *Scenic Hudson Preservation Conference v. FPC*¹⁷ (the *Storm King* litigation), a vast amount of data was disclosed by the applicant outside of any formal discovery proceedings on a voluntary basis or under gentle prodding by the hearing examiner.¹⁸ In many cases the time factor may appreciably limit the use and value of discovery proceedings for the preparation of the testimony of expert witnesses. Whatever the disposition of the preliminary injunction motion that is usually made (because the injunction action is typically commenced in the very shadow of the bulldozer blades), the trial is generally expedited in environmental cases, and the time for discovery and all other trial preparation is severely abbreviated. In *Citizens Committee for the*

concerning several important aspects of the project were not secured until the applicant's direct examination was over and cross-examination completed. Because under the rules of the Federal Power Commission, 18 C.F.R. §§ 1.20(f),(g), 1.22 (1970), the objectors' prepared direct testimony is generally required to be submitted before any cross-examination, some of the objectors' most effective technical presentations were made on rebuttal.

15. See, e.g., FED. R. CIV. P. 43(b).

16. See, e.g., FPC R. PRAC. & P., 18 C.F.R. § 1.24 (1970).

17. 354 F.2d 608 (2d Cir. 1965), cert. denied, 384 U.S. 941 (1966).

18. See generally J. SAX, WATER LAW, PLANNING AND POLICY 313-59 (1967).

*Hudson Valley v. Volpe*¹⁹ (the *Hudson River Expressway* cases), for instance, the rapid sequence of activity—preliminary-injunction motions, appeals from their denial, the court of appeals' affirmance with direction that a trial begin in four weeks, depositions on almost a day-to-day basis, pretrial hearings and motions, and trial itself—severely limited both the efficacy of the discovery proceedings and the use at trial of testimony elicited through discovery.²⁰ The presentation of plaintiffs' case was to some extent a continuation of the discovery process, since some of plaintiffs' main witnesses were officials of the defendant governmental agency. Because judicial proceedings are generally expedited in environmental cases, then, the lawyer must be ready to prepare his case quickly and effectively. If he is not ready and has not prepared all of his strategy, the fast-moving sequence of judicial events will almost certainly cause his case to be presented in an incoherent and incomplete fashion.

In this connection, there are two useful techniques which plaintiffs' counsel can use in launching discovery almost simultaneously with the commencement of the action. Both are based on the Federal Rules of Civil Procedure. The first is to secure, *ex parte*, an order permitting the taking of depositions before the twentieth day after commencement of an action.²¹ The second is to make use of discovery by interrogatories to parties from and after the eleventh day after commencement of an action.²² Discovery for the purpose of determining the necessity of a preliminary-injunction motion may

19. 297 F. Supp. 804 (S.D.N.Y.), *affd.*, No. 33,371 (2d Cir. March 19, 1969) (motion for preliminary injunction); Citizens Comm. for the Hudson Valley v. Volpe, 297 F. Supp. 809 (S.D.N.Y. 1969) (motion to dismiss); Citizens Comm. for the Hudson Valley v. Volpe, 302 F. Supp. 1083 (S.D.N.Y. 1969), *affd.*, No. 34,010 (2d Cir. April 16, 1970) (permanent injunction) [hereinafter *Hudson River Expressway* cases].

20. In the *Hudson River Expressway* litigation, the following activities were compressed into a five-month period: the making, briefing, and argument of preliminary motions; the taking, briefing, and argument of appeals from denial of the preliminary injunction motions; the taking of extensive depositions; the briefing and argument of a number of other jurisdictional motions; several pretrial hearings; the working out of a pretrial order; and a five-week trial.

21. *See, e.g.*, Noerr Motor Freight, Inc. v. Eastern R.R. Presidents Conference, 14 F.R.D. 189 (E.D. Pa. 1953). This technique will be unnecessary for plaintiffs in the federal district courts upon the effectuation of new Federal Rule of Civil Procedure 26(d) on July 1, 1970. *See* notes 22, 25 *infra*.

22. *See* Keller-Dorian Colorfilm Corp. v. Eastman Kodak Co., 9 F.R.D. 432 (S.D.N.Y. 1949); 4 J. MOORE, FEDERAL PRACTICE § 26.09 (2d ed. 1969 rev.). *But see* recently amended FED. R. CIV. P. 33, effective July 1, 1970, which permits service of interrogatories upon defendants, without leave of court, with or after the service of the summons and complaint on the defendant. The techniques described in the text accompanying notes 21 and 22, however, will remain quite useful in actions brought in state courts. *See* note 25 *infra*.

be permitted upon the institution of an action,²³ and discovery to secure information to place before the court on such a motion would also seem proper.²⁴

In any event, the drastic shortening of the procedure does ease one problem of plaintiffs generally—the fact that under many codes of civil procedure defendants have priority in the taking of depositions.²⁵ As a result of the shortened procedure in environmental cases, depositions are generally scheduled on the basis of the availability of witnesses and the convenience of counsel, rather than according to the priority gained by the first service of a notice.

The conservationist lawyer, in employing discovery techniques in order to gain the information necessary to prepare the testimony of his own experts may wish to conduct a pretrial examination of the opposition's experts. Such examination is very limited, since the usual rule in the federal courts requires a showing of good cause and special circumstances.²⁶ However, the recent trend is toward liberalization of this rule,²⁷ and what was said in a federal-condemnation case concerning the necessity of examining the government's expert witnesses should also apply to environmental litigations in which the opposition's experts are governmental officials or other witnesses testifying for the government:

I am inclined to think that such necessity or justification is implicit in every eminent domain case. There is nothing sacred about the rights of the government in eminent domain proceedings. The government ought to be as frank, fair and honest with its citizens as it requires its citizens to be with it.²⁸

23. See *Hiltonhead Fishing Co-op, Inc. v. BASF Corp.*, Civ. No. 70,105 (D.S.C., filed Feb. 10, 1970).

24. See *Hiltonhead Fishing Co-op, Inc. v. BASF Corp.*, Civ. No. 70,105 (D.S.C., filed Feb. 10, 1970).

25. See, e.g., FED. R. CIV. P. 26; N.J. CIV. PRAC. R. 4:10-1; N.Y. CIV. PRAC. LAW § 3106(a) (1970).

Federal Rule 26, and Rules 29-37, have all been recently amended, and will become effective in July 1970. These new rules will greatly liberalize present federal discovery practice; for example, amended rule 26 will permit plaintiffs to have priority or to make discovery simultaneously with defendants. See Advisory Committee's Note to Rule 26, 43 F.R.D. 236-37 (1968); Duskow, *Procedural Aspects of Discovery*, 45 F.R.D. 498, 501-03 (1969).

26. See *Cox v. Fennelly*, 40 F.R.D. 1 (S.D.N.Y. 1966); *Lewis v. United Airlines Transp. Corp.*, 32 F. Supp. 21 (W.D. Pa. 1940). But see amended FED. R. CIV. P. 26(b)(4), effective July 1970; Advisory Committee's Note to Rule 26, 43 F.R.D. 233-35 (1968).

27. See *Sanford Constr. Co. v. Kaiser Aluminum & Chem. Sales, Inc.*, 45 F.R.D. 465 (E.D. Ky. 1968); *Franks v. National Dairy Prods. Corp.*, 41 F.R.D. 234 (W.D. Tex. 1966); amended FED. R. CIV. P. 26(b)(4), effective July 1970.

28. *United States v. 364.82 Acres of Land*, 38 F.R.D. 411, 415 (N.D. Cal. 1965).

In this regard, however, it has been held that only the factual portions of the testimony or report of an adverse party's expert may be discovered, and not his opinions or conclusions per se.²⁹ Nevertheless, the opinions or conclusions of the governmental agency's expert are frequently embodied in the reports or brochures issued in promotion of the project, and such reports are very handy outlines for questioning. In general, it can safely be said that the ordinary limitations on the pretrial discovery of an adverse party's experts are much weaker in environmental litigation than they are in most commercial or tort actions. This difference is in part based on the pressure of time, under which the judge may find that the simplest means of expedition is to rely on a liberal scope-of-discovery rule.

IV. PREPARING THE WITNESS' DIRECT TESTIMONY

A. *The Conservationists' Own Expert*

To the extent that there are special problems in the preparation of the direct testimony of experts in environmental litigation, those problems relate more to the substance of the litigation than to the procedure. The necessity that the attorney be as expert as, or more expert than, the expert, the importance of the collection and ready availability of the materials upon which the testimony is based, the existence or nonexistence of a rule rendering it necessary to elicit expert opinions by the traditional hypothetical question,³⁰ and most of the other advice found in trial practice guides, all apply to environmental litigations just as they apply to other actions. The special problems stem primarily from the fact that the subject matters of the expert testimony in environmental cases often involve questions of aesthetics.

A threshold problem in this area is that most expert witnesses testifying on behalf of conservationists in environmental cases are not professional witnesses, and for many it may be their first experience in an adversary litigation, although they may have frequently

29. *United States v. 284,392 Square Feet of Floor Space*, 203 F. Supp. 75, 77 (E.D.N.Y. 1962); *Maginnis v. Westinghouse Elec. Corp.*, 207 F. Supp. 739 (E.D. La. 1962); *Julius Hyman & Co. v. American Motorists Ins. Co.*, 17 F.R.D. 386 (D. Colo. 1955). *But see* amended FED. R. Civ. P. 26(b)(4) ("Discovery of facts known and opinions held by experts . . . may be obtained . . .").

30. *See, e.g.*, N.J. EVIDENCE R. 58; N.Y. CIV. PRAC. LAW § 4515 (1970), both of which render hypothetical questions unnecessary. *See also* FED. R. Civ. P. 43(a), under which "the statute or rule which favors the reception of the evidence," as between the rules of evidence applied in federal courts of equity prior to 1938 or the rules of the state in which the federal court is held, governs the reception of the evidence.

been "witnesses" at legislative hearings. Thus, a special effort must be made to explain to them the difference between the two types of hearings.

The *Storm King* litigation is perhaps the best example of the problems which the existence of aesthetic questions can cause in an environmental case. In that case, a citizens' conservation group opposed the grant of a license by the Federal Power Commission to the applicant, Consolidated Edison Company, to build a pumped-storage reservoir at Storm King Mountain. The United States Court of Appeals for the Second Circuit, in reversing the grant of the license, remanded the proceedings to the Commission. The nature of the proceedings to be held on remand was outlined in the now classic language of Circuit Judge Paul R. Hays:

The Commission's renewed proceedings must include as a basic concern the preservation of natural beauty and of national historic shrines, keeping in mind that, in our affluent society, the cost of a project is only one of several factors to be considered.³¹

The court's direction as to the nature of the renewed proceedings required an appraisal and analysis of the scenic beauty and of the place in history of Storm King Mountain and the surrounding area, for only by such an appraisal and analysis could the "basic concern" of "the preservation of natural beauty and of national historic shrines" be properly considered alongside the "cost of [the] project."³² Such measurement of natural beauty and the balancing of it against purely economic considerations has been, and probably will be, involved in most environmental cases. The primary duty of the expert witness, then, is to persuade the court that the aesthetic qualities of the natural resource in question are so great that any destruction of those qualities, for whatever practical or economic reason, will leave society worse off. The expert witness must convince the court that aesthetic values outweigh the practical economic reasons for any project which threatens the nation's natural resources.

In the *Storm King* litigation, for example, the scenic beauty could not be measured quantitatively. Nor, however, could it be

31. 354 F.2d at 624. Under § 102 of the National Environmental Policy Act of 1969, Pub. L. No. 91-190 (Jan. 1, 1970), the same "basic concern" may be a requirement in every significant resource determination by a federal agency. This contention is now before the court in *Hiltonhead Fishing Co-op, Inc. v. BASF Corp.*, Civ. No. 70,105 (filed Feb. 10, 1970), pending in the federal district court in South Carolina.

32. 354 F.2d at 620.

claimed to be a purely subjective matter, for there would then be no standard by which the Commission or a court could hold Storm King Mountain to be more worthy of preservation than any other acreage which any person held particularly dear. Thus, it became the task of the two active intervenors opposing the project, the Scenic Hudson Preservation Conference and the Sierra Club, to prove, under the ordinary rules of evidence, the degree of natural beauty of Storm King. It required development of a theory and technique for which, so far as the attorneys for the two organizations could ascertain, there was no precedent; in no prior litigation known to them was there the problem of ascertaining the value to an "affluent society" of a landscape and the problem of weighing that value against cost factors.

Recognizing that a precise measurement was impossible, they attempted to develop a theory of proof which, they felt, did meet the demands of the court of appeals. The beginning point was a presumption of fact and of law that there do exist in this country some landscapes which are recognized as beyond any claims of use for power or other industrial purposes, except perhaps in some crisis not yet reached. Those landscapes are our national parks and national monuments. Absent some national emergency graver than any yet posed, no Federal Power Commission or court would hold that a power plant in the Yosemite Valley could satisfy the basic requirement of section 10(a) of the Federal Power Act that "the project adopted . . . shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways" ³³

The Hudson Highlands are not located within any national park and no serious proposal has been made to create a national park in that area. But proof that their beauty is as unique as that of areas such as Yosemite, the Olympic Mountains, and the Great Smokies did not seem too difficult, in light of some basic facts familiar to any moderately sophisticated geography student: that very few rivers cut through the main chain of the Appalachian Mountains from Georgia all the way to Maine; that the rivers which do so are the most spectacular at those very points, and that the only river which does so at sea level and is at that point wide and deep enough for oceangoing vessels is the Hudson.

The lawyers attempted to prove those facts primarily through

33. 16 U.S.C. § 803(a) (1964).

the expert testimony of seven men: a leading planner and professor of planning, a professor of art history, a renowned cartographer, and four leaders in the conservation movement.³⁴ The testimony of those seven experts was a mixture of eloquence and dry analysis, but it was all directed, in one way or another, toward the conclusion that the Hudson River at Storm King Mountain possesses sufficient scenic beauty that it should be protected against those who seek to use the area for an industrial enterprise.³⁵ With a few minor por-

34. The planner was Professor Charles W. Eliot, 2d, of Harvard University; the professor of art history was Vincent J. Scully of Yale University; the cartographer was Richard Edes Harrison; and the conservation leaders were Charles Callison, David Brower, Richard Pough, and Anthony Wayne Smith, of the National Audubon Society, Sierra Club, Open Space Action Committee, and National Parks Association, respectively.

35. The testimony that was most strikingly eloquent was Professor Scully's description of Storm King Mountain:

It rises like a brown bear out of the river, a dome of living granite, swelling with animal power. It is not picturesque in the softer sense of the word but awesome, a primitive bodiment of the energies of the earth. It makes the character of wild nature physically visible in monumental form. As such it strongly reminds me of some of the natural formations which mark sacred sites in Greece and signal the presence of the Gods; it recalls Lerna in Argolis, for example, where Herakles fought the Hydra, and various sites of Artemis and Aphrodite where the mother of the beasts rises savagely out of the water. While Breakneck Ridge across the river resembles the winged hill of tilted strata that looms into the Gulf of Corinth near Calydon.

Hence, Storm King and Breakneck Ridge form an ideal portal for the grand stretch of the Hudson below them. The dome of one is balanced by the horns of the other; but they are both crude shapes, and appropriately so, since the urbanistic point of the Hudson in that area lies in the fact that it preserves and embodies the most savage and untrammelled characteristics of the wild at the very threshold of New York. It can still make the city dweller emotionally aware of what he most needs to know: that nature still exists, with its own laws, rhythms, and powers, separate from human desires.

Record at 4888-89, *In re Consolidated Edison Co. of New York, Inc.*, Project No. 2338 (FPC 1967) [hereinafter Record I].

The clearest and most direct opinion was rendered by Mr. Callison:

The Hudson River from its origin to the sea is a river of great beauty. Where it flows through the Highlands, from the breath-taking gateway at Storm King Mountain to Dunderberg downstream, the scenery from the river, or from either shore, is supreme. In my opinion this is the most beautiful stretch of river scenery in the United States.

Record I, at 4786. The supremacy of the scenic beauty of the Hudson at Storm King is directly related, said Mr. Callison, "to the dominant geological feature of eastern United States, the Appalachian Mountains." *Id.* The Hudson Gorge, he said, "is one of very few places where the main chain of the Appalachians is broken by a river." Record I, at 4787. Finally, he compared the Hudson to the other rivers cutting through the Appalachian Mountains:

Moreover none of the other rivers has the history, the drama of the Hudson. None has been as much the very waterway of history, the gateway to the north and west, the "northwest passage" to an empire, if not to the Orient as Henry Hudson thought it might be. In short, the Highlands and Storm King Mountain are unique topographical and scenic features, not only in the East, but in the entire country. In the far West there are rivers that run through deeper gorges, the Colorado, the Snake, the Yellowstone, the Salmon, and the Columbia to name a few. But none of them, except perhaps the Columbia, is so great a river of

tions of the prepared testimony being stricken on motion, the experts' testimony was admitted.

The preparation and introduction of such expert testimony, aimed at preserving aesthetic value by balancing aesthetic qualities against bare economic facts, poses some special problems under three traditional rules governing expert testimony. Although those rules have been subject to attack in recent years, they do have some ongoing vitality. But if there is one area in which they should be inapplicable, it is the area of environmental litigation.

One such rule is that expert testimony on the matter directly in issue is inadmissible, particularly if the issue is a mixed one of fact and law.³⁶ In the *Storm King* litigation, the degree of scenic beauty of Storm King Mountain was a matter placed directly in issue by the court of appeals. Nevertheless, the testimony of the experts was received over objections based upon this traditional rule. An even more basic and ultimate issue of fact and of law in the *Storm King* litigation was whether the project "will be best adapted to a comprehensive plan for improving or developing . . ." the waterway—the Hudson River and Valley.³⁷ Yet the expert testimony, both of the applicants' witnesses and of the opposing intervenors' witnesses, was received in the form of answers to almost that very question—whether the project "will be best adapted to [such] a comprehensive plan."

A second traditional rule is that expert testimony is not admissible if it deals with matters of common knowledge.³⁸ It has been argued in environmental cases, including the *Storm King* and *Hudson River Expressway* cases, that the beauty of a mountain or a river, or of a highway, is a matter of common knowledge; and that any truck driver, as well as the foremost conservationist, is entitled

history, of commerce, and of empire, connecting great mountains and wilderness with a great city and seaport at its mouth.
Record I, at 4789.

36. *United States v. Spaulding*, 293 U.S. 498 (1935); *United States v. Robert*, 192 F.2d 893, 897-98 (5th Cir. 1951); *United States v. Nelson*, 102 F.2d 515 (8th Cir.), *cert. denied*, 308 U.S. 550 (1939); *But see Padgett v. Southern Ry.*, 396 F.2d 303 (6th Cir. 1968); *Cameron v. New York Life Ins. Co.*, 301 F.2d 208 (6th Cir. 1962).

37. *See Federal Power Act* § 10(a), 16 U.S.C. § 803(a) (1964). *See text accompanying note 33 supra*.

38. *Salem v. United States Lines Co.*, 370 U.S. 31 (1962); *Webb v. Fuller Brush Co.*, 378 F.2d 500 (3d Cir. 1967); *Sternberg v. Indemnity Ins. Co. of North America*, 364 F.2d 266 (5th Cir. 1966); *Noah v. Bowery Sav. Bank*, 225 N.Y. 284, 122 N.E. 235 (1919). *But see Scott v. WKJG, Inc.*, 376 F.2d 467 (7th Cir.), *cert. denied*, 389 U.S. 832 (1967); *Parmelee v. United States*, 113 F.2d 729 (D.C. Cir. 1940).

to his opinion.³⁹ Countering such arguments without the appearance of condescension or conceit is a problem. Moreover, the problem is not solved even when the testimony is received. Theories must be advanced under which that testimony will be granted due weight by the hearing examiner or by the trial judge. One such theory was advanced by Richard Pough, an expert for the opposing intervenors in the *Storm King* litigation,⁴⁰ although that theory cannot at the present time be said to be accepted since the hearing examiner recommended the grant of Consolidated Edison's application.⁴¹ The theory is that beauty created by nature is equal in value to, and is to be accorded reverence equal to that of, the beauty of music, art, or poetry, and that experts should be available to testify to degrees of natural beauty just as they are able to testify to the quality of mortals' art. From this premise it follows that the traditional rule concerning expert evidence on matters of common knowledge should no more exclude the testimony of Professor Vincent Scully, an art history professor, concerning Storm King—or preclude attaching substantial weight to that testimony—than it should do so to the testimony of Leonard Bernstein on the value of a work of music, being litigated perhaps in an estate tax proceeding.⁴²

A third traditional rule governing expert testimony can hardly be fairly applied in environmental litigation. That rule is that the facts upon which an opinion is based must be established by evidence.⁴³ This rule, of course, has several qualifications in ordinary nonenvironmental litigation. An expert surely may, for example, rely on any facts which are of such a nature that the court itself may take judicial cognizance of them, and he may also rely on reports not in evidence if such reliance is in accord with the practice of his profession.⁴⁴ In environmental cases, however, none of the quali-

39. See Brief for Applicant Consolidated Edison Co., *In re Consolidated Edison Co. of New York, Inc.*, Project No. 2338 (FPC, filed Aug. 4, 1967).

40. Record I, at 14,786.

41. Presiding Examiner's Initial Decision, *In re Consolidated Edison Co. of New York, Inc.*, Project No. 2338 (FPC Aug. 6, 1968).

42. Cf. *Golding v. R.K.O. Pictures, Inc.*, 35 Cal. 2d 690, 208 P.2d 1 (1949) (valuation of play).

43. See *Grand Island Grain Co. v. Roush Mobile Home Sales, Inc.*, 391 F.2d 35 (8th Cir. 1968); *Simpson v. Skelly Oil Co.*, 371 F.2d 563 (8th Cir. 1967); *Henkel v. Varner*, 138 F.2d 934 (D.C. Cir. 1943); *Mozer v. Aetna Life Ins. Co.*, 126 F.2d 141, 144 (3d Cir. 1942). *But see* *Grain Dealers Natl. Mut. Fire Ins. Co. v. Harrison*, 190 F.2d 726 (5th Cir. 1951); *Chicago, St. P., M. & O. Ry. v. Muldowney*, 130 F.2d 971 (8th Cir. 1942), *cert. denied*, 317 U.S. 700 (1943).

44. *Jenkins v. U.S.*, 307 F.2d 637, 641 (D.C. Cir. 1962); *Mitchell v. City Ice Co.*, 273 F.2d 560 (5th Cir. 1960); *Gwathmey v. United States*, 215 F.2d 148 (5th Cir. 1954);

fications generally available really support the admissibility or weight of expert testimony. An example of such testimony is that of Richard Pough in the *Storm King* case. The issue involved arose out of literally hundreds of pages of expert testimony, adduced by both sides; and it concerned the precise degree of visibility of the project works from many different angles and locations, in all seasons, at all times of day and night, and in all weather. Mr. Pough testified that any such mathematical computations were not important. The issue, he said, was the "integrity of the Mountain" itself,⁴⁵ that is, the integrity of the mountain to those who observe it. Was it to be interpreted as a demonstration of the scientific, judicial, and political prowess of the Consolidated Edison Company or as a uniquely beautiful creation of nature?⁴⁶ If Mr. Pough was to testify on this issue, his testimony could hardly have been based on facts established by evidence.

B. *The Adverse Party's Employee*

The preparation of the direct testimony of one's own expert is a cooperative process between expert and lawyer; and there is no problem of adversity of interest, although sometimes there are clashes of temperaments and techniques. The adverse party's expert, on the other hand, cannot generally be called for *direct* testimony, because an expert may not be compelled, against his will, to render expert testimony.⁴⁷ Of course, an adverse party's expert may be sub-

Baltimore American Ins. Co. of New York v. Pecos Mercantile Co., 122 F.2d 143 (10th Cir. 1941).

45. Record I, at 14,786.

46. The issue was summarized as follows in the brief submitted by this writer on behalf of the Sierra Club:

It is this character and "integrity of the Mountain" and the surrounding areas, that must be borne in mind in determining the extent to which the Project, and all that goes with it, will mar the natural beauty of Storm King and its environs. If its meaning is changed, in the eyes of those who behold it, its supreme value as a preserver and embodiment of the spirit of the New World . . . to a whole nation, particularly the vast millions in its greatest metropolitan area, is forever lost. In that event, no combination of orders of this Commission, funds of the applicant, and skill of its eminent landscape architects, can be any more successful in putting the earth, rocks and trees of Storm King back together again, than were all the king's horses and all the king's men in the case of Humpty Dumpty. Painting concrete green cannot deceive its beholders into believing that it is the handkerchief of the Lord, and, if it can, this Commission should not, in the absence of some overwhelming economic necessity, direct such deception.

Brief for Intervenor, *In re* Consolidated Edison Co. of New York, Inc., Project No. 2338, at 26 (FPC, filed Aug. 14, 1967).

47. *Cold Metal Process Co., v. United Engr. & Foundry Co.*, 83 F. Supp. 914, 917 (W.D. Pa. 1938). This problem is different from the one discussed above with regard to the pretrial examination of the opposition's expert witnesses who will testify for it.

poenaed,⁴⁸ but again he cannot be compelled to give an expert opinion on direct examination.⁴⁹ In the ordinary commercial or tort litigation in which expert testimony is needed, these rules cause little hardship, for each side secures its own expert, who is well able to study the subject matter. If that expert must inspect documents, physical objects, or lands, the discovery process is available.⁵⁰ However, in environmental litigation in which the legality of a large public-works project is at issue, lack of finances, lack of time, and physical factors all generally prevent the plaintiffs from getting the materials or data for their experts to study.⁵¹ Yet in such cases experts who are employees of the governmental agency being sued have the requisite information and, in addition, frequently have opinions which, wrong or right, are at variance with the positions taken by the agency heads.⁵² Assuming that the knowledge and opinions of such experts are as much the property of the plaintiffs, whom we grace with the good name "taxpayers," as they are the property of the defendants, it seems that that knowledge and those opinions should be equally available to both parties. Accordingly, the conservationists' lawyers should be permitted not only to subpoena experts employed by the government, but to compel them to give expert testimony.

These problems, of course, may not arise if the government's expert is willing to give his opinion despite the fact that it might be used in opposition to positions taken by his employer; but such situations are understandably quite rare.⁵³ Moreover, even if the

See text accompanying notes 26-29 *supra*. The situation here arises when the conservationists' lawyer wishes to call an employee of an adverse party—usually the government—to testify for the conservationists on direct examination.

48. *See* *Ullman v. United States*, 350 U.S. 422 (1956); *Mattson v. Pennsylvania R.R.*, 43 F.R.D. 523 (N.D. Ohio 1967).

49. *See* note 47 *supra*.

50. *See, e.g.*, FED. R. CIV. P. 34, Rule 34, as amended effective July 1970, will be considerably easier to apply in procedure and broader in scope. *See* Advisory Committee's Note to Rule 34, 43 F.R.D. 256-57 (1968).

51. *See* text preceding and accompanying notes 14-15 *supra*.

52. This situation is particularly true in environmental cases in which employees of a governmental agency may be conservationists themselves and have opinions diametrically opposed to the position of their employer. Such was the case with regard to John Clark, an expert witness in the *Hudson River Expressway* cases. *See* note 54 *infra*.

53. Such a situation has occurred only once in this writer's trial experience. *See* note 54 *infra*. But as environmental litigation increases, the fact that numerous agency employees are conservationists (*see* note 52 *supra*) may lead them to give testimony for the plaintiffs under subpoena, even though that testimony may be opposed to the agency's position.

situation does occur, the expert in an environmental case generally needs time to prepare his opinion, and yet it may be unethical for the plaintiffs' attorneys to confer with an adversary's employee prior to trial in order to inform him as to what he will be asked on direct examination.⁵⁴ This problem, as well as the more usual one in which the government's expert is unwilling to give his opinion on direct examination, can be solved by allowing the plaintiffs' lawyers to examine the subpoenaed expert both before trial⁵⁵ and on direct examination during trial.

V. PREPARING EXPERT WITNESSES FOR CROSS-EXAMINATION

It has already been pointed out that the expert witness, who may have testified many times before legislative bodies on matters

54. This problem was demonstrated graphically in the *Hudson River Expressway* cases. At issue in those cases, although not determined because of the resolution of the cases on other issues, was the impact of the project upon the fish in and around the area of the Hudson River to be filled in. Defendants' position was that the impact would be small; plaintiffs alleged that it would be substantial and adverse. Plaintiffs had neither the finances nor the other resources necessary to prove their allegation; but they claimed that the governmental agencies involved, both state and federal, had never adequately ascertained the impact because they had not measured the abundance of fish in the area. Plaintiffs subpoenaed John Clark who was the head of an agency of the Department of the Interior—a defendant in the actions—and asked him to testify as to the kind of study necessary, in his opinion, to determine adequately the impact of the project upon the fish. Clark, who was willing to give his opinion even though it might have been used against the position of the Department, testified that [t]he information that would be necessary to plan a research program to evaluate the effect of this project would require assembling all background information available from previous studies of the river and would require planning, suitable inventory and collection of additional specific information to come up with a scientific opinion as to the effect of this, and in addition there would have to be more information put at the disposal of the people doing the research and planning.

Record at 1763, *Citizens Comm. for the Hudson Valley v. Volpe*, 302 F. Supp. 1083 (S.D.N.Y. 1969), *affd.*, No. 34,010 (2d Cir. April 16, 1970) [hereinafter Record II]. At that point the court interrupted the testimony to question the plaintiffs' attorney:

THE COURT: I am just wondering about the fairness of this. Have you talked with the witness before, and did you tell him that you were going to ask him his expert opinion on the matters?

MR. SIVE: I have not talked to the witness, your Honor, beyond just telling him that I would subpoena him here.

THE COURT: I know, but don't you think it is a little unfair to call a man who is expert in the field and not tell him what he is going to be asked, whether it is necessary for him to do more work in order to form an opinion? I would think it must take men much longer to determine the nature and scope of a project than just the two minutes on the stand. . . .

MR. SIVE: Your Honor, I might state that I deliberately forebore conferring with the witness because he is an employee of the Department of Interior which is an adverse party.

THE COURT: All I am saying is you are asking him for his opinion as an expert without warning him what he was going to be asked, and my experience is that you have to give these men time.

Record II, at 1764-65.

55. See text accompanying notes 26-29 *supra*.

involved in an environmental litigation, should be made aware of the exact nature of an adversary proceeding.⁵⁶ It is also unnecessary to dwell at any length here on the instructions given to witnesses generally—to answer simply and truthfully, not to argue, not to regard cross-examination as a game of wits, not to attempt to figure out whether an answer will be helpful or harmful, and to leave strategy and tactics to the lawyers.

What remains, then, is to examine the special problems of the expert witness in environmental litigation. One of the most significant of those problems involves the degree to which opposing counsel will attempt to portray the witness as a composite of several objects of derision, among which are the feminized male, the unworldly sentimentalist, the professor who has never met a payroll, the enemy of the poor who need more kilowatts and hard goods, and the intellectual snob. For example, on cross-examination in the *Hudson River Expressway* cases, an expert cartographer was asked questions which were intended to show that he had been biased against the project in question before the litigation began, that he was a professional conservationist, that he was opposed to any interference whatsoever with nature, and that he was against all forms of indoor recreation.⁵⁷ Similarly, in the *Storm King* litigation, an expert for the intervenors opposing the project was asked questions, and gave answers, which portrayed him as a professional conservationist.⁵⁸ He was also referred to as a public-relations man on the basis of his answers to questions concerning his past.⁵⁹ The extent to which the conservationists' experts may have to be cross-examined

56. See text following note 13 *supra*.

57. In this regard, the following colloquy occurred during the cross-examination of the expert witness:

Q: What are your feelings and opinions on recreation centers in Central Park?

A: There is one recreation center which we successfully opposed about ten years ago, which was a building in the ramble designed for the recreation of older people, 55 year old respectable people, and it involved putting a 10-foot—an 8-foot chain link fence around the whole core of the ramble and providing a structure which would have the usual facilities, snack bar, restaurants, plus a radio room, television room, and a record-playing room. We deemed that this was not proper use for a park because a park was for outdoor recreation and not indoor recreation.

We oppose all forms of indoor recreation.

THE COURT: In Central Park.

THE WITNESS: Anywhere.

THE COURT: Anywhere!

Record II, at 1830. Plaintiff's counsel found it necessary, on redirect examination, to have the witness explain that his opposition to "indoor recreation" was to such recreation "anywhere" in Central Park, and not to indoor recreation anywhere at all.

58. Record I, at 18,254.

59. Record I, at 12,720.

as to their opinions, backgrounds, and associations can be a definite deterrent to their willingness to testify, particularly because the appeal to testify is made generally with the equivalent of merit badges rather than with hard dollars. The expert witness must therefore be warned of the possible tacks of cross-examination to which he may be subjected and he must be reminded to keep calm no matter what direction the questioning takes.

Nevertheless, the probing into the opinions and past activities and associations of conservationists' experts is largely justified under ordinary rules of evidence. An expert's expertise may be impeached,⁶⁰ and the bases of his opinion are a fair field for questioning.⁶¹ Moreover, when the subject matter of an expert opinion is the balancing of natural beauty against super-highways, rather than the permanency of a knee injury, the cross-examiner has far greater latitude than he normally does. The fact that this latitude poses tactical problems for the conservationists' counsel, and perhaps even civil liberties problems, is just one more of a whole new set of problems to be dealt with by conservationists' lawyers on a case-by-case basis.

Another special problem which almost all conservationists' experts must meet on cross-examination is what may be called the "wilderness problem." It involves defending a defense of Storm King Mountain, Mineral King, or Central Park, against charges that conservationists would turn Times Square itself into a rain forest or that they are hypocrites for riding automobiles or airplanes. On cross-examination by a good trial lawyer that defense is difficult. In the *Hudson River Expressway* cases, for example, plaintiffs' expert on the beauty of the Tappan Zee area of the Hudson, an eminent artist, found it difficult, under cross-examination which featured references to the admitted existing blight of the waterfront in some of the areas of the proposed road, to defend halting the construction of a roadway which would be much cleaner than some of the blighted areas.⁶² His answers involved subtle theories, psychological and artistic, on just when a scene may evoke feelings of nature's, rather than of man's, skill and intelligence.

There is no unique solution in environmental cases to the problem of such derision of an expert witness. The lawyer should simply

60. *Grain Dealers Mut. Ins. Co. v. Farmers Union, Co-op.*, 377 F.2d 672 (10th Cir. 1967); *Taylor v. Reo Motors, Inc.*, 275 F.2d 699 (10th Cir. 1960); *Safeway Stores, Inc. v. Combs*, 273 F.2d 295 (5th Cir. 1960).

61. *Taylor v. Reo Motors, Inc.*, 275 F.2d 699 (10th Cir. 1960).

62. Record II, at 2046.

try to have the expert well-prepared to present his subtle theories in as articulate and as concrete language as possible. The more vague and ethereal such testimony is, the more likely it is that the opposition's attempts at derision will be complemented and thus furthered, by the general psychological effect the witness has on the court. The witness, then, must have ready, in simple terms, basic theories of why and how man must remain a part of nature and nature a part of the life of man. A witness may be somewhat reassured by the fact that there have been, and will be, very few, if any, major environmental cases tried before a jury since the remedy sought in plenary actions generally includes an injunction. Nevertheless, it is important to instruct an expert witness not to be concerned if the cross-examining attorney indicates the deepest sadness or puzzlement at a statement the basic meaning of which is that man does not live by bread alone.

VI. CONDUCT OF THE EXAMINATION AND CROSS-EXAMINATION

The direct testimony of the conservationists' expert witness may be prefiled in written form if the proceeding is before the Federal Power Commission or an agency with similar procedural rules.⁶³ In such a case the first oral testimony of the witness is on cross-examination. If the expert's direct testimony is not prefiled and is given orally, it is best to have the questions written out beforehand, particularly the hypothetical questions when the rule prevailing in the jurisdiction requires that such form of questions be used in order to elicit expert opinions.⁶⁴ In addition, although the expert should be instructed to answer questions fully and adequately, he must also be instructed not to add unnecessary detail or embellishments.

Frequently, in environmental litigation, as in other types of litigation, far more can be accomplished on the cross-examination than on the direct. More often than not the attorney for the adverse party does not follow the instruction that most senior trial lawyers give to a young associate on his first case: in cross-examination ask questions only when you know what the answers will be. Indeed, as environmental cases increase in number, attorneys defending the resource-using agencies or companies will probably

63. FPC R. PRAC. & P., 18 C.F.R. § 1.26(c)(2)(iii) (1970); 33 C.F.R. §§ 209.120(g)(2), 210.4(d) (1969) (Army Corps of Engineers); 10 C.F.R. § 2.741 (1969) (Atomic Energy Commission).

64. Such a rule is present in only a small minority of jurisdictions. See generally C. McCORMICK, LAW OF EVIDENCE 29-30 (1954). See also note 30 *supra* and accompanying text.

cross-examine less, as they discover that their cross-examinations uncover information which is more helpful than harmful to the protectors' cause.⁶⁵

On the other hand, the conservationists' lawyer's cross-examination of the expert witness of the resource-using agency or company can be fruitful. Such experts, particularly those engaged in planning or construction, still, by and large, do not understand the concept that some parts of the world cannot be improved or that sound public policy does not necessarily require that we have more of everything that we can build.⁶⁶ This pursuit of bigness may not be as dramatically expressed as it was in the words of one of the company's planning experts on cross-examination in the *Storm King* litigation when he was comparing the proposed immense storage reservoir to the small pond now at its proposed site; "[a]ny large lake," he said, "is handsomer than a small lake."⁶⁷ But the philosophy will, in most cases, be manifested in some way which clearly poses the issue of what the affluent society should seek.

Many of the experts cross-examined in environmental cases are, of course, physical scientists, economists, bridge builders, or others whose field does not embrace any of the broad issues involving the use of resources. In cross-examining such experts, there is no special technique peculiar to environmental litigations. A special problem does exist: money. The conservationists' attorney more often than

65. Charles Callison, a prominent conservationist, was cross-examined at length at the *Storm King* hearings at which he gave the testimony quoted in note 35 *supra*. This writer correctly predicted that on the second occasion on which he testified—at hearings involving a claim by New York City of danger to the city's aqueducts—he would not be cross-examined at all.

66. See *Scenic Hudson Preservation Conference v. FPC*, 354 F.2d 608 (2d Cir. 1965), *cert. denied*, 384 U.S. 941 (1966); *Udall v. FPC*, 387 U.S. 428 (1967).

In the *Storm King* case, the court of appeals held that renewed proceedings must include as a basic concern the preservation of natural beauty and of natural historic shrines, keeping in mind that, in our affluent society, the cost of a project is only one of several factors to be considered.
354 F.2d at 624.

In the second case, the Supreme Court held that the Federal Power Commission had failed to consider a question beyond the question of federal versus private development. The question not considered was "the question whether any dam should be constructed." 387 U.S. at 436. See also Olpin, Book Review, 68 MICH. L. REV. 1315 (1970).

67. Record I, at 14,720. Nor may the philosophy of improvement of everything by engineering be stated as clearly as it was in the following colloquy on cross-examination of a planner of the *Storm King* project:

Q: Have you ever in your experience found an area which you decided was so beautiful that you didn't think that you could improve it?

A: Personally I think practically anything can be improved. In my past experience I have not had any area which wasn't improved or something like that.
Record I, at 7505.

not is unable to afford to have his expert with him either as the testimony is given or even that evening. The principal solution lies, again, in securing as much information as possible in the discovery proceedings. While the oral deposition of the expert himself may not be permitted,⁶⁸ the conservationists' attorney can make use of interrogatories and inspection of documents to secure most of the factual information which will be given and discussed in the testimony.⁶⁹ The task of the conservationists' attorney is not unlike that of the attorney for the stockholder-plaintiff in a stockholders' derivative action, and many of such attorneys' techniques may be borrowed for use in the even more uphill struggle against "progress."

VII. CONCLUSION

We are only at the threshold of the development of environmental law and of techniques in environmental litigation. Perhaps all that can be really set out with assurance is a summary of the task of the conservationists' lawyer in cases which have involved, and will involve, the weighing of the material against the aesthetic in the affluent society.⁷⁰ The task may be simply stated as that of proving, without any revolutionary changes in the rules of evidence, what was said in the mid-nineteenth century by the conservationists' favorite nonlegal authority, Henry David Thoreau, in his *Walden*:

Most of the luxuries, and many of the so called comforts of life, are not only indispensable, but positive hindrances to the elevation of mankind.⁷¹

Many courts have now reached the stage of development at which they may permit litigation of the question of what does truly aid "the elevation of mankind."

68. See note 26 *supra* and accompanying text. *But see* text accompanying notes 27-29 *supra*.

69. For problems in this area, see text accompanying notes 16-25 *supra*.

70. This is, in essence, the test established by the court of appeals in the *Storm King* litigation, and also perhaps the test established by § 102 of the National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (Jan. 1, 1970). See note 31 *supra* and accompanying text.

71. At 12 (B. Atkinson ed. 1950).