Expert Witnesses in Software Copyright Infringement Actions, 6 Computer L.J. 35 (1985)

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EXPERT WITNESSES IN SOFTWARE COPYRIGHT INFRINGEMENT ACTIONS†

By JAMES J. MARCELLINO*

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The enormous commercial value of computer software, coupled with the relative ease of reproducing software, has generated an increasing number of copyright actions to protect intellectual property contained in computer programs. Few would dispute that expert witnesses are helpful, if not essential, for the trial of a software copyright infringement action.1 The subject matter of the dispute is complex, and

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1. Traditionally, courts have not allowed expert witnesses to testify as to whether a disputed work is so "substantially similar" to an original that it infringes the original work's copyright. Instead, courts usually have applied an "ordinary lay observer" test. See, e.g. Atari, Inc. v. North Am. Phillips Consumer Corp., 672 F.2d 607, 614 (7th Cir. 1982), cert. denied, 103 S. Ct. 176 (1983); Universal Athletic Sales Co. v. Salkeld, 511 F.2d 904, 907 (3d Cir.), cert. denied, 423 U.S. 863 (1975). Some courts have expressed the "substantial similarity" requirement through a two-part test: (1) whether the defendant copied from the plaintiff's work and (2) whether the copying, if proven, went so far as to constitute an improper appropriation. Atari, Inc. v. North American, 672 F.2d at 614. See also Scott v. WKJG, Inc. 376 F.2d 467, 469 (7th Cir.), cert. denied, 389 U.S. 832 (1967); Arn-
both judges and juries welcome enlightenment from those having a specialized understanding of that subject matter. In most situations, it is clearly preferable to have one or more expert witnesses who are not parties or employees of parties but who are instead specifically retained for the litigation. This Article will discuss the retention of such expert witnesses, the standards for their qualification, the legal and practical aspects of the discovery relating to experts, and the protection of the confidentiality of expert testimony.

stein v. Porter, 154 F.2d 464, 468 (2d Cir. 1946). These courts permit expert testimony on the first question: whether the defendant engaged in copying at all. In the computer software context, expert testimony can be useful in this inquiry. For example, an expert's testimony may be necessary to explain to the jury how an infringer may have used a text editor to mask his copying of software. An expert might also reveal errors or “traps” from the original program which could appear in the disputed program only if it were copied from the original program.

Courts have recognized that new technological settings for copyright questions may require the enlightenment of experts. One court dealing with the copyright protection of computerized video games commented:

Although dissection and expert testimony is [sic] not favored, the judicially created ordinary observer test should not deprive authors of this significant statutory grant merely because the technical requirements of a different medium dictate certain differences in expression. Without deciding the question, we note that in some cases it may be important to educate the trier of fact as to such considerations in order to preserve the author’s rights under the Copyright Act.

Atari, Inc. v. North American, 672 F.2d at 618 n.12.

FED. R. EVID. 704 provides that “testimony in the form of an opinion or inference otherwise admissible is not objectionable because it embraces an ultimate issue to be decided by the trier of fact.” Accordingly, in a software copyright infringement action, a qualified expert should be permitted to testify on the extent of the copying and the degree of similarity between the original work and the alleged infringing work.

2. There is no more certain test for determining when experts may be used than the common sense inquiry whether the untrained layman would be qualified to determine intelligently and to the best possible degree the particular issue without enlightenment from those having a specialized understanding of the subject involved in the dispute.


A countervailing consideration is the dim view courts and juries may take of the specially retained expert witness, or “hired gun.” Twenty years ago an English judge observed that “a doctor is a paid advocate who speaks for the person who pays his fee.” Expert Witness, 116 NEW L.J. 1389, 1389 (1966). He also commented, with reference to the value of the testimony before him from a consultant psychiatrist, that “the customer is always right,” and noted that in his youth “psychiatrists had not been invented” and that “no one was any the worse for it.” Id.
I. THE RETENTION OF EXPERTS—PRACTICAL PROBLEMS

A. GENERAL CRITERIA

The keys to effective expert testimony are competence and communication, the ability to solve technical problems and then explain the solutions to judges and juries.\(^4\) Trial lawyers must find experts with these qualities.

To determine whether a particular expert should be retained, the lawyer and the expert must have a clear understanding of what the expert will be expected to do. First, the expert will be required to assist the lawyer in the preparation of the case. To do this, and to testify effectively in court, the expert must understand not only his or her own role but also the role of the lawyer and the function of the judicial system.

There are important differences between lawyers and experts, particularly regarding "language code"—the meanings implied or suggested by words and phrases apart from what they explicitly name and describe.\(^5\) Due to different backgrounds, interests, and training, lawyers and experts ascribe different connotations to identical words or phrases. Moreover, lawyers and experts tend to have different concerns and patterns of thinking.\(^6\) For example, experts may tend to focus on individuals or individual problems without considering the welfare of society at

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4. The expert witness in a software copyright infringement action must cut through the confusion in terminology inherent in the constantly changing computer industry. [T]he misnomers and industrial shorthand of the computer world make the most esoteric legal writing seem as clear and lucid as the Ten Commandments or the Gettysburg Address; and to add to this Babel, the experts in the computer field, while using exactly the same words, uniformly disagree as to precisely what they mean. Honeywell, Inc. v. Lithonia Lighting, Inc. 317 F. Supp. 406, 408 (N.D. Ga. 1970).

5. In a recent case, the plaintiff's expert witnesses at a preliminary injunction hearing used the terms "process", "system", and "method of operation" to describe the plaintiff's operating system programs. Apple Computer, Inc. v. Franklin Computer Corp. 714 F.2d 1240, 1250 (3d Cir. 1983). Under 17 U.S.C. § 102(b) (1976), copyright protection is expressly withheld from any "process", "system", or "method of operation." The Third Circuit commented: "The witnesses had undoubtedly the not uncommon difficulty of finding the precisely correct words of description in this field. It would be both unreasonable and arbitrary to consider the statements of non-lawyer witnesses without experience in using statutory language as words of art to be binding admissions against Apple." Apple v. Franklin, 714 F.2d at 1250 n.8.

6. One article exploring the communication problems between the lawyer and his or her medical expert witnesses observed: "The two professions have quite divergent concerns and systems of thought. Clinicians are concerned about cures; lawyers are concerned about rights. The adversaries of clinicians are ignorance and disease; the adversaries of lawyers are offended parties who want 'justice.'" Parlour & Jones, Bridging the Lawyer-Clinician Communication Gap, 43 ALA. LAW. 141, 141 (1982).
large. Experts function by informed consent, with scientific skill and knowledge as the basis of their power. On the other hand, lawyers and the judicial system should view the pursuit of justice as the ultimate goal. This pursuit necessarily involves considerations of social policy. Lawyers are interested in winning, but, under the Code of Professional Responsibility, lawyers must subordinate that interest when it conflicts with the lawyer's duty as an officer of the court.

In the scientific tradition of experts, truth generally is the best hypothesis based on all evidence currently available, evaluated according to the principles of scientific inquiry. In the judicial system, however, truth is what the trier of fact decides after receiving the permissible evidence on the stated issues and the proper arguments of the lawyers. Accordingly, the rules of evidence may be a conceptual problem for experts because those rules exclude what experts might consider "good" information.

The idea of an adversarial procedure and the concept of optimal presentation also may trouble experts. Experts should understand that litigation is inherently adversarial, and that a client is entitled to the optimal presentation of the case. Specifically, the client is entitled to an expert who, after careful study, will frame expert opinions that are not only scientifically and professionally acceptable but which are also as favorable to the client as the facts will allow. Moreover, experts should understand that differences of opinion among experts are no more shameful than differences of opinion among lawyers or judges.

Lawyers and experts should understand the need for reciprocal education. Lawyers obtain the optimal cooperation of experts when the experts appreciate the legal issues and concerns of the lawyers. Lawyers should also educate the experts about the law and the judicial process. At the same time, lawyers should educate themselves about scientific concepts.

In working with the lawyers in trial preparation, experts can play a

7. Id. at 143.
8. Id.
10. Parlour & Jones, supra note 6, at 144.
11. For example, a doctor might consider a statement by a patient relayed to him by a third party as information upon which he might base a diagnosis; however, that same statement might be excluded from a court of law as hearsay violative of FED. R. EVID. 802.
13. Id. at 147.
14. Id. at 143.
valuable role by investigating the facts, helping the lawyer understand complex technical data, clarifying particular factual issues, assisting in the preparation for depositions and other discovery, suggesting sources of evidence, and preparing exhibits and demonstrative evidence for use at trial.\(^\text{15}\)

In complex cases, the efficiency of the investigation into the facts and law of the case depends on a clear definition of the technical problems. The key to the investigation is focus. Experts have been retained to solve a specific problem in the context of litigation, and should keep the legal issue in mind and pursue solutions to the problem in light of the legal issue. Lawyers and experts both should understand what the experts can and cannot do. Effective expert witnesses understand the subject matter of the technical investigation, the litigation process and the lawyer's role.

Equally important, however, is the expert's understanding of the problems of communication in a courtroom. Studies by anthropologists, psychologists and linguists have shown that the manner of presentation of evidence is at least as important as the content of the presentation.\(^\text{16}\) This is particularly true for experts, as much of the content of their testimony may be lost on lay jurors.\(^\text{17}\) Studies have shown that jurors can


\[^{16}\text{Goodman \\& Loftus, Social Science Looks at Witness Examination, TRIAL, Apr. 1984, at 52. In one experiment, testimony content remained constant while the presentation styles of the witnesses were changed. The results of this experiment suggested: (1) Witnesses using "powerful" testimony styles were more convincing than those using "powerless" testimony styles. The powerless testimony style involved frequent use of "hedges" such as "I think" and "you know." It also included use of hesitation forms such as "um", excessive use of polite forms such as "sir", and the use of declarative statements with rising intonation conveying uncertainty. (2) Witnesses using a narrative marked by frequent questions from the lawyer were more credible. (3) Witnesses speaking in a stilted and unnatural manner, misusing vocabulary and making grammatical mistakes were less convincing. See Conley, O'Barr \\& Lind, The Power of Language: Presentational Style in the Courtroom, 1978 Duke L.J. 1375.}\]

\[^{17}\text{In addition to concerns about the lay jury's capacity to understand technical points made by the expert witness, juries can miss important evidence through their lack of attention at critical points of the trial. Research has shown that even especially interested people can only maintain a high level of attention for a maximum of twenty minutes. Vinson, Litigation: An Introduction to the Application of Behavioral Science, 15 Conn. L. Rev. 767, 769 (1983). Jurors tend to best remember the beginning and end of a trial because they must change their "adaptation level", a term which refers to an accommodation to a given environment of stimuli, at those times. Id. at 775. Therefore, the expert and lawyer must attract the attention of the jury at critical points of the testimony by changing communication styles, perhaps by using demonstrative evidence, to change the flow of stimuli to the jury. Id. at 774-78.}\]
assimilate very subtle clues from language and demeanor\textsuperscript{18} which are used in making important judgments about a witness. Jurors will be quick to make judgments about the identity and background of an expert witness. Jurors will then expect the expert to act and speak accordingly. Any deviation from these expectations will draw a punitive reaction.\textsuperscript{19}

Effective experts have the ability to communicate with the judge and jury by talking with them, not at them. Effective experts also meet the jury's expectations about members of that experts' profession. Appearance and demeanor, then, are important elements of testimony.\textsuperscript{20}

Effective experts bridge logical and linguistic gaps between science and law.\textsuperscript{21} When experts are confident with the lawyer's line of questioning and the lawyers are equally confident with the experts' presentation, experts can use a narrative style in testifying which minimizes the intervention of the lawyer and thereby improves the quality of the experts' presentation.\textsuperscript{22}

\textsuperscript{18} See Conley, O'Barr & Lind, \textit{supra} note 16.

\textsuperscript{19} Countless stimuli bombard every individual. As a result, humans can perceive and process only selected stimuli to form "cognitions," bodies of factual knowledge. Stereotypes can be comforting because they fill in gaps in people's cognition. Each juror brings to the trial his or her own "expectancy set", which is a composite of his or her purposes, values and experiences. If an expert witness' appearance and demeanor on the stand fulfills the juror's "expectancy set" regarding that witness, then the juror will accept his or her testimony more comfortably. Vinson, \textit{supra} note 17, at 770-72. Furthermore, one set of researchers, when interpreting their experiment on witnesses' use of hypercorrect speaking styles, observed: "The obvious conclusion to be drawn is that jurors rapidly develop expectations about a witness' behavior on the basis of what they infer about his background and social status. When these expectations are violated by a witness who attempts to speak with an inappropriate degree of formality, the jurors' reaction is punitive." Conley, O'Barr & Lind, \textit{supra} note 16, at 1390. Another study focused on how individuals' understandings of the socially appropriate use of language might lead them to draw inferences from lawyers' questions. For example the question, "John's not a friend of yours, is he," suggests that John is an enemy. People draw this inference because the rules of social conversation require that we couch unpleasant criticisms of others in vague and indirect terms. In contrast, the question, "John's no enemy of yours, is he," does not cause people to infer that John is a friend. Since friendship is a pleasant and valued thing, the rules of social discourse do not insist that we refer to it indirectly. Thus jurors expect that, if someone is a friend, this fact will be stated quite bluntly. Goodman & Loftus, \textit{supra} note 16, at 55-56.


\textsuperscript{21} See, e.g., \textit{supra} note 5.

\textsuperscript{22} Jurors view witnesses using a narrative testimony style as more competent than those who testify only with constant prodding from the examining lawyer. See \textit{supra} note 16.
B. EXPERTS FOR SOFTWARE COPYRIGHT INFRINGEMENT ACTIONS

In light of the foregoing general criteria, how then do clients answer the questions, "Who should testify as expert witnesses in a computer program copyright infringement action, and where can those experts be found?"

First, lawyers and their clients should find potential expert witnesses who are technically competent to testify on disputed matters. That may be difficult in a software copyright infringement action. The computer software industry is highly diversified. There are innumerable software application programs on the market. These programs are written for several different operating systems and in many computer languages. In addition, they reflect the wide variety of hardware architecture and configurations.

In a software copyright infringement action, experts may be asked to testify about the similarities between the works, the degree to which any similarities are dictated by the desire of the alleged infringer to achieve compatibility with other hardware and software, and the conduct of the alleged infringer in designing and developing the allegedly infringing work. To the extent that the experts can trace the evolutionary development of the allegedly offending work, the testimony regarding alleged similarity and conduct tend to merge.

If plaintiff's experts can show that there are numerous creative alternatives and choices which the author made in organizing and writing the original work, then the plaintiff can argue that similarities between the works resulted not from chance but from copying. Those choices may relate not only to the lines of coding in the program, but also to the sequence of the various steps or modules within the program. Similarly, to the extent that there are more than a few alternatives for achieving compatibility beyond those dictated by the application for the program, the design of the operating system, the architecture and configuration of the hardware, and the requirements of the particular computer language, then the plaintiff can argue that the allegedly infringing work resulted from copying. Only when the number of ways to achieve the desired compatibility are limited can the defendant argue that the idea, namely compatibility, and the expression of that idea have effectively merged and thereby defend against the claimed

24. The microcomputer software industry has been "characterized by hoards of freelance programmers who establish themselves with relatively little capital in an exponentially expanding, lucrative marketplace." Whitebook & Tosi, Protecting Computerland's Fragile New Trade Secrets, 2 CAL. L. W., Oct. 1982, at 43, 44.
infringement.

Because the technology is rapidly changing and since the variety of programs and hardware in the market is substantial, it may be difficult to find experts with specialized knowledge in the particular area of dispute. This can be a problem at the early stages of the litigation when the parties may not be able to identify precisely the core issues of the dispute. Moreover, the opponent's analysis and arguments can vary over time.

In addition, those who may have practical experience in the narrow areas on which the outcome of a controversy may turn are competitors of the client. Aside from a client's instinctive aversion to engage such experts, it may be difficult to persuade those persons to testify as experts because they will be required to sign confidentiality agreements under which they will be prohibited from using any of the information gained pursuant to the engagement.27

Experts from the academic community, might prove to be less persuasive than those with practical experience. Also, having an academic expert learn all of the technology specifically related to the issues in the litigation might cost more than the testimony is worth. The client could have one of its employees or consultants testify as an expert; however, most trial lawyers persuasively argue that "captive experts" are clearly less preferable than independent experts who have been specifically retained for the limited purpose of testifying in the dispute at hand.28

There are a number of factors to consider in deciding whether to find experts who have previously testified in court. On the positive side, such experts probably know their role in trial preparation, have been introduced to the rules of evidence and court procedures, and have been subject to cross-examination. In addition, jurors may be impressed by the fact that other judges found the witness to be competent to testify as an expert and therefore may ascribe greater weight to the testimony.

27. In interpreting such an agreement, what is "confidential information" and what is general information in an expert's area of expertise may not always be clear. Also, there is a danger that confidential information may be revealed to competitors if care is not taken to protect it from the opposing party during discovery. FED. R. CIV. P. 26(c)(7) allows a party from whom discovery is sought to seek from the court a protective order "that a trade secret or other confidential research, development, or commercial information not be disclosed or be disclosed only in a designated way." For further considerations concerning potential conflict between the federal policy of broad discovery under FED. R. CIV. P. 26, and the attorney work product rule and attorney/client privilege as they relate to the potential escape of confidential information to competitors, see infra notes 65-78 and accompanying text.

28. See supra note 3.
On the negative side, an expert who regularly testifies in court may be cast by opposing counsel as a "hired gun" lacking impartiality. The expert's prior testimony might provide the basis for intense cross-examination. Experts who have testified on numerous occasions also may lack the enthusiasm and spontaneity which impress juries. Accordingly, a balance should be struck between those experts who have some experience but who also will bring to the testimony a high level of interest, energy, and credibility.

The goal is to find the best possible experts under the circumstances that exist at the time. Ideally, those experts should be competent in the design and development of software generally, would have practical experience in the area of dispute, and have a demonstrated ability to communicate with the factfinder. These experts may be identified in a particular line of business, in academic circles, or through professional associations. Experts may also be found through a review of other cases where there has been testimony in related areas to the subject of dispute.29

II. QUALIFICATIONS OF THE EXPERT WITNESS

The Federal Rules of Evidence provide that “[I]f scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in a form of an opinion or otherwise.”30

Assessing the qualifications of a witness to testify as an expert is largely within the sound discretion of the trial court.31 Although the judge's determination that a witness qualifies as an expert is binding on the jury, the jury may consider the expert's qualifications in determining the weight given to the testimony.32 Obviously, the objective is to

29. Other sources include local law-oriented newspapers, which often have regular advertising sections devoted to expert witnesses. Also, H. PHILO, LAWYER'S DESK REFERENCE (6th ed. 1979) has an extensive list of expert witnesses as well as descriptions of organizations devoted to providing parties with expert witnesses. A more dated source is R. MILLER, LAWYERS' SOURCE BOOK (1971). Finally, the Westlaw and Lexis computerized services offer expert witness data bases.

30. FED. R. EVID. 702.


32. “Any reservations in the expressed opinion, as with shortcomings in an expert's qualifications, go to the weight of the evidence and are a determination for the jury or factfinder to make.” United States v. Galvin, 394 F.2d 228, 229 n.1 (3d Cir. 1968) (citations
convey useful information to the jury and to persuade the jury that what the expert says is truthful and should be believed. Qualification is but the threshold inquiry.

Effective experts should have knowledge and skills which center in the specific area of expected testimony. General knowledge about a particular field of expertise may not be sufficient. Because the experts' knowledge and skill frequently do not match the subject matter of the dispute, experts may require investigation and study to qualify to testify in specific subject areas. The extent to which experts have educated themselves in anticipation of the litigation will become both the basis on which the experts are qualified and an area of inquiry on cross-examination.

For example, an expert who is the head of the computer sciences department at a university, while having extensive academic and teaching experience in the use of computers in design and manufacturing, may not have any specific knowledge or experience with a particular program application in computer-aided design or manufacture. Accordingly, that person may prepare to testify by studying how the subject application program was designed and written. On cross-examination, opposing counsel can challenge the testimony on the basis that the expert has no real experience in the area but merely developed an opinion, for a fee, in the particular case.

Under the Federal Rules of Evidence, the facts and data upon which the experts base their opinions may be derived from three possible sources: (1) first hand observation; (2) presentation at the trial; and (3) presentation of data to the experts outside of court and other than by their own perception. The rules specifically provide that the facts and data on which the expert relies need not be admissible in evidence omiss). See also Nanda v. Ford Motor Co. 509 F.2d 213 (7th Cir. 1974) (qualifications go to weight of expert's testimony).

33. For example, in Jones v. United States, 387 F.2d 1004, 1008 (10th Cir. 1967), the appellate court held that the district court had the "wide discretion" not to allow an expert, whose speciality field was "the economy, the finances, the regulation, evaluation and all elements that go...[into the] pricing of utility services," to testify on the value of an insurance agency. The judge's basis for not qualifying the witness was that he had never before valued an insurance agency. Contra Reynolds Metals Co. v. Lampert, 324 F.2d 465 (9th Cir. 1963), where the court of appeals held that the lower court abused its discretion by not allowing the testimony of a chemical engineer, who was chief chemist for 36 years of a company which installed air pollution control electrostatic precipitators. "His lack of experience with electrostatic precipitators in the aluminum industry was a matter to be considered by the jury in determining his credibility and the weight to be given his testimony." Id. at 467.

34. "The expert may in any event be required to disclose the underlying facts or data [for his opinion given on direct examination] on cross-examination." FED. R. EVID. 705.

35. See supra note 3 and accompanying text.

36. FED. R. EVID. 703 advisory committee note.
provided that such facts or data are "of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject." The underlying facts or data need not be revealed on direct examination unless the court requires otherwise, but they are subject to disclosure on cross-examination.

The expert's investigation and methodology in a software copyright infringement action are particularly important because the judge and the jury are generally unfamiliar with the subject matter. Accordingly, to the extent that any aspect, however minor, of an expert's investigation or methodology is shown to be deficient on cross-examination, opposing counsel can effectively argue that the entire methodology is faulty and that the expert's conclusions are ill-founded or at least not entitled to substantial weight.

Experts should attempt to base their opinions on documentation such as flow charts, source code listings, and hard copy output data. Such documentation can be used by the expert in court and be admitted as demonstrative evidence. Demonstrative evidence tends to have a stronger continuing influence on jury deliberations than does testimonial evidence.

Conversely, experts should avoid basing their opinions on their assessment of other witnesses' credibility. To the extent that an opinion is based on assumed facts, those assumed facts should be clearly identified on direct examination. However, the expert, working with the trial lawyer, should limit the number of assumed facts.

37. FED. R. EVID. 703.
38. FED. R. EVID. 705.
39. Examples of possible deficiencies include technical analysis underlying the software expert's testimony performed by an assistant rather than by the expert himself, or the expert's failure to utilize alternative methods of analysis.
40. A jury's receptiveness to surrounding stimuli may be low in the middle of a trial because such stimuli grow repetitive or extend a long period of time. As a result, the jury may lose its "motivation to select out stimuli and structure them into meaning." Vinson, supra note 17, at 776. Demonstrative evidence, however, can "break up the [jury's] adaptation level and keep new stimuli from fading into the ongoing undifferentiated stream of cognitions." Id. Increasing the size of demonstrative evidence or unexpectedly using color in an exhibit are two ways demonstrative evidence may be made more memorable to the jury. Id. at 776-78.
41. The assessment of another witness' credibility would not appear to be a proper role for an expert witness. Expert testimony is unnecessary and excludable when laypersons are capable of drawing proper inferences from the facts of the case, Salem v. United States Lines Co., 370 U.S. 31 (1962); United Telecommunications Corp. v. American Television and Communications Corp., 536 F.2d 1310 (10th Cir. 1976). The credibility of witnesses has traditionally been considered a matter within the competence of the jury.
42. Daniels v. Mathews, 567 F.2d 845, 848 n.3 (8th Cir. 1977).
III. DISCOVERY—LAW AND PRACTICE

The Federal Rules of Civil Procedure provide for different circumstances under which discovery may be taken from expert witnesses regarding facts or opinions acquired or developed in anticipation of litigation or for trial.\(^{43}\) Where experts are expected to be called as witnesses at trial, the rules provide that a party may, through interrogatories, require any other party to identify such an expert, to state the subject matter of the testimony and to state the substance of the facts and opinions and a summary of the grounds on which the expert is expected to testify.\(^{44}\) Under these rules, the identification consists of giving the expert's name, present business address, current occupation or profession, present and prior business and professional affiliations, educational background, and identification of any publications in the area of the expert's testimony.\(^ {45} \) The duty to answer the interrogatories arises when the party against whom discovery is sought has determined whom it will call as expert witnesses.\(^ {46} \) A party also has a duty seasonably to supplement its responses to the interrogatories.\(^ {47} \)

If a party wants further discovery after receiving answers to the interrogatories provided for in the Rules of Civil Procedure, that party may either seek further answers to interrogatories or file a motion with the court asking for permission to take the deposition of the expert.\(^ {48} \) In ruling upon such requests, courts have adopted several different approaches.\(^ {49} \) In view of the general policy of the Federal Rules favoring

\(^{43}\) [FED. R. CIV. P. 26.]

\(^{44}\) [FED. R. CIV. P. 26(b)(4)(A)(i); Hoover v. United States Dep't of the Interior, 611 F.2d 1132 (5th Cir. 1980).


\(^{47}\) [Rupp v. Vock & Weiderhold, Inc., 52 F.R.D. 111, 113 (N.D. Ohio 1971), held that Rule 26(b)(4)(A)(c) does not expressly condition a party's duty to answer interrogatories concerning its expert testimony upon a contemporaneous exchange by both parties of such information. However, the district court in United States v. John R. Piquette Corp., 52 F.R.D. 370, 373 (E.D. Mich. 1971), favored a "mutual and simultaneous exchange of the factual information and opinions of the parties' respective experts" when both sides sought orders compelling the release of such information.

\(^{48}\) [A party is under a duty seasonably to supplement his response with respect to any question directly addressed to . . . the identity of each person expected to be called as an expert witness at trial, the subject matter on which he is expected to testify, and the substance of his testimony.

\(^{49}\) [FED. R. CIV. P. 26(e)(i). Failure to comply with this duty can result in the exclusion of an expert's testimony if, as a result, the other side has inadequate preparation for cross-examination. See Moody v. Schwartz, 97 F.R.D. 741 (D.C. Tex. 1983).

"Upon motion, the court may order further discovery by other means, subject to such restrictions as to scope and such provisions . . . as the Court may deem appropriate." [FED. R. CIV. P. 26(b)(4)(A)(ii).

[Neither FED. R. CIV. P. 26(b)(4)(A)(i) nor the advisory committee note provides a standard for granting this motion, and courts have applied different standards. For a gen-
broad discovery, and of the fact that the fee allocation mechanism of Rule 26(b)(4)(C)(i) prevents one party from developing his case at an opponent's expense, some courts have allowed one party to take unlimited depositions of the other parties' experts. 50 Other courts have ordered additional discovery of experts only upon a showing of exceptional circumstances or compelling need. 51 Still others have been willing to order such discovery only when the answers to a party's interrogatories have been "insufficient." 52 Several definitions of insufficiency have been suggested, ranging from "extraordinary circumstances" 53 to inadequacy of the response to inform the discovering party of the nature and substance of the expert's testimony. 54 However, many federal district courts have adopted local rules expressly governing discovery of expert witness testimony. 55 Some of these local rules specifically provide for the deposition of experts expected to be called at trial. 56 The parties may also agree to permit depositions of their respective experts, a practice that is becoming commonplace.

Experts who have been retained or specifically employed but who are not expected to be called as witnesses at trial are treated differently under the rules. The discovery of facts and opinions held by those experts rests on a showing of exceptional circumstances under which it is impracticable for the party seeking discovery to obtain facts or opinions on the same subject by other means. 57 "Retained or specially employed" refers only to the manner by which the services of the expert are obtained; the distinction between "retained" and "specially employed" is the difference between hiring an expert as an independent

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53. Crockett v. Virginia Folding Box Co., 61 F.R.D. 312, 320 (E.D. Va. 1974). This view is inferred from the Rule 26(b)(3) work product rule requirement that reports prepared in anticipation of litigation be discoverable only upon a showing of substantial need. See also Breedlove v. Beech Aircraft Corp., 57 F.R.D. 202 (N.D. Miss. 1972). But see Graham, supra note 49, at 927, (this reference by courts to Rule 26(b)(3) is incorrect based on the advisory committee note).
55. See Graham, supra note 49, at 930-31 (citing local rules).
56. Disclosure of all reports of expert witnesses is required if such reports are in fact prepared. For examples of such rules, see N.D. CAL. R. 106(e)(b); D. DEL. R. 1161; S.D. FLA. R. 14(1); D. MONT. R. 11(e)(2)(vi); E.D.N.C. R. 7(R); E.D. OKLA. R. 17(b)(4).
contractor and hiring the expert as an employee pro hac vice.\textsuperscript{58}

On the other hand, experts not specifically retained, but whose information was acquired as an actor or viewer with respect to the occurrences in question, are treated as ordinary witnesses subject to general discovery rules.\textsuperscript{59} Similarly, experts who are regularly employed by the party are treated as ordinary witnesses.\textsuperscript{60} To the extent, however, that such a regularly employed expert acquires information and forms opinions in anticipation of litigation or for trial, those opinions are discoverable only upon a showing of exceptional circumstances, as provided in Rule 26(b)(4)(B).\textsuperscript{61}

Finally, the names of and information possessed by potential experts who are only informally consulted but who are not retained are not discoverable by any method.\textsuperscript{62}

Although the problem of possible adverse admissions exists in any case, in an action for software copyright infringement, it is particularly important to determine as soon as possible what an expert will say about the subject of the controversy. It may be difficult to find experts who have specific knowledge about the subject in dispute. Once found, one or more of the limited number of potential experts might form preliminary opinions that are adverse to the interests of the client seeking to retain them.\textsuperscript{63} The opposing party in the litigation may contact some


\textsuperscript{59} It should be noted that the subdivision [Rule 26(b)(4)] does not address itself to the expert whose information was not acquired in preparation for trial but rather because he was an actor or viewer with respect to transactions or occurrences which are part of the subject matter of the lawsuit. FED. R. CIV. P. 26(b)(4) advisory committee notes. “We believe that an ‘actor or viewer’ refers, for example, to a doctor who performed an operation that gave rise to a malpractice claim, or to an actuary who witnessed an automobile accident.” Keith v. Dorn Plastic Mach. Co., 86 F.R.D. 458 (E.D. Pa. 1980).

\textsuperscript{60} Subdivision (b)(4)(B) deals with an expert who has been retained or specially employed by the party in anticipation of litigation or preparation for trial (thus excluding an expert who is simply a general employee of the party not specially employed on the case), but who is not expected to be called as a witness. Keith v. Dorn Plastic Mach. Co., 86 F.R.D. 458 (E.D. Pa. 1980) (emphasis added). See also Virginia Elec. & Power Co. v. Sun Shipbuilding & Dry Dock Co., 68 F.R.D. 397 (E.D. Va. 1975).


\textsuperscript{62} “Subdivision (b)(4)(B) is concerned only with experts retained or specially consulted in relation to trial preparation. Thus the subdivision precludes discovery against experts who were informally consulted in preparation for trial, but not retained or specially employed.” FED. R. CIV. P. 26(b)(4) advisory committee note. “We agree with the District Court that this preclusion not only encompasses information and opinions developed in anticipation of litigation, but also insulates discovery of the identity and other collateral information concerning experts consulted informally.” Ager v. Jane C. Stormont Hosp. and Training School for Nurses, 622 F.2d 496 (10th Cir. 1980).

\textsuperscript{63} See supra notes 12-14 and accompanying text.
of the same people in its search for expert witnesses. To the extent that potential experts are consulted only for information, their information and opinions may not be discoverable. However, once the experts have been retained or specifically employed, and a decision has been made not to call them as witnesses, those experts' opinions may not be discoverable unless the other side can show exceptional circumstances.

IV. CONFIDENTIALITY—LAW AND PRACTICE

In a software copyright infringement action, experts will probably need to consult with several employees or independent contractors of the client for whom they will testify. Additionally, in cases with multiple defendants, the expert will communicate with lawyers and other experts on a regular basis. A lawyer, therefore, should educate experts on the attorney/client privilege and the work product doctrine.

64. FED. R. EVID. 501 makes common law evidentiary privileges available in federal courts. The attorney/client privilege prevents disclosure, without the client's consent, of confidential communications made in the course of professional employment between an attorney and his client. United States v. Amerada Hess Corp., 619 F.2d 980 (3d Cir. 1980); United States v. White, 617 F.2d 1131 (5th Cir. 1980). The relation of attorney and client must actually exist between the parties to the communication as to the subject matter of the communication. Brinton v. Dept. of State, 636 F.2d 600 (D.C. Cir. 1980), cert. denied, 452 U.S. 905 (1981). See In re Grand Jury Investigation, 631 F.2d 17 (3d Cir. 1980), cert. denied, 449 U.S. 1083 (1981) (privilege does not apply to all attorney/client communications, but only to disclosures made for the purpose of obtaining legal assistance). The principal policy reason for the privilege is to promote free consultation between a lawyer and his client so as to further the administration of justice. Upjohn Co. v. United States, 449 U.S. 383 (1981); United States v. Hodge & Zweig, 548 F.2d 1347 (9th Cir. 1977). These rules were well summarized in United States v. United Shoe Mach., 89 F. Supp. 357, 358 (D. Mass. 1950):

   The privilege applies only if: (1) the asserted holder of the privilege is or sought to become a client; (2) the person to whom the communication was made (a) is a member of the bar of a court, or his subordinate and (b) in connection with the communication is acting as a lawyer; (3) the communication relates to a fact of which the attorney was informed (a) by his client (b) without the presence of strangers (c) for the purpose of securing primarily either (i) an opinion on law or (ii) legal services or (iii) assistance in some legal proceeding, and not (d) for the purpose of committing a crime or tort; and (4) the privilege has been (a) claimed and (b) not waived by the client.

For an extensive discussion of the privilege, see McKenney, The Attorney-Client Privilege and Work Product Immunity: An In-Depth Analysis of the Doctrines and Their Application to Corporate Affairs, 88 COM. L.J. 10 (1983). The attorney/client privilege is narrowly construed. In re Walsh, 623 F.2d 489 (7th Cir. 1980), cert. denied, 449 U.S. 994 (1981). Thus, it would seem that a communication between one defendant's expert of and another defendant's attorney or expert might not be protected by the privilege.

65. The work product doctrine is defined in FED. R. CIV. P. 26(b)(3):

   Trial Preparation: Materials. Subject to the provisions of subdivision (b)(4) of this rule, a party may obtain discovery of documents and tangible things otherwise discoverable under subdivision (b)(1) of this rule and prepared in anticipation of litigation or for trial by or for another party or by or for that other party's
For the attorney/client privilege to apply, the person to whom the communication is made must be a member of the bar, or his or her subordinate, and the communication must occur under circumstances such that it was reasonably expected and understood to be confidential. The question then is whether an expert retained or specifically employed for the litigation is a "subordinate" for purposes of the attorney/client privilege. Specifically, the trial lawyer should consider whether communications made by the client to the experts for use by them in preparing their testimony for trial are communications falling within the privilege. A related question is whether the expert is a "stranger" so that the communication is no longer confidential.

representative (including his attorney, consultant, surety, indemnitor, insurer, or agent) only upon a showing that the party seeking discovery has substantial need of the materials in the preparation of his case and that he is unable without undue hardship to obtain the substantial equivalent of the materials by other means. In ordering discovery of such materials when the required showing has been made, the court shall protect against disclosure of the mental impressions, conclusions, opinions, or legal theories of an attorney or other representative of a party concerning the litigation. (Emphasis added).

69. In Upjohn v. United States, 449 U.S. 383 (1980), the Supreme Court broadly interpreted the attorney/client privilege in a corporate setting. The Court held that questionnaires prepared by foreign managers in anticipation of litigation were privileged communications, because such information was needed to supply a basis for the lawyers to provide a full and frank legal opinion to their corporate client. The Court rejected a narrow "control group" test which would have protected only communications between upper management and the company's lawyers. The Supreme Court's broad interpretation of the privilege and the failure of courts to restrict the scope of the privilege by applying strict common law agency principles support the view that communications made by the client to the expert for use by the expert in preparing his or her testimony for trial are communications falling within the privilege. See also Lalance & Grosjean Mfg. Co. v. Herman Mfg. Co., 87 F. 563 (C.C.N.Y. 1898) (in a patent dispute, party's communications with the expert retained by the party for the litigation are privileged as long as the expert does not act as a witness).
Under the Rules of Civil Procedure, privileged matter is not discoverable.\(^1\) The scope and content of privilege is governed by common law pursuant to the Federal Rules of Evidence.\(^2\) Evidentiary privileges are generally to be narrowly construed in order to permit the broadest possible discovery consistent with the purposes of the privilege.\(^3\)

The work product doctrine provides that the contents of statements or reports of experts are the work product of an attorney, provided that the expert was acting as an agent of the lawyer in anticipation of litigation or for trial.\(^4\) However, disclosure to an expert witness of an attorney's work product—namely, a written expression of the attorney's mental impressions, conclusions, opinions and legal theories—may result in the waiver of protection for the attorney work product if the disclosure was made to aid the experts in the preparation of testimony and the experts use the information to refresh their memories for the purpose of testifying.\(^5\) If the lawyer presents facts or data to the experts,

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\(^1\) FED. R. CIV. P. 26(b)(1).
\(^3\) "Whatever their origins, these exceptions to the demand for every man's evidence are not lightly created nor expansively construed, for they are in derogation of the search for truth." United States v. Nixon, 418 U.S. 683, 710 (1974). Rule 26(b) embodies a strong federal policy encouraging disclosure on discovery: "It is not ground for objection that the information sought will be inadmissible at the trial if the information sought appears reasonably calculated to lead to the discovery of admissible evidence." FED. R. CIV. P. 26(b)(1).
\(^4\) FED. R. CIV. P. 26(b)(3) extends work product protection to both attorneys and to other representatives of a party. The Supreme Court has noted that work product protection must extend to an attorney's agents because the realities of modern litigation require an attorney to rely on numerous assistants when preparing for trial. United States v. Nobles, 422 U.S. 225, 238 (1975). The First Circuit has applied this principle to extend work product protection to a letter written by a physician to an attorney. Sprague v. Director, Office of Workers' Compensation Programs, U.S. Dep't of Labor, 688 F.2d 862 (1st Cir. 1982). The Court noted that the letter was in direct response to medical questions posed by the attorney in an earlier letter, that the letter contained medical expert opinion, and that the attorney sought the opinions in preparation for trial. Id. at 868-70. See also Cold Metal Process Co. v. Aluminum Co., 7 F.R.D. 684 (D. Mass. 1947) (work product protection applies to an attorney's assistants).
\(^5\) Authorities are split on this issue. In Bailey v. Meister Brau, Inc., 57 F.R.D. 11 (N.D. Ill. 1972), the court found that by using attorney work product to prepare himself for testifying at a deposition the plaintiff/witness had waived his work product immunity with regard to those materials. The court noted that FED. R. EVID. 612 generally entitles an adverse party to inspect writings that a witness uses to refresh his recollection and concluded that applying the work product doctrine would therefore be unfair. 57 F.R.D. at 13. Other courts have followed this rule. See e.g., Marshall v. United States Postal Service, 88 F.R.D. 348 (D.D.C. 1980) (attorney/client privilege waived); Wheeling-Pittsburgh Steel Corp. v. Underwriters Laboratories, Inc., 81 F.R.D. 8 (N.D. Ill. 1978) (attorney/client privilege waived). The Southern District of New York, however, has displayed a marked reluctance in a recent series of cases to order the discovery of attorney work product even
those facts and data may become discoverable by the opponent, because the work product rule protects only materials prepared in anticipation of litigation or for trial, not records generated in the ordinary course of business.76

The significance of the attorney/client privilege and work product doctrine in a software copyright infringement action is obvious. As previously noted, the experts will probably consult with several of the cli-

if a witness has used it to refresh his recollection. In Berkey Photo Inc. v. Eastman Kodak Co., 74 F.R.D. 613 (S.D. N.Y. 1977), the court refused to require production of attorney work product used by an expert witness to prepare for a deposition. The court admitted that "it is disquieting to posit that a party's lawyer may 'aid' a witness with items of work product and then prevent totally the access that might reveal and counteract the effects of such assistance." Id. at 615. However, the court felt that the parties in that case had not unduely or unfairly exploited the work product rule and that the risk of waiving work product immunity had not been sufficiently clear to counsel when he provided the work product to the witness. The court explicitly warned, however, that in future, similar cases it might require disclosure. Id., at 617. The court seemed to forget this warning in Al-Rowaishan Establishment Universal Trading & Agencies, Ltd. v. Beatrice Foods Co., 92 F.R.D. 779 (S.D.N.Y. 1982). Here the court refused to order production of attorney work product used to refresh a witness' recollection before a deposition. The court distinguished ordinary work product, such as a factual report prepared for an attorney by an investigator/employee, from documents containing only an attorney's mental theories and conclusions. The court indicated that it would be especially loathe to order production of documents falling in the latter category, because FED. R. CIV. P. 26(b)(3) grants them special protection. 92 F.R.D. at 780. See Note, Interactions Between Memory Refreshment Doctrine and Work Product Protection Under the Federal Rules, 88 Yale L.J. 390 (1978). Regarding waiver of work product protection generally, see In re Sealed Case, 676 F.2d 793 (D.C. Cir. 1982). However, if an expert is indeed a "subordinate" to an attorney for purposes of the work product rule, then a lawyer who discloses information to him or her should no more waive the work product protection than does a lawyer who hands his work product to his or her secretary to be typed.

In a recent case, the Third Circuit Court of Appeals, in a 2-1 decision, held that FED. R. CIV. P. 26(b)(4), which allows an opposing party to discover the substance of facts and opinions to which an expert is expected to testify, does not override the work product protection of FED. R. CIV. P. 26(b)(3) as to documents containing the mental impressions and thought processes of counsel shown to an intended expert witness. Bogosian v. Gulf Oil Corp., 738 F.2d 587 (3d Cir. 1984). In his dissent, Judge Becker suggested possible collision with FED. R. EVID. 705 (requiring disclosure of the basis of an expert opinion), and the work product doctrine, but noted the difference between use of work product to refresh memory and to create beliefs in the first place. 738 F.2d at 596-99.

76. FED. R. CIV. P. 26(b)(3). While it is not essential for work product protection that materials be prepared after a suit has been filed, Appeal of Hughes, 633 F.2d 282 (3d Cir. 1980), there must have been more than a remote possibility of litigation at the time the materials were prepared. In re Special Sept. 1978 Grand Jury, 640 F.2d 49 (7th Cir. 1980); Diversified Indus. Inc. v. Meredith, 572 F.2d 596 (8th Cir. 1977). The question of when the possibility of litigation is "remote" is a subject of dispute. See M. Larkin, Federal Testimonial Privileges § 11.02 (1983). However, materials generated in the ordinary course of business, materials for non-litigation public relations purposes and materials with only a general relation to the client's affairs rather than to any prospective litigation are not protected. Id.
ent's employees about the development of the subject program. Many of those employees will have specialized knowledge and could be qualified to give expert testimony.\textsuperscript{77} They may convey opinions, as well as facts, to the experts. To the extent that those opinions vary from the opinion ultimately derived by the experts, the client's interest in the litigation could be damaged if that communication is discoverable. The jury may be distracted from the ultimate issue because close cross-examination will force the experts to explain why their opinions vary from that of a qualified employees whom the cross-examiner will argue have first-hand knowledge and skill.

The trial lawyer will communicate to the experts their theories of the case, which may be modified as more work is done in the case and as more facts and data are collected. To the extent that the communication between the lawyer and the experts are discoverable, the client's interest may be damaged. Close cross-examination will probe the apparent vacillation in the party's position and attack the credibility of the lawyers.

Finally, where there are divergent views among the experts on the same side of a multiple plaintiff or defendant case, and where the experts and their respective lawyers have communicated those differences to each other, effective cross-examination could accentuate those differences and make it appear that the parties are fighting with each other when, in fact, the parties should present a united front. Any such posturing is avoided, however, if the communications between the experts and the client's employees, between the lawyers and the experts, and between and among the lawyers and experts for parties on the same side of the litigation are not subject to discovery, either because the communication is privileged or because of the work product doctrine.

To the extent that the experts use any facts or data gleaned from their investigation, including discussions with employees, lawyers, or other experts, then those facts and data must be disclosed upon cross-examination and are discoverable. Neither the attorney/client privilege nor the work product doctrine will protect them from discovery.\textsuperscript{78}

To questions of how to maximize the protection afforded by the attorney/client privilege and the work product doctrine, the trial lawyer and the experts must continually assess the extent and nature of their communication with the privilege and doctrine in mind. As a general rule attorneys should not be reluctant to provide their experts with

\textsuperscript{77} FED. R. EVID. 702 defines "expert" very broadly so that employees with specialized knowledge gained by extensive experience can easily be classified as experts.

written memoranda embodying their theories of the case. Those memo-
randa are usually necessary to adequately educate the experts on the is-
issues of the case, on the important areas of examination and inquiry, and
on how the experts' opinions fit into the overall proof of the case. Like-
wise, attorneys should not be reluctant to have their experts present
when their clients are communicating facts to counsel for use in the liti-
gation. In light of the purpose of the attorney/client privilege, which is
to further justice by encouraging clients to confide in their legal advis-
ers, the experts should be considered subordinates of counsel within the
meaning of legal precedent, and the privilege should apply if it is other-
wise available.