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I. Introduction

A. Daubert

In Daubert v. Merrell Dow Pharmaceuticals, Inc., __U.S.__, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993), the U.S. Supreme Court found that it was the Federal Rules of Evidence, not Frye's "general acceptance" test, which provide the standards for admitting expert scientific testimony. By so holding, the Daubert court reemphasized the significance of Rules 104(a) and 702. Faced with a proffer of expert scientific testimony under Rule 702, the trial judge, pursuant to Rule 104(a), must make a preliminary assessment of whether the testimony's reasoning or methodology is scientifically valid, and whether it will assist the trier of fact to understand or determine a fact in issue. In charging federal judges with the responsibility for undertaking this review, the Daubert court found that many considerations would bear on this inquiry, but it was confident that federal judges possess the capacity to undertake this review. While not presuming to set out a "definitive checklist or test", the Daubert court did make some "general observations" for factors that it said would be appropriate for the trial judges to consider.

Key questions to be answered in determining whether a theory or technique is scientific knowledge that will assist the trier of fact are:

1. Whether it can be (and has been) tested;
2. Whether the theory or technique has been subjected to peer re-

view and publication;

3. The known or potential rate of error of a particular scientific technique, and the existence and maintenance of standards controlling the technique's operation; and
4. "General acceptance", described as "explicit identification of a relevant scientific community and an expressed determination of a particular degree of acceptance within that community."

While emphasizing that the inquiry envisioned by Rule 702 was to be a flexible one, the Court found that the overarching subject of the entire inquiry is the scientific validity of the principles that underlie a proposed submission. That is, the proffered testimony must meet the fundamental evidentiary criteria for relevance and reliability.

Since there will be a detailed discussion of the full ramifications of Daubert in the presentation to follow this one, this brief review of the ruling in Daubert is prefatory to an examination of the legitimacy of evidence for claims of manipulation of the medical and scientific literature by both sides of the asbestos litigation.

B. Motivations for Plaintiffs' Allegations

Plaintiffs in asbestos litigation regularly allege that asbestos product manufacturers manipulated the medical and scientific research and literature in a concerted, conspiratorial manner. Specifically, it is alleged that they sought to control and edit out of the medical and scien-

tific literature, reports, and articles any references to cancer and any questioning of the reliability of the threshold limit value (TLV). The motivations for these claims are clear. First, such claims are meant to thwart or severely undercut the state of the art defense. If the plaintiffs can suggest to the jury that the state of the art was controlled by the big, bad "asbestos industry", then it necessarily matters far less what the state of the art shows. Second, these claims carry with them the taint of conspiratorial conduct which dovetails nicely with the plaintiffs' claims for punitive liability. Third, these claims also serve the purpose of allowing allegations of liability to be made against manufacturers who would not otherwise be accountable to plaintiffs, where, for example, there is no product identification.

Over the years many of the plaintiffs' expert witnesses have sought to memorialize some of their more attenuated theories and opinions. They have done so, sometimes, in the face of contradictory evidence. They have also expressed opinions in court which are contrary to the existent medical and scientific literature. Do these actions constitute attempts to manipulate the evidence in the asbestos litigation?

II. Allegations by Plaintiffs that the Defendants Manipulated the Scientific and Medical Literature.

A. Plaintiffs' Claims

As we will review in more detail in the material that follows, these claims can be founded on the fact that some of the asbestos product

manufacturers did do research to determine the extent of the health hazards to which their employees may have been exposed. Some of the allegations are based on the failure to undertake such research. These claims are founded on allegations that manufacturers failed to publish or suppressed the publication of research. Some of these claims are founded upon allegations that some of the manufacturers did publish the fruits of their studies relating to asbestos health hazards.

1. The plaintiffs have alleged that the asbestos industry conspired with researchers and research institutions to withhold positive experimental and epidemiological survey results regarding asbestos and cancer.

    a. The failure of Drs. Gardner and Vorwald to publish certain data, which then would have been coupled with the findings of Dr. E. R. A. Merewether, and others, prevented a governmental and public response. Dr. Gardner's pneumoconiosis study, sponsored by a number of asbestos product manufacturers, conducted between 1938 and 1940, resulted in "positive" findings regarding the asbestos/cancer relationship.

    b. The entire Saranac Laboratory, Drs. Gardner, Vorwald and Pratt, and Mr. Durkan bowed to industrial pressure not to publish the "positive" findings regarding the relationship of

asbestos to cancer.

c. A study undertaken by Dr. Vorwald and the Saranac Laboratory for the Quebec Asbestos Mining Association found positive evidence of the asbestos/cancer relationship.

d. Dr. Vorwald and the Saranac Laboratory failed to publish the QAMA study positive findings because of industry pressure.

e. Dr. Vorwald further failed to report either of these positive findings at various conferences, e.g., the 7th Saranac Symposium in 1952.

2. Failure to publish this positive data denied the medical community information, delaying for more than 20 years the discovery of the relationship between asbestos and cancer. Therefore, the appeals made by Dr. William Hueper, Dr. Harriet Hardy, Dr. E. R. A. Merewether, and others, for recognition of the carcinogenicity of asbestos due to the clinical findings of Dr. Kenneth Lynch, and others, went completely unheeded.

a. Negative results regarding the relationship between asbestos and cancer would have been allowed to have been published.

b. Therefore, withholding "critical" experimental, statistical data

placed asbestos workers in jeopardy.

c. The asbestos industry knew conclusively of the asbestos/cancer relationship in 1935 because of the article published by Dr. Kenneth Lynch.

B. Refuting the Plaintiffs' Claims of Concerted Action, Conspiracy

1. Vandiver Brown/Sumner Simpson Correspondence

As the "Sumner Simpson papers" were becoming completely irrelevant to the litigation, primarily because of the demise of both Johns-Manville and Raybestos-Manhattan, and thus becoming a topic primarily for asbestos litigation trivia buffs, the plaintiffs' counsel attempted to resurrect them for various juries under the auspices of allegations that other defendants had "acted in concert" or had joined in a "conspiracy" with either J-M or R-M. Maybe the actions undertaken by Vandiver Brown/Sumner Simpson did affect whether Ms. Rossiter published an article relating to asbestosis in the "Asbestos" magazine, but it certainly cannot be argued by the plaintiffs that the "Asbestos" magazine constituted a peer review journal or scientific and medical literature upon which medical researchers in the mid-1930's would have relied.

2. Saranac Laboratories of the Trudeau Foundation

Because this renowned facility had the audacity to conduct re-

search for industry, as well as the government, plaintiffs and many of their expert witnesses have been more than happy to defame the facility and virtually everyone who was ever employed there.

a. Dr. Leroy Gardner was undoubtedly one of the most highly regarded researchers of his time. Although the Trudeau Foundation was primarily a tuberculosis facility, providing treatment for those suffering from this terrible disease, Dr. Gardner became interested in whether there was any relationship between tuberculosis rates and those individuals who labored as stonecutters in up-state New York and Vermont. This initial work piqued his curiosity about pneumoconioses generally. He became an extremely prolific writer on the topic of pneumoconioses. The article which was eventually published in 1951, based on research done at the Saranac Laboratories from 1938 through 1940, by Dr. Arthur J. Vorwald, Dr. Philip C. Pratt, and Mr. Thomas Durkan, entitled "Experimental Studies of Asbestosis" won the Industrial Medical Association's award for 1950 as the year's best scientific paper in the field of industrial medicine. Despite the plaintiffs' allegations to the contrary, Dr. Vorwald remained unconvinced that asbestos was carcinogenic. See "Record of Proceedings, International Labor Organization Third International of Experts on Pneumoconiosis," Febru-

ary-March, 1950, which memorialized some of Dr. Vorwald's opinions that had been stated as early as 1938. Vorwald A. J., Karr J. W. (1938): Pneumoconiosis and Pulmonary Carcinoma. *Am J Path.* 14:49-57. This is an excellent example of how having experimental research sponsored by the defendants published in a peer review journal has been alleged to have been tortious.

However, anyone who wishes to take the time to review the conclusions, as set forth in the 1951 article, will find that they bear a remarkable resemblance to the initial list of questions which were to be answered by this research, as they were outlined by Vandiver Brown in November of 1936. What the plaintiffs cannot seem to accept is the fact that this entire study was done to determine the levels and type of asbestos exposure necessary to produce pneumoconiosis. The fact that this study answered these questions, in a way which pushed the envelope of scientific knowledge on the subject, is apparently unimportant to those who are today analyzing the actions of those who did research in the 1930's and 1940's.

b. The allegations relating to the Saranac Laboratories are not based on a complete review of all of the sources of information.

(1) Dr. Philip C. Pratt was one of the principal authors of the 1951 article and specifically recalls, and has testified to the fact, that he was the author of the section entitled "Neoplasm" in the September 30, 1948 report. Dr. Pratt has an excellent recollection of all of the circumstances. Probably because of having been trained in proper scientific research methodology, he is able to recall, in great detail, things that happened decades before. For example, Dr. Pratt initially stated that he thought he had written that section of the September 30, 1948 report "Asbestosis Experimental Studies by the Saranac Laboratory," which dealt with neoplasm. It was not until a legible copy of the report was provided by plaintiffs' counsel in a document production in Florida that Dr. Pratt was able to absolutely confirm that it was he who had written that section of the September 30, 1948 report. This was so because the particular copy of the report that was provided by the plaintiffs (a copy of which exists in the Armed Forces Institute of Pathology) had handwriting on the cover, which Dr. Pratt identified as his own, which said, "Personal Copy, P. C. Pratt."

(2) Many years later, Dr. Gardner's actual laboratory notes from these particular experiments were located. These

had found their way onto an exhibit list filed by a plaintiffs' firm in the Mississippi litigation. No copy of these notes exists at the Trudeau Foundation in Saranac Lake, New York, which is the repository for all of these materials. Neither does a copy of this document exist at the Armed Forces Institute of Pathology, which was the recipient of all of Dr. Arthur Vorwald's papers upon his death. No mention has ever been made of the existence, let alone the substance, of these documents by those plaintiffs' expert witnesses who have chosen to write on this topic. Have they not had the opportunity to see these documents? Where are the originals of these documents? Has any defendant ever asked a plaintiff to produce all of the documents that they have which relate to this point? Is there a continuing duty to supplement interrogatory answers for plaintiffs as well as defendants? Has a subpoena duces tecum ever been served upon any of the plaintiffs' expert witnesses in conjunction with a notice of deposition? Is this suppression of information? Is this manipulation?

(3) Those authors who have decided to publish on this very topic find that their research is complete, adequate and publishable, although they have never once seen the need to contact the author of that portion of the report

which they deem to be the most significant. It would seem that this line of inquiry should be followed in constructing any examination of expert witnesses who would choose to opine on the subject.

(4) Have the documents that have been provided to the experts who are willing to testify on these subjects been complete? Have all the documents that are relevant to these topics been found? Have the experts attempted to read and interpret all available documents and evidence upon which to found their expert testimony? For example, in determining what importance to attribute to a finding of a spontaneous adenoma in a mouse, and in offering expert testimony on the importance of not reporting such a finding in a respected peer review journal, is it important to look at the medical library and the articles that were actually available to the researchers and authors? There existed, in the library of the Saranac Laboratories, literally dozens of articles relating to the susceptibility of mice to tumors, dating back to 1896. Livingood first reported in 1896 on the propensity of mice to spontaneously produce neoplasms under controlled laboratory conditions, with no intentional inducement and no adverse environmental agents being involved. By 1907, Tyzzer had suggested heredity as a

cause of neoplastic growths in mice. He reported a 74% spontaneous rate. By the 1920's, mice strains had been inbred to study the inheritability, susceptibility and resistance to cancer growth. By 1926, Clara C. Lynch, a leading author on this topic, had determined that tumor susceptibility and resistance were: 1) dominant inherited traits in inbred mice; 2) significantly consistent; and 3) quantifiable. The literature had reported that there was an "A" strain of mice that had a 95% rate of spontaneous tumor development. Dr. Vorwald discussed "carcinoma-susceptible" strains of mice in his 1938 article, "Pneumoconiosis and Pulmonary Carcinoma." Is that important? Are we to assume that Dr. Vorwald somehow had forgotten all that he had known about spontaneous tumor development in certain strains of animals before the writing of the 1951 paper? Does it offer the experts who are willing to testify on this topic a problem that the Saranac Laboratory contained so many articles relating to spontaneous tumor development in animals, or that Dr. Vorwald may have been aware of them, since these facts do not neatly dovetail into their conspiratorial theories?

(5) It was later discovered that the National Cancer Institute had had all of this research presented to them by Dr.

Leroy Gardner, in an application for a grant to conduct research on the relationship of pneumoconioses to cancer. One plaintiffs' expert, after reviewing the transcript of the decision of the National Advisory Cancer Council (whose members were unquestionably the leading experts on cancer at the time) to not fund Dr. Gardner's research project, suggested that it was certainly possible that all of the members of the panel were part of the grand conspiracy. He opined that without knowing more he could certainly not rule out the likelihood that all of the leading cancer researchers who served on this panel were "co-conspirators."

C. Hemeon - The Suppressor

The plaintiffs allege that the Industrial Hygiene Foundation and W. C. L. Hemeon suppressed information that the threshold limit value for asbestos, as determined by the American Conference of Governmental Industrial Hygienists, was not safe. Certain defendants in the asbestos litigation were contributors to the Industrial Hygiene Foundation. Additionally, certain members of the Asbestos Textile Institute (ATI), virtually all of whose members are now in bankruptcy proceedings, had Mr. Hemeon and the Industrial Hygiene Foundation undertake industrial health surveys of their plants. It is alleged by the plaintiffs that Hemeon was then convinced that the 5 million particle per cubic foot threshold limit value was entirely unsafe. Because this study of

certain asbestos textile plants was not published (and was even conducted blindly so that no company would be able to determine another company's results) it is cited as further evidence of the "industry's" conspiratorial conduct to suppress all evidence of the potential hazards of exposure to asbestos dust.

D. Hemeon - The Author

Those offering this disparaging opinion have apparently not found that W. C. L. Hemeon authored one of the leading texts on industrial ventilation. In 1955, W. C. L. Hemeon authored Plant and Process Ventilation, which was published by the Industrial Press. In that text, on page 12 at Table 1-7, Hemeon cites the threshold limit value for asbestos as being 5 million particles per cubic foot. In the second edition of the same text, published in 1963, this same table is once again set forth giving the threshold limit value for asbestos dust at 5 million particles per cubic foot. The plaintiffs' expert witnesses would have us believe, apparently, that W. C. L. Hemeon, although convinced that asbestos was harmful at levels below the 5 mppcf TLV, was nonetheless content to publish this TLV in a textbook that would be utilized for the training of future industrial hygienists. The Hemeon textbooks never seem to find their way into the medical and scientific literature utilized by the plaintiffs' expert witnesses for the basis of their opinions.

E. Trade Association Membership

Membership in virtually any trade association is taken to be evidence of an overt act in furtherance of a conspiracy. With the demise of J-M, R-M, Celotex, and others, it is becoming far more difficult for the plaintiffs to put before the jury evidence of the "bad acts" of some of these corporations. Accordingly, mere membership in a trade organization in which any of these, or other, traditional asbestos defendants were also members, is argued by plaintiffs' expert witnesses as evidence of "concerted action." See, NAACP v. Claiborne Hardware Co., et al., 459 U.S. 898, 103 S. Ct. 199, 73 L.Ed.2d 1215 (1982), for a contrary ruling. It would seem, however, that the offering of such testimony by an expert may constitute an instruction to the trier of fact as to the applicable principles of law. The trier of fact does not need, nor may he or she defer to, the legal judgment of witnesses. Marx & Co. v. Diners' Club, Inc., 550 F.2d 505 (2d Cir. 1977), cert. denied, 434 U.S. 861 (1977); Adalman v. Baker, Watts & Co., 807 F.2d 359 (4th Cir. 1986). It would seem that this would be a particular area in which proffered expert testimony would invade the province of the jury and should, therefore, be ruled inadmissible.

The plaintiffs' counsel continue to allege that the defendants in the asbestos litigation controlled, suppressed, and manipulated the medical and scientific literature for their own purposes. Whenever one of their purported examples of this is disproved, they simply move on to another area.

All of these allegations, when taken together, make a compelling story to lay out for a jury. What the jury does not hear are all of the parts of the puzzle which have been ignored, and in some cases knocked off the table, by plaintiffs' counsel. The motivations for the plaintiffs' allegations that the defendants completely controlled the development of the medical literature are clear. First, juries have found, and continue to find, that the state of the art defense is valid. For example, only a month ago a state court jury sitting in Miami, Florida, rendered a defendant's verdict in an uncontested mesothelioma case based on the defendant's state of the art presentation. Hessler v. T & N plc, et al., Case No. 93-08692, 11th Cir. Ct., Dade Cty., Fla. (September 27, 1993). On that same day in Texas, a similar result occurred in O'Connor v. Owens-Corning Fiberglas Corp., et al., 352d Jud. Dist. Ct., Tarrant Cty., TX, No. 352-145276-92. There are juries who continue to find that defendant's have no responsibility to warn of hazards about which they did not know. Second, it allows the plaintiffs to utilize evidence which would otherwise be completely irrelevant because it relates almost exclusively to corporations which are now no longer involved in the litigation because of bankruptcy filings. For example, whether Vandiver Brown, the general counsel for J-M, and Sumner Simpson, the president of R-M, managed to keep Ms. Rossiter from publishing articles in the "Asbestos" magazine would seem to be wholly irrelevant in a case in which J-M nor R-M were a party. However, by alleging that J-M and R-M worked to further a conspiracy involving all of the other asbestos manufacturers, plaintiffs' counsel attempt to open an avenue over which they can drive into the courtroom all of the evidence which traditionally was

relevant only as to those parties.

III. Some Plaintiffs' Expert Witnesses' Allegations

Plaintiffs' expert witnesses have occasionally made statements that are deemed to be controversial. Sometimes these statements are found to be controversial by their own peers. Following are some examples of areas which may be ripe for exploration with certain plaintiffs' experts when we are presented the opportunity to cross-examine them again.

A. David E. Lilienfeld, M.D., M.P.H., M.S. Engin.

1. In an article entitled "The Silence: The Asbestos Industry and Early Occupational Cancer Research - A Case Study" by David E. Lilienfield, M.D., M.P.H., M.S. Engin., *Am J Public Health* 81: 791-800 (1991), Dr. Lilienfeld purportedly researched the entire record of documents which were available to him in reviewing what "the asbestos industry" did to perpetrate what he has called "scientific fraud." These allegations are parroted in a letter authored by Drs. Hardy and Egilman entitled "Corruption of the Occupational Medical Literature: The Asbestos Example," *AM J Ind Med* 20:127-129. Dr. Philip C. Pratt responded to this letter. Although Dr. Lilienfeld did refer to Dr. Pratt as "one member of the investigative team" in his article, and did then cite to Dr. Pratt's 1988 deposition, neither Drs. Lilienfeld nor Egilman recognized Dr. Pratt as a co-author of the 1951 published study. As the person with first hand knowledge, Dr. Pratt apparently felt compelled to respond to the allegations which had

been made against the Saranac Laboratory. In his letter to the editor, Dr. Pratt notes that he and Dr. Vorwald agreed that the references to adenomas in the earlier reports should not be included in the final draft of the paper since there was doubt about the true nature of the lesions in the mice, and there were no "control" animals in the experiments. Dr. Pratt states, "The literature would have been 'corrupted' by inclusion of such flimsy evidence, not by its omission." Dr. Pratt concludes by saying:

> I submit that no one at the Saranac Laboratory was involved in any misrepresentation of these experimental findings or corruption of the literature. To blame the 'asbestos tragedy' on these events is not justified.

Am J Ind Med 22:609-611.

B. Barry I. Castleman, Sc. D. and Grace E. Ziem, M.D., Dr. P.H.

1. Barry I. Castleman, Sc.D., and Grace Ziem, M.D., Dr. P.H., authored an article entitled "Corporate Influence on Threshold Limit Values," *Am J Ind. Med,* 13:531-559 (1988) in which they complained that it has been "widely recognized that the TLV's for chemical substances are in most cases poorly supported by scientific evidence." At one point in this article the authors state, "Industrial concerns in the U.S. were in no way compelled to share what they knew." But they later go on to suggest that

failure by U.S. corporations to share their data constituted suppression of important information. However, the article goes on to say that the Threshold Limit Committee "placed important reliance on unpublished corporate communications." In a wonderful display of logic the authors write

> This investigation was able to locate written copies of far less than half of the above unpublished corporate material from the NIOSH files, ACGIH and the corporations.
>
> * * * * *
>
> In any event, most of these important unpublished corporate communications are now unobtainable in written form for independent scientific examination.
>
> The scientific community is left unable to determine whether there was more information originally conveyed; and where there was, no way exists to look up the original source or resolve questions about the basis of statements published . . . , including methodology utilized and whether the statement was based on any study or merely an impression.

Castleman, at 537-39. Continuing, the authors say, "To its discredit, the [TLV] committee has long turned a blind eye to conflicts of interest, overt and subtle." Id., at 554. The authors described Dr. Arthur Vorwald of the Saranac Laboratory as a "full-time industry consultant." Id. In sum, the article condemns

industry for not sharing available data, it condemns the industry for not having available to the authors the information that was shared, and it condemns the TLV Committee for "only occasional token efforts" "to get a union industrial hygienist on the TLV committee." Id.

2. Responses by those who worked on or with the ACGIH TLV Committee.

   a. Dr. H. E. Stokinger, who had served on the TLV Committee of the ACGIH for 26 years, and as Chief Toxicolgist for the U.S. Public Health Service, began his response to the Castleman/Ziem article by stating:

> A simple and overriding denial of Castleman's and Ziem's [1988] 30 page diatribe that 'the documentation of the TLVs is inadequate' is that throughout all of the more than 40 years of existence of threshold limit values, there has been no instance of serious health effects, provided exposures were kept at or below the TLVs. This I have been careful to observe in my more than quarter of a century as TLV Committeeman and Chairman.
>
> What Castleman and Ziem have failed to grasp, or it did not suit their purpose, is that the proof of the pudding is in the eating, not in its preparation!

Am J Ind. Med, 14:231-232 (1988).

b. Another response to the Castleman/Ziem article was also published by the *American Journal of Industrial Medicine*, this one by K. P. Duncan, C.B., FRCP, of the National Radiological Protection Board of the United Kingdom. As an outside observer, Dr. Duncan suggested that it would be "impertinent" for him to comment on certain aspects of the standard setting process that are relative to the U.S.A., but he did feel that there were certain general features of the process upon which he could speak. In his conclusory paragraph Dr. Duncan states:

> Scientists and doctors who work in industry are not necessarily corrupt, and those who are financed by universities, governments, or trade unions are not necessarily impeccable. It is to be hoped that the ethical controls of the various professions involved will come down hard on wrong-doers, and it is the duty of those who suspect corruption to invoke these processes. It is counter-productive to make character attacks by anecdote, selective quotation, and innuendo. Scientific and technical resources that exist in industry must be harnessed openly and fairly to their necessary debates. Our colleaques are entitled to have their scientific integrity respected if that cooperation is to be effective. It is not easy for any of us to resist pressure, obvious or subtle, from political

> beliefs (our own or other people's) or from considerations of publicity or career advancement, but we must look at the individual's moral courage first and attention to professional sanctions second, rather than get ourselves involved in media-type allegations or high-profile investigations into alleged malpractice.

Am J Ind. Med 13:619-620.

IV. Strategies for Defending Spurious, Tenuous Claims and to Limit the Scope of Plaintiffs' Expert Witnesses.

Daubert clarified the standards for admitting scientific evidence by speaking to the sufficiency required of scientific evidence and the gate keeping role of the trial judge with regard to misleading evidence. Daubert, __U.S.__, 125 L.Ed.2d at 482. Many courts have found the dicta in the opinion about the methods by which a trial court may determine the reliability of evidence instructive. Plaintiffs' experts can no longer hide behind the shield of "general acceptance" afforded by Frye. It is no longer enough to merely say, "This is how it is done in my field." Now it is clear that Rules 702, 703 and 403 will all come into play before an expert is allowed to offer his or her opinion. The proferred testimony must preliminarily be found reliable and relevant.

A. Pretrial Procedures

1. Collect all data available regarding plaintiffs' experts' opinions, and all bases therefor. For this purpose, one can utilize at least the following procedural tools:

a. Motions for More Definite Statement.

Fed. R. Civ. P. 9 (b) mandates that all allegations of fraud "shall be stated with particularity." Generalized allegations that all corporations who are in the "asbestos industry" "suppressed" information is not enough. Rule 12 (e) provides that a defendant "may move for a more definite statement before interposing a responsive pleading" when the plaintiff's allegations are so "vague or ambiquous" that the defendant cannot tell what exactly is being alleged.

b. Motion to Strike.

If there is no basis for the plaintiffs to allege that a particular defendant has engaged in fraudulent or conspiratorial conduct, such allegations should be stricken from any pleading upon motion before responding to the pleading.

c. Contention Interrogatories.

Properly framed interrogatories can force the plaintiff's hand with respect to what evidence the plaintiff intends to present in support of specific allegations in the complaint.

d. 26(b)(4) Interrogatories.

This Rule provides the mechanism whereby, through a well crafted interrogatory, a defendant may require the plaintiff to identify each person that the plaintiff expects to call as an

expert witness at trial, to state the subject matter upon which the expert is expected to testify, and to state the substance of the facts and opinions to which the expert is expected to testify, and a summary of the grounds for each opinion. This is one of the few circumstances where a motion to compel should be immediately filed for a vague or nonresponsive answer.

e. Depositions.

It is always a good idea to depose, even if ever so briefly, each and all of the plaintiffs' expert witnesses, so as to at least have the opportunity to meet and see them, and to get an initial reading for how the particular witness will perform in the courtroom.

f. Request for Admissions.

Pursuant to Fed. R. Civ. P. 36, a defendant may serve on the plaintiff a written request for the admission of the truth of matters within the scope of Rule 26(b) relating to statements or opinions of fact or of the application of law to fact.

g. Motion for Summary Judgment.

Once discovery has been completed, the opportunity to narrow the issues, especially by having unsubstantiated causes of action for which no evidence has appeared during discovery

summarily ruled upon, should not be overlooked.

h. Motion in Limine, to limit the subject matters to which a particular plaintiff's expert may testify.

If one is really desirous of reining in the opinions of an adversary's expert, then one must begin before the trial to inform the court of the thin ice upon which the expert skates. If there is little or no scientific validity to the substance of the expert's opinions, a detailed motion in limine should be filed setting forth precisely where the expert's testimony will deviate from the penumbra of acceptable, reliable science and will step into the area of surmise and conjecture. In re Related Asbestos Cases, 543 F. Supp. 1142 (N.D. Cal. 1982).

B. Evaluation and Scrutiny of Plaintiffs' Experts Positions

1. Look for errors, mistakes.

The information provided to the plaintiff's expert witness which serves as the bases for his or her opinion is sometimes inaccurate. Very often plaintiffs' expert witnesses are simply informed that a particular plaintiff has been "heavily exposed" to asbestos throughout an entire occupational work history. Rarely is the expert witness given the luxury of reviewing the product i.d. testimony which has generally been completed only shortly before the commencement of the trial.

It is not impossible for an expert to make severe and significant mistakes in reviewing the information with which he is presented by a plaintiff's counsel. For example, although it may seem inconceivable, it is possible for an expert witness, who has testified hundreds of times for plaintiffs' counsel, to be unable to accurately distinguish between tissue types.

Excerpts from Direct Examination

Q Doctor, you took a series of photographs of the tissue samples of Mr. [Jones]. First of all, where did the tissue samples come from?

A They were made by a procedure known as a bronchoscopy.

* * * * *

Q All right. Did cigarette smoke have any causative role?

A It may have contributed to speeding up the cancer and contributing the type of cell that happens so cigarettes have influence on cancers of making them occur earlier when there's an asbestos factor and to change the cell to a smaller type of cell or the opposite extreme, a giant cell.

Q I see. What type of cell did Mr. [Jones] exhibit?

A My notes show that it's a very complicated cancer this. He had -- I think it's best to illustrate with these photographs.

* * * * *

Q Okay. Now, for the record we've marked four photographs as Exhibits Nos. 37, 38, 39, and 40. Now, Doctor, did you take these photographs yourself?

A Yes, sir.

Q Were they taken directly from your equipment?

A Yes. They were from tissue.

Q Do they fairly and accurately depict what you were viewing through your microscope as you snapped the pictures?

A Yes, sir.

Q Will they be useful to you to use in description of cell type and structure of the type of cancer of Mr. [Jones]?

A I think so.

Q I'm going to move numbers 37, 38, 39 and 40.

[DEFENSE COUNSEL]: May I reserve on cross-examination?
THE COURT: Yes, sir.
[PLAINTIFF'S COUNSEL]:

Q Okay. Doctor, would you show the jury about the cell structure that was involved in the cancer and what it means in terms of causation?

A Yes. Photograph 37 shows a gray dot of tissue in the background.

Q You're gonna have to speak into --

A A gray dot of tissue and then the bright red patterns --

[DEFENSE COUNSEL]: I'm sorry. What was the word?
[PLAINTIFF'S COUNSEL]: Patterns.
[DEFENSE COUNSEL]: Patterns?

THE WITNESS: Which is the epithelium. The latter is the cancer, and those little dots in the background is the lung's defense to the cancer trying to hold it back. The white areas are lung air spaces like we saw over here. The cancer has formed as a continuous sheet of cancer over the surfaces of the alveoli and in the walls of the structures.

That's a defensive reaction. The body sends out thousands of policemen to hold back the enemy, and they do so for awhile until they are beaten and then the cancer gets in and goes through the membranes so at this stage the cancer is just on the surface and that particular cancer is almost specific for asbestos.

It is an aveolar cell carcinoma, which American pathologists call an adenocarcinoma because it looks like a lamb, but it develops from the tube and consists of cells which are drawn out of this tubule and have become begun to cover the aveolar spaces like you see there. (Indicating.)

That is almost specific for asbestosis. You never see it with smoking alone. Here photograph 38 is a larger view, a larger view of this cancer to show that the cells are columnar; that is, they're taller than they are wide. See the cells here, and they are classic, but still the link of the asbestos, which are the white things.

Adenocarcinoma. Aveolar cancer.

Now, in some areas of the cancer, as shown in photograph 39 something else has happened. The cancer cells, which were single layered in one area, now are multi-layered. They look like a pile of bricks that have been cut across or a wall, and the cells also are white around a dot in the center, and the cell itself has a little membrane around it called a cell wall.

Those photographs are made the same size magnification as those in photograph 36 -- 37. So, you can see they're larger and they're different. Their whiteness suggests that they come from the aveolar wall, which makes that type of cell rather than bronchiole, but we know the cancer is coming from different spots.

Now, we go to photograph 40, and here we see an entirely different appearance. Now, the cancer cells are reddish. They are growing together as one solid mass of tissue. That is a squamous cell differentiation of the cancer, and this alveolar white squamous. Photograph 39. This is 40. Squamous differentiation.

It is because of this feature, squamous differentiation that I suggested that possibly the cigarette smoking of this gentleman had a secondary effect on him modifying the type of cancer that he got by making an aveolar cell carcinoma, which is specific for asbestos, become a squamous carcinoma, which is more common with cigarette smokers.

Excerpts from Cross Examination

Q Doctor, is there anybody who has looked at a larger group of asbestos exposed individuals that Dr. Selikoff?

A In this country I may be the only one who has, but I haven't published anything because I was not allowed to.

Q Well, in this country you are the only one who has looked at more people but you were not allowed to publish?

A No, because during the first twenty years of my life I worked, asbestos companies wouldn't let me release things, and later when I worked for the Veterans it was contrary to policy to release things.

Q The Veteran's Administration would not let you publish what you know?

A Not of this nature. No.

Q The Veteran's Administration you're saying has suppressed this evidence that you have?

A Yes, sir.

* * * * *

Q Sir, let's turn finally to Mr. [Jones]. Now, Doctor, in Mr. [Jones'] case you again wrote two reports didn't you?

A Right.

Q And one of those reports is dated March the 17th 1990 and in conjunction with that you took five photographs, correct?

A Right.

Q And then you saw some additional tissue and wrote

another report of June 1, didn't you?

A Right.

Q And on the tissue that you saw on June 1, you took eleven photographs or ten or eleven photographs, right?

A It was what?

Q I'm not making this a memory test. I'm just asking. That's what my records show. Is that what you recall? Do you recall writing a second report in Mr. [Jones'] case based on two specimens and taking eleven photographs?

A Yes, I did.

* * * * *

Q Now, Doctor, just as an example, I want to take your June 1st 1990 report. Do you have that in front of you, sir?

A Yes.

Q Your June 1st 1990 report reports on the results of your review of two specimens, correct?

A Yes.

Q And these are two specimens that came from the Washington County Hospital, correct?

A Yes.

Q They have numbers don't they?

A Correct. The numbers I have were 854659. 854660.

(WHEREUPON, the slides and blocks were marked as Defendant's Exhibits Nos. 6, 7 and 8.)
[DEFENSE COUNSEL]:

Q Okay. (Indicating) Doctor, I'm going to show you what has been marked as Defendant's Exhibits 6, 7 and 8 and ask you if you can identify those as the slides and blocks you looked at in these cases?

A I didn't look at the blocks.

Q Okay. You didn't look at the blocks?

A But these are the numbers that correspond to the slides.

Q And they are on the Washington County Hospital heading? They have a Washington County Hospital tag at the top?

A Yes, sir.

* * * * *

Q Doctor, you have already said and it has been admitted into evidence Nos. 37, 38, 39 and 40, which are these photographs that you took of these two slides; isn't that right?

A Right.

Q All right. Isn't it a fact you took a whole series of eleven photographs of these two slides; isn't that right?

A Right.

Q And you developed a report dated June 1, 1990 which purported to describe what you saw on those slides didn't it?

A Correct.

Q And you described what you saw on those slides as lung tissue, correct, and cancer?

A Well, it was cancer tissue.

Q Doctor, I'm showing you what has been marked as Defendant 11 for identification and ask you if that's a copy of the report that you wrote and the description of the pictures that you took based on these two slides?

A Yes, sir

* * * * *

Q Doctor, I'm going to show you your photographs which have been marked as 37, 38, 39 and 40 of Mr. [Jones'] case. I would like you to pick up No. 37 please?

A Yes.

Q What is your testimony about what that demonstrates, sir?

THE COURT: I don't think the witness heard you. [DEFENSE COUNSEL]:

Q What is your testimony about what that photographs?

A It shows an adenomatous carcinoma.

Q So, in your opinion that photograph No. 37 shows

neoplasia?

A Yes. It's cancer.

Q Is it your testimony that that photograph does not show female endometrium?

[PLAINTIFF'S COUNSEL]: Objection?

THE WITNESS: I don't know where this tissue is from now that you raise doubt.

THE COURT: Why don't you ask does it or does it not?
[DEFENSE COUNSEL]:

Q Doctor, does this photograph No. 37 or does it not depict female endometrium?

A It could be that, too.

* * * * *

Q So, you're saying that No. 37 could be female endometrium?

A Yes.

Q Doctor, look at No. 38?

A Yes.

Q Is it your testimony -- what is your testimony concerning what that slide shows?

A It looks to me like neoplasia. Adenocarcinoma.

Q Could that or could not that be female indometrium?

A It could be from the uterus. It could be but it looks the same.

Q Would you pick up No. 39 please?

A Yes.

Q What is your testimony about what that slide shows?

A It shows tumorous material with large cell cytoplasma.

Q Doctor, could that or could that not be decidualized uterine stroma from a female?

A It would be possible. They look the same.

Q Doctor, pick up the last photograph?

A Yes.

Q What is your testimony about what that photograph demonstrates?

A It seems to me like it was a squamous carcinoma.

Q In the lung?

A Well, I was told it was from the lung. It is just fragments of tissue.

Q Could it be decidua from a female uterus?

A It could. They look the same. Yes.

Q I have no further questions.

2. Misapplication of an otherwise scientifically valid technique. Plaintiffs' expert witnesses may be subject to severe cross examination, at the least, or having their testimony stricken, or a judgment set aside because of misuse of what is an otherwise well accepted scientific technique.

A number of state courts are also adopting the position that for expert testimony to be admissible, the scientific precepts upon which it is founded must generally be accepted as reliable within an expert's scientific field and, thus, an expert cannot be the only person advocating the use of scientific evidence, even if the expert is the best person in the entire country to evaluate the utilization of the method. In a case decided only two days after the Supreme Court's ruling in Daubert, the Court of Special Appeals of Maryland issued its opinion in Keene Corporation, Inc. v. Hall, et ux, 626 A.2d 997 (Md. App. 1993). Following the reasoning set out in Reed v. State, 391 A.2d 364 (Md. 1978), the Court ruled that before a court will allow expert testimony deduced from scientific principle or process, the scientific principle or process from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs. Even so, testimony based on a scientific technique which is found to have gained general acceptance in the scientific community may be admitted into evidence only if

the trial judge also determines, in the exercise of his or her discretion, that the proposed testimony will be helpful to a jury, that the expert is properly qualified, and that the evidence is both relevant and reliable. While the scientific technique discussed in the context of the criminal appeal of Reed was that of voice prints, the scientific technique discussed in the Hall case relates to the plaintiff's expert witness having testified that, in his opinion, the cause of Mr. Hall's laryngeal cancer was exposure to asbestos. That opinion was based on several factors, one of which was the expert's use of polarized light microscopy (PLM) to identify asbestos fibers imbedded in Mr. Hall's tissue at the sight of his tumor. Although the plaintiff argued that the Frye test should not be utilized, because their expert had simply applied an established technique in a different way, the court said

> . . . time and again, the application of an arguably accepted technique for an entirely new purpose has been subjected to the Frye analysis, and held not generally accepted in the relevant community, and so inadmissible.

Hall, at 1003. The court went on to find

> As the proponent of this evidence, it was the Halls' burden at the Frye hearing to demonstrate that the PLM evidence was "generally accepted as reliable within the expert's particular scientific field. Reed, 283 Md. at 381,

391 A 2d 364. In meeting this burden they offered only the testimony of Dr. _____ and Dr. _____. The former explained how he assertedly used PLM to visualize asbestos fibers in human tissue and that this method was used in German and English "institutes", the latter opined that this use of PLM was theoretically possible. Neither of the Halls' experts testified that this use of PLM was "generally accepted as reliable" within his "particular field." Indeed, Dr. _____ conceded he had never used PLM in this way. Keene's expert, Dr. _____, expressly testified that : (1) this use of PLM was not reliable -- asbestos fibers cannot be identified through the use of PLM on a stained tissue slide; (2) this use was not generally accepted in the relevant scientific community; and (3) no one else had used PLM in this way to identify asbestos fibers in human tissue. Keene offered two articles to support Dr. _____'s opinion that PLM was not generally accepted as reliable as used by Dr. _____. Dr. _____, although asked, was not able to name a single doctor that used his method or a single publication that supported its use. This was the sum total of the evidence admitted at the Frye hearing.

The Halls' argument that this evidence was sufficient to establish the admissibility of this use of PLM as generally accepted in the relevant scientific and medical community rests entirely on their claim that "plaintiffs' expert witnesses were better able [than defendants' expert] to comprehend and understand the process at issue and form a judgment about it." There is nothing in the record that supports the claim

that the Halls' experts were more knowledgeable than Dr. _____. Moreover, even if Dr. _____ and Dr. _____ are the persons in the entire country best suited to evaluate this use of PLM, in order for it to be a basis for their expert opinion at trial in Maryland, it must be "generally accepted as reliable within [their] field," ergo, Dr. _____ cannot be the only person who advocates the use of PLM in this way.

* * * * *

Accordingly, because the evidence offered by the Halls at the Frye hearing demonstrated that only Dr. _____ used PLM to identify asbestos fibers in undigested human tissue, and not that anyone else used PLM in this way, it failed to demonstrate that this use of PLM was generally accepted in the relevant scientific and medical community.

Our independent research, see Reed 283 Md. at 380-381, 391 A.2d 364, confirms this view.

* * * * *

Moreover, our research has not led us to even one case in which evidence as to the use of PLM to identify asbestos fibers in human tissues was accepted -- or even offered. The only use made of PLM in asbestos cases appears to be one that was described by Dr. _____ at trial, i.e., identification of asbestos in building materials.

* * * * *

> Apparently, PLM has been accepted as a method for identifying asbestos in building materials. See Roseville Plaza Ltd. Partnership v. U.S. Gypsum Co., 811 F.Supp. 1200, 1207 n. 13 (E.D.Mich. 1992) (citing 40 C.F.R. § 61.141 (1992). See also UNR Industries, 1991 WL 76484. This does not necessarily mean, however, that PLM is an accepted method for identifying asbestos in human tissue. See Brown, 557 F.2d at 557-58 (ion microscopic analysis that had been used to analyze metals and other inanimate objects held not generally accepted as technique for analyzing human hair.) We are not scientists but can take judicial notice that inanimate material and tissue from human beings have different properties. Because Dr. _____'s use of PLM to identify asbestos in undigested human tissue was not demonstrated to be generally accepted in the relevant scientific and medical community, we must reverse the judgment and remand the case for a new trial.

3. Development of new techniques or reinterpretation of others' studies. In Maiorana v. National Gypsum Company, et al., 827 F.Supp. 1014 (S.D.N.Y. 1993), wherein a judgment as a matter of law was granted defendants after a significant plaintiff's verdict, the plaintiff's expert was basing his opinion on a reinterpretation of epidemiological studies (not unlike the technique stricken down in Daubert) in which the authors of the studies had concluded there to be no causal relationship between asbestos exposure and colorectal cancer.

4. Offering opinions beyond one's area of expertise. With respect to founding expert opinion on new "theories" of liability, see In re Related Asbestos Cases, 543 F. Supp. 1142 (N.D. Cal. 1982); Kropinski v. World Plan Exec. Council - U.S., 853 F.2d 948 (D.C. Cir. 1980), U.S. v. Kozminski, 821 F.2d 1186, 1194 (6th Cir. 1987), and Brock v. Merrill Dow Pharmaceuticals, Inc., 874 F.2d 307 (5th Cir. 1989).

Rule 702, as Daubert holds, mandates a preliminary finding that the expert's testimony rests on a reliable foundation. Can expert witnesses testify reliably about motivations of individuals or corporations without so much as speaking to them?

Where this problem has been recognized, plaintiffs argue that the expert should be allowed to testify about the contents of the dozens of letters and other documents relating to this issue, in summary fashion, attempting to invoke Rule 1006 which provides

> The contents of voluminous writings, recordings of photographs which cannot conveniently be examined in court, may be presented in the form of a chart, summary, or calculation.

The plaintiffs often argue that the "inconvenience" of having to present all of the information, which they suggest supports their expert witness's opinion that a conspiracy took place, somehow

renders admissible summary testimony by an expert on the attitudes and motivations of the authors of letters, reports, and medical articles.

Will such testimony on the ultimate issue "assist the trier of fact to understand the evidence," or is it merely an opportunity to place before the jury otherwise inadmissible hearsay? The plaintiffs suggest that the documents which support the expert testimony are of a type reasonably relied upon by experts in the field. It is, however, fundamental law that an expert may not be used as a conduit for hearsay. See, Hutchison v. Groskin, 917 F.2d 722 (2d Cir. 1991).

V. The Pendulum Swings - Spurious, Tenuous Claims are Beginning to be Recognized as Such.

There is a growing judicial recognition of the manipulation and reinterpretation of the medical and scientific literature by some of the plaintiffs' expert witnesses.

A. Colorectal cancer is not caused by asbestos exposure.

In an extremely well-reasoned and well founded opinion, U.S. District Judge Robert W. Sweet of the Southern District of New York granted a post-verdict judgment as a matter of law to the defendant, United States Mineral Products Company, based upon his complete analysis of the existing evidence allegedly relating exposure to asbestos to the development of colon cancer.

> Expert evidence in toxic tort cases has led courts to superimpose or replace the standard of deference for the threshold of causation, designed to eliminate a perceived abuse of expert testimony in the context of certain alleged toxins.

Maiorana v. National Gypsum Company, et al., 827 F. Supp. 1014, 1031 (S.D.N.Y. 1993).

Judge Sweet noted that the Supreme Court decision in Daubert effectively killed the "general acceptance" standard articulated in Frye, and then "resurrects its ghost." Id., at 1033. Finding that the trial judge's function of determining the reliability of the evidence provides the mechanism for screening "junk science," Judge Sweet went on to analyze the plaintiff's causation proof that Mr. Maiorana's colon cancer had been caused by his exposure to asbestos. The factors set forth for the analysis for the epidemiological evidence were:

1. The SMR (standardized mortality ratio).
2. Consistency of the association.
3. Dose response relationship.
4. Experimental studies.
5. Plausibility of there being a biological link.
6. The coherence between the alleged carcinogen and the disease.

Applying these factors, the Court ruled that

> The plaintiffs' causation proof only weakly satisfies the plausibility criterion and fails to satisfy any of the other Sufficiency Criteria. Therefore, the Plaintiff's proof fails to support the jury's conclusion that Maiorana's exposure to asbestos was the proximate cause of his colon cancer, and the Defendant's Rule 50(b) motions must be granted.

Id., at 1038. The Court then went on to discuss in great detail the articles which were suggested by the plaintiff's expert as the basis for his opinion that there was relationship between asbestos and colon cancer. The Court concluded that all of the plaintiff's epidemiological evidence failed to satisfy the sufficiency criteria of strength and consistency of association and, therefore, failed to contribute to the sufficiency of the plaintiff's proof on the issue of causation.

After analyzing all of the plaintiff's evidence relating to the dose response relationship, the Maiorana Court concluded that there is no consistent statistical association between exposure to asbestos and gastrointestinal cancer, and that dose response relation was not apparent.

The Court also concluded that there was no support for the claim that asbestos and colorectal cancer are causally related which could be

gleaned from the experimental evidence gathered from studies of both animals and humans.

With respect to plausibility, the court concluded that there had been no showing beyond the fact that there was a possible relationship between exposure to asbestos and colorectal cancer.

In discussing the criterion of coherence, the court found that colon cancer has various known confounding conditions. Therefore, epidemiological evidence alone is insufficient to establish the requisite causal relationship.

The court finally concluded that

> In the face of this substantial and notably consistent body of scientific evidence, the opinions of [Maiorana's expert witnesses] asserting a causal connection between asbestos and Maiorana's colon cancer were nothing more than "sheer surmise and conjecture," Samuels, 992 F.2d at 14, masquerading behind the guise of sound science.

Id., at 1050.

B. Pleural thickening and pleural plaques are neither disabling nor compensable.

On September 16, 1993, a nine-judge panel of the Superior Court of

Pennsylvania in Giffear v. Johns-Manville Corp., et al, Pa. Super. Ct. No. 01038 Phila. (1992) ruled that

> After careful consideration, we hold, as a matter of law, that pleural thickening, absent disabling consequences or manifest physical symptoms, is a non-compensable injury and is therefore not a cognizable claim in the Commonwealth.

Giffear, Slip Op. at 9.

> While it is true that Mr. Giffear's x-rays evidenced a physical and ascertainable change in the condition of his lung lining, to allow this alone to constitute a claim for a compensable injury simply does not conform to the established principles of Pennsylvania tort law. The legal and medical realities of a diagnosis of pleural thickening unaccompanied by discernable physical symptoms or functional impairment cannot justifiably give rise to an action for damages.

Id., Slip Op. 10-11

In reaching this decision, the Pennsylvania Court noted that it was persuaded by the reasoning of cases in other jurisdictions as well as its own trial courts, citing Wright v. Eagle Picher Industries, Inc., 565 A.2d 377 (Md. App. 1989), Caterinicchio v. Pittsburgh Corning Corp., 605 A.2d 1092 (N.J. 1992), Burns v. Jaqueys Mining Corp.,

752 P.2d 28 (Az 1987), and Schweitzer v. Consolidated Rail Corp., 758 F.2d 936 (3d Circuit 1985), cert. denied, 474 U.S. 864 (1985). The Court found that what constitutes a cognizable cause of action is a legal question reserved for a court and not a factual question for a jury.

> Where we cannot find that one has suffered a symptomatic injury, how is it possible to assess damages? Had Mr. Giffear suffered from discernable physical symptoms, a functional impairment or disability resulting from pleural thickening, the law, supported by the Commonwealth's public policy and economic reason, would clearly recognize that his injury would entitle him to an award of damages. It remains that, but for the fact that x-rays were taken revealing a pleural condition, Mr. Giffear would not have realized that such a condition even existed. It would hardly be fair to compensate him for something that has yet to manifest itself into a functional impairment. If and when such impairment does occur, Mr. Giffear may then bring an action for damages. Until that time, however, he is without a legally cognizable claim; there is, at this point, no legal injury. In light of our findings today, there is no reason for courts to entertain claims based on a discovery of asymptomatic pleural thickening. Without evidence that such a condition is causing ascertainable physical symptoms, impairment, or disability, pleural thickening is a non-compensable injury, and, therefore, does not give rise for a cause of action.

Giffear, Slip Op. at 17.

C. Pleural thickening does not develop into constrictive pericarditis.

In a case reported in the October 1, 1993 Asbestos Litigation Reporter, Krilowicz v. Johns-Manville Corp. et al., Pa. Super. Ct., No. 01688 Phila. (1991), it was held

> The trial court concluded that the expert's individual clinical opinions, unsupported by medical literature, were incompetent to establish the legal causation of appellant's constrictive pericarditis. The rationale presented by the trial court is both clear and correct and we affirm the grant of judgment n.o.v. on that basis.

In this case, plaintiff Edward Krilowicz claimed he had contracted pleural thickening which later developed into constrictive pericoditis, all of which resulted from his having been exposed to asbestos at the Philadelphia Naval Shipyard. The trial court granted the j.n.o.v. following a jury verdict in favor of the plaintiff in the amount of $700,000.

VI. Conclusion

Accordingly, it seems that the courts, especially post-Daubert, are becoming far more willing to take a look at the underlying bases of plaintiffs' expert witnesses to determine whether their opinions are scientifically valid and reliable evidence warranting presentation to the trier of fact. Clearly, this is a trend which should be urged upon all of the courts where we appear.

For the first time in years it seems that the defendants in this litigation are beginning to have the legitimacy of their legal positions sustained. The courts are beginning to take a hard look at the quality of both the cases and the allegations which the plaintiffs continue to make. A slow, gradual, but inevitable recognition seems to be occurring that the tens of thousands of cases clogging the courts are not solely the result of culpable defendants clinging to their ill-gotten lucre. As the spotlight of this litigation spreads to include more and more peripheral defendants, neither courts nor juries seem to be as willing to accept the plaintiffs' highly charged allegations of manipulation of the scientific and medical literature by the "asbestos industry." On the contrary, we should all welcome more detailed scrutiny of the bases of all expert witnesses' opinions. Some of us are comfortable that such a review can only benefit the defendants.