

Higher Hurdles for the Expert Witness

Excerpted from Chapter 11A, "Valuation of Intellectual Property and Intangible Assets", Smith, Gordon V. and Parr, Russell L., John Wiley & Sons, Inc., New York, to be published 2004. This excerpt and the included chart may not be reproduced without permission.

Ed note. Since this chapter was written, the *Daubert* concept of the court as gatekeeper has gained traction in the U.S. courts (see www.dauberttracker.com and www.daubertexpert.com) and has also found favor both in Australia and in the UK:

Gordon Samuels in "Medical Truth and Legal Proof" (1998) felt that (pre-*Daubert*) "there was a relatively close resemblance between the Frye Test and the principles of admissibility employed in Australia" (MJA1998; 168:84-87). The majority decision (in *Daubert*) he believed "established two criteria for the admissibility of expert evidence: relevance and reliability. It was thus for the judge to ensure that all scientific testimony [and post-*Kumho*, all technical evidence, including valuation testimony] is not only relevant, but reliable (*Daubert* at 2795).

In 2005, the UK House of Commons Science & Technology Committee recommended the creation of a Forensic Science Advisory Council to regulate forensic evidence in the UK, and observed that:

*"The absence of an agreed protocol for the validation of scientific techniques prior to their being admitted in court is entirely unsatisfactory. Judges are not well-placed to determine scientific validity without input from scientists. We recommend that that one of first tasks of the Forensic Science Advisory Council be to develop a "gate-keeping" test for expert evidence. This should be done in partnership with judge, scientists and other key players in the criminal justice system, and should build on the US *Daubert* test."*

Thanks to our colleague, Robert Sanders, consultant and Fellow at University of Melbourne Law Faculty for this information.

Recent court decisions have focused attention on expert witness testimony. The 1993 U.S. Supreme Court decision in the *Daubert*¹ case tightened the standards for "scientific" expert testimony in federal court. Appraisers, accountants and economists for awhile thought that the new standards did not apply to them, but the Court's decision in *Kumho Tire*² extended the new standards to expert testimony concerning "technical" or "other specialized" knowledge. While many are aware of these decisions, their implications, as they specifically relate to valuation and damage issues, bear closer examination. We suggest a review of these cases in order to:

- Better understand their implications to professional valuation activities, and
- Better understand how to avoid failing these tests in litigation involving intangible asset and intellectual property valuations and damage quantification.

Some have said that, since *Daubert* was a federal case and adopted by only some states, its result would not affect litigation in other courts. We feel, however, that expert witnesses will continue to be required to meet ever-higher standards as "science" and expertise come before the bar, whatever the jurisdiction. We have observed, in a similar situation, that standards promulgated for international transfer pricing in the federal tax arena have often been adopted by U.S. state courts in tax matters related to intracompany IP licensing.

THE CASES

Daubert

The case involved a claim that serious birth defects had been caused by the mothers' prenatal ingestion of bendectin, a prescription drug marketed by Respondent. The District Court granted the Respondent a summary judgment based on a well-credentialed expert's affidavit concluding that the maternal use of bendectin has not been shown to be a risk factor for human birth defects.

The Court determined that the evidence of the Petitioners (the testimony of eight other well-credentialed experts, who based their conclusion that bendectin can cause birth defects on animal studies, chemical structure analyses, and the unpublished "reanalysis" of previously published human statistical studies) did not meet the applicable "general acceptance" standard for the admission of expert testimony."³

The U.S. Court of Appeals for the Ninth Circuit affirmed the decision, citing *Frye*⁴, which for 70 years had been the primary guide for expert opinions, requiring that an expert opinion based on a scientific technique is inadmissible unless the technique is "generally accepted".

Questions of admissibility under this guidance were often resolved by a statement by the court to the effect that "...the jury will consider the weight of the evidence...". In other words - "...go ahead and present your testimony (and be cross-examined) and we'll see to what extent it influences the jury's decision...".

The Supreme Court noted that the *Frye* test had been supplanted by the Federal Rules of Evidence, citing Rules 702 and 703:

Rule 702. Testimony by Experts

If 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 the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case. Rule 703. Bases of Opinion Testimony by Experts

The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted. Facts or data that are otherwise inadmissible shall not be disclosed to the jury by the proponent of the opinion or inference unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect.

The Court held that "the Federal Rules of Evidence, not *Frye*, provide the standard for admitting expert scientific testimony in a federal trial."⁵ The Justices commented that the Rules of Evidence, in displacing *Frye*, did not imply that there are few limits on the admissibility of "purportedly scientific evidence", but rather that "the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable."⁶ Briefly stated, the current standards for expert testimony require that it:

- Be based upon sufficient facts or data,
- Be the product of reliable principles and methods, and
- Applies those principles and methods reliably to the facts of the case.

The *Daubert* Court also made some general observations about tests that could be employed to enable a conclusion about "whether a theory or technique is scientific knowledge that will assist the trier of fact":

- Can it be tested?
- Has it been subjected to peer review and publication?
- Can the rate of error be known?
- Is there widespread acceptance in the relevant community?

In its *Daubert* decision, the Supreme Court held that the Court of Appeals judgment was vacated and remanded, in that its decision (and that of the District Court) was "focused almost exclusively on 'general acceptance' as gauged by publication...".

Kumho

The Plaintiff, on July 6, 1993, was driving a minivan on which a rear tire blew out. In the ensuing accident, one of the passengers died and others were severely injured. This suit was brought against the tire maker and its distributor claiming that the tire was defective. A significant element of the Plaintiff's case was deposition testimony provided by an expert in tire failure analysis.

The case was heard in District Court and the Defendant moved to exclude the expert's testimony on the ground that his methodology failed the reliability requirement of Rule 702. The Court agreed it should act as a Daubert-type "gate keeper", even though the expert's testimony might be considered as more "technical," than "scientific." The Court observed the expert's methodology in the light of peer review and/or publication, the known or potential rate of error, the degree of acceptance within the relevant scientific community. The District Court found that those factors weighed against the reliability of the expert's method and it granted the motion to exclude the testimony.

The 11th Circuit reversed this decision on appeal, noting that the Supreme Court in *Daubert* limited its holding to only those situations where an expert relies on "the application of scientific principles" rather than "on skill or experience-based observation."

The Supreme Court held that a trial judge's general "gate keeping" obligation applies not only to testimony based on "scientific" knowledge but also to testimony based on "technical" and "other specialized" knowledge. It also held that a trial court may consider one or more of the specific factors that were mentioned in the *Daubert* decision and that the test of reliability is "flexible" and that Daubert's list of specific factors may not specifically apply to all experts or in every case.

OTHER CASES⁷

In *General Electric v. Joiner*⁸ the respondent alleged that his lung cancer had been "promoted" by his exposure to chemicals that were manufactured or present on the Petitioner's property. The Petitioner moved for a summary judgment which was granted by the District Court in part because the testimony of the Respondent's expert was inadmissible because it had failed to show that there was a link between the alleged exposure to chemicals and lung cancer. The Court commented that the inadmissibility was because the testimony did not rise above "subjective belief or unsupported speculation."

The Supreme Court reversed this decision and remanded the case. Its opinion was that the District Court had the discretion to conclude "that the animal studies and the four epidemiological studies upon which the experts relied were not sufficient, whether individually or in combination, to support the experts' conclusions that the electrician's exposure to PCBs contributed to his cancer..."

The Court commented further:

"But nothing in either Daubert or the Federal Rules of Evidence requires a District Court to admit opinion evidence which is connected to existing data only by the ipse dixit of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered."

In **Gross v. Commissioner**¹⁰ the issue in tax court was the value of shares in a closely-held S corporation transferred by gift. Both respondent and petitioners employed valuation experts. At a point in trial, petitioners moved to exclude the testimony of the respondent's expert because:

- His opinion of value was inadmissible because it was derived from the application of scientifically unreliable methodologies;
- The expert's underlying data and empirical analysis had not been published or otherwise submitted for peer review by the appraisal profession;
- Some of the data the expert relied upon was not available at the "as of date" of the valuation and so buyers and sellers could not have relied on the information.

The Court recognized that the expert testimony in the case was of a technical nature and accepted the gate keeping role.

The Court considered and rejected the Daubert assertions:

- The discounted cash flow technique used by the respondent's expert was well known to the Court and had been judged to be a proper methodology in a number of previous cases.
- Both respondent's and petitioner's experts relied on the discounted cash flow methodology and therefore the issue of peer review was moot.
- The Court accepted the respondent's expert assertion that it was valid to consider post-valuation date information because the underlying economics had not changed.

The Court decided that the testimony of both respondent and petitioner would stand as presented.

In **KW Plastics v. United States Can Co.**¹¹, there was a separate hearing on the motion of KW Plastics to exclude the expert testimony of a U.S. Can financial officer. The Court's role as "gate keeper" was made difficult by the fact that the U.S. Can expert's testimony, on lost profits and unjust enrichment, was largely based on his experience rather than specific analyses.

The Court cited the Advisory Committee notes to Rule 702 which address the court's role in evaluating testimony which is based "solely or primarily on experience."¹² After examining the expert's report and more than 400 pages of deposition testimony, the court found that the expert's "calculations are speculative, without sufficient factual basis, and methodologically flawed. The Court granted KW's motion to exclude the testimony.

The case of **The Cayuga Indian Nation of New York v. George E. Pataki**¹³ is interesting and the *Daubert* issues are particularly applicable to valuation. The primary question was "how to compensate the Cayugas, in monetary terms, for the fact that through two separate transactions with the State they were dispossessed of their ancestral land in violation of the Indian Trade and Intercourse Act, and have remained out of possession of that land for the past 204 years." The parties offered three real estate appraisers as their experts to testify:

-
- Expert 1 utilized a sales comparison approach.
 - Expert 2 "employed a quantitative model which, in addition to real estate appraisal principles, relies upon computer science, mathematics and statistics."
 - Expert 3 "offers yet another model; this one qualitative in nature, incorporating [appraisal principles and, among things, relies upon economics and history]."

The *Daubert* hearing presented some difficult and unusual issues to the District Court. The Court commented, "As the three appraisers uniformly testified, what they do have in common is that despite over 90 years of real estate appraisal experience among them, none has ever been confronted with an appraisal situation such as this. Thus, each of three appraisers was required to rely upon his own training, experience, and education to devise a valuation methodology which he believed workable for this unparalleled appraisal task."

In its discussion of the *Daubert* issues, the Court addressed:

- Qualifications of the experts
- Daubert principles
 - Reliability
 - Methodology
 - Relevancy

Qualifications

The Court held that all three experts were qualified to testify on the valuation issues. The Court also observed that during testimony "it was implied that perhaps [Expert 3] was perhaps not qualified to testify because he was using economic theory and statistical analyses in his valuation. After hearing testimony, the Court found "that although [Expert 3] is neither an economist nor a statistician, that does not mean that he is unqualified to rely upon those disciplines as part of his appraisal methodology in this case. The Court then noted that Expert 2 was not a mathematician, statistician, or computer scientist, but utilizing those disciplines did not disqualify him from the case. The Court also noted that as long as a witness can demonstrate proficiency in the use of complimentary disciplines that, by itself, should not disqualify him.

Daubert Principles – Reliability

The Court concluded that the testimony of Expert 1 should be precluded because it failed to satisfy the reliability and relevancy considerations of *Daubert* and subsequent case law. In support of this decision, the Court focused on the shortcomings in the methodology employed by Expert 1.

Methodology

The Court noted that although Expert 1 utilized a recognized appraisal method (the sales comparison approach) his application of that method to the particular facts of the case had problems. The Court was concerned as to whether the comparison sales used by Expert 1 were truly representative and was unsatisfied that Expert 1 had complied with "established appraisal practices" in collecting and selecting the sales data relied upon. The Court noted that:

- There were discrepancies between the actual sales data and information recorded in the analysis.
- Fair market values seem to have been double counted in some years.
- High and low sales data was discarded in some, but not all, of the years studied.

- What the Court referred to as an "intuitive approach" was used to select comparable sales.¹⁴
- It was not always ensured that a given sale was an arm's-length transaction.
- There was a failure to make any size adjustments in the sales data.
- Sales data three to four years after the valuation date was given consideration.

Daubert Principles - Relevancy

The Court found that the testimony of Expert 1 "would not have been helpful to the jury in understanding or determining how the subject property should be valued." The court stressed that this was not because of Expert 1's conclusions, but rather because of the manner by which his chosen methodology was applied.

Apparently Expert 1 testified that his analysis of each sale was not complete, because of "time and budget constraints." The Court expressed sympathy with that situation, but noted that Experts 2 and 3 were able to develop formulas and present data acceptable, even though they operated under similar constraints.

LESSONS LEARNED

Clearly the courts are going to take their gate-keeping duties seriously and *Daubert* challenges will become a regular, and perhaps extensive, part of litigation that involves experts. Some suggest that *Daubert* challenges may be used in the future to discover additional information about or from an adversary expert.

We observe that when methodologies need to be modified to address new or unusual situations, this can be acceptable as long as the expert is prepared to explain the modified procedures and the need for them. We also observe that the employment of complementary disciplines (outside of the expert's "core" expertise) can be acceptable, again so long as the expert has at least some experience in their use and can satisfactorily explain what was done. Finally, expert testimony centered only on "experience" will be very difficult to get past the gates of the courtroom.

Experts must now be prepared to discuss their methodologies in some detail before the start of their work and even before they are retained. That is, attorneys directing litigation will want to satisfy themselves early on that prospective experts will pass muster in a *Daubert* challenge. They will want to know how a prospective expert plans to proceed and may want to do some independent checking of the proposed methodologies. These decisions may even determine whether to litigate or not. This can be a challenge for experts because methodologies can change mid-stream in response to the character and quantity of data that turns out to be obtainable. As an example, pre-litigation discussions may assume that certain data about adversary operations will be available or that certain market information can be gleaned. If these assumptions do not materialize the expert may have to use surrogate data and rely more heavily on experiential testimony that might not withstand a *Daubert* challenge.

If courts are going to have "scientific method" in their minds when they address *Daubert* issues, at least to some extent, we need to think in these terms as they relate to what we do as experts or as those who utilize the services of experts.

SCIENTIFIC METHOD

There was a sudden interest in the so-called scientific method when the Supreme Court interpreted Rule 702's requirement that expert testimony pertain to "scientific...knowledge" to mean that it implied "... a grounding in science's methods and procedures."¹⁵

It seems that there are a number of "versions" of the scientific method but it would appear to us that, in general, it is an iterative process involving:

- Hypothesis development;
- Hypothesis testing;
- Hypothesis confirmation; and
- Publication and peer review.

If a hypothesis is not confirmed by testing, then a new hypothesis may be developed and the procedures started over again.

VALUATION AND THE SCIENTIFIC METHOD

If we accept that a valuation or damage quantification requires technical and/or specialized knowledge, then it is useful to observe the extent to which those efforts fit under the rubric of the "scientific method."

Hypothesis Development

A formal hypothesis is not typically enunciated in the preparation of a valuation opinion or damages quantification. A professional with a significant amount of experience, however, likely has in mind an educated guess about how an analysis would conclude, if only on a very rough basis. This might be based on his or her experience in similar situations, some rough calculations, or might be influenced by opinions of the client or others. Whatever its genesis, our experience suggests that there is usually a working hypothesis conceived at the start of a valuation assignment, enunciated or not.

That working hypothesis might, as an example, be:

- The market value of the subject property is zero;
- The market value of the subject property is \$1 million (i.e. some "gut feeling" number);
- Specific buyer A should be willing to pay \$500,000 for the subject property;
- The alleged infringer profited from the use of the IP;
- The IP owner suffered economically from the alleged infringement;
- An arm's-length license between the parties would have contained a 5% royalty (again, a visceral guess).

Hypothesis Testing

The valuation or damages professional tests the hypothesis by estimating the economic result of a surrogate transaction or by investigating the economic result of actual transactions (in the case of owners damages or infringer's profits).

The Virtual Transaction

We describe this process as the use of a "virtual" transaction. This is not a term commonly used by valuers. More typically, they list a series of underlying assumptions that guided their work. They are, however, actually describing a virtual transaction and we find it useful to use that description in this discussion.

When we opine on the value of intellectual property or a royalty for its use, we are describing the economic results of a transaction that has not and will not take place. If, as an example, our assignment is to estimate the market value of a trademark or opine about an arm's-length royalty

which should be paid for its use, we are not able to put the trademark on the market and observe its selling price or to negotiate a license in order to observe the resulting royalty rate. The owner of the mark likely has no intention of selling or licensing it and needs the value or royalty opinion for another purpose. We therefore must simulate the relevant transaction using methods which are utilized in real life by real buyers and sellers as they negotiate prices and royalty rates.

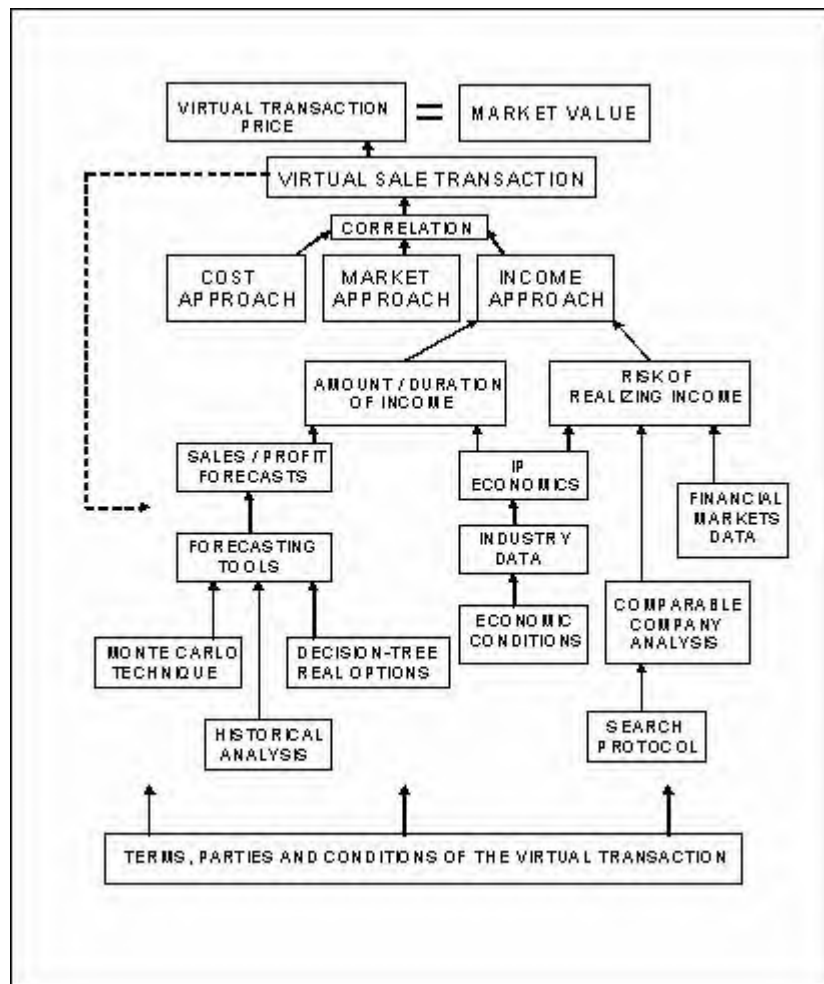
This is a two-stage process to:

- Describe the virtual transaction; and
- Describe the most probable economic results of the virtual transaction.

On Figure 1 we have illustrated the process of using the virtual sale transaction to estimate market value. Only the Income Approach is illustrated, for simplicity. This chart should be read from the bottom, where the virtual transaction is described. In the center we describe some¹⁶ of the data-gathering and analysis tasks that are dictated by either the method or the nature of the virtual transaction. These tasks have the objective of obtaining the ingredients needed for (in this case) an income approach calculation. There may, in fact, be more than one income approach calculation.

Arm's-Length Royalty

When the engagement involves providing an opinion of an arm's-length royalty, the tasks are not unlike those described above. There are cost approaches - i.e. what royalty will provide a return of and return on my investment in this intellectual property (licensor), or what royalty am I justified in paying relative to the cost of using alternative intellectual property (licensee). There is a market approach - i.e. what royalties are others paying in arm's-length transactions for similar intellectual property. There is an income approach - i.e. what will be the economic benefit of exploiting this intellectual property and how should that be divided between licensor and licensee. Each of these approaches requires data-gathering and analysis tasks.



The virtual transaction is some form of license and we have the essential task of carefully describing it again, to enable one to understand and validate the royalty opinion. The data-gathering tasks may be quite similar to those in a valuation, and some are quite different. Again, the indicated results of employing different methods should be correlated in coming to a conclusion about the royalty.

Lost Profits / Unjust Enrichment Damages

The "scientific method" parallels that described above, with the most notable exception being the use of actual transactions as a benchmark. Again, there are a series of virtual transactions whose effect is measured by comparing them to the actual. If we can assume that the parties to the dispute are businesses that that sell goods or services, our task is to observe the economic result of the following transactions:

- The plaintiff's sales of goods or services;
- The defendant's sales of goods or services.

The benchmark is established by observing the economic result (profit) of the actual sales of goods or services by both parties. We then observe the economic result (profit) of a series of virtual transactions (plaintiff and defendant sales of goods or services unaffected by the disputed activity).

By comparing the results of the actual with the virtual we measure the economic result of the disputed activity.

Analysis Tasks

In the gathering and analysis of data, the scientific method would have us make exhaustive searches and analyze the accumulated data in unbiased and rigorous fashion. All experts would agree with this objective.

This perfect objective is not unlike our expectations of the news media, and members of that profession would likely agree unanimously. There are, however, real-life impediments to the realization of this perfection. The media must "boil down" a complicated 1-hour event into several paragraphs or a 2-minute communication. Is this possible to do, without being influenced by human feelings and outlook? Probably not, although if the analysis involves several people, their individualities might cancel each other out. Scientists and valuers face the same problem and the solution is not necessarily an easy one.¹⁷ It is impossible for an intellectual property expert to discover and analyze each and every relevant fact about a given situation. The process of selection, however necessary, is critical. The following paragraphs discuss that process.

Economic Result of the Virtual Transaction

Having gathered the available data in a comprehensive and unbiased fashion, an expert comes to a conclusion based on the data relied upon. There should be no unexplained disconnect between the facts and the conclusion. Therefore an expert should make clear what data was relied upon and what data was discarded, and the reasons therefore. Thus there is a clear and understandable path from fact to conclusion.

CONCLUSION

These are only a few of a number of potential pitfalls facing valuation and damages experts relative to intellectual property. Obviously, simple errors are another one, but do not deserve

separate discussion. We have attempted to frame the discussion using the "scientific method" as a guide, because that may well be the framework of a *Daubert*-like review.

We all seek to develop expert testimony that will pass the *Daubert* tests and therefore:

- Be based upon sufficient facts or data;
- Be the product of reliable principles and methods;
- Represent a reliable application of those principles and methods to the facts of the case;
- Where possible and appropriate, analyzes the data in a manner that can be tested;
- Uses methods that have been subjected to peer review and publication;
- Is not merely "subjective belief or unsupported speculation";
- Uses methods whose rate of error can be known¹⁸; and
- Employs data and analysis methods that are accepted in the relevant community.

We hope that pointing out some of the factors that may cause the shortcomings may assist experts in avoiding them.

¹*Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 125L. Ed. 2d 469, 113 S. Ct. 2786.

²*Kumho Tire Company v. Carmichael*, No. 97-1709 526 U.S. 137; 119 S. Ct. 1167; 1999 U.S. LEXIS 2189 (March 23, 1999).

³*Ibid.* *Daubert*.

⁴*Frye v. United States*, 54 App. D.C. 46, 47, 293 F. 1013, 1014 (1923).

⁵*Ibid.* *Daubert*.

⁶*Ibid.* *Daubert*.

⁷Some of the factual information about these cases came from bvlibrary.com, a service of Business Valuation Resources, and an excellent source of valuation information.

⁸*General Electric v. Joiner*; No. 96-188 522 U.S. 136; 118 S.Ct. 512; 1997 U.S. LEXIS 7503 (December 15, 1997).

⁹A dogmatic and unproven statement.

¹⁰*Gross v. Commissioner*, T.C. Memo 1999-254, 78 T.C.M. (CCH) 201, T.C.M. (RIA) 99254, July 29, 1999.

¹¹*KW Plastics, et al. v. United States Can Co.*, 2001 U.S. Dist. LEXIS 1630 (February 1, 2001).

¹²Federal Rules of Evidence 702 Advisory Committee Notes.

¹³*The Cayuga Indian Nation of New York v. George E. Pataki*; 83 F. Supp. 2d 318; 2000 U.S. Dist. LEXIS 761 (January 19, 2000).

¹⁴The Court likened how Expert 1 selected the comparable sales to the "subjectiveness" of the methodology of the expert in *Kuhmo*. The Court went on to comment, "The Court is not saying that subjective analysis has no place in the valuation task which these appraisers were facing. Indeed, at least from what the Court was able to glean from the hearing testimony of Experts 2

and 3, they too, necessarily, relied upon a certain amount of subjectivity, particularly with respect to deriving fair market value for pre-1900 sales. One primary difference, though, between the testimony of [Experts 2 and 3] and that of [Expert 1] is that the latter continually relied upon a little more than his subjective "feeling", especially in terms of selecting sales to be used in arriving at a fair market value for any given year. [Experts 2 and 3], on the other hand, both have significant, reliable objective data, from which they then relied upon to extrapolate their conclusions."

¹⁵Ibid. Daubert syllabus (b).

¹⁶This is not intended to be an exhaustive list of such tasks.

¹⁷There is little new about this. A 17th century artist, existing on the patronage of nobility, could be excused if he rendered family portraits rather sympathetically. In this case, the influence on his "opinion" resulted from economic pressures that could have been considerable.

¹⁸While this is a "Daubert principle", it is unlikely that it is applicable to valuation or damages measurement except when specific statistical studies might have been employed.