What is the argument on the other side? Only this, that no case has been found in which it has been done before. This argument does not appeal to me in the least. If we never do anything which has not been done before, we shall never get anywhere. The law will stand still whilst the rest of the world goes on; and that will be bad for both.


**Introduction**

As demonstrative evidence becomes increasingly sophisticated and expensive, predictability in its admission becomes of great concern. The purpose of this article is to offer answers to the questions that often arise: what are the limits of oral testimony; how can demonstrative evidence play a role in enhancing the trier of fact’s ability to absorb, understand and integrate the evidence presented; what is the legal basis upon which this evidence can be adduced? The goal is to move toward predictability in the acceptance of demonstrative evidence and ensure its positive effect upon the trier of fact, based upon sound principles of evidentiary law.

Applying the "principled approach" may answer many questions that appear currently elusive to counsel seeking predictability in the introduction of demonstrative evidence.

My thanks to Tara Politt student at law, for her assistance in updating this paper
The Basics

In a paper delivered to the Advocates Society fall convention in October, 1994, *Towards a More Principled Approach to the Law of Evidence*, Katherine Chalmers notes:

What had been lost sight of over the past decades is that there are only a few very basic principles that underlie almost every rule of evidence and exception to those rules. The one basic rule of evidence, of course, is that, if it is relevant, it is admissible. This rule is based on the principle that the function of litigation is the search for the truth. Every other rule or principle of evidence is an exception to the relevance rule and these exceptions are themselves based on specific principles...the tendency has been for the courts to articulate the underlying principle itself as the rule of evidence to be applied. We refer to this approach as the principled approach to the law of evidence.

It is this principled approach that has led, as in the case of hearsay evidence, to the adoption of a rule that relies on reliability and necessity.¹

The thesis of this paper is that a return to basic principles of evidence is in order to support, with certainty, the introduction of demonstrative evidence.

Since first writing this paper in 1995, a great deal of progress has been made in establishing rules that will apply to permit admission of demonstrative evidence and the use of illustrative aids. We have come so far, that more than one lawyer has expressed the view that the failure to use demonstrative evidence in any complicated case is negligence.

**A Working Definition of Demonstrative Evidence**

The task of defining what is demonstrative evidence is not an easy one. Nor is it problematic in this jurisdiction alone. American authors have struggled with the appropriate definition of the term. In a 1992 article by Brain and Broderick², the authors note:

...no one has yet developed a satisfactory theory explaining the relevance of demonstrative evidence... No one has correctly denoted the characteristics of demonstrative evidence that distinguish it from other forms of trial evidence...Perhaps most surprisingly, there is not even a settled definition of the term.

The Alternative Definitions

At least one Canadian author, Elliott Goldstein writing in his text *Visual Evidence*, supports the view that there is not consistency in the use of the term. He notes:

If you ask lawyers and judges to define "demonstrative evidence", you will receive many different definitions. To some, it is synonymous with real evidence, that is, the in-court production of physical objects such as weapons...To others, it means in-court demonstrations using charts, maps, plans, drawings, overhead projector transparencies, anatomical exhibits, three dimensional models, thermograms, and x-rays etc. to assist a witness (usually an expert) in explaining a procedure, an injury or the basis for an expert opinion... (it) is inextricably linked to the testimony of a witness who authenticates the evidence and establishes its relevancy truth and accuracy, fairness and probative value.3

One group of authors describes demonstrative evidence as follows:

Demonstrative evidence is used to illustrate, clarify, or explain other testimony or real evidence. When such an exhibit is sufficiently accurate or probative, it may be admitted into evidence and even given to the jury when it retires to deliberate. A closely related type of exhibit is the "illustrative aid," which may be used to assist a witness in explaining testimony.4

An example of the generic use of the term:

After the lapse of more than seven years from the event, it is inevitable that memory will be uncertain and indeed, replaced by theory and arguments to justify other statements. In the result, in the absence of demonstrative evidence such as photographs, drawings, plans and signed documents, the accuracy of oral testimony is extremely doubtful and this applied with special force to alleged recollection of conversations, persons present, and observations.5

It seems that it is not unusual for the court to use the term demonstrative evidence interchangeably with the term real or documentary evidence.

Is it Real Evidence?

In Sopinka, Lederman et al, the term "real evidence" is defined to include any evidence where the court acts as a witness using its own senses to make observations and draw

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5 *Thatcham Developments Ltd. v. Teperman and Sons Ltd.*, [1986] O.J. No. 603 (H.C.J.), affirmed (1988), 29 C.L.R. xxiv (Ont. C.A.); *Civil Evidence Handbook*, Cudmore; Ch. 18 is entitled *Demonstrative Evidence (Documentary Evidence)* and is primarily about documentary evidence and the provisions of the various evidence acts and rules pertaining to their use and production.
conclusions rather than relying on the testimony of a witness. They suggest that real evidence is otherwise known as demonstrative evidence. Later on, in discussing admissibility, the authors seem to distinguish between the two.

Describing demonstrative evidence as real is not a helpful way to deal with evidence that is prepared by an expert or at the direction of counsel. There is a difference between it and other real evidence and it lies in the ultimate source of the evidence being adduced. To avoid the exclusion or limitation in use of one's evidence, this difference must be heeded.

To illustrate the distinction, take for example the evidence adduced by the prosecution in the O.J. Simpson case. A glove alleged to have been found at the scene was put in evidence by the officer who found it. The defence theory was the glove was planted there by a racist policeman. He hid it in his boot and planted it at the scene. In order to make the theory work, a glove smaller than the one put in by the prosecution was used by the defence.

It is not just the quality of the evidence that is of concern but the information used to put the facts before the jury. There is a difference between real evidence (the prosecution glove) and demonstrative evidence (the defence glove). Demonstrative evidence is one-step removed: it is not probative without the assistance of a witness to testify as to the accuracy of the representation put before the jury and to tie it to the list. It represents something that is relevant. That puts the information being utilized by that witness directly in issue. In the case of real evidence, the exhibit plays a role in the events giving rise to the case. Its identification is most important in its acceptance.

Brain et al note that demonstrative evidence and real evidence share the characteristic that each gives the trier of fact a first hand impression of the information it contains. However they can be different in their proffered use at trial as noted above. Whether the exhibit finds itself into the jury room during deliberations may be affected by its characterization, and will be of concern if it is intended to be used in jury addresses (see discussion of use during opening and closing). Real evidence is used to help prove directly the existence of a fact of consequence in the action, whereas demonstrative proof is only offered derivatively, to help explain or illustrate other admissible evidence. These authors conclude, persuasively, that demonstrative evidence is any display that is principally used to illustrate or explain other testimonial, documentary, or real proof, or a judicially noticed fact. It is, in short, a visual (or other) sensory aid.

This definition is not necessarily satisfactory, however, since an argument can be made

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7 Brain, supra note 2, footnote 7, p. 1027.
8 Ibid. at p. 968.
that demonstrative evidence can under certain circumstances be admitted as substantive evidence of a fact in issue, for example, in the case of accident reconstructions, how an accident occurred. The ultimate definition should therefore exclude real evidence and include both illustrative and substantive demonstrative evidence.

**Tangible Evidence: "Original Real" Distinguished from "Demonstrative"**

A more helpful approach is contained in Visual Evidence\(^9\) an exceptionally comprehensive manual on the law relating to visual forms of demonstrative evidence. In this model, evidence is divided into three types: (1) real or tangible; (2) testimonial; and (3) documentary. Real or tangible evidence is sub-divided into original real evidence, and demonstrative evidence. The legal effect of real or tangible evidence on the outcome of the action is determined by the sub-type of tangible evidence being adduced. In the case of original real evidence, it is substantive and probative and of the same effect as testimonial evidence. In the case of demonstrative evidence, it can be substantive in that it has independent probative value, or non-substantive, in which case its use is corroborative/illustrative or discrediting/impeaching and not conclusive evidence of a fact in issue. In this model, how the evidence is classified determines the legal consequences of the evidence tendered, and affects the rules respecting its admissibility and its weight. This point is made by others using the term illustrative in place of demonstrative.\(^{10}\)

In Canada, the cases struggle with attempts to define demonstrative evidence and distinguish it from real evidence; this has led to a confusing array of rulings and a lack of predictability in the acceptance of evidence and its ultimate use at trial. In contrast, the original real/demonstrative model satisfies one’s intellectual and common sense concerns with the evidence and is consistent with the attempts of the cases to deal with the evidence without having actually articulated the distinction. To date, however, in Canada the definition of demonstrative evidence has tended to be by description of the type of evidence being adduced, rather than by an enumeration of the common characteristics of this category of evidence.\(^{11}\) It is submitted that this lack of precision has led to the under-use of demonstrative evidence in Canada, and has led to some judicial hesitance in its admission where such is in fact entirely supportable by current

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\(^{10}\) Obermaier et al, *infra* note 43, where the authors use these definitions:

- **Real evidence** includes any item that played a direct role in the events giving rise to the case *(citing McCormick on Evidence)*

- **Illustrative Evidence** is any item that was specifically prepared to explain or clarify other testimony *(and) includes charts, graphs, diagrams and computer simulations.*

\(^{11}\) Morse, J. and Bowers G., *Use of Demonstrative Evidence During Trial*, (1989), 7 Can. J. Ins. L. 72; In this very helpful article on adducing evidence at trial, the authors never define the evidence but deal with specific examples and the admissibility of each example. The danger of course is the confusion by the court of the purpose for which the evidence is adduced, and the application of rules of admissibility that may not in fact be appropriate.
legal principles.

Illustrative Evidence:

The line between "evidence" and "aid" cannot be clearly drawn, but it is possible to imagine a continuum based on accuracy. Scale exhibits, such as models, maps, and diagrams, are extremely accurate and are usually considered demonstrative evidence. Rough, free-hand drawings may be useful devices, but their lack of precision makes them more likely to be limited to use as visual aids.¹²

Ensuring Admissibility: The Principled Approach

Back to Basics

The rules of evidence exist only to control the presentation of facts before the court. Sopinka et al list four goals of the law of evidence from which all rules of inclusion and exclusion flow:¹³

1. **The search for truth.** It is in this search that unreliable evidence is excluded and inherently reliable evidence is included.

2. **Enhance the efficiency of the trial process.** The requirement that the evidence adduced is relevant to a fact in issue, and the limit to cross examination by the collateral fact rule are examples.

3. **Ensure fairness in the trial process.** The prejudice vs. probative value test is an example.

4. **Safeguard interests that arise outside the litigation process.** The rules which exclude certain confidential relationships are examples.

The Principled Approach

Evidence which meets these very fundamental goals ought to be admitted by the trial judge. Demonstrative evidence which assists the trier of fact in the search for the truth, enhances the efficiency of the trial process and is not excluded because of overriding prejudicial effect is admissible using this approach. How demonstrative evidence fits into those goals is discussed below.

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¹³ Sopinka et al, *supra* note 6 at p. 3-6.
1. The search for truth

The Supreme Court defined the test for reliability as follows:

The criterion of "reliability" -or, in Wigmore’s terminology, the circumstantial guarantee of trustworthiness - is a function of the circumstances under which the statement in question was made. If the statement sought to be adduced by way of hearsay evidence is made under circumstances which substantially negate the possibility that the declarant was untruthful or mistaken, the hearsay evidence may be said to be "reliable", i.e., a circumstantial guarantee of trustworthiness is established.\(^\text{14}\)

Ms Chalmers notes that the indicia of reliability include:\(^\text{15}\)

the fact that the statement was made under oath or in a formal investigative setting, that it was made close to the time of the event related in the statement, that it was made by a person with a peculiar means of knowledge of the matter or that it was made by a person with no incentive to lie and who is not likely to have misperceived the event related.\(^\text{16}\)

If demonstrative evidence is based upon the direct evidence of reliable sources, be they testimonial or documentary, it meets the test of reliability. A treatment chronology based upon the clinical notes and records of doctors and therapists, and the business records of a hospital, is an exhibit which meets the test of reliability.\(^\text{17}\) Given its relevance, it is beyond dispute that it is of assistance in the court's search for the truth. Medical illustrations, based on x-rays and imaging are another example.

The illustration of future events or past un-witnessed events is more problematic, but the principals in play are the same. The more remote from current, provable events, the further along the continuum the evidence falls, and starts to lean in the direction of illustrative aid instead of demonstrative evidence.

2. Enhancing the efficiency of the trial process

Evidence must be relevant but must be limits placed upon the evidence that can be adduced at trial to ensure the attainment of the goal of efficiency. Evidence should not only be excluded under this heading but should be permitted if it enhances the attainment of the goal of efficiency. Surely, enhancing the retention of information by the

\(^{14}\) R. v. Smith, infra note 17 at p. 270 per Lamer J.
\(^{15}\) Referenced on page two
\(^{16}\) Supra p. 1, at p. 6.
\(^{17}\) Treatment chronologies, work absence summaries and other such demonstrative aids have been admitted regularly in Ontario courts. See for example: Houle v. Choice Reefer Systems, unreported, September 1994, North Bay Doc. 1236/91 per Boland J.; Brandon v. Hickling, unreported, November, 1994, Barrie, per Jenkins J.; Haly v. Coleangelo, unreported, June, 1994, Toronto Doc. 02640U/90 per Jennings J.; Calic v. Aitchison et al, [1996] O.J. No. 154 (Gen. Div.).
jury, the summarization of large amounts of information in an understandable fashion, the unravelling of complexities through the use of visual aids, and assisting the witness in explaining his or her testimony, all add to the ultimate goal of the process. It is for this purpose that much demonstrative evidence has been admitted in the past.18

The comments of the trial court in *Teno v. Arnold*19 illustrates the point:

As trial judge, I was afforded the utmost opportunity to see the dreadful extent of such disabilities in her daily life and in this connection I would be remiss, if I failed to acknowledge the assistance that I received from her counsel in the presentation of the evidence with respect to this in a most imaginative and, I believe, unique way in trials to date in Canada. Arrangements has (sic) been made by counsel to have the technical crew of a local television station in Windsor, attend at the Teno home in August, 1973, and record on video tape with sound track about one-and-a-half hours of Diane's daily life with her mother and brothers and sister. This evidence was introduced after a proper foundation had been laid as to the technical aspects of the equipment, by use of closed circuit television, with commentary from time to time of doctors who were familiar with the child. I cannot conceive of a more graphic portrayal of what I must try to express in words. I should also mention that all counsel concede that the evidence was properly admitted. After all, it is only a marked improvement on ordinary motion pictures which have been used at trial for many years.

Expediency or convenience can also sometimes be a ground for the introduction of hearsay evidence, and presumably should influence the court in admitting other types of evidence. For example, in *Rocchio v. Willets*20, the court allowed the plaintiff in a motor vehicle accident action to file letters from universities about the cost of tuition on the basis of reliability of the letters and convenience. The right of the defendant to cross examine was outweighed by the disproportionate cost of the attendance of the authors of the documents. It is important to note that the right to cross examine is now not inviolate post-*Khan* and cases such as *Rocchio* that follow it.

It is the goal of efficiency that led to the expression of the necessity test for the admissibility of hearsay evidence.21 The necessity test requires that relevant direct evidence is not available. It is not that the party seeking to use the evidence could not prove its case without that evidence but that the evidence of the same value cannot be

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18 In *Calic*, Justice Hockin stated: “Mr. Calic’s medical history since the accident is lengthy and complicated. Counsel for Mr. Calic usefully summarized the history by tracing Mr. Calic’s five year journey from one specialist to another in documentary form (exhibit 5).” (The exhibit referred to is a treatment chronology.)


expected from the same or other sources. It may be that a case could be tried with fewer expert witnesses, and therefore at less expense in terms of time and money, if demonstrative evidence, properly prepared and supported by the expert witness being called, is used.

Probably of greatest concern in the current environment of trial delay, backlog and excessive trial duration, is the ability to use any device that will shorten the length of the trial in a fair and reasonable fashion. Good demonstrative evidence can accomplish that.\(^{22}\) It focuses testimony and can often give short shrift to issues that are in reality red herrings. All of that serves to shorten the length of time a witness is in the box. Further, such evidence has been used by judges to conduct mid-trials to promote settlement.\(^{23}\)

3. Ensure fairness in the trial process

If the rules of evidence are based on the principle that the process should be fair to the witnesses, counsel and the court, then the exclusion of demonstrative evidence on the basis of some wide and undefined judicial discretion is not supportable in the modern context. Rather, the development of criteria that permit predictability promotes fairness from all parties' points of view is desirable. As noted above, one of the primary criterion adopted for the admission of demonstrative evidence has been that its probative value outweighs its prejudicial effect. Supporting the assertion that the discretion of the trial court should not be unfettered is \textit{Wigmore on Evidence}\(^{24}\) (discussing the demonstration of injuries in a civil action):

\begin{quote}
But it seems too rigorous to forbid a party to prove his case with the clearest evidence; and a jury which through violent prejudice would not be restrained by the court's instructions would probably give way to its prejudice even without this evidence.
\end{quote}

The section which follows examines the rules for admissibility of demonstrative evidence and is an attempt to define a fair and reasonable set of criteria that will ensure fairness in the trial process to all of the litigants.

\textbf{Defining the Criteria for Admissibility}

Relevant evidence is admissible. However, the court has the discretion to exclude admissible evidence under certain circumstances. Sopinka et al note this discretion is most often used when an attempt is made to introduce real or demonstrative

\(^{22}\) Justice McMurtry, Chief Justice of the Ontario Court, General Division, has expressed his support of the use of charts and summaries in trials for the express purpose of shortening the length of oral testimony. See also the comments set out in note 15 above in \textit{Calic}.

\(^{23}\) See for example \textit{Houle}, supra note 15. According to counsel on that trial, the presiding judge was so influenced by a treatment chronology that he called a mid-trial conference and cited it as the reason defence counsel ought to abandon his theory regarding a pre-existing condition.

\(^{24}\) Volume IV p. 350-351.
evidence.\textsuperscript{25} As will be seen, if the conditions of relevance, substantial accuracy of input data, guarantees of trustworthiness, and availability of a witness to testify and be cross-examined on the item are met, then demonstrative evidence is \textit{prima facie} admissible.

In a discussion that seems to relate primarily to the admission of original real evidence, Sopinka et al note that "demonstrative evidence" cannot be produced before a court without prior testimonial evidence, or at least an admission in order to establish the identity of the thing. The level of authentication required for admitting real evidence is relatively low. Once the evidence has been admitted it is for the trier of fact to determine what weight to give it.\textsuperscript{26}

The courts have been struggling with the admission of novel evidence without much guidance. For example, a statement of the criteria for the admission of a computer simulation of an accident was this:

If proven to be accurate, then it should be admitted like any other piece of demonstrative evidence, such as a chart or map...Overall it must be proven that the procedures used to feed the data into the computer were reliable and that someone checked the accuracy of the data and the computer operations... The court must be careful not to attach undue weight to evidence that might confuse, mislead, or overwhelm the trier of fact.\textsuperscript{27}

The court in that case recognized that the evidence could be admissible while the court may be able nonetheless to comment upon its weight, especially if it was considered to be confusing, misleading or overwhelming. This case is helpful since it is one of the few in which a real effort has been made to determine the criteria for acceptance of at least one form of demonstrative evidence.

\textbf{A Suggested Test}

Returning to the principled approach, the inquiry must be this: does the evidence assist in the search for truth, are there guarantees of fairness and is efficiency of the trial process enhanced? Using this approach, it is submitted that the appropriate test for the admission of all demonstrative evidence is as follows:

1. \textbf{Is it relevant?}

2. \textbf{Does it aid the trier of fact in the search for the truth?}
   \begin{itemize}
   \item by supporting the evidence of a witness,
   \item explaining or corroborating other evidence,
   \item providing detail of a relevant issue,
   \item assisting in the determination of a witness' credibility,
   \end{itemize}

\textsuperscript{25} \textit{Supra} note 6 at p. 34.
\textsuperscript{26} Sopinka et al, \textit{supra} note 6 at p. 17.
having greater probative value than any prejudicial effect.

3. **Is the evidence produced from a reliable source?** (such as a capable witness or other evidence upon which the parties and the court can assess the reliability of the evidence, thus ensuring fairness).

4. **Does the evidence tendered enhance the efficiency of the litigation process?** (by saving time, explaining or illustrating complicated or lengthy evidence, focusing testimony, and enhancing the ability of the trier of fact to come to a decision).

There is support for this view in the test for admission of video tape and photographic evidence which is very similar:

a. it is relevant
b. there is accuracy in representation of the facts (it is reliable);
c. fairness and absence of any intention to mislead;
d. verification on oath by a person capable of doing so.28

These four criteria match the tests for admissibility using the principled approach: truth, reliability, fairness and efficiency are addressed.

Using the example of a treatment chronology, it is submitted that it satisfies the criteria set out above, by supporting the evidence of the plaintiff and practitioners as to prior and post accident treatment, providing the detail of treatment in summary form, and assisting in the determination of the plaintiff's credibility if an issue is pre-accident condition. It is reliable if accurate and prepared from records, and does not contain editorial comment or misleading information.29

**Admission as Substantive Evidence**

Demonstrative evidence can be admitted either as an illustrative aid or evidence,. To be admitted as evidence, the following conditions must be satisfied:

1. No privilege can be claimed. (Rule 30.09)
2. The item has been produced prior to trial. (Rule 30.09)
3. It fairly and accurately conveys the data or matter that it purports to convey or depict.
4. If it is based on data, the data is independently admissible.

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29 See Brandon v. Hickling, supra note 15. The court distinguished plaintiff's exhibits, which were admitted, and defence's exhibits, which were not, this way:

"...Exhibit Two and Three simply describe, without argument, dates of visits and prescriptions taken at various dates which are accurate...on your (the defence) chart...are incomplete and contain some argument."
5. It is authenticated by a capable witness.\textsuperscript{30}

If these conditions are met, then there can be no objection to the exhibit going into the jury room during deliberations.

**Conditional admissibility**

The admission of evidence subject to later proof will be helpful in the early introduction of demonstrative evidence. The issue of the admissibility of a piece of demonstrative evidence may arise due to the fact that the evidence upon which it is based is not yet proven. As with a business record that will be tendered under the exception to the hearsay rule, a treatment chart may be tendered conditionally upon later proof of the visits through the mouth of another or several witnesses. It is a matter for the court's discretion to allow the evidence before the preliminary facts are proven.\textsuperscript{31}

In Ontario, the Rules of Civil Practice provide a number of mechanisms that can be used to ensure admissibility before trial. The most efficacious is a combination of the Notice of Intention to File Business Records and The Request to Admit. Concurrently with the service of the Business Records notice, a Request to Admit the documents are business records and meet the test for same is made. Often the request is ignored, or the admission is made. At the opening of trial, the documents can then be filed on consent or with little further ado. The evidence is then in and the reliability of the demonstrative aid upon which it is based is established.

**Curative Admissibility**

Where evidence that is technically inadmissible has been received by the court without objection from the opponent, the opponent may present evidence in response, which may also be inadmissible, in order to prevent a distorted picture from being presented to the trier of fact.\textsuperscript{32}

**Exclusion of Relevant Evidence: Objections to Admissibility**

a. Probative value outweighed by Prejudicial effect:

The court has a wider discretion in civil cases than in criminal to exclude relevant evidence. The court's discretion may be exercised only if it is of the view that the

\textsuperscript{30} Joseph, G.P., *Demonstrative Evidence*, (1993) Practising Law Institute, PLI No. H4-5171; the last three criteria are taken from this article at p. 6. There is no clear statement in Canadian jurisprudence of its substantive vs. Illustrative admission. *Visual Evidence* contains a discussion of the differing uses of demonstrative evidence, also largely based on American sources. Using the outlined criteria, however, it would be difficult to conceive of the argument against the reception of the evidence for the truth of the matter.

\textsuperscript{31} Sopinka et al, *supra* note 6 at p. 43.

\textsuperscript{32} Sopinka et al, *supra* note 6, at p. 44.
probative value is outweighed by its prejudicial effect (the efficiency of the trial process objective). This has been further modified by R. v. Smith, a decision of the Supreme Court of Canada which held that prejudicial effect is considered only when the probative value of the evidence is thought to be slight.

The leading case on the issue of photographic evidence is Draper v. Jacklyn\textsuperscript{33} from the Supreme Court of Canada. The court allowed photographs of the operative procedures performed on a plaintiff's face where the issue was quantum of damages but not liability. The jury was allowed to take into account the pain and discomfort and the unattractive nature of the plaintiff's face during the period of convalescence. The rule was stated by Spence J.:

The occasions are frequent upon which a judge trying a case with the assistance of a jury is called upon to determine whether or not a piece of evidence technically admissible may be so prejudicial to the opposite side that any probative value is overcome by the possible prejudice and that therefore he should exclude the production of the particular piece of evidence... The matter is always one which is difficult for the trial judge and in itself essentially a decision in which the trial judge must exercise his own carefully considered personal discretion.\textsuperscript{34}

It is noted by Sopinka et al, however, that in modern trials, the circumstances in which a judge in a civil case would exclude evidence because of its inflammatory nature would be rare. People today, because of their exposure to television and motion pictures, can be expected to be much less sensitive to graphic displays of injuries than the average nineteenth or early twentieth century citizen.\textsuperscript{35}

It should be noted the cases cited deal with the possible prejudicial effects of photographs. Less "inflammatory " evidence should, logically, be less subject to exclusion on the basis of judicial discretion. It would appear that to be prejudicial, some demonstration that the jury would take leave of its objectivity should be shown. (see also the view of Wigmore set out supra). There is support for this view in R. v. Smith, where Justice Lamer in the Supreme Court of Canada stated that the court should only exclude evidence which has slight probative value on the ground of its prejudicial effect.(see footnote 17)

Examples of potential prejudicial effect:

~The evidence tendered is designed to appeal to the sympathy of the jury.

\textsuperscript{34} Ibid at 96-97 (S.C.R.).
\textsuperscript{35} Supra note 6 at p. 37.
~The evidence is gruesome or excessive.

This is the most usual case where there is objection taken, at least in the past. Photographs of injuries have been excluded, as have views of wounds in the court room. As noted above, in the modern context, this is becoming less and less important a consideration.

~The evidence over-emphasizes evidence not supported by the oral testimony.

Caution is to be exercised in the preparation of exhibits. The use of colour, inappropriately, to emphasize the evidence may result in its exclusion. It is here that Canadian courts are likely to be much more conservative than American. That is not to say that all graphs and charts should be black and white. Colour that assists the jury in recognizing a pattern, without becoming editorial, is appropriate, for example.

~The evidence demonstrates innuendo.

If a conclusion is implied but not supported by the evidence or would not be admitted if attempted to be adduced orally, then it is prejudicial.

In considering all of these examples, one must not lose sight of the fact that there is a balancing of the probative value and prejudicial effect. Although there may be some prejudice in the evidence, its probative value may nonetheless out weigh the prejudicial effect.

b. Hearsay

The old rule against hearsay was based on fairness to the litigants: out of court statements could not be cross-examined upon and were therefore excluded. The danger was the inaccurate recounting of the overheard statement. Many and cumbersome exclusions to the rule against hearsay were developed. In the landmark case of R. v. Khan (cited at note 1), the court preferred a necessity and reliability test to the admission of evidence, in an attempt to return to the principles underlying the law of evidence.

The hearsay issue is raised in the admission of most demonstrative evidence since it may be based upon the evidence of the plaintiff or others given out of court, or other hearsay evidence. As was noted by Goldstein,

The Khan case reflects a movement towards a flexible approach, which is motivated by the realization that, as a general rule, reliable evidence ought not to be excluded simply because it cannot be tested by cross-examination.

The test of reliability and necessity are subject only to the

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residual discretion of the trial judge to exclude the evidence when its probative value is slight and undue prejudice might result to the accused. Properly cautioned by the trial judge, juries are perfectly capable of determining what weight ought to be attached to such evidence and of drawing reasonable inferences there from.37

Although a criminal case, the principle is the same in a civil proceeding and the ultimate test is not one of the application of a technical rule but rather the common sense approach and assessment of the value of the evidence compared to any potential prejudice.

The leading case in Ontario on the admissibility of demonstrative evidence is R. v. Zundel38 in which the court allowed into evidence a motion picture film made by the U.S. army during the liberation of the concentration camps. The film was admitted but the accompanying narrative was not. The issue in Zundel was the truth or falseness of the pamphlet Did Six Million Jews Really Die, produced by the defendant. The Court of Appeal held that:

The film is factually explicit and was relevant to show that many of the statements made in the pamphlet were false. But the narrative goes beyond what is shown and contains a great deal of information about facts stated in the pamphlet. This additional information is hearsay and inadmissible unless it falls within some exception to the hearsay rule.

It is first of all noteworthy that this case was decided before Khan.

Secondly, the information in the narrative went well beyond a recitation of factual information. Indeed there was a great deal of editorializing using such phrases as "the atrocity story is told by the few who managed to survive", "a Gestapo agent lured 220 starving prisoners into a big wooden building" and "Machine guns... mowed down many victims...some miraculously escaped". The court made much comment on the reliability of the information contained in the narrative. The origins of the narration of the film were obscure. The narrator was unknown, the author of the narrative was unknown and the source of the information is frequently not revealed. It was ultimately excluded as not coming within a class of exceptions to the hearsay rule. Today, the test for admissibility will be as stated above. It is unlikely that the result would be different on the reliability test.

Contrast this with a medical training film, sometimes used to explain the mechanism of a particular injury. If the person preparing the film is known, the source material is known, or there is a witness in the box who can give evidence and be cross examined

upon the content of the film then the deficiencies of concern to the court in \textit{Zundel} are overcome.

The \textit{Zundel} case is of interest, in combination with the Supreme Court of Canada cases when considering the admissibility of medical training films and pre-taped expert testimony such as films depicting the biomechanics of whiplash. If the input data is accurate, and the voice-over is supported by testimony as being accurate, then, on the strength of this line of cases, the evidence which is otherwise reliable should be admitted. It would of course be subject to scrutiny on the grounds of prejudicial effect and weight, but if properly supported by expert testimony, it should meet these objections. As a secondary position, the court should permit the admission of the film with the description being given by the expert witness in the box.

Any narration that is argumentative, editorial or containing broad statements or statements determinative of the matter in issue are at greater risk of being considered to be prejudicial or rejected as hearsay.

\begin{enumerate}
\item[c.] \textbf{Self-serving and Cumulative}

Evidence is cumulative if it is merely repetitious of other evidence, as with colour photographs depicting the same thing that black and white photographs already in evidence depict. Cumulative evidence although relevant is subject to exclusion.\footnote{R. v. Kissick October 18, 1950 (ManQB) unreported as cited in Goldstein, E. Visual Evidence at p8-14; and R. Tookey (1981), 58 CCC (2d) 421 (Alta QB) but also see R v. Green (1972) 20 CRNS 340 (NSCA) where colour photographs were admitted despite admission of the same black and white photographs where a separate and helpful use of the photos was found to exist. Graat v. The Queen (1982), 2 C.C.C. (3d) 365: Rv Doe [1986] O.J. No. 1412, 31 C.C.C. (3d) 353 R.v. Tookey (1981), 58 CCC (2d) 421 (Alta QB) but also see R v. Green (1972) 20 CRNS 340 (NSCA) where colour photographs were admitted despite admission of the same black and white photographs where a separate and helpful use of the photos was found to exist.}

Day-in-the-life films have been excluded on the basis that they are self-serving. However the Court of Appeal in Ontario specifically approved of the use of this type of evidence in Ontario Courts. Sopinka et al note that the complaint with this type of evidence is the risk of fabrication. If the maker of the evidence is in court, or the subject of the video or other demonstrative aid is in court and available to testify, then that objection is answered.\footnote{NAG v. McKellar et al (1969), 4 D.L.R. (3d) 53; [1969] 1 O.R. 764 (Ont. C.A.): the offering of a motion picture demonstrating the extent of the plaintiff’s injuries in a personal injury action is not grounds for dispensing with the jury.}

\item[d.] \textbf{Objections to reconstructions and re-enactments}
\end{enumerate}
Reconstructions and re-enactments of events, operations, mechanism of injury and the like are admissible in Ontario Courts. Objections relate primarily to the similarity of the re-enactment or reconstruction to the actual event being described. Goldstein in *Visual Evidence* suggests the following are the grounds of objection:

1. the depiction is not sufficiently similar (quaere if this is not an argument that relates to weight, and not admissibility);
2. It is misleading; the jury must not be led to believe that what they are seeing actually happened but rather it is the opinion of the expert and the client's version of the facts;
3. the ultimate issue doctrine (see discussion below which suggests this is no longer a valid argument).

The adducing of evidence in a fair manner, that is with a witness in the box who is first qualified as an expert, and who testifies that she is offering her opinion answers the objections outlined above. Returning to the purpose of this paper, it is not the goal of demonstrative evidence to mislead, it is the goal of such evidence to assist in the appreciation, recall and understanding of the issues and evidence in the action. If it misleads, it ought not under any logical test be admitted.

**Admissibility of Expert testimony using Demonstrative aids**

Many experts testify with the aid of some demonstrative evidence. Their technical and often boring but important testimony is lost on the juror who cannot follow or is uninterested in following the evidence of the expert. While the trial judge is allowed in our system of justice to take copious notes, the jury is expected to sit and only listen. Without some sort of aid to assist in the comprehension of technical evidence the juror is at risk of making wrong decisions. It is for that reason many experts have been allowed by modern judiciary to use visual aids to demonstrate and illustrate their testimony. Consideration of what the expert will use in support of his or her testimony well in advance of trial is important to ensure its admissibility.

Rule 53.03 of the Rules of Civil Procedure requires that the report of an expert be served not less than 10 days before the commencement of trial. If the report contains a reference to a demonstrative aid or it is intended that the witness shall refer to a demonstrative aid that can be considered to be a document, it must be produced for inspection. A letter to the other side outlining the evidence sought to be produced should suffice. At the Ontario Trial Lawyers May 1995 Conference, Justice James Carnwath commented favourably on this methodology and suggested counsel would be hard-pressed to object to the admission of such evidence or to its use in jury addresses if no opportunity to review the evidence at opposite counsel's office was taken up.

The pronouncements of the Supreme Court of Canada in recent years on the use and limits of expert testimony bear upon the admission of demonstrative evidence used to

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41 see generally chapter 10, especially 10-15 to 10-18.
support or explain the opinion evidence of an expert. See the line of cases starting with

Justice Sopinka in *R. v. Mohan*\(^{42}\) summarized the admissibility of experts, and the
evidence adduced through them as follows:

Admission of expert evidence depends on the application of the following
criteria:

(a) relevance;

(b) necessity in assisting the trier of fact;

(c) the absence of any exclusionary rule;

(d) a properly qualified expert.

In discussing relevance, Justice Sopinka stated that relationship to a fact in issue is not
the end of the inquiry. He goes on to state that there is a further, "cost benefit" analysis
that must be entered upon:

This further inquiry may be described as a cost benefit analysis, that
is "whether its value is worth what it costs": see McCormick on Evidence,
3rd ed. (1984), at p. 544. Cost in this context is not used in its traditional
economic sense but rather in terms of its impact on the trial process.
Evidence that is otherwise logically relevant may be excluded on this
basis, if its probative value is overborne by its prejudicial effect, if it
involves an inordinate amount of time which is not commensurate with its
value or if it is misleading in the sense that its effect on the trier of fact,
particularly a jury, is out of proportion to its reliability.

And further:

Whether it is treated as an aspect of relevance or an exclusionary rule, the
effect is the same. The reliability versus effect factor has special
significance in assessing the admissibility of expert evidence. There is a
danger that expert evidence will be misused and will distort the fact-finding
process. Dressed up in scientific language which the jury does not easily
understand and submitted through a witness of impressive antecedents,
this evidence is apt to be accepted by the jury as being virtually infallible
and as having more weight than it deserves.

In his view, the comments of Justice Moldaver [*R. v. Melagarini* (1992), 73 C.C.C. (3d)
348 (Gen. Div.)] regarding "a new scientific technique or body of scientific knowledge"

should be considered:

(1) Is the evidence likely to assist the jury in its fact-finding mission, or is it likely to confuse and confound the jury?

(2) Is the jury likely to be overwhelmed by the "mystic infallibility" of the evidence, or will the jury be able to keep an open mind and objectively assess the worth of the evidence?

Regarding necessity, he rejects the qualifier "helpful" as too low a standard, but equally cautions against too strict a standard. "What is required is that the opinion be necessary in the sense that it provide information 'which is likely to be outside the experience and knowledge of a judge or jury', or that "ordinary people are unlikely to form a correct judgment about it, if unassisted by persons with special knowledge." This test will also come under scrutiny to assess its potential to distort the fact-finding process. It is important to note, however, his conclusion:

The possibility that evidence will overwhelm the jury and distract them from their task can often be offset by proper instructions.

It is of interest to note that, in Justice Sopinka's text on the Law of Evidence in Canada, published in the same year that Mohan was released, he has this to say about expert testimony on the ultimate issue:

The majority of the Supreme Court of Canada in R. v. Lupien[1970] S.C.R. 263 dismissed the proposition (the ultimate issue doctrine), and held that a psychiatrist could testify on the very fact in issue which the court had to decide. Having gone that far, it is not surprising to see courts permitting experts to express their opinions in the context of the very words which comprise the legal definition which the court must apply.

It is now generally said that if expert testimony is rejected it is excluded not because of any "ultimate issue" doctrine, but because such evidence is superfluous in that the court can just as readily draw the necessary inference without any assistance from an expert. However, even when the evidence may be helpful, courts are still nervous about the extent of the expert's influence over juries, in particular when the expert gives an opinion on the very fundamental issues that they themselves must decide.  

The explanation for the apparent inconsistency between judgment and text may lie in the fact that Sopinka J. in Mohan was commenting on novel and new scientific evidence being adduced at trial. In Mohan, he confirms that exclusion of expert evidence on the

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43 Sopinka et al, supra note 6, at pp. 636 and 641.
The court concludes with this statement:

In summary, therefore, it appears from the foregoing that expert evidence which advances a novel scientific theory or technique is subjected to special scrutiny to determine whether it meets a basic threshold of reliability and whether it is essential in the sense that the trier of fact will be unable to come to a satisfactory conclusion without the assistance of the expert. The closer the evidence approaches an opinion on an ultimate issue, the stricter the application of this principle.

In a lecture presented to the Advocate's Society (October, 1994), Mr. Justice Carruthers commented negatively on the acceptance of computer generated evidence. His view was based upon *Mohan*, and the opinion that it is not often necessary to have the expert's testimony on the illustrated issue.

With respect, I must disagree. Computers can no longer be considered to be new or novel. Their use is widespread and operation well understood. Their ability to allow the visualization of the scene, and the movement of vehicles in an accident reconstruction enhances the ability of the jury to see and judge for themselves the event under scrutiny. In many respects, the information is superior to that of eyewitnesses whose testimony can be very suspect. Since the computer can only rely upon the data which it is provided, colouring of the impression is less likely, not more than that of the eye witness. The safeguards of cross-examination and the right of the defence to adduce its own evidence should be sufficient over come any concerns the court may have about the undue influence that may be exerted by the expert's testimony. The court can charge the jury appropriately as to its function and the function of the computer simulation. As noted above by Sopinka et al, to exclude the evidence, is to lose much valuable assistance. (Might want to change this line since the quote is no longer in Sopinka’s book.)

**Disclosure of Documentary Evidence**

Rule 30 of the Rules of Civil Procedure provides for the timely disclosure of any document and for its inspection unless privilege is claimed for the document.

Documents are defined to include:
a sound recording, videotape, film, photograph, chart, graph, map, plan, survey..and any information stored by any device.

Models do not appear to be included here. In *Allore et al. v. Greer et al*\(^4^4\), the court considered what is a model under the rules.

While a model need not be a physical or three-dimensional object, it must involve the preparation of demonstrative evidence intended to exemplify undisputed facts.

In this regard, I agree with the approach taken in *Morganstern v. Faludi*, [1962] O.W.N. 189 at p. 192, where it was said as follows:"

My conclusion is that the word plan appearing in item 33 (6) of tariff B means a graphic, visual representation or diagram; something in the nature of a surveyor's sketch of survey, with boundaries, measurements, compass points and the like. I find that the word plan in its context here takes its quality from the other words which accompany it, viz: model and photograph. These things are graphic or visual representations. If I were to hold otherwise, I think that I would have to go the whole way and say that plan is so compendious that it includes that which may only exist in the mind. I am not ruling out the possibility that a plan as contemplated by the tariff may be in writing;"

If a document for which privilege is claimed is intended to be used at trial for a purpose other than impeaching the credibility of a witness, it must be disclosed and the claim abandoned not less than ten days before trial, or leave of the court obtained to adduce the evidence. This rule is a significant consideration relating to the admissibility of demonstrative evidence and should be reviewed before trial.

**Weight**

If the evidence is prima facie admissible, then the court ought to allow it to be admitted subject to any concern the court may wish to express about its weight. Already noted is the assertion by the Supreme Court of Canada that a properly instructed jury is quite capable of considering the weight that ought to be accorded hearsay evidence (Lamer J. in *Smith*). It is important that the court, and counsel submitting evidence, bear in mind the distinction between admissibility and weight. If the tests for admissibility are met, then any concerns with the evidence's value should be addressed with reference to the weight to be accorded it.

For example, the Court of Appeal has stated:

\(^{44}\) (1980), 18 C.P.C. 58 (H.C.J.).
We are also of the opinion that the trial judge effectively took away from the defence the value of the demonstrative evidence which had been led by the Crown. The trial judge should have left it to the jury to determine its value.\(^{45}\)

And in considering the evidence of an accident reconstruction expert:

the erroneous assumptions made by the expert, upon which his opinion was based, made his opinion of no weight or value whatsoever.\(^{46}\)

Any controversy as to accuracy goes to the weight, not admissibility.\(^{47}\)

Goldstein suggests the following factors may be considered in addressing the weight to be given (with some liberty by this author to address medium other than video tape):

1. the veracity of the authenticating witness;
2. the kind, form degree and nature of any distortion present in the medium used;
3. the quality of the reproduction or re-enactment;
4. likelihood that there was tampering before the evidence was tendered.

Added to that would be:
5. the accuracy of the data used;
6. the degree to which there is substantial similarity to the event being described or re-enacted;

**Use of Demonstrative Evidence in Opening and Closing**

**In the Opening:**

It is not permissible to refer to inadmissible evidence, or evidence which is not provable, in an opening. One can include in opening statements only evidence which in good faith counsel believes is both available and admissible at trial.\(^{48}\)

The absence of any pre-trial procedure in Ontario practice to determine the admissibility of any exhibit limits the use of demonstrative evidence in openings in a practical sense. If the exhibit is not ultimately admitted, the risk of the jury being discharged is run. Trial management hearings have started in some Ontario jurisdictions. The only matter that could be dealt with by the judge at the hearing (the presiding justice is not the trial

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judge) and of assistance in this area would be joint document briefs. However, if the procedure could be expanded to involve the trial judge, rulings on admissibility could be obtained in advance. One would then be left with three kinds of evidence: admissible, not admissible, and subject to ruling.

In the U.S., various forms of motions exist to deal with the problem. The underlying rule is the same: if it is probable that the proposed exhibit is admissible, the court will allow it to be used in the opening. In the U.S. there is a further requirement that counsel opposite does not object. However, there, a procedure exists to determine that in advance of trial and if needed to determine the issue in most cases.49

Given the underlying rule, counsel should be permitted to show and use maps of accident scenes, photographs of the scene, documents, medical models, and such other demonstrative evidence as may assist the jury in following the evidence. Charts and boards that are prepared specifically for the opening statement are admissible under the same rules as what would be admissible if the information were given orally by counsel. Although the reference is American, the rules for reference to evidence in opening are the same and the theory therefore should be accepted here.50

As a practical matter, if opposing counsel are advised of its existence and given an opportunity to review it and then required to list any objections, the matter can in fact be dealt with in advance of trial. The comments of Justice Carnwath noted above are recalled.

The Ontario Court of Appeal dealt with the mentioning of the intended use of video surveillance by the Defendant in the course of a trial in front of the jury in the case of Nag et al. v. McKellar et al51. The plaintiff brought a motion to strike the jury. The Court had this to say:

> During the course of the trial the defendants’ counsel announced in front of the jury that he intended to introduce a motion picture film taken of the male plaintiff who claimed very serious incapacitating physical injuries. The learned trial Judge decided to look at the film himself first and after looking at the film he dismissed the jury solely on the ground that the defendants' counsel had stated in front of the jury that he had a film he intended to introduce and that the learned

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50 Ibid at p. 5: visual aids should contain only information that is:

> relevant, will be supported with admissible evidence, does not contain personal opinions or assertions of knowledge and is not argumentative.

See also Fundamentals of Trial Techniques, note 44.
trial Judge thought the film might be misinterpreted by the jury. The film was admitted in evidence.

We are of the view that this was not a sufficient ground for striking out the jury. The parties in an action of this kind have a right to have their action tried by a jury if they so desire and the jury can only be struck out on good and sufficient grounds. In our view, the evidence proposed to be tendered was relevant and admissible evidence in the circumstances of this case…,

A new trial was ordered.

The Court, in my submission, established the important principle that counsel may refer to evidence, and by extrapolation, in opening, that although not yet in evidence may be admitted. It is not for the judge to rule presumptively before it has been admitted. Adding the rulings with respect to prejudice vs. probity to this case, only if it can be shown that the exhibit would offend on that basis can it be grounds for dismissal of the jury.

A recent Ontario Court General Division case, Whitford v. Swan52, grappled with the use of demonstrative aids in opening. While, in my respectful submission, the judge did not get it quite right, the case is some guidance for counsel when faced with objections to the use of demonstrative aids in opening. Importantly, the Court recognized a general entitlement to use the aids in opening. Justice Logan stated that "each aid must be assessed on its own merit". He required counsel to undertake to prove the aid during the course of trial.53 Clearly, counsel ought to be prepared to so undertake. Finally, Justice Logan appeared to deal with the probity vs prejudice argument but did so using an unfortunate choice of words. He suggested the aid ought not to inflame, mislead or be unduly demonstrative. More accurately, the test ought to be the test for admissibility on a probity and prejudice basis.

Given the undertaking requirement, and in particular when using diagrams illustrating the mechanism of injury, the evidence that will be used to support the aid must be carefully considered and prepared before trial.

Generally, it is expected that counsel will seek the permission on of the Court before using demonstrative evidence in opening. The reason for this is obscure. One does not seek the permission of the Court to refer to other forms of evidence in opening, so the rule logically should be the same for demonstrative evidence. In my view, this is a relic of the lingering discomfort the Courts have with demonstrative evidence. Counsel have responsibilities to the Court and the process. We do not serve our clients well to refer to evidence that we do not expect will be received in evidence. It is not proper to refer to such evidence in

53 It is of note that the requirement that counsel undertake to prove the item at trial has become the standard.
opening. The same rule should apply, both to counsel and the court, as concerns demonstrative evidence.

**In the Closing:**

It is not permissible to misstate the evidence or the law, to appeal to the jury's prejudice, bias or pecuniary interest, or make prejudicial or inflammatory arguments. Any evidence that has been received in evidence is then capable of use in the closing. Roger Oatley states that "Good counsel use the most persuasive items of demonstrative evidence in the closing to help the jury maintain concentration, to keep the closing interesting and to recreate primacy before an important point."\(^{54}\)

However, the extent of the use and whether it goes into the jury room is not without controversy. Most problematic is the use of video tape in edited form. It would not be helpful or efficient to require the whole of a video to be replayed if playing a fairly edited portion will suffice. The overriding factor again is fairness.

Joseph, (note 27 at page 12), suggests that in the U.S., the general rule is that only exhibits received for their truth may be received in evidence and taken into the jury room. If this rule is equally applicable in Ontario, then the purpose for which the exhibit is tendered should be carefully considered by counsel and the criteria for the acceptance of the exhibit as substantive evidence followed closely to ensure that it goes into the jury room.

Items not in evidence may be used in the closing. Counsel may summarise evidence on a blackboard or large pad of paper; the limitation is only that no new evidence may be used in the closing.

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Conclusion

Demonstrative evidence is a fact of life in Ontario trials. Although not well articulated and conveniently compiled, there is a large body of appellate level and superior court decisions supporting the admissibility of a variety of such evidence.

The Supreme Court of Canada has led the way in the acceptance of novel evidence where sufficient guarantees of reliability are present. The Court's direction that evidence shall be received based upon the principles underlying the rules of evidence, rather than excluded on the basis of cumbersome and complex rules, will greatly influence the course of the law of evidence, including the law pertaining to the admission of demonstrative evidence. Trial courts will use and indeed are using a more flexible approach in the consideration of various items of demonstrative evidence. Promotion of the efficiency of the trial process demands, in the modern context, admission of reliable and fair demonstrative evidence. The challenge awaiting counsel is to ensure the evidence produced by creative minds is admitted and its effect not diluted by concern over its accuracy, and that it ultimately finds its way into the jury room to continue its persuasive effect to the benefit of your client's cause.
Appendix A

ADMISSIBILITY OF SPECIFIC ITEMS OF DEMONSTRATIVE EVIDENCE

1. Computer Generated Graphics


Although this Court was not called upon to deal with the admissibility of the computer generated videographic animation to supplement the reconstruction of the accident by the expert Paul Walters, some judicial comment should be made as to the accuracy of this high-tech demonstrative evidence. If proven to be accurate, then it should be admitted like any other piece of demonstrative evidence, such as a chart or map. In considering what type of authentication is required, it should be proven:

(1) From the testimony from the accident reconstruction expert that the data points measured at the accident site were accurately recorded.

(2) From the testimony of the person who entered those data points into the program that they were entered correctly.

(3) That the algorithms used in the form and motion software validly apply the law of physics and validly render accurate images of the scenes depicted in the exhibit.

(4) Competent opinion testimony from the accident reconstruction expert that any additional modifications to the exhibit, made after the computer's first renderings, are valid.

(5) Testimony that the experts are familiar with the demonstrative exhibit.

(6) A showing that the exhibit will aid the trier of fact in understanding the expert's testimony.

Overall it must be proven that the procedures used to feed the data into the computer were reliable and that someone checked the accuracy of the data and the computer operations.

... Some weight was given to the reconstruction, that being where the margin of error or uncertainty was not such as to affect the general manner in which the accident occurred. The Court must be careful not to attach undue weight to evidence that might confuse, mislead, or overwhelm the trier of fact.

Although the technology used to prepare the computer generated videographic animation of the reconstruction report meets the test of accuracy, it is only as valuable as its input. Since it accurately depicts the reconstruction of the accident, which has been given little weight, the computer generated takes were also accorded little weight.

Sopinka et al, supra note 6, postulate four criteria for admissibility at p. 1041:
1. The computer generated evidence is relevant to an issue;  
2. An authenticating witness must identify it and testify;  
3. The witness must show the evidence is not too time-consuming, misleading and does not have prejudicial value substantially greater than its probative value;  
4. The evidence must not be cumulative.

This list is taken from J. Sopinka, “It looks Greats, but Can You Use It? Admissibility Issues with respect to Computer Generated Evidence”, CBAO CLE, Nov. 1997.

See also: Kohen, W., Computer-Generated Animations Use in Trial- What is This Animal presented at the Advocates Society Fall Convention, October, 1994.  
Carruthers, J. Computer Simulations in Ontario Court Rooms, from the same materials  
Joseph, G. Demonstrative Evidence at note 27.  
Cerniglia, T., Computer-Generated Exhibits- Demonstrative, Illustrative or Pedagogical- Their Place in Evidence in (1994) 18 American Journal of Trial Advocacy,1.

2. Video Tape  

Teno v. Arnold, at note 16:

As trial judge, I was afforded the utmost opportunity to see the dreadful extent of such disabilities in her daily life and in this connection I would be remiss, if I failed to acknowledge the assistance that I received from her counsel in the presentation of the evidence with respect to this in a most imaginative and, I believe, unique way in trials to date in Canada. Arrangements has been made by counsel to have the technical crew of a local television station in Windsor, attend at the Teno home in August, 1973, and record on video tape with sound track about one-and-a-half hours of Diane's daily life with her mother and brothers and sister. This evidence was introduced after a proper foundation had been laid as to the technical aspects of the equipment, by use of closed circuit television, with commentary from time to time of doctors who were familiar with the child. I cannot conceive of a more graphic portrayal of what I must try to express in words. I should also mention that all counsel concede that the evidence was properly admitted. After all, it is only a marked improvement on ordinary motion pictures which have been used at trial for many years.


One of the affidavits in support of the application referred to a videotape of a news program and included a copy of the videotape as an exhibit, and two of the affidavits in support referred to events which occurred after the date of the
obstruction but which related to the intent of the respondents. These affidavits were not served with the notice of motion. At the hearing of the application, the respondents objected to the admission of the affidavits. Held -- Affidavits ruled admissible... The affidavits were admissible. The admissibility of videotape film is governed by the same rules which apply to the admission of photographs and motion pictures: when it is offered as proof of a thing represented in it, it must be associated with a testifier and can be received only as a non-verbal expression of a witness competent to speak to the facts represented. The witness, who need not be the maker, must be able to give some indication as to the circumstances under which the film was made and that it is accurate. In this case the film was authentic and admissible.

*R. v. Nikolovski (1994), 19 O.R. (3d) 676 (Ont C.A.)* approved this test for admissibility:

(1) the accuracy of the tapes in truly representing the facts; (2) their fairness and absence of intention to mislead; and (3) their verification on oath by a person capable of doing so.


It is noted by Goldstein in *Visual Evidence* (10-22) that the trial court commented favourably on the use of videotape to record a physical examination of an infant plaintiff to illustrate the features described in his paediatrician's written medical report and to illustrate that doctor's subsequent testimony at trial.

3. **Storyboards**


The point with these as with all demonstrative aids is the accuracy and reliability of the information contained in the exhibit, and that it is put in through a competent witness.

William S. Bailey, in his article, “*Storyboards: Inexpensive and Effective*, (Sept. 1994), 30:9 *Trial* 64, lauds the benefits of storyboards:

Storyboards offer a benefit that is not available with many other forms of demonstrative evidence. Like a billboard on the highway, a storyboard may sit on an easel throughout the presentation of the case. It requires no cumbersome video monitor or playback equipment. There is no risk of obvious repetition as there is with playing an expensive videotape over and over to make sure all
jurors “get the message.” The storyboard on an easel is a silent presence in the courtroom that keeps on persuading even when the advocate isn’t directly referring to it.

By its very simplicity, the storyboard also avoids the possibility that anyone of the jury will regard it as “too slick” or a “lawyer trick.” It is very low key.

4. **Charts, Models and Graphs**

   Admissible if relevant and based on reliable source material, supported by a competent witness. See the tariff for additional support for the acceptance of these kinds of demonstrative aids.

   For the admission of treatment chronologies, work absence histories and other chart summaries of evidence, see the cases cited at note 14 specifically.

5. **Reconstructions and Re-enactments**

   See generally Visual Evidence, A Practitioner's Guide, cited supra, Chapter 10 for a complete discussion and references to support admission.
An example of the acceptance of a computer-generated re-enactment is found in Owens, noted above.

6. **Photographs**

Sopinka et al state that “The usefulness of photographs is indisputable.”


Since 1919, Canadian civil courts have seen photographs tendered of, *inter alia*, public documents, lost documents, defective steps on a street car, scenes of motor-vehicle accidents, bodily injuries, property evaluations, substandard conditions existing in rental accommodations, and experiments.
APPENDIX B

ONTARIO
SUPERIOR COURT OF JUSTICE

BETWEEN:

John Doe

Plaintiffs

- and –

ABC Co.

Defendants

PLAINTIFF’S STATEMENT OF LAW

THE USE AND ADMISSIBILITY OF DEMONSTRATIVE EVIDENCE

Issues and Law

Demonstrative Evidence Generally

1. Demonstrative evidence is admissible where it is relevant to the issues in dispute and where it would assist the jury to better understand the conditions alleged so long as its prejudicial value does not outweigh its probative value.

   Plaintiff’s Brief of Authorities, Tab 1

2. Excluding evidence on the ground of its prejudicial effect should only be done when the evidence has slight probative value.

   Plaintiff’s Brief of Authorities, Tab 2
3. Circumstances in which a judge in a civil case would exclude evidence because of its inflammatory nature would be rare. People today, because of their exposure to television and motion pictures, can be expected to be much less sensitive to graphic displays of injuries than the average nineteenth or early twentieth century citizen.

Plaintiff’s Brief of Authorities, Tab 3

4. If the evidence is *prima facie* admissible, then the court ought to allow it to be admitted subject to any concern the court may wish to express about its weight. Any controversy as to accuracy goes to weight, not admissibility.

Plaintiff’s Brief of Authorities, Tab 4

Plaintiff’s Brief of Authorities, Tab 5

Plaintiff’s Brief of Authorities, Tab 6

Plaintiff’s Brief of Authorities, Tab 7

Plaintiff’s Brief of Authorities, Tab 8

5. It has been stated that anything that will assist a jury to better understand medical evidence, should be encouraged, not discouraged. Illustrative demonstrative
evidence may shorten the trial by some extent and is not prejudicial to the defence where the jury is reminded by the Court that it is an illustration only for their assistance and if the jury accepts the evidence of the defendant’s experts, they are to disregard the particular demonstrative evidence. Further, it is open for the defendant to use its own experts to criticize the illustration.

_Buckland v. Gough_, unreported, May 13, 1999, Barrie, per Jenkins J. Plaintiff’s Brief of Authorities, Tab 17

**Medical Illustrations as Demonstrative Evidence**

6. The primary role of the medical illustrator is to portray medical information not readily demonstrated by photographs. An illustration can demonstrate the relationship between a structure and other organs, vessels or bones in the vicinity.

   Plaintiff’s Brief of Authorities, Tab 9

7. When medicine overlaps with the courtroom, the communication of medical information is often hindered by a lack of common knowledge and language among medical experts and judge, jury and lawyers. A medical illustrator who specializes in medical-legal work helps bridge the gap between medical expert and judge/jury, resulting in increased understanding of relevant issues.

   Plaintiff’s Brief of Authorities, Tab 9

8. “Demonstrative evidence” includes in-court demonstrations using charts, maps, plans, drawings, overhead projector transparencies, anatomical exhibits, 3-D
models, thermo-grams, and x-rays, etc. to assist a witness in explaining a procedure (e.g., medical operation), an injury, or the basis for an expert opinion. From this perspective, demonstrative evidence is inextricably linked to the testimony of a witness who authenticates the evidence and establishes its relevancy, truth and accuracy, fairness, and probative value.

Plaintiff's Brief of Authorities, Tab 9

9. Anatomical charts, models and exhibits are commonly tendered in civil personal injury cases, to assist an expert witness in presenting complex medical information by clearly showing relationships between anatomical structures.

Plaintiff’s Brief of Authorities, Tab 9

10. It is submitted that, a medical illustration which depicts the movement of a structure through a series of illustrations is in principle no different than a still medical illustration.

Photographic and Video Taped Demonstrative Evidence

11. Photographs may be admitted if (1) they are relevant; (2) they assist the jury’s understanding of the treatment and condition of the plaintiff; (3) the photographs are accurate; and (4) the prejudicial effect of the photographs is not so great that it would exceed their probative value. Requirement (4) is subject to the principle set out in R. v. Smith at paragraph 2 above. Accordingly, exclusions will only occur pursuant to requirement (4) if the probative value is slight.
Plaintiff’s Brief of Authorities, Tab 1

Plaintiff’s Brief of Authorities, Tab 2

12. The test to be applied in considering the admission of videotape and photographs is the same.

Plaintiff’s Brief of Authorities, Tab 10

Simpson Timber Co. (Saskatchewan) Ltd. v. Bonville et al,
Plaintiff’s Brief of Authorities, Tab 5

13. The admissibility of videotapes and photographs depends on (1) their accuracy in truly representing the facts; (2) their fairness and absence of any intention to mislead; (3) their verification on oath by a person capable to do so.

R. v. Creemer and Cormer (1968), 1 C.C.C. 14 (N.S.C.A.)
Plaintiff’s Brief of Authorities, Tab 11

Plaintiff’s Brief of Authorities, Tab 12

14. After determining that video and photographic evidence is accurate, fair and verified under oath, the question the court must consider is whether the evidence is relevant, and whether it is necessary. If it is relevant and necessary then the evidence is to be admitted. To do so otherwise would be unfair, not only to the litigant but to the trier of fact.

Plaintiff’s Brief of Authorities, Tab 10
15. In relation to demonstrative evidence with respect to a particular injury, the evidence has been found to have been necessary where it would be difficult for a witness to describe the effects the injury and the jury’s understanding of the issues would be greatly assisted by the demonstrative evidence.

Plaintiff’s Brief of Authorities, Tab 15

16. In relation to demonstrative evidence with respect to a particular injury, the probative value has been found to have outweighed any prejudicial effect where the evidence is presented in a very simple, straightforward manner; without sound; with few headings and no editorialising; and lasts approximately ten minutes.

Plaintiff’s Brief of Authorities, Tab 15

17. Video may provide an objectivity that the oral evidence cannot provide. It is analogous to trying to describe Niagara Falls, as compared to seeing a picture or seeing it in person.

Plaintiff’s Brief of Authorities, Tab 10

18. Videotape film can be received as a non-verbal expression of the testimony of a witness competent to speak to the facts represented. It is immaterial whose hand prepared the videotape film, provided it is represented to the court by a competent and qualified witness as a representation of his or her knowledge. He or she must
affirm the videotape film to represent his or her knowledge and he or she must be qualified by observation to speak of the matters represented in the videotape film. The sufficiency of this qualification by observation is for the court in its judicial discretion.


Plaintiff’s Brief of Authorities, Tab 5

Hand-Drawn Animated Medical Illustrations Versus Computer-Generated Animation

19. A hand-drawn animated medical illustration is composed of a sequence of traditional still medical illustrations. The animation and sequence of still medical illustrations can be recorded and presented on photographic film or a computer. Where a computer is the medium used to present the animation, the computer does not generate the images using the input of mathematical data into formal algorithms or equations. It merely reproduces, in sequence, the medical artist’s still medical illustrations, which are created on the computer under the direction of a medical expert, as an animated illustration of the said medical expert’s opinion.

20. Accordingly, it is submitted that animated medical illustrations should be admissible in the same manner as traditional still medical illustrations rather than in the manner required of “computer-generated” medical evidence in which the computer generates an animation based on a complex set of mathematical algorithms.

21. With respect to computer-generated animation, it must be proven that the procedures used to feed the data into the computer were reliable and that someone
checked the accuracy of the data and the computer operations.

*Owens (Litigations Guardian of) v. Grandell*
Plaintiff’s Brief of Authorities, Tab 13

22. With respect to computer-generated interaction of the software, the hardware, the input data, and the entire video creation process, together with the engineering opinion are all relevant to the Court’s analysis on admissibility, i.e. on the issue of relevance, accuracy and whether the video is misleading or not.

Plaintiff’s Brief of Authorities, Tab 14

23. After determining that the evidence is relevant and necessary, the same principles for determining the admissibility of photographs and videos are also used to determine the admissibility of computer-generated evidence, that is, the admissibility depends on (1) their accuracy and true representation of the facts; (2) their fairness and absence of any intention to mislead; (3) their verification on oath by a person capable to do so.

Plaintiff’s Brief of Authorities, Tab 15

24. The following are criteria to be satisfied in order for a computer-generated animation to be found to be admissible:

(i) the computer animation is relevant to the issues in the proceeding;
(ii) the hardware and software methods employed by the animator are verified by the animator;
(iii) the computer animation does not contain editorial comments other than the usual headings;
(iv) the computer animation accurately represents the plaintiff’s condition;
(v) the computer animation is necessary considering that it would be
difficult for a witness to describe the effects of the injury and the jury’s
understanding of the issues would be greatly assisted by the
animation;
(vi) the prejudicial value does not outweigh the probative value considering
that the animation is presented in a very simple straightforward
manner, without sound or editorialising and with few headings; and
(vii) the presentation was not misleading or unfair to the defendant.

McCutcheon v. Chrysler Canada Ltd./Chrysler Canada Ltee,
(1998) 32 C.P.C. (4th) 61 at paras. 9 to 16
Plaintiff’s Brief of Authorities, Tab 15

Owens (Litigations Guardian of) v. Grandell
[1994] O.J. No. 496
Plaintiff’s Brief of Authorities, Tab 13

Smit v. Delguidice, unreported (September 13, 1996),
MacKinnon J. (Ont. Gen. Div.).
Plaintiff’s Brief of Authorities, Tab 14

25. Where the computer-generated animation may have perceived frailties in the
evidence these are matters that counsel may adequately pursue on cross-
examination and go to the weight of the evidence.

McCutcheon v. Chrysler Canada Ltd./Chrysler Canada Ltee,
Plaintiff’s Brief of Authorities, Tab 15

The Standard of Relevance for Illustrative versus Direct or Substantive Evidence

26. The standard for relevance is lower for illustrative evidence than for
substantive evidence. With regard to the American approach to admitting
substantive evidence as compared with illustrative evidence, for substantive
evidence, “primary” relevance is necessary. That is, it must have a “tendency to
make the existence of a fact that is of consequence to the determination of the
action [i.e., a material fact] more probable or less probable than it would be without the evidence”. Illustrative evidence, conversely, only requires “secondary” relevance which is evidence that merely helps to clarify or explain a previously introduced piece of evidence. Thus, “the foundation for establishing secondary relevance focuses not at all on whether the piece of evidence can, on its own, alter the probability of a material issue in the case, but rather on whether it accurately and helpfully elucidates other related evidence.


ALL OF WHICH IS RESPECTFULLY SUBMITTED

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In Goldstein: Visual Evidence; A Practitioners Manual, it is noted that there are currently two bases for the reception of demonstrative evidence in Canada. They are the *Illustrative theory* and the *Silent Witness Theory*. The distinction is important because in the former, a capable witness must be called, and in the latter, no witness is called or available to testify directly as to the observations made in the film or evidence.

In the introduction of evidence under the Illustrative theory, Goldstein suggests the following procedure, the goal of which is to augment or illustrate the evidence being given by the witness in the box:

1. The witness testifies;
2. The authenticating witness is asked a series of questions which establish the accuracy of the film and tie the person or thing portrayed in the film to an issue in the case;
3. The film is shown to the trier of fact together with comments of the first witness.

The witness in (1) and (2) may be different people. If this theory is relevant to the introduction of all demonstrative evidence, then, using the example of a treatment chronology, the witness testifying in (1) may be the doctor or the plaintiff. In (2) it may be the same, if the witness can testify to the accuracy of the chronology, or it may be the clerk who prepared the document from the clinical notes and records. The latter testimony adds little to the determination of the issues before the court and simply adds to the duration and cost of the trial. Defence counsel have the ability to determine if the chronology is accurate. It should not be necessary to call the clerk to prove the document which is based on reliable information.

The illustrative theory has been applied to all forms of photographic representations. In the case of other demonstrative evidence, the same theory allowing its acceptance should apply. It allows the evidence to support, corroborate and explain the evidence of the witness, to provide relevant detail in the appearance of objects described in oral testimony, to reveal steps taken by witnesses to arrive at their opinion, and to affect the credibility attached to a witness' testimony.

The second theory, that is the silent witness theory, allows demonstrative evidence to be admitted to speak for itself once a proper foundation is laid. In the example used in Goldstein, the court allowed the photographs in as direct evidence as to the condition of the remains of the deceased once the photos were identified as being such by the doctor conducting the post mortem. It would appear that this evidence leaves the realm of demonstrative evidence
and becomes original real evidence since it is accepted by the court as direct evidence of a fact in issue in the action.