

DEMONSTRATIVE EVIDENCE:
LAYING A FOUNDATION
AND WINNING

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In the twenty-first century, courtroom dramas in movies and on television have changed the way jurors view a case. Jurors are used to dynamic presentations, involving photograph displays, video demonstrations, and computer reconstructions to illustrate the various issues to be determined. Lawyers, however, have been slow to adapt the way evidence is presented to the jurors which is still, for the most part, done verbally. In today's world of instant media access on the internet, attorneys need to incorporate more and more interesting methods of communicating with the jury. It seems clear that the days when the jury would sit and simply listen attentively are long gone. Thus the easiest and best way to hold the attention of the jury is through the use of demonstrative evidence which shall be shown to you below.

It has been found that seventy-five (75) percent of all knowledge a person gains comes through the sense of sight.¹ Furthermore, studies have determined that there is a "100 percent increase in juror retention of visual over oral presentations, and a 600 percent increase in juror retention of combined visual over oral presentations alone."² To further illustrate, after 72 hours people will retain a staggering 65 percent of what is simultaneously

heard and seen as compared to only 10 and 20 percent when either heard or seen alone.³ The foregoing studies, then, prove the use of demonstrative evidence to reinforce the verbal arguments made during the trial becomes vitally important.

Black's Law Dictionary defines demonstrative evidence as "Physical evidence that one can see and inspect (i.e. an explanatory aid, such as a chart, map, and some computer simulations) and that, while of probative value and usu[ally] offered to clarify testimony, does not play a direct part in the incident in question. This term sometimes overlaps with and is used as a synonym of real evidence."⁴ The traditional view of demonstrative evidence is that it has no evidentiary value in and of itself, that it serves only to assist the trier of fact in understanding and digesting the other evidentiary material presented during the course of a trial.⁵ Despite this traditional view, as noted as early as 1935, it has been stated that "There remains a source of proof, distinct from either circumstantial or testimonial evidence, viz., what the tribunal sees or hears by its own senses. Whether this should be termed 'evidence' or not is a question of words, open to difference of view. But it is universally conceded to be an available source of proof."⁶ We contend that the

use of demonstrative evidence has grown through the development of brightly colored charts, to films known as "a day in the life" of a person, accident reconstruction films, and computer generated animations and simulations to take on a life of its own, meaning it has risen to the level of proof, not mere support.

Thus, while it is true that in most cases "[d]emonstrative evidence differs from substantive evidence in that the former has no evidentiary value in and of itself," however demonstrative evidence, such as photographs, videotapes, and computer generated simulations, may become expert proof of an ultimate issue of the litigation.⁷ It is the opinion of this author that demonstrative evidence has evolved to the point that it may be used as evidence in chief to resolve some important issues of fact at issue at trials. The use of demonstrative evidence, specifically computer generated simulations cease to be a cartoon where there is a scientific basis for what is depicted, such as the movement of vehicles in an accident using the MSMAC program. Each frame of the video is an accurate simulation of the movement. The movie that is perceived though, is actually an illusion of movement that the brain sees upon the playing of frame after frame.

General Use

There are several different types of demonstrative evidence, the most common being photographs, video,¹ and x-ray but demonstrative evidence also includes charts, maps, models, and demonstrations.

In federal practice demonstrative evidence may be admitted when it, by virtue of its nature, has "tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence."⁸ However, despite its effective uses, demonstrative evidence may be excluded where the probative value of the evidence is outweighed by its prejudicial effect.⁹

In New York, like real evidence, for "demonstrative evidence to be admissible, it must be properly identified with respect to the question in issue and it must be shown that it has not sustained any substantial change by reason of lapse of time, or otherwise, since the time in issue."¹⁰ In many cases, the use of demonstrative evidence is vital in supporting and illustrating an expert witness' opinion to the jury. "Demonstrative evidence generally is the expert's 'support' medium by which the jury can see and

¹ It is noted that the term video is all encompassing and includes all moving images submitted in electronic form.

'feel' the involved structures instead of only picturing them via word images or crude illustrations on a sketch pad."¹¹ It is important to remember that demonstrative evidence, films, photographs, video tapes, and audio tapes, must be exchanged pursuant to CPLR 3101.¹² In some instances, such as the use of computer generated simulations, the disclosure must also be accompanied by a CPLR 3101(d) expert disclosure of the person who will lay the foundation for the film or simulation to go into evidence or risk being excluded by the court. Typically, like all evidence, admissibility of demonstrative evidence should be within the "sound discretion" of the trial court.

The summaries below highlight some of the key foundational elements for the admission of different forms of demonstrative evidence.

Models, Maps, and Diagrams

In general models, maps and diagrams are treated similarly by the courts. The courts have found that the admissibility of maps, drawings, and diagrams illustrating the scene of the event is within the discretion of the trial court.¹³ In order for the map,¹⁴ drawing, or diagram to be deemed admissible by the court, it must show the relative locations of objects at the time of the subject occurrence in a reasonably accurate manner and must be

verified as a fair and accurate depiction.¹⁵ Verification must be made in the form of trial testimony, but can be offered by anyone familiar with the location depicted. As with photographs offered into evidence, maps and diagrams are properly excluded absent verification by witness testimony.¹⁶

Additionally, a map or diagram may be admitted even in the event that it contains some inaccuracies, provided that the prejudicial and misleading effect is prevented or somehow remediated.¹⁷ Significantly, the information used to generate the diagram must be based on factual observations as opposed to hearsay or statements made by the parties involved in the incident.¹⁸

Based on the above, in order for a map or diagram to be admissible, the key foundational elements to be laid are testimony that the map is a fair and accurate representation of the scene; and testimony regarding absence of change in the area depicted in the map between the time of the occurrence and the observations used to create the map.¹⁹

Similarly, models have been deemed admissible as demonstrative evidence where the model is verified to be a true representation of the subject depicted.²⁰ Again, like maps and diagrams, the model may be admissible despite

certain differences from the original.²¹ In the instance of models, the differences must be "adequately explained to the jury".²² Although models may be admissible, in-court demonstrations utilizing models have been found to be both admissible²³ and inadmissible.²⁴ The courts have stated that the use of models for in-court demonstrations is within the discretion of the trial court. The admissibility of the demonstration will depend upon how closely the demonstration can replicate the conditions of the occurrence.²⁵

The admissibility of models is also dependent upon testimony verifying that the model is a true representation of the original.²⁶

Medical Records

Typically, hospital records are submitted to the court with a verification of authenticity from the provider and are thereafter admitted under the business record exception to the hearsay rule.²⁷ Once the records have been admitted, it is recommended portions of the record be read to the jury or blown up to poster size to assist the jury in reading the records and understanding the alleged injuries, and marked with the same exhibit number or letter with the addition of a symbol to indicate that it is a duplicate of something already accepted in evidence.

However, CPLR 4532a provides for the admission of a specific X-ray or graphic test result provided the name of the injured party, the date of the test, and additional identifying information is inscribed by the medical practitioner or medical facility is on it, and that pre-trial disclosure has been performed.²⁸ Employing a shadow box or enlarging portions of the exhibit may well assist the jury in their understanding by making it easier to see while accompanied by a medical expert's testimony.

There is also an alternative method, commonly referred to as the "Silent Witness", for the admission of x-ray or graphic test records. That requires a) testimony as to the chain of custody that the specific machinery was properly operated by a qualified technician at the given location on the given date; and b) proof that there has been no alteration. This method avoids the need to call the radiologist who performed the test to testify to the authenticity of the record.²⁹

Photographs

It is well settled in New York that a photograph may be admissible provided that the photograph is authenticated as providing a correct representation of the person or object. Such authentication must be by the testimony of a person familiar with the object of the photograph.³⁰ A

photograph may also be used as "independent probative evidence of what it shows".³¹

A significant issue when dealing with the admissibility of photographs is the time between the occurrence and when the photographs were taken. The key issue is if there was a significant or substantial change in conditions between the time of the occurrence and the time of the photographs.³² Additionally, the courts have found that photographs of an accident scene have no value in a personal injury matter, unless the photographs depict the scene as it looked at the time of the alleged incident.³³

Similar to the "Silent Witness" method for admission of an x-ray or other diagnostic films, a photograph may be admitted by showing foundation evidence including the date, time and location of the photograph, the mechanics and operation of the camera, and expert testimony that there has been no alteration of the film or prints (chain of custody evidence may be used instead of expert testimony).³⁴ This obviously is a more arduous task but may be necessary if no witness is available to authenticate the photograph in the manner described above.

The use and disclosure of surveillance photographs are governed by the CPLR.³⁵ The statute requires disclosure of

"all portions of such material, including out-takes, rather than only those portions a party intends to use."³⁶ However the statute does not provide guidance on the admissibility of the surveillance photographs when being used by a party who did not prepare them.³⁷ The courts have differed on whether the photographs (and video) are admissible under these circumstances.³⁸ Thus, in a personal injury action on damages the defense surveillance videotapes of plaintiff's physical activities were deemed inadmissible when the plaintiff attempted to utilize them as part of his prima facie case.³⁹ However, a post accident surveillance video taken by the plaintiff's employer was admissible where it was found to be probative of the plaintiff's damages claims.⁴⁰

Again, the most significant hurdle to the admission of this form of demonstrative evidence is verification that it fairly and accurately depicts what is shown. Verification, as noted above, may be provided by anyone familiar with what is shown, and does not necessarily need to be the photographer who created the photograph.

Videos

The admissibility of video raises the same issues as photographs, *i.e.*, foundation. As discussed above, the foundation that will need to be laid is testimony from

someone familiar with the subject of the video stating that the video fairly and accurately depicts the subject.⁴¹ It may also be necessary to elicit testimony as to the methods utilized to make the video to show that the video has not been altered or edited.⁴²

As with photographs, the time when the video was made in relation to the time of the occurrence will be a key issue in determining the admissibility of the evidence.⁴³

A few unviewable or inaudible portions of a video will, typically, not be sufficient to change the admissibility of a videotape. However, deficiencies of sufficient length "that a jury would have to speculate as to its contents" would be grounds for exclusion of the video.⁴⁴ Regardless, be aware that courts are more skeptical of admitting videos of experiments, reenactments and demonstrations, skills, and the effects of physical injuries because they have a higher risk of misleading and confusing the jury.⁴⁵

A video, much more than a still photograph, such as surveillance recording depicting the circumstances of an alleged incident, may become independent probative evidence of what it shows.⁴⁶ In one case, the court found that, "In a fast developing technological age, where cell phones and texting devices are used handily not only to talk and send

messages, but also to photograph, the usefulness of a video surveillance tape to help get at the truth of a disputed factual issue is undebatable and undeniable."⁴⁷

Another invaluable way in which video presentation can assist in the jury's retention of the significant facts at issue is through the use of video depositions. Generally, in New York, unlike under the Federal Rules, a party taking a deposition is free to record it on videotape without the showing of special need, provided that all parties have the opportunity to question the witness.⁴⁸ The court rules provide that the videotape must be accompanied by a certification from the officer before whom the deposition was taken that the video is a true record of the testimony given.⁴⁹ Such certification would then be signed by the deponent in accordance with CPLR §3116.⁵⁰ The use of a videotaped deposition, assuming it meets all requirements of CPLR §3113 and the Uniform Court Rules,⁵¹ is a way to capture the jury's attention and put the credibility function of the fact finders to better use because they will be able to see the mannerisms, appearance, and tone of the deponent as well as the time lapse between question and answer.

Demonstrations

Generally, the trial judge has the discretion to allow tests, demonstrations and/or experiments for the purpose of determining the truth of the facts alleged.⁵² The trial court also has discretion to determine whether the tests, demonstrations, and experiments may be performed in or out of court, or in the presence of the jury.⁵³ Further, the court may allow such test, demonstrations, and experiments, even in instances where they will result in the partial destruction of real evidence provided that they play a positive and helpful role in determining the truth of the matter in question.⁵⁴ Nevertheless, the key question in determining whether a proposed test, demonstration, or experiment will be deemed admissible is whether an ill-designed or non-relevant test will mislead, confuse, divert, or otherwise prejudice the fact-finder from determining the truth of the matter.⁵⁵

The critical foundation that must be laid for the admissibility of a test, demonstration, or experiment is evidence that meets the tests of reliability and scientific acceptance,⁵⁶ and like all scientific expert testimony, that it was conducted in a way to ensure reliable results,⁵⁷ and substantially replicated the conditions to which the test or demonstration pertains.⁵⁸ Substantial similarity between the conditions that existed at the time of the

occurrence and the test is necessary but there typically do not need to be identical conditions.⁵⁹

Computer Animation and Computer Generated Simulation

Computer animation and computer generated simulations attempt to recreate the accident or event in a manner which allows the jury to witness the event.⁶⁰ Parenthetically, we emphasize that before admissibility can be addressed, the proposed evidence must be exchanged in accordance with the requirements of CPLR § 3101.

In New York, the requirements for admissibility of a computer generated exhibit remain the same as with other types of demonstrative evidence. Simply put, it must be relevant and it must "fairly and accurately reflect the oral testimony offered and that it be an aid to the jury's understanding of the issue."⁶¹ The admission of computer generated animations is most often done for the limited purpose of illustrating an expert's opinion as to the happening of the occurrence.⁶² To reiterate our comment that you are not offering a cartoon video, the litmus test should be whether you can show the scientific basis of the computer generated exhibit to avoid exclusion on the ground that the exhibit will cause the jury to "confuse art with reality."⁶³

There is a real difference between an animation and a simulation. "An animation is used to illustrate a witness's testimony by recreating a scene or process, and properly is viewed as demonstrative evidence."⁶⁴ An animation² does not attempt to reconstruct the alleged occurrence.⁶⁵

In contrast, computer generated simulations are typically designed to assist the expert in generating an opinion and serve some function beyond a simple portrayal or illustration of the opinion. Stated more simply, a simulation is not a copy or graphic expansion of sworn testimony but is offered as proof of the matter at issue.

The development of sophisticated computer programs that allow the accurate and reproducible recreation of accidents allows engineers to reconstruct accidents and create simulations that can be shown to the jury and should be entered as evidence in chief in a DVD format.

Computer generated simulations serve to allow the expert to develop new evidence, independent from mere opinion by an expert, by allowing a computer program to create a projection of the occurrence based on the data that is input. Hand in glove, to get the simulation in

²Be aware that most courts view computer generated animations as "demonstrative" and are not therefore considered "evidence" to be included as part of the record. See NYPAC-EVID § 11:20.

evidence one must also serve a CPLR § 3101(d) disclosure notice for the expert witness who generated the simulation and who will explain the video consonant with CPLR § 3101(d)(1).⁶⁶ That statute is so important as to require setting it forth here: it states that "each party shall identify each person whom the party expects to call as an expert witness at trial and shall disclose in reasonable detail the subject matter on which each expert is expected to testify, the substance of the facts and opinions on which each expert is expected to testify, the qualifications of each expert witness and a summary of the grounds for each expert's opinion."⁶⁷

The submission of the expert disclosure is a threshold issue to determining admissibility of computer generated simulations. Specifically, the expert must be able to testify that the measurements, data entry, software, and hardware used to create the simulation conform with the generally accepted engineering customs and practices and that the computer program acted in a sound and reproducible way. This not only allows the experts to confirm or rebut the happening of an accident or event to a reasonable degree of engineering certainty but also to show the jury a visual representation of how the opinion was reached.

In instances where a computer program is used in this manner, to more than simply illustrate the expert's opinion, the proponent of the evidence will have to satisfy the *Frye* standard for scientific evidence, *i.e.*, to give an opinion as to the general acceptability among the scientific community of the tests and confirm that the software and hardware used in the development of the simulation was performed in an accurate and reproducible manner.⁶⁸ In comparison, in the Federal court system, authentication of computer generated simulations are governed by Federal Rules of Evidence 901 (b)(9).⁶⁹

What may we expect from the courts when we offer a computer generated simulation? So far its admission, as with other types of evidence, has been held to be within the "sound discretion" of the trial court. In *Feaster v. New York City Transit Auth.*, 172 A.D.2d 284, 285, 568 N.Y.S.2d 380, 381 (1st Dept. 1991), the First Department found that it was within the trial court's "sound discretion" whether to admit a computer generated simulation. To us, "sound discretion" implies, "the absence of arbitrary determination, capricious disposition or whimsical thinking,"⁷⁰ or "a discretion that is not exercised arbitrarily or willfully..."⁷¹ As such, by use of this phrase, the First Department showed its support of the

use of the computer simulations but implied that knowledge of the facts and circumstances of each individual case must be weighed to determine admissibility by the trial court who may not decide that issue arbitrarily.

An example of this is the matter of 42nd St. *Development Project, Inc., et al. v. Dream Team Associates, LLC, et al.* (New York County Index No. 119921/1999). This matter involved the collapse of the Selwyn Office Building located on 42nd Street's theater row. A virtual model of the major components involved in the incident was generated by using a combination of software programs to present a competing theory on the happening of the occurrence. The use of each of the software programs was explained by the engineering expert. The model was comprised of the complete structure of the Selwyn office building prior to the collapse using actual photographs to align the virtual computer model in both scale and proportion.

In order to create the model, the expert scanned the photographs of the building, both prior to and after the incident, into digital format, imported them into one of the software programs and then used standard perspective geometry methods to obtain the dimensions of the building. A plan view and cross section of the model were developed using a drawing exchange format which was then imported

into a three-dimensional software package. The expert then used a set of calculated sequential building movements to create a simulation of the building collapse. When presented to the court, it properly allowed the simulation to be shown to the jury as part of the defense's evidence in chief and a competing theory of how the incident occurred.

Another example of the attempted use of computer generated simulations occurred in the case of *McCormack v. The Town of Pawling, et al.* (Dutchess County Index No. 793/2000). In this case, involving a motor vehicle accident, the plaintiffs attempted to show that the subject road was inherently unsafe by the use of a computer generated simulation of the incident. The plaintiffs used engineers and roadway experts to measure the roadway, conduct "Ball-Bank" testing,⁷² and to create the simulation.

Prior to trial, the plaintiffs disclosed the simulation along with CPLR 3101(d) disclosures for all experts. Notably, the CPLR 3101(d) disclosures anticipated that the expert would testify regarding the dimensions and elevations of the roadway, measurement and preparation of diagrams of the roadway, inspection of the alleged location, preparation of computer calculations measuring the subject roadway, and preparation of a detailed road

condition survey. In this case, the trial court, in its sound discretion, denied a motion *in limine* to preclude the simulation.

Conclusion

In general, New York State courts have shown a willingness to admit a wide variety of demonstrative evidence for the limited purpose of illustration. Whether they are models, drawings, illustrations, photographs, x-rays and other diagnostic films, videos, tests, experiments, demonstrations, or computer-generated animations, the most significant question is whether the evidence will assist the trier of fact in ascertaining the truth of the issues in the litigation.

Always to be remembered is that the key for admission has consistently been the verification, by testimony or substantial other identifying factors, of the accuracy of the demonstrative evidence presented. Another factor that should be kept in mind is the time between the occurrence and the creation of demonstrative evidence (such as models, drawings, photographs and videotapes) depicting the location. The courts will and have deemed inadmissible any evidence that does not accurately reflect the scene at the time of the occurrence. As such, any lengthy delay in obtaining the demonstrative evidence or any substantial

change in the appearance of the scene will likely be a bar to admission.

Demonstrative evidence has been termed by one appellate court to be "the most convincing and satisfactory class of proof" and is vital to litigation in many ways.⁷³ Use it, knowing that its only limitation is your imagination.

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¹ Kathleen Flynn Peterson, "Enhanced persuasion: Effective use of demonstrative evidence at trial", *Journal of Consumer Attorneys Associations for Southern California Advocate*, January 2010.

² *Id.* quoting Chad Amborn, "Computer Animation in the Courtroom", pg. 22 *Minnesota Trial*, Spring 2008.

³ Peterson, *supra* citing WEISS-McGRATH REPORT FOR McGRAW-HILL.

⁴ "Evidence: Demonstrative Evidence", Black's Law Dictionary (9th ed. 2009).

⁵ Robert D. Brain and Daniel J. Broderick, "The Derivative Relevance of Demonstrative Evidence: Charting Its Proper Evidentiary Status", 25 *U.C. Davis L. Rev.* 957, 963, 1991-1992.

⁶ "Evidence: Demonstrative Evidence", Black's Law Dictionary (9th ed. 2009) quoting John H. Wigmore, "A Students' Textbook of the Law of Evidence", 39 (1935).

⁷ Eugene K. Hollander, "Presentation of Evidence - Impacting The Jury", <http://www.ekhlaw.com/CM/Articles/Presentation-of-Evidence.pdf>.

⁸ Fed. Rule Evidence §401.

⁹ Fed. Rule Evidence §403; Peterson, at 1.

¹⁰ 58 N.Y. Jur. 2d, Evidence and Witnesses §397 (2010) citing *Andross v. Trustees of Columbia University in City of New York*, 260 A.D. 941, 23 N.Y.S.2d 285 (2nd Dept. 1940); *Riddle v. Memorial Hospital*, 43 A.D.2d 750, 349 N.Y.S.2d 855 (3rd Dept. 1973); *American Multigraph Sales Co. v. Fred R. Jones & Co.*, 119 N.Y.S. 1087 (App. Term 1909).

¹¹ Michael Hoenig, "Admissibility of Test Evidence", 7/12/2010 N.Y.L.J. 3, (col. 1).

¹² CPLR § 3101(i) specifically states: "In addition to any other matter which may be subject to disclosure, there shall be full disclosure of any films, photographs, video tapes or audio tapes, including transcripts or memoranda thereof, involving a person referred to in paragraph one of subdivision (a) of this section. There shall be disclosure of all portions of such material, including out-takes, rather than only those portions a party intends to use. The provisions of this subdivision shall not apply to materials compiled for law enforcement purposes which are exempt from disclosure under section eighty-seven of the public officers law." CPLR §3101(i)

¹³ *Flah's, Inc. v. Richard Rosette Elec., Inc.*, 155 A.D.2d 772, 547 N.Y.S.2d 935 (3rd Dept. 1989).

¹⁴ Note that CPLR 4522 provides for the admission into evidence of maps that are more than ten years old and which were filed in various government offices and any court of record.

¹⁵ *Poulos v. Ferraiolo*, 17 A.D.2d 1006, 233 N.Y.S.2d 800 (3rd Dept. 1962)

¹⁶ *Feldsberg v. Nitschke*, 49 N.Y.2d 636, 427 N.Y.S.2d 751, 404 N.E.2d 1293 (1980); *Morrissey v. City of New York*, 221 A.D.2d 607, 634 N.Y.S.2d 185 (2nd Dept. 1995)

¹⁷ *Flah's, Inc.*, *supra*.

¹⁸ *D'Arienzo v. Manderville*, 106 A.D.2d 686, 484 N.Y.S.2d 171 (3rd Dept. 1984); *Clarke v. Nadel*, 50 A.D.2d 851, 376 N.Y.S.2d 603 (2nd Dept. 1975); *Schaffner v. Rockmarcher*, 38 A.D.2d 835, 329 N.Y.S.2d 630 (2nd Dept. 1972); *Lee v. De Carr*, 36 A.D.2d 554, 317 N.Y.S.2d 226 (3rd Dept. 1971); See Also *Driscoll v. New York City Transit Authority*, 53 A.D.2d 391, 385 N.Y.S.2d 540 (1st Dept. 1976).

¹⁹ See *Poulos*, 17 A.D.2d 1006; *Feldsberg*, 49 N.Y.2d 636; *Morrissey*, 221 A.D.2d 607.

²⁰ *McKeon v. Proctor & Gamble Mfg. Co.*, 162 A.D. 784, 147 N.Y.S. 1012 (2nd Dept. 1914)

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- ²¹ *Uss v. Town of Oyster Bay*, 37 N.Y.2d 639, 376 N.Y.S.2d 449, 339 N.E.2d 147 (1975)
- ²² *Id.*
- ²³ *Id.*
- ²⁴ *Kahn v. Queens Surface Transit Corp.*, 203 A.D.2d 331, 610 N.Y.S.2d 71 (2nd Dept. 1994)
- ²⁵ *Uss*, *supra* 37 N.Y.2d 639; *Kahn*, *supra* 203 A.D.2d 331.
- ²⁶ *McKeon*, 162 A.D. 784; *Archer v. New York, N.H. & H.R.R. Co.*, 106 N.Y. 589, 603, 13 N.E. 318, 324 (1887); *People v. Knapper*, 168 A.D.2d 234, 562 N.Y.S.2d 475, 476 (1st Dept. 1990), *appeal denied*, 77 N.Y.2d 908, 569 N.Y.S.2d 940, 572 N.E.2d 623 (1991).
- ²⁷ See also CPLR 4518.
- ²⁸ N.Y. CPLR 4532-a.
- ²⁹ *Hoffman v. City of New York*, 141 Misc. 2d 893, 535 N.Y.S.2d 342 (Sup. 1988).
- ³⁰ *People v. Brown*, 216 A.D.2d 737, 628 N.Y.S.2d 835 (3rd Dept. 1995); *Schuster v. Town of Hempstead*, 130 A.D.2d 481, 515 N.Y.S.2d 64 (2nd Dept. 1987); *Clancy v. Port of New York Authority*, 55 A.D.2d 587, 389 N.Y.S.2d 615 (1st Dept. 1976).
- ³¹ *People v. Byrnes*, 33 N.Y.2d 343, 348, 352 N.Y.S.2d 913, 917, 308 N.E.2d 435, 437 (1974); *Taylor v. New York City Transit Auth.*, 48 N.Y.2d 903, 904, 424 N.Y.S.2d 888, 889, 400 N.E.2d 1340, 1341 (1979)
- ³² *Calandriello v. New York Racing Ass'n, Inc.*, 203 A.D.2d 503, 611 N.Y.S.2d 247 (2nd Dept. 1994); *Mechanick v. Conradi*, 139 A.D.2d 857, 527 N.Y.S.2d 586 (3rd Dept. 1988)
- ³³ *Saporito v. City of New York*, 14 N.Y.2d 474, 253 N.Y.S.2d 985, 202 N.E.2d 369 (1964); *Kaplan v. Einy*, 209 A.D.2d 248, 618 N.Y.S.2d 777 (1st Dept. 1994)
- ³⁴ *Byrnes*, *supra* 33 N.Y.2d 343; *cf. People v. Ely*, 68 N.Y.2d 520, 527-28, 510 N.Y.S.2d 532, 536-37, 503 N.E.2d 88, 92-93 (1986).
- ³⁵ CPLR §3101(i).
- ³⁶ *Id.*
- ³⁷ *Barnes v. New York State Thruway Authority*, 176 Misc.2d 195, 671 N.Y.S.2d 616 (Ct. Cl. 1998)
- ³⁸ *Hairston v. Metro-North Commuter R.R.*, 6 Misc. 3d 399, 786 N.Y.S.2d 890 (Sup 2004); *Baird v. Campbell*, 155 Misc.2d 857, 590 N.Y.S.2d 399 (Sup 1992)
- ³⁹ *Baird*, *supra* 155 Misc.2d 857.
- ⁴⁰ *Hairston*, *supra* 6 Misc. 3d 399
- ⁴¹ *People v. Brown*, *supra* 216 A.D.2d 737; *Schuster*, *supra*, 130 A.D.2d 481; *Clancy*, *supra*, 55 A.D.2d 587.
- ⁴² *Zegarelli v. Hughes*, 3 N.Y.3d 64, 781 N.Y.S.2d 488, 814 N.E.2d 795 (2004); *Lipton v. New York City Transit Authority*, 11 A.D.3d 201, 782 N.Y.S.2d 269 (1st Dept. 2004); *People v. Batista*, 183 Misc.2d 203, 205-207, 703 N.Y.S.2d 885, 886-888 (Sup 2000)
- ⁴³ 58 N.Y. Jur. 2d, Evidence and Witnesses §397 (2010)
- ⁴⁴ *People v. Harrell*, 187 A.D.2d 453, 589 N.Y.S.2d 531 (2nd Dept. 1992), *leave to appeal denied* 81 N.Y.2d 789, 594 N.Y.S.2d 736, 610 N.E.2d 409 (1993); *People v. Bazelais*, 98 A.D.2d 802, 470 N.Y.S.2d 25 (2nd Dept. 1983); *People v. Williams*, 206 A.D.2d 917, 614 N.Y.S.2d 842 (4th Dept.), *appeal denied* 84 N.Y.2d 911, 621 N.Y.S.2d 529, 645 N.E.2d 1229 (1994)
- ⁴⁵ *Boyarsky v. G.A. Zimmerman Corp.*, 240 A.D. 361, 366-67, 270 N.Y.S. 134, 140 (1st Dept. 1934), *Capra v. Chrysler Corp.*, 71 A.D.2d 515, 522-23, 423 N.Y.S.2d 694, 689-99 (3rd Dept. 1979), *aff'd* 52 N.Y.2d 114, 436 N.Y.S.2d 251, 417 N.E.2d 545 (1981);

⁴⁶ *Savino v. Great Atlantic and Pacific Tea Co., Inc.*, 22 Misc.3d 792, 869 N.Y.S.2d 334, 2008 N.Y. Slip Op. 28496, (Sup. Ct. Queens Co., 2008)
⁴⁷ *Id.* at 794.

⁴⁸ CPLR § 3113(b); 22 NYCRR 202.15; see also *Jones v. Maples*, 257 A.D.2d 53, 691 N.Y.S.2d 429 (1st Dept. 1999); *Liebman & Charme v. Lanzoni*, 164 Misc.2d 302, 624 N.Y.S.2d 752 (C.Ct. NY 1995); cf. Fed. Rule Evidence §804(B)(1).

⁴⁹ 22 NYCRR 202.15(f).

⁵⁰ *Id.*

⁵¹ 22 NYCRR 202.15; cf. *Wilkinson v. British Airways*, 292 A.D.2d 263, 740 N.Y.S.2d 294 (1st Dept. 2002) (a videotaped deposition of plaintiff's medical expert was deemed inadmissible where plaintiff's counsel administered the oath.)

⁵² *Uss*, 37 N.Y.2d 639; *Di Santo v. County of Westchester*, 210 A.D.2d 628, 619 N.Y.S.2d 852 (3rd Dept. 1994)

⁵³ *Uss*, 37 N.Y.2d 639; *Di Santo*, 210 A.D.2d 628.

⁵⁴ *Foster-Lipkins Corp. v. Suburban Propane Gas Corp.*, 72 Misc.2d 457, 339 N.Y.S.2d 581 (Sup 1973); *People v. Williams*, 130 Misc.2d 773, 497 N.Y.S.2d 849 (Sup 1986)

⁵⁵ *People v. Williams*, 130 Misc.2d 773.

⁵⁶ *People v. Collins*, 94 Misc.2d 704, 405 N.Y.S.2d 365 (Sup 1978)

⁵⁷ *Thomas v. Central Greyhound Lines, Inc.*, 6 A.D.2d 649, 180 N.Y.S.2d 461 (1st Dept. 1958).

⁵⁸ *Cramer v. Kuhns*, 213 A.D.2d 131, 630 N.Y.S.2d 128 (3rd Dept. 1995); *Di Santo*, supra 210 A.D.2d 628; *CAN Ins. Co. v. Carl R. Cacioppo Elec. Contractors, Inc.*, 206 A.D.2d 399, 616 N.Y.S.2d 187 (2nd Dept. 1994)

⁵⁹ *Cramer*, supra 213 A.D.2d 131; *Bolm v. Triumph Corp.*, 71 A.D.2d 429, 422 N.Y.S.2d 969 (4th Dept. 1979).

⁶⁰ *Peterson*, supra.

⁶¹ *People v. McHugh*, 124 Misc. 2d 559, 560, 476 N.Y.S.2d 721, 723 (Sup 1984); see also *Feaster v. New York City Transit Auth.*, 172 A.D.2d 284, 285, 568 N.Y.S.2d 380, 381 (1st Dept. 1991)

⁶² *Kane v. Triborough Bridge & Tunnel Authority*, 8 A.D.3d 239, 778 N.Y.S.2d 52 (App. Div. 2nd Dept. 2004) (trial court erred by failing to instruct jury that computer generated animation was for limited purpose of illustrating expert opinion testimony).

⁶³ 2 McCormick on Evidence (5th ed.) p. 19 § 214.

⁶⁴ *Clark v. Cantrell*, 339 S.C. 369, 529 S.E.2d 528 (S.C. 2000)

⁶⁵ Salvatore J. DeSantis, Alice Spitz, and Ayesha Syed, "Use of Computer-Generated Animation or Simulation at Trial", NYSBA Torts, Insurance & Compensation Law Section Journal, Winter 2010, Vol. 39, No. 1.

⁶⁶ CPLR § 3101(d)(1)(i).

⁶⁷ *Id.*

⁶⁸ See *Frye v. United States*, 293 F. 1013, 54 App.D.C. 46 (App. D.C. 1923); see also *People v. Wesley*, 83 N.Y.2d 417, 633 N.E.2d 451, 611 N.Y.S.2d 97 (1994); *Barbera v. 40 Broad Delaware, Inc.*, 29 Misc.3d 1231(A), 2 (N.Y. City Civ. Ct. 2010); *Commercial Union Insurance Co. v. Boston Edison Co.*, 412 Mass. 545, 591 N.E.2d 165 (1992), holding that the admissibility of expert testimony that relies upon computer analyses would have to satisfy the following guidelines: (1) the computer is functioning properly; (2) the input and underlying equations are sufficiently complete and accurate; and (3) the program is generally accepted by the appropriate community of scientists. See also NYPRAC-EVID §11:20.

⁶⁹ Fed. R. Evid. 901(b)(9).

⁷⁰ *Muldrow v. Muldrow*, 61 Cal.App.3d 327, 132 Cal.Rptr. 48 (CA 2nd Dist. 1976).

⁷¹ *Sophia v. City of Danbury*, 116 Conn.App. 68, 974 A.2d 804 (App. Ct. 2009); See also *Klein v. Leis*, 548 F.3d 425 (6th Cir. 2008) (" "...sound discretion" exists when trial judge acts responsibly and deliberately, rather than irrationally or irresponsibly.").

⁷² "A Ball Bank Indicator is an inclinometer that measures the overturning force (side friction, measured in degrees) on a vehicle negotiating a horizontal curve. In a Ball Bank Indicator, a ball held in fluid moves along a channel in response to lateral acceleration caused by traveling around the curve. The goal of a ball bank study is to determine the speed of travel where the ball stays below a defined maximum reading." Laura Melendy, "Signs for Curves and Turns", Tech Transfer Newsletter, Spring 2008, <http://www.techtransfer.berkeley.edu/newsletter/08-2/signs-for-curves-and-turns.php>.

⁷³ *Virgil v. New York, C. & ST. L. R. Co.*, 347 Ill.App. 281, 106 N.E.2d 749 (App. Ct. 1st Dist. 1952) quoting 20 Am.Jur., Evidence, page 600; Jones, Commentaries on Evidence, (2nd ed.) vol. 3, page 2518.