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Demonstrative Evidence and Audio-Visual Aids at Trial

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DEMONSTRATIVE EVIDENCE AND AUDIO-VISUAL AIDS AT TRIAL

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The results of any litigated question in the vast majority of cases turn on questions of fact. This is true regardless of the nature of the question. Equity, law, and criminal matters all have as a hard core factual circumstances, the determination of which by the court or the jury results in the legal answer to the litigated question. Hence it is important to counsel, to litigants, and to the court that the factual framework giving rise to the litigation be presented at the trial as concisely, completely, clearly, and persuasively as possible.

Viewed from the standpoint of presentation, the advocate is, within the legal framework established by rules of evidence and procedure, basically a salesman selling to the court, whether judge and jury or judge alone, the factual circumstances giving rise to the cause of action, the relief or damages his client claims, or the defenses of his client. Modern sales techniques, within the limits imposed by law, are therefore just as effective in the trial of a lawsuit as in the sale of a vacuum cleaner or an automobile; and the practicing attorney, in preparation for trial, or the sale of his client's position in the litigation, must make a thorough market or sales analysis of the litigated problem, which is the merchandise he is trying to sell to the court or jury.

The successful trial attorney must follow two steps:

(1) He must know his merchandise thoroughly; he must know every factual detail involved; and he must also know the legal theory that establishes his case and the theory that may defeat his case. He must then integrate the facts to the legal theory and outline the factual picture accordingly, co-ordinating fact with legal precedent to establish the preliminary trial outline.

(2) Upon completing his preliminary trial outline he must

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review his factual presentation, translate it into people, exhibits, and documents in the form of admissible evidence, and plan the sales presentation at the trial.

This approach requires a clear understanding of the meaning of evidence in a technical sense. Wigmore defines evidence as:[1]

"Any knowable fact or group of facts, not a legal or a logical principle, considered with a view to its being offered before a legal tribunal for the purpose of producing a persuasion, positive or negative, on the part of the tribunal, as to the truth of a proposition, not of law or of logic, on which the determination of the tribunal is to be asked."

Two methods of presentation used in producing persuasion are (1) presentation of the article itself, (2) presentation of some fact by inference from which it is hoped persuasion can be produced, such as a statement of a witness as to his knowledge of the article or any other fact that is pertinent. The first mode has been variously termed "Autoptic Proference," "Real Evidence," or "Demonstrative Evidence." This is a method of producing persuasion in such a manner that relevancy is apparent. Examples are: producing a blood-stained knife used in inflicting a wound, exhibiting an injury, the viewing of a piece of property by the jury, the witnessing of a play to prove infringement of copyright, and producing a document to prove its existence. Bringing a document into court is a method of enabling the jury to note its existence; it is not the giving of evidence in the sense that the judge and jury are expected to perform a process of inference.

Except for demonstrative evidence, all evidence must involve an inference from some fact to the proposition to be proved. In a special class of facts are the assertions of human beings. This is termed "Testimonial Evidence" or "Direct Evidence."[2] Therefore, evidence in its nature is direct, presumptive, or circumstantial.[3]

Demonstrative Evidence

Proof addressed directly to the senses is generally characterized as real or demonstrative evidence. Evidence of this nature includes

[1] 1 Wigmore, Evidence §1 (3d ed. 1940).
[2] 1 *id.* §§24, 25.
[3] 1 Bouvier, Law Dictionary 1092 (3d ed.).

objects exhibited to the court and jury, such as instruments, maps, and photographs; physical or mental examination of a party to a suit; and view of premises by the jury.

Demonstrative evidence must fall into two distinct classes, the first involving the introduction of the article itself as to which persuasion is desired, and the second involving the introduction of exhibits creating an inference from some fact to the proposition to be proved.

In the first case the object itself is produced for inspection; it calls for no inference; and no logical deduction is required to ascertain the truth of the proposition. Therefore, in instances in which "the eternal quality or condition of a material object is in issue or is relevant to the issue, *the inspection of the thing itself, produced before the tribunal, is always proper,* provided there is no specific reason of policy or privilege . . . to the contrary."[4]

In the second instance, a document, picture, or diagram must have a testimonial human being behind it before it can have any value in court. Of course, in a prosecution for the theft of a map, the map is the thing; its correctness is not in issue and its introduction is admissible. Also, in a prosecution for the sale or exhibition of indecent photographs, introduction of the photographs is permissible. But, whenever a map or photograph is offered as proving a thing to be as therein represented, then it is offered as testimony and it must be substantiated by a witness competent to speak as to the facts represented. The question of who prepared the exhibit is immaterial, provided it is presented by a competent witness as a representation of his knowledge. Therefore, demonstrative evidence is evidential "simply as a nonverbal mode of expressing a witness' testimony."[5] The article itself is always relevant and always has probative value.[6]

When the article sought to be introduced is not the thing in issue but is being offered for the purpose of raising an inference, the following questions must be considered:

(1) Is it relevant?
(2) Is it instructive?
(3) Does it tend to confuse?
(4) Is it unduly prejudicial to any of the parties?

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[4] 4 WIGMORE §1151.
[5] 3 WIGMORE §790.
[6] 4 WIGMORE §1151.

(5) Is it self-serving to the party who seeks its admission?
These questions must be resolved by the trial court. When the judge has passed upon the admissibility of the demonstrative evidence the Florida Supreme Court will reverse the lower court's ruling only when there is a clear and absolute indication of abuse of discretion.

Bodily Demonstration

Generally the demonstration of injuries in the jury's presence by a physical act as distinguished from passive exhibition has been held permissible, at least under proper circumstances; the matter of permitting a particular demonstration is within the trial court's discretion.[7] In a passenger's action against a bus company, exhibition of the plaintiff's injured leg to show the extent to which she could bend her leg, in the course of which attempt she cried out in pain, was held not error.[8] Also, in a prosecution for assault with intent to commit murder the Court permitted the victim to exhibit, as physical evidence of the character of the assault, scars identified as resulting solely from wounds inflicted by the accused.[9]

In both civil and criminal actions the Florida Supreme Court will generally sanction bodily demonstration before the trier of fact if the demonstration is pertinent and instructive and not immoral or degrading, regardless of how emotionally exciting the demonstration may prove; if it is relevant an objection to its admission will be overruled.

Exhibition of Child

In filiation proceedings the question of the propriety of exhibiting a child to the jury as evidence of its alleged paternity is one of irreconcilable conflict among the various states. Examination reveals that the English practice was to admit this evidence without question and that the early practice in the United States was probably the same; but, because of abuse and through a misunderstanding of the precedents in its favor, some courts exclude this type of evidence.[10]

Florida follows the rule suggested by Wigmore: "The sound rule

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[7]See Annot., 103 A.L.R. 1355 (1936).
[8]Florida Motor Lines v. Bradley, 121 Fla. 591, 164 So. 360 (1936).
[9]Huggins v. State, 129 Fla. 329, 176 So. 154 (1937).
[10]1 WIGMORE §166.

is to admit the fact of similarity of specific traits, however presented, provided the child is in the opinion of the trial Court old enough to possess settled features or other corporal indications."[11] In *Flores v. State*[12] the Florida Court cited this rule with approval. The rule as to admissibility is the same for both civil actions and criminal prosecutions.

Weapons, Clothing, and Wounds

The introduction into evidence of the weapons or tools of a crime and the clothing or the mutilated members of the body of the victim of a crime is often objected to on the ground of undue prejudice. Professor Wigmore sets out these objections as follows:[13]

> "First, there is a natural tendency to infer from the mere production of any material object, and without further evidence, the truth of all that is predicated of it. Secondly, the sight of deadly weapons or of cruel injuries tends to overwhelm reason and associate the accused with the atrocity without sufficient evidence."

The first objection is partly overcome by the practice of the courts in requiring objects to be properly authenticated either before or after the objects are produced. The second objection, although it cannot be entirely overcome even by express direction of the court, is frivolous in the majority of cases and is generally overruled. In scattered cases prejudice occurs, but this alone should not prevent the demonstration of the methods and results of crime.[14]

In a prosecution for murder, when the state undertakes to show the number and the location of wounds upon the body of the deceased it is permissible to introduce in evidence the clothing worn at the time the wounds were inflicted, even though the clothes had

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[11] *Ibid.*

[12] 72 Fla. 302, 73 So. 234 (1916). Since this case, however, involved a three-month-old child, the Court held that the rule did not apply: "It seems to us that to permit an issue of such grave consequences to be determined against a defendant in a bastardy proceeding upon the imaginary, fancied, or notional general resemblance between a child of a week old, or even a few months old, and the defendant in such proceedings would be to place the defendant at a disadvantage which he could not possibly overcome."

[13] 4 WIGMORE §1157.

[14] *Ibid.*

since been cleaned.[15] A deceased's clothes through which shots were fired are properly admitted; but, if their introduction is objected to, they should not be so exhibited as unduly to prejudice or excite the jury.[16] If the clothing is admitted without a preliminary showing that it has been kept in proper custody or that the display is necessary for testimonial or corroborative purposes, it is not reversible error if no question is raised as to proper custody.[17]

When defendant claims, in a homicide prosecution, that death resulted from a heart attack, deceased's blood-stained clothing is admissible for corroborative purposes.[18] The admission in evidence of a shoe found near the scene of a crime and admitted by the defendant to be his is, at most, harmless error.[19]

In a trial for murder by shooting, the automobile in which deceased and defendant were riding, when sufficiently identified, is admissible in evidence when a bullet in its top and bloodstains on its cushions tend to indicate the course of the bullet and the positions of the parties.[20] The admission in evidence of a bonnet found at the scene shortly after a homicide was held not error, since there was evidence tending to identify it as the property of the deceased.[21] When a witness testified that the deceased was shot by a man wearing a raincoat and it was shown that the co-defendant, who fired the shot, wore a raincoat, the coat was admitted in evidence.[22]

In a prosecution for murder and robbery, admission in evidence of pistols used by a co-defendant in attempted robbery is not error.[23] In a prosecution for grand larceny, based on theft of jewelry worth approximately $45,000, admission in evidence of more than $6,000 in currency found in defendant's home was held not reversible error.[24]

To summarize, the introduction of weapons, tools, clothing, or a demolished vehicle as evidence will generally be allowed, provided their inspection by the trier of fact is relevant and material, and pro-

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[15]Cruce v. State, 87 Fla. 406, 100 So. 264 (1924).

[16]Deeb v. State, 131 Fla. 362, 179 So. 894 (1938).

[17]*Ibid.*

[18]North v. State, 65 So.2d 77 (Fla. 1952).

[19]Flowers v. State, 152 Fla. 649, 12 So.2d 772 (1943). FLA. STAT. §54.23 (1953) provides that no judgment shall be set aside or reversed or new trial granted for harmless error not resulting in a miscarriage of justice.

[20]Larmon v. State, 81 Fla. 553, 88 So. 471 (1921).

[21]Landrum v. State, 79 Fla. 189, 84 So. 535 (1920).

[22]Milligan v. State, 109 Fla. 219, 147 So. 260 (1933).

[23]*Ibid.*

[24]Astrachan v. State, 158 Fla. 457, 28 So.2d 874 (1947).

vided further that introduction of lethal weapons or emotional demonstrations is not obviously made for the sole purpose of arousing prejudice or compassion.

The admissibility of this class of evidence is entirely within the discretion of the trial court, and appellate courts will not disturb its ruling unless the privilege has clearly been abused. The trial judge in a criminal prosecution should be exceptionally alert, however, and in his supervision of the proceedings do his utmost to restrict the evidence to the relevant and material and reduce to a minimum any demonstrations tending to excite emotional prejudice.

There is no distinction as to admissibility between civil and criminal prosecutions.

Photographs

"A photograph, like a map or diagram, is a witness' pictured expression of the data observed by him and therein communicated to the tribunal more accurately than by words."[25] Its use for this purpose is sanctioned beyond question. Certain factors that affect admissibility should be considered, however. There may be objections that the testimony itself is not relevant; that reproduction of a corporal injury may unduly excite sympathy for one party and unfair prejudice against the other; or that a photograph may be made to misrepresent the object.

While the third objection is made in good faith, it is without merit. Certainly photographs can give false impressions, just as any witness may testify falsely. This, however, is not a valid objection to the use of photographs as evidence; if the witness is competent the photograph is also competent.

It is the duty of the trial court to see that a witness giving testimony by the use of photographs is qualified by observation. This does not mean that the photograph must be made by the witness; he only states that it represents his observations. This is the essential element; without it the witness could not use the photograph. Also, the photograph may be used to depict the observations of others if it is a correct representation.[26]

The Massachusetts doctrine is to the effect that the trial court may in its discretion reject a photograph if it adds nothing — if it is

[25] 3 WIGMORE §792.
[26] 3 WIGMORE §§792-794.

merely a pictorial description added to a verbal one. This rule can only be justified as an application of the general principle permitting the rejection of cumulative testimony. The judge may call the jury's attention to the deceptive possibilities of photographs and may remind the jury of the possibility of perjury by witnesses, but there the line is drawn.[27]

In *Adams v. State* the Florida Court stated:[28]

> "A map, plan or picture, whether made by the hand of man or by photography, if verrified [*sic*] as a true representation of the subject about which testimony is offered, is admissible in evidence to assist the jury in understanding the case. They are frequently formally admitted in evidence, and, in so far as they are shown to be correct, are proper for the consideration of the jury, not as independent testimony, but in connection with other evidence, to enable the jury to understand and apply such evidence."

Photographs are not good evidence to prove distance, size, or perspective. The Court, in *Ortiz v. State*,[29] properly excluded a photograph that misrepresented the distance of a tree from the veranda of the house where the homicide occurred. The photograph was introduced to show a perspective view of the front of the hotel. The angle of the shot was such as to indicate that the tree was closer to the hotel than in fact it was. Testimony of the photographer indicated this photographic error. Also, a diagram indicating distance measurements was in evidence. Therefore, exclusion of the photograph was not error; if it had been admitted it would have served as an agency of confusion, rather than of assistance, to the jury.

Trifling changes in physical conditions do not render photographs inadmissible. In *Dedge v. State*[30] the Court stated that physical changes in the street where the murder took place, between the time of the commission of the crime and the time when the scene was photographed, were trifling; since the jury visited the premises, the value

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[27] 3 WIGMORE §792.

[28] 28 Fla. 511, 538, 10 So. 106, 113 (1891); *accord*, Sanford v. State, 90 Fla. 337, 106 So. 406 (1925); Young v. State, 85 Fla. 348, 96 So. 381 (1923).

[29] 30 Fla. 256, 11 So. 611 (1892).

[30] 68 Fla. 240, 67 So. 43 (1914). The defense did not demand exclusion of the photograph but did demand that the white spots be stricken. The photograph

of the photographs as evidence was negligible.

The admission of a photograph showing white spots to indicate the places where wounded persons fell is not erroneous if the photograph does not constitute an interpretation of the actual occurrence.[31] A photograph of deceased's body lying on the ground, taken a few hours after the homicide, was held admissible in *Lindberg v. State*.[32] The Court admitted that the photograph might be prejudicial to the defendant, but stated that this was analogous to any other form of evidence. When photographs are otherwise properly admitted they do not become inadmissible simply because they tend to prejudice the jury, since competent and material evidence should not be excluded because it may have a tendency to be influential beyond the strict limits for which it is admissible.[33]

In *Henderson v. State*[34] it was held not error to permit introduction of photographs of the victim and of the scene of the crime to be used as evidence by the prosecution, since a material issue was whether the deceased was shot from the rear or the front, and the photograph clarified the point.

When identification of the defendant is made an issue, photographs properly identified and introduced are admissible if their use does not violate some fundamental rule of evidence; if their correctness is attacked the court must pass upon their admissibility.[35]

Photographs relied on as evidence must fairly represent and reproduce objects. Thus in a wrongful death action[36] the Court properly excluded a photograph offered by the defendant which failed to show the size and proportions of a locomotive as compared with the one that killed the deceased and also failed to show that the camera was so located as to reproduce fairly the objects photographed.

Photographs should be received in evidence with great caution; those showing nothing more than a gory scene and not necessary to

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proved nothing of value or of detriment to either party.

[31]Hall v. State, 78 Fla. 420, 83 So. 513 (1919).

[32]134 Fla. 786, 184 So. 662 (1938).

[33]Mardoff v. State, 143 Fla. 64, 196 So. 625 (1940). The defendant was accused of murdering his wife by stabbing. Five photographs of the interior of the room where the crime was committed were admitted into evidence. Objection on the grounds (1) that there was no identification of the body and (2) that the picture tended to inflame the minds of the jury against the defendant was held invalid. *Accord,* Savage v. State, 38 So.2d 47 (Fla. 1948).

[34]70 So.2d 358 (Fla. 1954).

[35]Marvin v. State, 100 Fla. 16, 129 So. 112 (1930).

[36]Atlantic C.L. R.R. v. Mish, 99 Fla. 1246, 128 So. 839 (1930).

prove any material fact should not be admitted.[37] Exhibiting gruesome pictures to the jury is not error, however, if there is evidence that the picture reflects plaintiff's true condition and if the defendants have ample opportunity to cross-examine the photographer and to explain or refute the genuiness of the pictures.[38]

Generally speaking, photographs are inadmissible only when they do not illustrate or make clear some issue in the case. If a photograph is relevant to prove any material fact in issue, an objection to its admissibility based on the ground that it is prejudicial and tends to inflame the minds of the jury is invalid. The discretion of the trial judge governs the admissibility of this type of evidence, and the appellate courts will disturb this discretion only when it is abused. There is no distinction between civil and criminal actions.

Motion Pictures

The Florida rule as to the admissibility of motion picture film into evidence is laid down in *Gulf Life Insurance Co. v. Stossell:*[39] If properly authenticated and shown to be a faithful reproduction of the subject, sound, or movement reproduced it should be admitted under the same rules as photographs.[40] This is the only case that has reached the Florida Supreme Court so far. In other jurisdictions, however, motion pictures have been introduced into evidence and exhibited to juries under substantially the same rule.[41]

Motion pictures were exhibited before the trier of fact in England in 1915 to prove copyright infringement of a novel by a film company.[42] In California sound motion pictures of confessions[43] and of the re-

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[37]Thomas v. State, 59 So.2d 517 (Fla. 1952). The Court stated that in view of the decision in Mardoff v. State, *supra* note 31, it was not reversible error to admit the photographs in evidence, but that they were not necessary to prove any material fact and that there is a limit to photographs of this nature. The conviction was reversed and a new trial granted, but there were other valid grounds for reversal.

[38]Breeding's Dania Drug Co. v. Runyon, 147 Fla. 123, 2 So.2d 376 (1941).

[39]131 Fla. 127, 179 So. 163 (1938), *modifying* 131 Fla. 268, 175 So. 804.

[40]See Annot., 9 A.L.R.2d 899 (1949) (authentication or verification of photographs, including motion pictures).

[41]As to use of moving pictures as evidence, see Annot., 83 A.L.R. 1315 (1932), 129 A.L.R. 351 (1939); 3 WIGMORE §798 (a).

[42]Glyn v. Western Feature Film Co., 114 L.T.R. 354 (1915).

[43]*E.g.*, People v. Hayes, 21 Cal. App.2d 320, 71 P.2d 321 (1937). As to whether defendant's voluntary confession should be reproduced to the jury through the

enactment by defendants of a robbery and murder[44] have been held admissible. In a perjury prosecution the exhibition of motion picture film without sound has been held admissible to show defendant's demeanor when testifying before a Senate investigating subcommittee.[45]

In a suit under the Federal Employer's Liability Act to recover for injuries sustained by plaintiff while operating a machine in defendant's shop, the admission of technicolor motion pictures taken at the scene of the accident some nine months later was held not abuse of the trial court's discretion.[46] In an action to recover disability benefits under a life insurance policy, motion picture films showing pictures of the insured engaged in various activities were admitted.[47] In an action for injuries sustained in an automobile accident, moving pictures showing the plaintiff engaged in strenuous activities were admitted to refute his claim of serious and permanent injuries.[48]

When counsel agreed that it would be dangerous to bring the injured plaintiff to the courtroom, admission of a motion picture taken in her home showing rapid pulsation of her throat was held not error in absence of claim that the film was not an accurate portrayal of her condition or that proper foundation had not been laid for its introduction.[49]

In an action on a disability policy by an insured allegedly suffering from hardening of the arteries and high blood pressure to the extent that to work would endanger his life, a motion picture of insured at work on a highway was held admissible. It was shown that the picture was taken by a competent motion picture photographer with a camera of standard make in good condition; that the scene photo-

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medium of a sound motion picture, the court stated that this stands on the same basis as the presentation in court of a confession through any orthodox mechanical medium. The objection is frequently heard in criminal trials that defendant's confession has not been freely and voluntarily made. When a confession is made by means of a movietone the trial court is able to determine more accurately the truth or falsity of such claims. *Accord,* Commonwealth v. Roller, 100 Pa. Super. 125 (1930).

[44]People v. Dabb, 32 Cal.2d 491, 197 P.2d 1 (1948).

[45]United States v. Moran, 194 F.2d 623 (2d Cir. 1952).

[46]Richardson v. Missouri—K.—T. R.R., 205 S.W.2d 819 (Tex. Civ. App. 1947). The court remarked that, when a photograph or motion picture is a proper representation of an important fact in issue and is sufficiently verified, its admission rests in the discretion of the trial judge.

[47]Kortz v. Guardian Life Ins. Co., 144 F.2d 676 (10th Cir. 1944).

[48]McGoorty v. Benhart, 305 Ill. App. 458, 27 N.E.2d 289 (1940).

[49]Rogers v. Detroit, 289 Mich. 86, 286 N.W. 167 (1939).

graphed, including the speed at which the insured was working, was accurately reproduced; and that the film was in the same condition as when the picture was made.[50]

In a prosecution for driving while intoxicated, moving pictures, properly identified, of defendant being booked at jail were admitted over the objection that because defendant did not give his consent to the taking of the pictures he was compelled to give testimony against himself in violation of his constitutional rights.[51]

X-Ray Photographs

The rule of admissibility applicable to photographs is applied to this type of evidence. It is considered secondary evidence of an objective examination, and X rays are admitted as an aid to a witness in explaining his testimony. The rule is applicable both to civil actions and criminal prosecutions.

The physical reproduction or manufacture of X-ray photographs involves instruments based on the science of physics. In the study of an X-ray photograph shadows representing things not perceived by the ordinary senses are seen. Therefore, basically and fundamentally it cannot be said that one who testifies has personal knowledge of what the film purports to describe or portray. The impression is not received by the unaided senses but depends for its verity upon the intermediate instrument or process. The trustworthiness of the instrument or process must be proved before the X-ray photograph may be considered in evidence.

In all courts today photographs recording the disclosures of X rays are admissible. Certain problems as to their use arise, however, and certain special safeguards may be required. The following requirements are generally necessary:[52]

(1) Testimony must show that the particular instrument is dependable and in good condition.
(2) The person who took the photograph must be well qualified.
(3) The operator of the apparatus must be called as a witness to verify the above requirements.

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[50]Metropolitan Life Ins. Co. v. Wright, 190 Miss. 53, 199 So. 289 (1940).
[51]Housewright v. State, 154 Tex. Crim. 101, 225 S.W.2d 417 (1949).
[52]3 WIGMORE §795.

(4) The operator must verify the identity of the person or object photographed.

(5) The operator may be required to identify the photograph shown in court as that taken of the person or object in issue.

(6) The condition of the person or object may be required to be shown as being substantially the same at the time in issue as when the photograph was taken.

(7) Interpretation of the photograph must be made by a competent, qualified person. The qualifications required are discretionary with the trial court, and its decision is ordinarily conclusive.[53]

(8) A witness who testifies orally as to knowledge obtained by studying an X-ray photograph must be prepared to produce the photographic print, and original plates also if desired.

(9) The qualifying witness need not have taken the photograph, although this lessens the value of his testimony.

(10) There is no inhibition against the use of enlarged photographs.

(11) To establish a standard of normality from which to judge the abnormal condition of an organ or member alleged to have been injured, other X-ray photographs of the corresponding organ or member in normal persons may be received.[54]

The general tendency is to refer to X-ray films as secondary evidence; they are not used to prove conclusively that a certain condition existed at the time of injury or at the time they were made but rather to aid the witness in explaining his testimony. They are regarded as constituting a part of an objective rather than a subjective examination.

The question of admissibility in evidence of Roentgen rays, or X rays, does not appear to have been presented to the Florida Supreme Court.

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[53]See GOLDSTEIN and SHABAT, MEDICAL TRIAL TECHNIQUE 2 (1942), for illustration of qualifying X rays.

[54]See Donaldson, *Medical Facts that Can and Cannot Be Proved by X-Rays*, 41 MICH. L. REV. 875 (1943).

Fingerprints

If fingerprints produced to prove the identity of an individual are admitted to be his, they are admissible. If denied, however, proof will be required before they can be admitted into evidence. The rule is the same in civil actions and criminal prosecutions. There is no constitutional inhibition as to the introduction of such prints into evidence.

A Florida statute[55] requires that all sheriffs of the state, when in their opinion it is necessary for the protection of the public, shall fingerprint persons charged with or convicted of any criminal offense and that a copy shall be furnished to the Federal Bureau of Investigation. Another statute[56] provides that all persons connected with legalized gambling in the state shall be fingerprinted. On the other hand, no child shall be fingerprinted except by order of a juvenile court judge.[57] The law also provides that, during discovery proceedings in criminal prosecutions, the accused is entitled to copy or photograph any fingerprints in the state's possession and is permitted under order of the court to be present or have an expert present when the fingerprints are examined.[58]

Fingerprints admitted by the defendant to be his may be admitted for purposes of impeachment or to prove previous felony convictions.[59] If he denies the prints, however, the court must pass upon their admissibility.[60] Under the rule applicable to fingerprints, evidence as to footprints is admissible to identify the accused.[61]

There are few instances in the United States in which fingerprint evidence has been offered in civil cases. Its admissibility, however, would seem to be unquestioned.[62] In a Florida action on a burglary insurance policy it was held not error to admit photographs of fingerprints that were introduced for the purpose of showing that the prints were not those of members of the family of the defendant who had access to the building.[63]

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[55]FLA. STAT. §30.31 (1953).
[56]FLA. STAT. §550.181 (1953).
[57]FLA. STAT. §§39.01 (6), 39.03 (6) (1953).
[58]FLA. STAT. §909.18 (1953).
[59]Martin v. State, 100 Fla. 16, 129 So. 112 (1930).
[60]Ortiz v. State, 30 Fla. 256, 11 So. 611 (1892).
[61]Mann v. State, 22 Fla. 600 (1886); see Annot., 28 A.L.R.2d 1128 (1953).
[62]See Annot., 28 A.L.R.2d 1157 (1953).
[63]New Amsterdam Casualty Co. v. James, 122 Fla. 710, 166 So. 813 (1935).

There is no record in Florida courts of a decision on the constitutionality of the introduction of fingerprints into evidence. It is believed, however, that the concurring opinion of Justice Strum in *Blocker v. State*[64] would be controlling. This was a second degree murder prosecution, with insanity as the defense. The defendant objected to the introduction into evidence of expert testimony based in part upon a physical and mental examination in absence of counsel. His contention was, in effect, that it compelled him to become a witness against himself in violation of his rights under the fifth amendment to the Federal Constitution and section 12 of the declaration of rights of the Constitution of Florida. Judge Strum stated:[65]

> "On the whole, it seems that the substantial weight of authority now sanctions the admission of testimony offered by the State concerning the mental condition of the accused, if relevant to the issue, even though the testimony be based wholly or in part upon a mental and physical examination of the accused, without his consent, and in the absence of his counsel, *provided, however,* the extent and nature of the examination be reasonable and lawful under all the circumstances, and some other constitutional right or immunity of the prisoner is not thereby violated, with all of which the examination now under consideration seems to be in accord."

By analogy, it is submitted that, if the constitutionality of the admissibility of fingerprints in evidence were to be presented to the Florida Supreme Court, objection that the prints were taken against defendant's will, in effect compelling him to testify against himself, would not be sustained.[66]

Handwriting

The Florida courts are bound by statutory provisions regarding the admission of disputed writings into evidence. A statute[67] provides that comparison of a disputed writing with any writing proved

[64]92 Fla. 878, 110 So. 547 (1926); see 8 WIGMORE §2665, n.2.

[65]92 Fla. 878, 899, 110 So. 547, 554 (1926).

[66]See People v. Sallow, 100 Misc. 447, 165 N.Y. Supp. 915 (Ct. Gen. Sess. 1917), for a general discussion of the history, origin, and process of fingerprinting; see Annot., 28 A.L.R.2d 1115 (1953).

[67]FLA. STAT. §90.20 (1953).

genuine shall be permitted to be made by witnesses. This section has been held applicable to criminal as well as civil cases; its provisions cover not only the genuine writings of the party whose signature is alleged to be forged but the genuine writing of the alleged forger.[68] Unless the writing is sufficiently clear to be genuine beyond a reasonable doubt, it is inadmissible.[69]

There can be no comparison of handwriting unless pieces of writing by which the comparison is made are properly before the court for some other purpose than that of comparison. A handwriting expert should have before him both the writing in issue and the writing with which he is comparing it.[70] At common law it was not possible to prove the genuineness of a signature or writing by comparison with any other signature or writing.[71]

Only writings about which there will be no question should be selected as standards of comparison. If it is impossible to present the original papers to the handwriting expert, clear photographs should be made; it is never advisable to use photostats. A signature might be patched, overwritten, erased, or contain other changes that might not be evident on even the best of photostats.

It is not reversible error to refuse to permit photographs of genuine and allegedly forged signatures to be projected upon a screen for purposes of comparison if a number of genuine signatures are before the court as well as those alleged to have been forged.[72] When two signatures correspond in line, angles, and slant, this is evidence that one is a tracing of the other or a drawing from a model. The testimony of a handwriting expert as to the genuineness of a questioned document cannot be treated as mere opinion when it consists of a detailed statement of facts revealed by mechanical instruments and scientifically established by demonstration.[73]

It is suggested that the handwriting expert not be told what the contention is that it is desired to prove. If he is merely given the

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[68]Wooldridge v. State, 49 Fla. 137, 38 So. 3 (1905).

[69]Brantley v. State, 84 Fla. 649, 94 So. 678 (1922).

[70]Thompson v. Freeman, 111 Fla. 433, 149 So. 740 (1933).

[71]Hickory v. United States, 151 U.S. 303 (1894).

[72]Boyd v. Gosser, 78 Fla. 70, 82 So. 758 (1914).

[73]*Ibid.* The Court stated that the appellate court may reverse a finding of the chancellor that a disputed signature is genuine if the demonstrative evidence, consisting of measurements and comparisons of the disputed signatures with genuine ones, shows it to be a forgery, even though witnesses testify that they saw the person sign it whose signature it was purported to be.

questioned document and the standards of comparison with a request for detailed opinion he will give an honest opinion, unswayed by a conscious or unconscious desire to serve the attorney. He should be absolutely neutral and testify to just what he thinks the facts warrant. He should never arrange for a contingent fee or have any financial interest in the outcome of the trial. It is not good practice for the document examiner to sit at the attorney's table for consultation.[74]

Charts, Maps, Plats, Models, and Diagrams

The admissibility of this type of evidence, if it is relevant, material, and instructive, is unquestioned,[75] provided its contents are explained and verified by the witness. It is in fact the witness' testimony and as such is subject to cross-examination. Hence the objection that it is prepared ex parte is not valid.[76]

The admissibility of a map for the elucidation of testimony is for the trial court to determine, and its ruling will be reversed only for clear error[77] or because of abuse of discretion by the trial judge.[78] Similarly treated are sketches used to illustrate the scene of the crime or accident. For example, the trial court refused to admit a sketch, identified by a state's witness on cross-examination, as the court's evidence but stated that it would be admissible as defendant's evidence; on appeal, the ruling was upheld as within the sound discretion of the trial judge.[79]

The use of a map drawn by an eyewitness to illustrate his testimony is not error if it is in accord with all the evidence.[80] If a map is found to be a true representation of a subject about which testimony is being given, it is admissible in connection with other evidence for the edification of the jury.[81]

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[74]GOLDSTEIN, TRIAL TECHNIQUE §§28, 29 (1935). See §484 for sample questions for qualification of a witness as a handwriting expert.

[75]Young v. State, 85 Fla. 348, 96 So. 381 (1923); Landrum v. State, 79 Fla. 189, 84 So. 535 (1920).

[76]3 WIGMORE §§791, 1385.

[77]Florida Sou. Ry. v. Parsons, 33 Fla. 631, 15 So. 338 (1894).

[78]Livingston v. State, 140 Fla. 749, 192 So. 327 (1939).

[79]Barkley v. State, 152 Fla. 147, 10 So.2d 922 (1943).

[80]Blackwell v. State, 69 Fla. 453, 68 So. 479 (1915); Hisler v. State, 52 Fla. 30, 42 So. 692 (1906).

[81]Washington v. State, 86 Fla. 519, 98 So. 605 (1923); West v. State, 53 Fla. 77, 43 So. 445 (1907); Rawlins v. State, 40 Fla. 155, 24 So. 65 (1898); Adams v. State, 28 Fla. 511, 10 So. 106 (1891).

In an action for death of a twelve-year-old boy who plunged to the bottom of an unguarded shaft from the fourth floor of an unfinished hotel building, exhibiting to the jury and introducing in evidence a map or blueprint over defendant's objection was held not error.[82] The use of a map to indicate the supposed direction and distance walked by an accused does not render the map inadmissible.[83]

When a deed admitted in evidence referred to a plat of land, excluding the plat after an experienced engineer testified that, by reference to deed and plat and applying ordinary rules of surveying he could locate the locus in quo, was error.[84] If a map by reference to which a deed was made is inaccurate, the property may be identified by parol evidence.[85] Even when a plat is so defective as not to be entitled to record, if deeds have been made according to it for years it is admissible as an instrument referred to.[86] When a plat did not make it clearly appear that a thirty-foot strip was intended to be dedicated as a passageway for public use or for the benefit of lot owners in common, parol evidence was admissible to prove the intention of the parties.[87]

A sketch drawn by a witness while on the stand to explain his testimony is admissible in evidence without verification, since the rule that a plat or map is not admissible unless first shown to be a correct representation and verified by witnesses does not apply.[88]

Records, Documents, and Business Entries

Records, documents, and business entries admissible in evidence include official records of all branches of the government and its agencies, all bona fide documents issued by the executives of foreign states;[89] private writings such as ancient documents,[90] family Bibles,[91] and nurses' records;[92] and all books and accounts of commercial and

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[82]Atlantic Peninsular Holding Co. v. Oenbrink, 133 Fla. 325, 182 So. 812 (1938).

[83]Blackwell v. State, 69 Fla. 453, 68 So. 479 (1915).

[84]Bank of South Jacksonville v. Cammar, 89 Fla. 296, 103 So. 827 (1925).

[85]Lester v. Schutt, 128 Fla. 302, 174 So. 583 (1937).

[86]*Ibid.*

[87]Roe v. Kendrick, 146 Fla. 119, 200 So. 394 (1941).

[88]Patterson v. State, 128 Fla. 539, 175 So. 730 (1937).

[89]FLA. STAT. §92.032-.04 (1953).

[90]McGuire v. Blount, 199 U.S. 142 (1905) (document showing probate of a will during the Spanish control of Florida admissible in evidence).

[91]Cone v. Benjamin, 157 Fla. 800, 27 So.2d 90 (1946).

[92]Smith Elec. Co. v. Hinkley, 98 Fla. 132, 123 So. 564 (1929).

private enterprises whether conducted for profit or not.[93]

The Florida Legislature has enacted a fairly comprehensive chapter[94] providing for the admission into evidence of statutes, deeds, judgments, wills, public records and reports, certificates of public officials, records destroyed by fire, business records, written statements regarding accidents and injuries, and records covering the status of servicemen who are prisoners of war or missing in action. Included in this chapter and other chapters are provisions governing the admission of copies when the original writing is unavailable or destroyed.[95]

Some of the more recent statutes recognize the problem arising from the ever increasing use of foreign law and foreign records and documents in our courts.[96] One of these provides a clear and concise method of authentication and certification of foreign documents and records for the purpose of rendering them admissible in evidence.[97]

Chapter 71, Florida Statutes 1953, provides methods for the reestablishment of lost papers and records. If any deed forming a link in a chain of title has been recorded without having been acknowledged, or has been lost or destroyed, certified copies of the record may be received as evidence provided the deed has been on record for twenty years.[98]

In addition to the statutes, there are portions of the 1954 Florida Rules of Civil Procedure that pertain to the procedural aspects of admitting written instruments and documents into evidence.[99]

Experiments

Courts generally permit experiments to be performed in court in the presence of the jury or evidence to be given of experiments performed out of court.[100] Permission to perform experiments cannot be demanded as a matter of right. The matter is within the discretion of the trial court, and this privilege will not be interfered with unless it is clearly abused. It is necessary first to determine whether there is

[93]FLA. STAT. §92.36 (1953).

[94]FLA. STAT. c. 92 (1953).

[95]FLA. STAT. §§18.20, 318.09, 341.081, 626.26, 695.05-.06 (1953).

[96]FLA. STAT. §§92.031-.032 (1953).

[97]FLA. STAT. §92.032 (1953).

[98]FLA. STAT. §71.05 (1953); TRIBBLE, TRIAL MANUAL OF FLORIDA EVIDENCE 755-758 (1948).

[99]1954 FLA. R. CIV. P. 1.9 (d), 1.10, 2.5, 2.11 (j), (k).

[100]See Annot., 80 A.L.R. 108 (1932), 17 A.L.R.2d 1078 (1951).

sufficient similarity of circumstances to render the evidence competent. The discretion of the trial court does not extend to refusal to hear evidence upon this question, however.

Florida follows the rule that evidence of an experiment should be received with caution and should be admitted only when it is obvious to the court that the jury will be enlightened rather than confused.[101] Testimony as to the results of experiments made months after an offense was committed is inadmissible in the absence of a showing that the conditions and surroundings at the time of the experiment were similar to those at the time of the offense.[102]

An experiment in regard to the sound of a man running after a shot was fired was rejected because of possible differences in size and weight of the runners, atmospheric conditions, the degree of noise prevailing, and the hearing of the two men.[103] Refusal to permit an experiment in the presence of the jury in a dark room to see whether the flash of a gun would make sufficient light to permit a person to be recognized was held not error,[104] since it did not appear how the gun was loaded on the night of the crime and the result was likely to be affected by the eyesight of the person making the test.

In *Hisler v. State*[105] the trial court admitted into evidence a target showing bullet holes indicating the spread of loads of buckshot fired from various distances. The Supreme Court held this to be error, since it did not appear that the same or a similar gun was used; that the shot, powder, and the loading were similar; or that the target was so placed as to be similar to the one in controversy.

The rejection of an experiment to show the impression of spurs on sand was held not an abuse of the trial court's discretion, since this is a matter of common observation that may well be left to the jury.[106] No error was found in the denial of experiments to show self-defense because the deceased was advancing upon the defendant and was close enough to have his shirt burned by the discharge of the pistol, since it was not obvious that the jury would be enlightened by the demonstration.[107] Experiments with paper and cloth targets to

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[101]Martin v. State, 68 Fla. 18, 66 So. 139 (1914); Hisler v. State, 52 Fla. 30, 42 So. 692 (1906); Spires v. State, 50 Fla. 121, 39 So. 181 (1905).

[102]Covington v. State, 145 Fla. 680, 200 So. 531 (1941).

[103]Lawrence v. State, 45 Fla. 42, 34 So. 87 (1903).

[104]Spires v. State, 50 Fla. 121, 39 So. 181 (1905).

[105]52 Fla. 30, 42 So. 692 (1906).

[106]Johnson v. State, 55 Fla. 46, 46 So. 154 (1908).

[107]Martin v. State, 68 Fla. 18, 66 So. 139 (1914).

show the distance at which powder burns and marks are left upon human flesh are not admissible, since the relative effect of pistol shots upon the three substances cannot be assumed.[108]

In an action on a double indemnity clause of a life insurance policy wherein the insurer asserted that death was suicidal, experiments tending to show the insured's inability to hold the gun in a position to take his life were properly admitted, since they were made under circumstances similar to those involved.[109] It is proper to refuse an offer of an experiment in which the original conditions could hardly be duplicated.[110]

View by Jury

A Florida statute[111] provides that in a civil action the jury may, when it appears necessary to the court, be taken to view anything relating to the controversy. In a criminal action the trial judge and the defendant shall be present, unless the defendant absents himself without permission of the court, and attorneys on both sides may be present.[112] The jury is to be safeguarded from improper communication, and if the members are permitted to separate they shall be admonished not to view the place where the offense was committed.[113]

The statutes provide that in all prosecutions for a felony the defendant shall be present at a view by the jury,[114] but if his absence is voluntary it has been held to be at most harmless error.[115] It is also well settled that a defendant may waive his right to be present at any and all stages of the trial.[116]

In the recent case of *McCollum v. State*[117] the jury viewed the scene of the alleged crime upon motion of both the prosecution and the defense. The defendant was not present, and the trial judge

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[108]McLendon v. State, 90 Fla. 272, 105 So. 406 (1925).

[109]Mutual Life Ins. Co. v. Bell, 3 So.2d 487 (1941).

[110]Ferguson v. State, Maxwell v. State, 158 Fla. 345, 28 So.2d 427 (1946).

[111]FLA. STAT. §54.16 (1953). This section seems to be applicable only in civil cases, Garcia v. State, 34 Fla. 311, 16 So. 223 (1894).

[112]FLA. STAT. §918.05 (1953).

[113]FLA. STAT. §918.05-.06 (1953).

[114]FLA. STAT. §914.01 (1953); see, *e.g.*, Brown v. State, 29 Fla. 543, 10 So. 736 (1892); Lovett v. State, 29 Fla. 356, 11 So. 172 (1892).

[115]Kersey v. State, 73 Fla. 832, 74 So. 983 (1917).

[116]*E.g.*, Haynes v. State, 71 Fla. 585, 72 So. 180 (1916); Mulvey v. State, 41 So.2d 156 (Fla. 1949).

[117]74 So.2d 74 (Fla. 1954).

was not present at all times. The following day the judge ordered another view and required the defendant's presence. The records do not indicate that the judge was present at this second view. The Supreme Court found error, concluding that the case must be controlled by the general rule in regard to the voluntary absence of a judge at a point when his presence is required by law. The Court further stated:[118]

> "The law has been established by the legislature that the defendant is of right entitled to have the trial judge present at the view. This is a right that cannot be frittered away by the act of a trial judge in voluntarily absenting himself from the proceeding. The right of a defendant on trial for his life to be accorded the protection that flows from the presence of the trial judge at the view is of vastly greater importance than any transient inconvenience that the performance of this duty may impose upon the judge in charge of the trial proceeding."

It has been held that the court is authorized to order a view of personalty as well as realty.[119] In a civil action, permitting the plaintiff and a witness to occupy vehicles with jurors being conveyed to and from the place to be viewed is error.[120] The matter of permitting the jury to view the premises rests in the trial court's discretion,[121] and this discretion will not be interfered with unless it has obviously been abused.[122] The primary purpose of a view is to assist the jury in analyzing and applying the evidence taken at the trial.[123] The statute does not authorize examination of witnesses before the jury while away from the courthouse.[124] The jury should base its finding solely on sworn testimony in open court or by depositions taken as provided by law.[125]

Attention is invited to the fact that a view by the jury is not

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[118]*Id.* at 78.

[119]O'Berry v. State, 47 Fla. 75, 36 So. 440 (1904).

[120]Atlantic C.L. R.R. v. Seckinger, 96 Fla. 422, 117 So. 898 (1928).

[121]Gaines v. State, 97 Fla. 908, 122 So. 525 (1929); Washington v. State, 86 Fla. 519, 98 So. 605 (1923); Crawford v. State, 70 Fla. 323, 70 So. 374 (1915); Atlantic C.L. R.R. v. Whitney, 65 Fla. 72, 61 So. 179 (1913).

[122]Dixon v. State, 143 Fla. 277, 196 So. 604 (1940); Taylor v. State, 139 Fla. 542, 190 So. 691 (1939).

[123]Washington v. State, 86 Fla. 519, 98 So. 605 (1923).

[124]Garcia v. State, 34 Fla. 311, 16 So. 223 (1894).

[125]Haynes v. State, 71 Fla. 585, 72 So. 180 (1916).

demonstrative evidence at all in this jurisdiction but a procedure provided whereby the jury is furnished with a means to reach conclusions more intelligently from the evidence presented.

Contraversion of Expert Testimony

There are instances in which demonstrative evidence has prevailed over the testimony of expert witnesses. In *Reid v. Ehr*[126] a hotel guest alleged that negligence on the part of the innkeeper resulted in electric shock and burns from the use of a light switch. The defendant produced expert testimony to the effect that there was no means known to science whereby the switch could give forth a shock or cause a burn to a person turning on the electric key and that the only way a shock could be obtained from the fixture would be through contributory negligence. The jury found for the plaintiff; upon appeal the Supreme Court of North Dakota, in finding that the expert testimony was not conclusive, stated:[127]

> "The physical facts speak louder than the testimony of the experts. The plaintiff was injured. This cannot successfully be disputed. She was injured by an electric current from the lamp in question. In the face of these physical facts the testimony of the experts becomes of little probative force. The jury must have disbelieved the testimony of the experts, and this they did have a right to do. Jurors, as a rule, are men of average and reasonable minds, and in the face of physical facts expert testimony did not have any great weight with them."

In *Woodward & Lothrop v. Heed*[128] the buyer of a fur coat, suing for breach of implied warranty, testified that the fur had worn off in several spots after three months' wear; seller's experts testified that the fur had not worn off but had matted down and could be restored by heavy brushing. The coat was introduced in evidence and placed before the jury for its inspection. In finding for the plaintiff the court stated:[129]

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[126] 43 N.D. 109, 174 N.W. 71 (1919).

[127] *Id.* at 112, 174 N.W. at 72.

[128] 44 A.2d 369 (App. D.C. 1943); *accord,* Mandel Bros. v. Mulvey, 230 Ill. App. 588 (1923).

[129] 44 A.2d 369, 370 (App. D.C. 1943).

"Coats made of muskrat pelts are not uncommon or unusual. The fur is one with which the average man or woman is reasonably familiar.

"It is not improbable that the average juror would be able to determine by inspection, or on examination, whether the fur had worn off or was matted down, and would reject any testimony, expert or otherwise, at variance with the results of his own observation. When the issue of fact is the condition of such an article the introduction in evidence of the thing itself, to enable a jury to observe its condition, is competent and persuasive evidence."

No Florida cases were found on this point. It is concluded, however, that this jurisdiction would sanction a verdict based on demonstrative evidence even when opposed to the testimony of experts.

Scientific Aids

The high educational level of present-day jurors renders them no longer susceptible to oratory and histrionics alone. The modern trial lawyer must look to science for weapons to combat the exigencies of our complex society. To meet competition and to win cases he must realize the necessity of taking advantage of every available scientific aid. Today's cases require preparation and knowledge unheard of and undreamed of yesterday. As business has progressed the practice of law has become more complex and more specialized. Embezzlers, forgers, and murderers have become more clever. Witnesses have become deliberate and clever perjurers. The truth has become harder to discover and harder to prove. Winning a difficult case today is an achievement; and the knowledge of modern scientific methods and the utilization of that knowledge will almost always help to accomplish the seemingly impossible. Technical assistance is available from police specialists and laboratories, colleges, private doctors, chemical laboratories, photographic experts, and experts in every line of business.

Chemical Analyses

Acids. Certain acids when applied to metal will reveal obliterated marks. The filing of serial numbers on automobile engines, watches, and other objects is not unusual in fraudulent attempts to defeat justice.

Blood Tests. These tests are useful in only about one third of the cases in which they are used. It has been scientifically proved that the blood of all human beings falls into one of four types, determined by blood substance. These substances obey fixed laws of heredity. Scientific tables covering all possible combinations are available; they indicate that a child with a certain type of blood could have been produced by several combinations of parents and could not have been produced by other combinations.

Gunpowder Tests. It has been scientifically established that the hand firing a pistol or revolver receives slight powder burns when the firearm is discharged. Those burns are susceptible to discovery by a powder nitrate test.

Moulage. This is the process of making impressions of footprints, broken objects, wounds, tires, tire marks, and the like, for use as evidence.

Mechanical Devices

Colorimeter. The difference in color between two apparently similarly colored objects can be detected by this device. It can be used for paint, ink, blood, and many other items. It works best on liquids or dried liquids.

Spectrograph. Identification of materials is made positive by this instrument. It causes a rainbow pattern of light to be marked by specific lines that are always exactly the same for substances that are the same.

Decelerometer. This instrument is used in conjunction with prepared brake tables for the various makes of automobiles; it records the speed at which a car was traveling when the brakes were applied.

Viscosimeter. Flow characteristics of liquid or semi-liquid substances can be tested with this instrument. The test will show the nature of the substance.

Microscope. Examination of very small particles is possible through the use of a microscope. Astonishing details can be revealed concerning the nature of almost any substance.

Lie Detector. The lie detector is also known as the cardio-pneumo-psychograph and the Keeler polygraph. Its inventor, Dr. John A. Larson, claims that the machine is accurate but that the human element involved in the interpretation of its records is such as to disclose a fault record of from five to twenty-five per cent. It is widely used in the detection of crime. Its use in civil practice appears to be potentially enormous, for example, in divorce cases to prove or disprove adultery, and in personal injury cases to prove or disprove malingering, deafness, blindness, or pain. The lie detector is currently being used by industrial concerns in the compilation of personnel records when the past honesty or dishonesty of employees is a factor required for record. In *Kaminski v. State,*[130] however, the Florida Supreme Court stated that in its opinion the apparatus and tests had not yet gained such " 'standing and scientific recognition among physiological and psychological authorities as would justify the courts in admitting expert testimony deduced from the discovery, developments and experiments thus far made.' " Therefore at this time, in this jurisdiction, evidence from lie detector tests is inadmissible in criminal prosecutions.

The above is a suggestive rather than an exhaustive list of scientific devices available to attorneys for use in coping with legal problems.

Use of Light

Ultra-Violet Rays. These rays are used to show alterations and erasures in cases involving forgeries. Erasures in raised checks that are invisible in daylight appear instantly under ultra-violet rays, and counterfeit bills shine green in contrast to the blue of genuine currency. The trend is for banks to install ultra-violet lamps as part of their regular equipment.

Fluorescence and Photography. The process of fluorescence involves filtered ultra-violet light – invisible rays that generate a light when they strike certain substances. A number of these substances are used in documents, and they give off a fluorescent light when flooded in darkness by ultra-violet rays. This fluorescence is capable of being photographed and enlarged. In fact, some significant rays that are

[130] 63 So.2d 339, 340 (Fla. 1952).

invisible to the naked eye show on the exposed photographic plate and are susceptible to expert identification and explanation. This process is useful in the detection of forged documents, and it is especially helpful in that photographs and enlargements are permanent and their significant features are available for explanation to a jury.

Photomicrographic photography is used for making very close studies of small objects.

Examination of Disputed Documents

The attorney is urged to have all questioned documents submitted to a specialist in this field for his opinion as to the validity of signatures. The field of document investigation has developed until now it covers handwriting, typewriting, inks, paper, pencil marks, printing, and the applicable statutes pertaining to the identification of documents.

Audio and Visual Aids

The object of all evidence is to ascertain the truth with reference to the facts of the controversy; hence all evidence should be instructive and tend to enlighten the trier of fact. It is the responsibility of all attorneys, under the supervision and guidance of the court, to present the case in the manner most easily understood by the jurors. The courtroom is a place where a problem is presented to a group of people. In this connection it is comparable to a schoolroom.

Blackboards are universally used in educational systems, and should be standard equipment in all courtrooms, for the use of counsel in presenting arguments and for the use of witnesses in amplifying their testimony. The use of this visual aid is psychologically more impressive, more instructive, and more persuasive in making a point than is verbal emphasis. Blackboards are sanctioned by and frequently used in Florida courts.

The armed forces, business and industry, colleges, high schools, grade schools and kindergartens, industrial and technical schools, general public educational programs, and even churches have experimented with and have found visual aid and audio aid education to be superlatively satisfactory. Billboards and posters are a form of visual aid education.

Audio aids are sanctioned by and used in the lower courts of Florida, but their general admissibility has not as yet been passed upon

by the Supreme Court. This point has been raised in other jurisdictions,[131] and recordings of extra-judicial confessions have been held to be admissible when the accused has denied that he made a confession.[132]

Electronic audio-visual techniques generally involve such classes of equipment as projectors, recorders, playback devices, and graphics.

Projectors

Overhead. The overhead projector reflects on a screen images obtained from a transparency through which a light beam is directed. It is manufactured to take transparencies, including X-ray films, in various sizes.

Opaque. This instrument projects nontransparent materials, including books, tables, drawings, and photographs. Some models are equipped for the projection of film strips and variously sized slides.

Motion Picture. These projectors are scaled-down versions of those used in movie theaters and are equipped for sound. Most models may be stopped on individual frames of film if desired, and some models may be reversed in order that certain scenes may be reprojected.

Slide. This is an optical device used to project upon a screen enlarged impressions of material appearing upon slides. Slides may be prepared from 35-millimeter film or from material photographed or drawn on glass slides. These projectors are available in various sizes. Film strip projectors are almost identical with the slide projectors. Sound may be added to both by use of tape or disc recordings.

Recorders

Tape. This is a device by which the audio signal is changed into magnetic wave patterns and recorded on plastic tape. The tape can be erased or edited at will. This type of recorder has superseded the wire recorder.

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[131] *E.g.*, Commonwealth v. Clark, 123 Pa. Super. 227, 187 Atl. 237 (1936).

[132] *E.g.*, People v. Hayes, 21 Cal. App.2d 320, 71 P.2d 321 (1937); State v. Perkins, 355 Mo. 851, 198 S.W.2d 704 (1946); Commonwealth v. Roller, 100 Pa. Super. 125 (1930).

Disc. This is the oldest type of recording instrument, and it still has wide usage. A microphone pick-up converts sound waves into electrical impulses, which in turn vary the depth of a groove cut into a plastic or acetate-coated disc by a cutting head. A playback head and needle convert the varying depths of the grooves into sound impulses. These are changed into electrical energy and amplified and converted to sound.

Playback devices generally include record players and transcription players. They differ only in the size of the records they can handle. Transcription players can usually handle any size record, while record players of the common variety are generally limited to commercial sizes up to twelve inches.[133]

[133]The Audio-Visual Equipment Directory, published by the National Audio-Visual Association, Inc., 2540 Eastwood Ave., Evanston, Ill., catalogues many types of audio-visual aids, accessories, and supplies.

TABLE OF HEADINGS AND SUBHEADINGS