

THE LEGAL PRESUMPTIONS OF SURVIVORSHIP AND LEGAL MEDICINE

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INTRODUCTORY

In treating the present subject, it is not our object to indicate to our readers specific solutions for the many baffling questions that arise now and then in concrete cases before courts of justice for the determination of the survivor of two or more persons who died from the same peril or calamity when no eye-witness was present at the moment of death. To do it would be to anticipate sets of circumstances surrounding the individual cases. This is not our task, for we believe that every case must be decided on its individual merits. In taking up this subject we merely wish to show the relation of law and medicine so far as relates to the subject on hand; to bring to light the role of medical men in arriving at correct conclusions in this matter; to indicate a few fundamentals which an investigator must bear in mind when he takes up the task of singling out the survivor in multiple deaths resulting from the same catastrophe; to make a few conclusions; and offer our humble recommendations in the premises.

LAWS ON THE PRESUMPTIONS OF SURVIVORSHIP

French Law. The French law on the subject is as follows:

720—Si varias personas llamadas respectivamente á sucederse perecieron en un mismo acto, sin que pueda demostrarse cual de ellas ha muerto la primera, la presunción de supervivencia se deducirá de las circunstancias del hecho, y, en su defecto, por la edad ó el sexo.

721—Si los que hayan muerto juntos tuvieren menos de quince años, se presumirá que sobrevivió el de mayor de edad. Si fueren mayores de sesenta, la presunción estará en favor del mas joven.

Si algunos de ellos tuvieren menos de quince años y otros más de sesenta, se supondra que han sobrevivido los primeros.

722—Si los que han perecido juntos fueren mayores de quince años y menores de sesenta, la supervivencia se supondrá en el varón, si hay igualdad de edad ó si la diferencia que existe no excede de un año.

Si fueron del mismo sexo, se tendrá en cuenta la presunción de supervivencia que da lugar á la sucesión en el orden natural; de modo que se considerará superstita

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al más joven. (Romero Girón—Instituciones Políticas y Jurídicas. 4º Tomo. Francia, pa. 238).

NOTA:—"Según la ley del 20 Prairial, año IV, cuando los ascendientes ú otras personas que sucedan de derecho hubiesen sido condenados á la última pena, y en la ejecución fuese imposible comprobar los que han muerto primero, se presumirá que ha sobrevivido el más joven de los condenados."

Spanish Law. We now take up the Spanish law.

ART. 33—Whenever a doubt arises as to which was the first to die of two or more persons who would inherit from one another, the person who alleges the prior death of either must prove the allegation; in the absence of proof the presumption shall be that they died at the same time, and no transmission of rights from one another shall take place. (Fisher's Civil Code, p. 8).

Our Present Law. The law actually in force in the Philippines on the subject is found in the Code of Civil Procedure.

SEC. 33, par. 37—When two persons perish in the same calamity, such as wreck, battle, or conflagration, and it is not shown who died first, and there are no particular circumstances from which it can be inferred, the survivorship is presumed from the probabilities resulting from the strength and age of the sexes, according to the following rules:

First. If both those who have perished were under the age of fifteen years, the older is presumed to have survived:

Second. If both were above the age of sixty, the younger is presumed to have survived;

Third. If one be under fifteen and the other be above sixty, the former is presumed to have survived:

Fourth. If both be over fifteen and under sixty, and the sexes be different, the male is presumed to have survived. If the sexes be the same, then the older.

Fifth. If one be under fifteen or over sixty, and the other between those ages, the latter is presumed to have survived. (Fisher's Code of Civil Procedure, 3rd. ed., pp. 187-188).

CRITICISMS

The presumptions of survivorship of the Roman Law are based upon reasons of expediency and to some extent upon the physical conditions also. The French law however, on this question of survivorship, looks to the physical conditions as the determinative factors in ascertaining the survivor in multiple

deaths in a common accident or calamity, when no proofs to the contrary are adduced (*Legal Med. & Tox.* by Peterson, Hains & Webster, p. 228). The Spanish law on the subject makes no presumption of survivorship in favor of anyone in such cases; on the contrary, it assumes that the victims died at the same time and no transmission of rights, therefore, takes place. This was the status of our law on the point prior to October 1st, 1900. But on that date our present Code of Civil Procedure (Act No. 190, of the Philippine Commission) was given full force and effect, this code, among others, contains presumptions of survivorship, which are based principally upon the physical conditions of the victims. This legislation on the same subject, inconsistent as it is with, and of later date than, the provisions found in our civil code, by the rule of statutory construction, must be held to have repealed, by necessary implication, the civil law provisions.

Manresa a jurist of note and wellknown commentator of the Spanish Civil Code, making comments on article 33 thereof, says that the Roman Law, the Partidas and the Code of Napoleon have applied the theory of presumptions to the problem presented in this article, on the theory that it is improbable that two or more persons died at the same instant, while it is more probable that when a husband and his wife perished together the wife died first; and when a father and a son over the age of puberty died from a single accident, the former lost his life first; and they (the Roman Law, the Partidas and the Code of Napoleon) presume the contrary when the son is below the age of puberty. But studying the matter carefully, the inaccuracy of these judgments is at once to be observed, inasmuch as, in a shipwreck, for example, the priority of death will depend very much upon the place where the victims may be found, the conditions surrounding them, their ability to swim, etc., circumstances that are independent from their greater or less resistance. The vigor of one, in times of war, might have served as a guaranty on the days of Alfonso the Wise, when war was considered principally in terms of individual valor. But now life depends much on the risk. For this reason, the Civil Code is the most accurate in providing that when the priority of death of two or more persons, is not affirmed nor denied, but it is considered, by virtue of another presumption, that they died at the same time, and if one asserts the contrary, he should prove it, because it is a rule of the law of procedure that the burden of proof is upon him who makes the assertion (I Manresa, 210-211).

In England and in the United States, except in a few states like California and Louisiana, there is no general law on the subject of survivorship. Every case is decided upon its individual merits. Where two or more persons perish by the same calamity in the absence of strong and convincing evidence the courts frequently refuse to assume that one survived the others; but they decide that all perished together (Reesé's Med. Jur. & Tox. (8th ed.) p. 53; Legal Med. & Tox. p. 226). The practice in these countries is in line with the theory of our civil code.

Although the laws in the United States are not decisive on questions of presumption of survivorship, but treat them as questions of fact depending wholly on evidence, and regarding the matters as incapable of being determined in the absence of evidence, still there are matters of importance connected with each case as it presents itself that are to be considered in determining over which side the balance of justice should tip (Reese's Med. Jur. & Tox. (8th ed.), p. 84).

The main objection to the French law on the matter, is the extreme presumption of survivorship in favor of infants who may be held to survive men of sixty-one years of age, when the more probable is that such infants are unable to help themselves when exposed to the same conditions. And it can not be urged as a matter of expediency nor is it warranted by the probable facts that a youth of fifteen must be considered the survivor of a man of forty. To some extent the French law represents the probable sequence of death if a number of persons of all ages and sexes were precipitated simultaneously into the water (Leg. Med. & Tox. (2nd. ed.) by Peterson, Hains & Webster, p. 229).

The Prussian law is similar in spirit with the French law. The Mohammedan law of India, on the other hand ignores the whole difficulty by ruling that when relatives perish together in the same accident neither one nor the other is presumed the survivor (*supra*).

As we well know our present law on the presumption of survivorship, in the absence of competent proof to the contrary, makes the sex and the age of the victims its basis, combining the features of both the Roman and the French laws. So the same objections that have been urged against them are applicable to our law.

Those who favor the theory of survivorship seem to justify their stand on the question by contending that it would not be well to leave a person without an heir to succeed to his estate. But while the idea is plausible, its operation does not always

work justly. For why should the heirs or group of heirs of one of those who are naturally heir to each other and who perished in the same calamity or accident be given preference over the heirs of the other in their successional rights to the estate left by the victims? Would it not be more just to presume, in the absence of competent evidence, that they perished, altho it is improbable, at the same instant, and therefore there should be no transmission of rig^ts among them; and the estate therefore should be divided *pro rata* by those who are entitled to inherit from the decedents?

In view of the foregoing considerations, it is humbl'y submitted that the Spanish law is the most just on this particular question.

Whatever be our stand on this question the fact remains that our present law, "when two persons perish in the same calamity, such as wreck, battle, or conflagration, and it is not shown who died first, and there are no particular circumstances from which survivorship may be inferred," undertakes to do it upon the probabilities "resulting from the strength and age of the sexes" according to certain prescribed rules.

NATURE OF THE QUESTION OF THE SURVIVORSHIP

The question of survivorship is one of fact and depends largely upon general evidence (Reese's *Med. Jur. & Tox.* (8th ed.), p. 52). And as this question comes up only in cases where no eye-witness was present at the moment when the victims gave up the ghost; and the general evidence upon which the question must turn are deducible only from matters and circumstances connected with every case; and these matters and circumstances are of necessity related to the physical conditions of the victims, such as age, sex, and the manner of death, the necessity of the intervention of experts is at once made manifest and of some importance.

EXPERTS, EXPERT EVIDENCE, OPINION EVIDENCE, THE VALUE OF EXPERT EVIDENCE AND WARNINGS

Who are experts? "An expert is one who has made the subject upon which he gives his opinion a matter of particular study, practice, or observation, and he must have a particular and special knowledge upon the subject concerning which he testifies." (*Leg. Med. & Tox.* by Emerson, p. 198)

"Expert evidence is that testimony given by an expert and specially skilled in the subject to which it relates or is applic-

able concerning information beyond the range of ordinary observation." (supra).

"Opinion evidence is the conclusions or opinions of witnesses concerning propositions based upon ascertained or supposed facts by one who had superior opportunities and greater knowledge than the ordinary person or witness, to judge of the subject-matter of inquiry, and who by reason of this special knowledge of and experience with the subject, is believed to be capable of arriving at a better or more reliable conclusion and judgment from facts within his knowledge concerning the question involved in the inquiry or controversy. A witness who is not an expert, but who personally knows facts may give an opinion on a matter regarding skill, after having stated the facts upon which he based his opinion. He may also give an opinion as to matters with which he has personal or particular knowledge, but which cannot be exactly or specially described to the court or jury." (Ibid, pp. 198-199), N. Y. 407); courts must be cautious in receiving such opinions and they should not admit the same except on subjects that require unusual scientific attainments or peculiar skill (Grigsby vs. Clear Lake Water Co., 40 Cal. Rep. 396).

CIRCUMSTANCES TO BE TAKEN INTO CONSIDERATION

The evidence that experts furnish in helping the courts arrive at correct conclusions of survivorship necessarily must be indirect and circumstantial deducible from known facts or sets of facts which the experts must consider with care.

Among the facts that the experts or courts must consider are the *age*, the *sex*, the *manner of death*, such as, *asphyxia*, *drowning*, *cold*, *heat*, *electricity*, *starvation*,—and cadaveric changes.

Age. The age of a person may have important bearing on the question of survivorship provided the persons who died had been exposed to the same conditions. The Code of Napoleon considers age as the principal factor in the determination of survivorship. It holds that in persons between the ages of 15 and 60 years no appreciable difference in the tenacity of life exists. (Reese's Med. Jur. & Tox. (8th. ed.)—by Mc Carthy, p. 55). The English law, however, gives the presumption of survivorship, as between a father and a child under puberty, in favor of the former. In persons between the ages of 15 and 60 years there is no probability; between a middle aged man and one under 15 or over 60, the probability of survivorship goes to

the former. But like the case of Section IV of the Code of Napoleon, the above principles must suffer exceptions. As between two individuals under 15 the older is considered the survivor. As between a mother and an infant, both dying in childbed, without assistance, the presumption of survivorship goes to the former, because the child might be stillborn, and for the reason also that if the child is large its life might have been endangered by delay in delivery, and without assistance, it would be more exposed to danger such as, strangulation by the cord or suffocation in the discharges of the mother. (Reese's Med. Jur. 7 Tox, 8th ed.—by McCarthy, p. 55)

Perhaps it may be possible to make closer distinctions in the physical vigor of individuals as affected by age. It has been observed that complete physical development is usually attained between the ages of 25 and 30, and continued until the age of 50; this however, in many instances has failed long before the maximum limit. There is therefore no sure evidence based on age capable of affecting definitely the presumption of survivorship of persons of these ages; and neither can it be claimed that in the absence of other influences there is always an appreciable difference in vigor to be noted between the extremes of puberty and adult life. But in a case of a middle-age adult and a child or an old person when all are exposed to the same violence the probability of survivorship is manifestly in favor of the former. This view is supported by numerous decisions, among which one held that when a parent and a child perish together the survivorship is presumed to be in favor of the parent. However, it must be borne in mind that some forms of violence have more fatal effects at some ages than at others. It has been found that children are very susceptible to the fatal effects of shock, hemorrhage, starvation and of some drugs, but they very rarely die from sunstroke.

This presumption which has age for its basis may be outweighed by other presumptive evidence. Thus, if a father, mother, and a child were found murdered, the father would be presumed to have been the first victim, for it would be easy to see that the murderer might have attacked the strongest first of all, then the mother and lastly the child as a measure of safety. Or, if wounds were found upon the body of the older and stronger of two individuals who had been drowned at sea, or if the older did not know how to swim while the younger was a good swimmer, the probability of survivorship would clearly lean towards the younger individual. (Leg. Med. & Tox., p. 230—by Peterson, Hains & Webster (2nd. ed.).

Sex. As a factor influencing the solution of survivorship question sex is not so important as the first we have just discussed. Other things being equal, in multiple deaths resulting from exhaustion of physical strength and where safety is dependent upon exertion and agility, the male has in his favor the presumption of survivorship. Common knowledge has it that men suffer less readily from shock and hemorrhage. And scientific men have found that women are men's superior in passive endurance, especially where insensibility supervenes. (supra & Reese's Med. Jur. & Tox.)

The state of health of the individuals may modify the presumptive evidence furnished by age and sex. An adult male who is an invalid may be expected to perish from any of the usual forms of violence before a healthy adult female or child. Hence, the importance of studying the general health conditions of the persons concerned (supra). (Reese's Med. Jur. & Tox. (8th ed.) p. 55).

The manner of death. Death may be due to one cause or another. That is, death may result from asphyxiation, suffocation, strangulation, shock, drowning, cold, heat, or starvation. The manner of death and circumstance surrounding it call for consideration in every attempt to establish doubtful survivorship, and the evidence so obtained is generally of more determinative value than the consideration of age, sex, or state of health. (Leg. Med. & Tox. by Peterson, p. 23.)

Asphyxia or apnea. In death from asphyxia or apnea, as in smothering, or inhaling poisonous gases, it was found experimentally, other things being equal, that women have greater chances of survivorship than men. This is explained by the fact that women who are used to indoor life require less oxygen than men. In France, Beck relates of a case of asphyxiation of a father, mother and child sleeping together in a room which was exposed to vapors of a coal stove. In the morning the father was found dead, the child was dying and the mother recovered. (Reese's Med. Jur. & Tox. (8th ed.) p. 56—by McCarthy). Another case was reported by Sardaillon. It was a case of a man, his wife and their child who were asphyxiated in a porter's lodge. The child died; the father was very ill and recovered with difficulty; but the wife was able to call for help and rendered assistance to both child and husband. (Leg. Med. & Tox. (sec. ed.), p. 231—by Peterson, Hains & Webster).

It was found in Paris that in 19 out of 360 cases of poisoning by charcoal fumes which occurred in 1834-5, a man and a woman were exposed to these gases together. Of these, only 3 were saved, and they were women. Of the solitary cases, 18 out of 73 females and 19 of the 83 males were restored. The chances of survivorship in favor of the weaker sex are around 15 to 14. (Principles of Forensic Medicine, by Guy & Ferrier, p. 312; Legal Med. & Tox. (sec. ed.), p. 231—by Peterson, Hains & Webster.)

The reliability of the above-mentioned observations will depend upon the care and accuracy in taking note of minute details of age, habits, state of health, and particularly the relative location of the bodies to the possible sources of air. The nearness to the source of air, and also the relative exposure to injury, influence considerably the probability of survivorship in fatal accidents where bodies are piled one on top of the other, as it often happens in panicstricken crowds, or in fallen buildings. In accidents in mines, some of the bodies are injured by the explosion of firedamp; others are suffocated by falling earth; still others are slowly choked or exhausted, but are lying in a portion of the mine less affected by the explosion. In such a case the order of survivorship is at once evident. (Leg. Med. & Tox. (sec. ed.) p. 231—by Peterson, Hains & Webster).

Drowning. In drowning or shipwreck, the age, sex, strength and opportunity of the victims are to be taken account of. Thus, men, being stronger, more likely to be able to swim, more apt to be on deck in case of shipwreck, more active in evading danger, less encumbered by clothing, and more self-possessed in securing life-preservers or other floating objects, they are therefore in a better position to escape. Hence, the probability of survivorship must lean towards them. But, on the other hand, the buoyancy of a woman's clothes might float or support her in the water; and thus floating, save her from drowning or retard her death from such peril. Therefore courts have time and again refused to give such general presumptive evidence much weight.

In case of several persons, all of the stronger sex, equally exposed to the same danger or calamity, a presumption of survivorship may be ascertained by searching for bodily injuries, or other weakening causes, which would of necessity hamper the individual's ability to save his life. So it has been pointed out that severe bodily injuries will weigh against survivorship.

The respective capacities of the individuals to swim are considerations that can not be overlooked; and evidence tending

to show an attempt to save others as may be inferred from the position of two bodies will tell in favor of survivorship. (Reese's Med. Jur. & Tox. (8th ed.)—by McCarthy, p. 56; Leg. Med. & Tox. (sec. ed.) by Peterson, Hains & Webster, p. 231).

Cold. In case of several persons exposed to cold, the amount of clothing, the physical condition of the individual, the development of adipose tissue, whether or not the individual is intemperate in the use of alcohol are considerations that must precede conclusions as to who of the victims died the last. It has been found that the probability of survivorship is in favor of the strong adult over young or old person; the male has greater endurance for cold than the female. And the rule seems to be that the greater the body weight be the greater is its endurance to cold and the longer is life retained.

The use of alcohol or narcotic drugs markedly increases the danger of death from low temperature, for they reduce the temperature of the body, the muscular activity and general sensibility of the same.

Poverty which entails poor nutrition debilitating the individual also influences the effects of cold. (Leg. Med. & Tox. (sec. ed.) by Peterson, Hains & Webster, p. 231; Reese's Med. Jur. & Tox. (8th ed.) by McCarthy, p. 56.)

Heat. This is seldom involved in the determination of survivorship. Little is known of the relative tolerance of the ages and sexes. Children, though, do not perish from sunstroke (Leg. Med. & Tox. (sec. ed.) by Peterson, Hains & Webster, p. 232.) But Reese opines that a younger one or very old person has greater endurance to heat than an adult. (Reese's Med. Jur. & Tox. (8th ed.), p. 56—by McCarthy).

Starvation. Children are readily exhausted by lack of food. The explanation for this seems to be the fact that the young requires more food than the aged. The withdrawal of food for a few hours may cause the death of infants from acute gastro-intestinal diseases.

It has been found in clinical experience that the probability of a survivorship between the aged and the adult is not to be determined by the quantity of food that is required at different ages, rather it depends upon the state of nutrition and the development of adipose tissue. And the experience of habitual fasters has demonstrated that life may be supported for a long lapse of time without food, by the use of water merely; and the withdrawal of water as well as food proves more rapidly fatal than the lack of the latter alone. (Leg. Med. & Tox.,

by Peterson, Hains & Webster, p. 232; Reese's Med. Jur. & Tox.—by McCarthy, p. 57).

Electricity. In multiple deaths resulting from electricity, and where survivorship in such case is to be ascertained, the investigator must note the depth and extent of the burns that may be found upon the body, the presence of metallic conductors of any kind in the clothing, and the position of the bodies with reference to the source of electricity. The results of his investigation, though somewhat vague, may furnish indications of the probable survivor in deaths from electricity.

The fatal effects of lightning are distributed in the most irregular and inexplicable. And this fact with the instantaneous character of the shock and the lack of detained information of the fatal action of electricity make the determination of survivorship in deaths from this cause extremely difficult. (Leg. Med. & Tox., p. 232—by Peterson, Hains & Webster.)

Parturition. In many cases of parturition ending fatally to mother and child, the child has been survived by the mother. But there have been cases too in which the mother perishes before the child. And where it can not be ascertained by positive proofs, the probability of survivorship between the mother and the child may yet be indicated by the conditions of the particular case.

The fact that the life of the child may continue in *utero* has been sufficiently attested by numerous successful post mortem deliveries. When the mother died of active hemorrhage after delivery, the chances are more probably favorable for the survival of the child, which is capable of existence for sometime after detachment of the placenta from the uterus. So a line of thought has given the probability in favor of the child where no proof that the child was stillborn has been adduced, for, it has been reasoned out that, the mother sank exhausted by pains of labor, and the child died afterwards for lack of nourishment. The evidence of stillbirth may be the "maceration of the skin, indications of prolonged second stage, signs of great compression or molding of the head, a very extensive caput succedaneum, meningeal hemorrhage, and internal signs of death by acute asphyxia, with complete atalectasis of the lungs." (Leg. Med. & Tox. (sec. ed.)—by Peterson, Hains & Webster, p. 232).

Poisoning. In deciding the probability of survivorship in multiple deaths as consequences of the effects of poisonous substances or drugs the quantity of the substance or drug in-

jected, age, physical condition of the victims, the influences of idiosyncracies of the individuals are to be taken into consideration. (Leg. Med. & Tox. (2nd. ed.) p. 233.

Post mortem changes. The degree of post mortem changes may also enter into the consideration of the investigator in pointing out the latest of multiple deaths when the bodies are seen shortly after life has left them. (supra). Changes in the eyes, the color of the skin, temperature, in muscular system, and the phenomenon of decomposition are circumstances that may help in determining the latest death.

It has been found that during the first hours after death, the tears moistening the conjunctiva and the surface of the eye-balls are normally alkaline in reaction but this quality gradually disappears and is changed into acidic. In advanced stages of putrefaction the alkalinity reappears. The elasticity of the eye-ball is lost. The skin of the body becomes pale immediately after death; but in persons of florid complexion the color may remain for several hours. Temperature rises immediately after death, but this rise soon subsides, the speed depending on the condition of the body and the media in which it lies. Old and young persons loss heat more rapidly than young robust adults; the emaciated by starvation or disease more quickly than the fleshy. Cold or moving air accelerates loss of heat. Water or absence of clothing has the same effect. The muscle undergo three distinct stages; the primary flaccidity, rigor mortis and secondary flaccidity. The first stage takes place after death and lasts from 4 to 6 hours. The second stage takes place within 3 to 6 hours after death and it lasts for about 24 hours. The third stage sets in two or three days after death. Decomposition begins to work its havoc when the secondary flaccidity takes place. Under ordinary circumstances, putrefaction appears to be more rapid in young, exhausted, fat, flabby individuals; in hot season than in cold season; in uncovered or exposed bodies; in moist and aerated graves, and in other similar conditions. Accordingly, the rate at which putrefaction proceeds varies in different cases dependent on the agencies and circumstances above indicated and on the condition of the body at the time of death. (Legal Med. (Part II) by De los Angeles, pp. 6-8).

We might go on indicating other post mortem changes, but we have now no adequate space and time. And our purpose is not to point specific ways, but we merely wish to indicate the road that an investigator might follow.

Cases. In re Butt's Estate (Wis.), 193 N. W. R. 988-990—In this case a father and a mother and their two boys, aged, respectively two and three years, sleeping in a room 7½ feet wide, 16 feet long and 8 feet high, met their death by carbon monoxide (CO) gas poisoning, there being in the basement a hot air furnace burning hard coal. The parents were both 23 years of age, and it was assumed both were in good physical condition. The question before the court was to determine the survivorship, for if the father outlived his wife and children his estate would descend upon his brothers and sisters; otherwise to the parents of his wife, who were the appellants from a decision holding the father to be the survivor, and adjudging the estate to his next of kin.

A physician (Dr. G. W. Reinhart) who had had experience in cases relating to asphyxiation and had conducted experiments in gas combustion with reference to water heaters in bathrooms without exit flue, and another physician, Dr. E. R. Le Count, who had had experience in carbon monoxide gas poisoning, were called as witnesses, and each testified in substance that "assuming the conditions stated, it was his belief, based on his experience and knowledge of carbon monoxide poisoning and its effects upon the human system, that the father was the first victim of the poisoning, and that the mother and children surviving him. They reached this conclusion chiefly from the fact that women, living an indoor life, become more or less immune to the toxic effects of gas, and also that they require less oxygen than men, who live an outdoor life." The witnesses "testified that young children require less oxygen than older people, and that, under similar conditions of gas poisoning, they would outlive the father in this case, but might not outlive the mother, who would be more or less immune." Two physicians were called as witnesses for the defense, but the testimony, as an expert, of one of them who graduated from college in 1919, and who had had no practical experience in poisoning of this kind, was disregarded by the court because of incompetency for the lack of experience of the witness; while the other physician said that there was nothing in his knowledge as a physician from which he could state that there was a particle of evidence to indicate who of the group died first, but he thought that a child 2 or 3 years old could stand more carbon monoxide than an adult.

"It devolved on the appellants to establish their case by a preponderance of evidence. If they did this, even though the evidence was that of experts, such evidence could not be dis-

regarded by the court unless it was in some impeached." As this court views it, "the evidence was practically undisputed, and only one conclusion could be drawn from" it if the expert evidence was to be given any weight, and that was that the children and mother survived the father. The trial court evidently disregarded the expert testimony, following the rule often laid down that such evidence is to be viewed with caution and may be disregarded altogether when it conflicts with common knowledge of the judge or jury. However, there is a class of expert testimony that is competent, worthy of consideration, and that can not be ignored by the trial court or jury, and that is the evidence of those persons who by reason of special study and experience possess knowledge and judgment not possessed by mankind in general. When expert testimony is properly admitted, it must be weighed and considered as other testimony. In this case there were many physical facts which the judge might consider together with the expert testimony. But without expert testimony the cause would have been wholly left in the dark. The effects of carbon monoxide on different persons inhaled, its relative weight and its diffusion with the air, and the probable currents of air following the heat that came from the hot air register, were properly matters of expert testimony. None but experts could know the effect of carbon monoxide on the human system or how it would affect different persons under different circumstances. This court considers that the trial judge was bound by such expert testimony in the absence of anything tending to impeach it. The evidence being substantially all one way, the duty of the court was to find accordingly. Wherefore the judgment of the county court is reversed, with direction to enter judgment for the appellants.

In the case of *Pell vs. Ball* (Cheves Ch. Cases, American Journal of Medical Sciences, July, 1845), Ball, his wife and daughters were lost in an explosion on board a ship. The wife rushed about the deck calling for her husband, but the husband failed to answer. She was soon lost with the sinking of the vessel. It was held that the fact that the wife was seen alive after the explosion, rushing about the deck, calling her husband who failed to appear or answer, was sufficient evidence to establish the survivorship of the wife. (Leg. Med. & Tox. (sec. ed.)—by Peterson, Hains & Webster, p. 229).

But in the case of *Seelich vs. Booth* (Greenleaf on Evidence, p. 47), in which two brothers, one the elder and master of a ship, the other, the younger and mate of the ship, both

perishing in the wreck, it was held that the younger died first. (supra).

However, in the case of *Wife vs. Angrave* (House of Lords Cases, p. 213), where husband, wife and children were swept from the deck of a vessel by a wave and disappeared, and it was shown that the husband was a powerful swimmer but the wife was a delicate woman, the House of Lords would not presume that one survived the other. (supra).

Conclusions. The law on the presumption of survivorship does not exclude competent evidence; the presumptions it makes are disputable.

The decisions of the courts on the question of survivorship in different jurisdictions are not uniform, each case being decided upon its individual merits.

Expert witnesses may be called upon to testify in cases where questions of survivorship is to be determined.

Expert evidence and opinion evidence are to be distinguished. Expert evidence is to be received with caution; but when the same is not impeached it is to be given weight like any other evidence. Opinion evidence of witnesses who are not experts are not to be admitted.

Recommendations. It is humbly submitted that the old Spanish law on survivorship be revived, as it seems to be the most just.

That legal medicine be studied conscientiously by students of law and of medicine. The lawyer needs adequate information on the subject so that he will know what questions to make to a medical expert. The doctor needs to know the subject thoroughly in order not to work an injustice as they are often called to the witness stand and their testimony may determine the decision of the court in questions within the sphere of their science.
