INTERNATIONAL AIR LAW

RES IPSA LOQUITUR IN AVIATION†

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What are the legal consequences when an aircraft either crashes in mountainous or desolate country and there are no survivors, or vanishes while flying over the high seas without any trace?

In the common law countries, when the dependents of the victims endeavour to obtain damages from the carrier for the negligence of their servants, they must, under the existing jurisprudence, prove fault. How can the plaintiff, in the instant cases, prove anything beyond the bare fact of the death of the *de cujus* due to the crash of the aircraft, or the total disappearance of the plane?

In such cases, it is generally contended that the doctrine of *Res Ipsa Loquitur* applies; the facts speak for themselves. It is no longer necessary for the plaintiff to prove fault, but it becomes incumbent on the carrier of the aircraft to exculpate himself of any fault. It is asserted that under the doctrine of *Res Ipsa Loquitur* the burden of proof is shifted, and is therefore attributed to the carrier.

Res Ipsa Loquitur is not a novel institution in the law of negligence and, like many another theory, saw daylight in the English common law almost 150 years ago. The doctrine has been transplanted into every Commonwealth county where the English common law prevails and into the United States of America.

In a recent case, decided by the Supreme Court of Canada,[1] the majority laid down the proposition that this doctrine applied to actions of negligence in the Province of Quebec, under the Civil Code. Without entering into an extended elaboration of the reasons for judgment, the writer's impression is that this case does not establish jurisprudence for the Province of Quebec.

It should be stated at the outset, that the courts apply this doctrine to actions based on negligence resulting from flights which have a national

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†To a very large extent, the present article has been drawn from the dissertation which the writer presented to the Faculty of Graduate Studies and Research of McGill University, in candidacy for his degree of Master of Laws.

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[1]*Parent* v. *Lapointe,* [1952] S.C.R. 376.

character, as well as to actions resulting from flights which have an international character, but which latter actions have not been regulated by, or do not form the subject of specific legislation passed by International Conventions.

Actions which are based on negligence, as a result of international flight, specifically described and defined as such in International Conventions, are regulated and governed exclusively by the provisions of such International Conventions.

Whether we designate *Res Ipsa Loquitur* as a doctrine, principle, maxim, theory or axiom, whether it pertains to substantive or adjectival law, the fact remains that it grew up in a manner similar to the whole of the common law of England.

It may not be without interest to briefly describe the growth of the common law, as referred to in an address delivered on October 24, 1937, by Lord Wright at the University of London Law Society, under the heading "The Study of Law".[2] The doctrine of *stare decisis,* says the learned Judge, "is contrasted with systems based on the Civil Law in which governing *a priori* principles have been expounded by commentators and institutional writers, cited in the courts as authorities from which particular application can be deduced by logic". In English law "principles follow from concrete decisions, in place of decisions following from principes.[3]

"Indeed in one sense the scientific study of existing English law is impossible. Its growth has been determined in part by logic, it is true, but in part also by convenience, in part by artificial or procedural requirements, in part by the pressure of social ideas and conditions which have now ceased to exist, in part by pure accident, in part by the survival of primitive habits of mind.[4]

" . . . There is still the difference between knowing them (cases) in a literal and mechanical fashion, and knowing them both synthetically and critically. In the latter case they are seen in the light of principles and not as dead precedents.

" . . . Indeed there is often a danger in taking the statement of a rule by a judge as absolute and unqualified whereas he only made the statement in view of the facts and questions he was considering. What he said, correct enough in the context, becomes misleading when torn from the context and applied to alien situations.[5]

" . . . its (the English law) character is essentially empirical. It has grown through the centuries. It can only be understood by reference to history:

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[2] 54 L.Q.R. 185.
[3] *ibid.* 186.
[4] *ibid.* 187.
[5] *ibid.* 190.

I do not mean merely the history of the law itself, the influence of procedure, of the forms of action, of convenience in pleading. All these made it difficult and still often make it difficult to see the juristic conception under the procedural forms. But in a more substantial way we can see the influence of history, of current mode of social, moral, political and economic ideas, current, that is, among the classes from which the law-makers, judicial or legislative, were drawn.[6]

" . . . A decision is only an authority for what it actually decides, and the same set of facts never repeat themselves".

" . . . Law, of necessity, must adapt itself to current ideas and conditions."[7]

Invariably, the case of *Scott* v. *The London & St. Katherine Dock Co.* (infra) is presented as laying down the principle of *Res Ipsa Loquitur.* In the opinion of the writer, however, the origin of the doctrine, if it is a doctrine, is to be found in a number of cases, viz: — *Christie* v. *Griggs,*[8]*; Bremner* v. *Williams,*[9]*; Sharp* v. *Grey,*[10]*; Carpue* v. *The London & Brighton Railway Co.,*[11]*; Burns* v. *The Cork & Bandon Railway Co.,*[12]*; Skinner* v. *The London, Brighton & South Coast Railway Co.,*[13]*; Hammack* v. *White,*[14]*; Byrne* v. *Boadle,*[15]*; Scott* v. *The London & St. Katherine Dock Co.,*[16].

It would be wholly incompatible with the length and scope of this article to attempt to analyze, even superficially, the multitude of cases which have been decided under this doctrine in England, Canada, the Commonwealth countries and the United States, or to comment upon the numerous writings of erudite teachers and writers of law, more particularly in the United States.

In the writer's opinion, under the existing theory of liability for negligence ostensibly based upon fault, *Res Ipsa Loquitur* is no longer an innocuous doctrine or rule, but a proposition of law to be reckoned with. As at present applied, *Res Ipsa Loquitur* is gradually being detached from its parent body and segregated into a world of its own, where idiosyncrasies personal to lawyers, judges and courts reign supreme, with the result that wholly unforeseen, and, at times fictitious, if not disastrous consequences, from the point of view of either one or the other party to the litigation, become more and more evident.

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[6] *ibid.* 192.
[7] *ibid.* 193.
[8] (1809) 170 E.R. 1088.
[9] (1824) 171 E.R.1254.
[10] (1835) 131 E.R. 688.
[11] (1844) 114 E.R. 1431.
[12] (1863) 13 Ir. C.L. Rep. 543.
[13] (1850) 155 E.R. 345.
[14] (1862) 142 E.R. 926.
[15] (1863) 159 E.R. 299.
[16] (1865) 159 E.R. 665.

If actions in England had originally been tried by judges alone, there would have been no room for such a doctrine. However, since litigious issues were submitted to juries "to find the facts", the judges who presided over such trials, became apprehensive lest the jury might render verdict in favour of a plaintiff when his evidence — even before it was contradicted by the defendant — could not possibly, in law, entitle him to judgment.

Because civil cases, in countries where the Civil Code prevails were not tried by juries but by judges alone, the judges were not at all disturbed by the fact that they had to listen to both sides of a dispute before giving judgment, even where the plaintiff's case was extremely weak, or, where he would have had no case at all under the English common law procedure. Non-suits or directed verdicts do not exist, and are unheard of under the Code of Civil Procedure. That is the present law in Louisiana and Quebec.

It is difficult to say whether under the English common law practice, in civil cases, the non-suit is the subject of original thought, or, whether it was borrowed from a procedure which was used in criminal cases.

At one time in its history, the English criminal law was extremely barbarous and cruel. Around 1800, there were no less than 160 capital offences. To circumvent the severity of the law, judges allowed objections by the accused in respect to the form of indictment as well as in respect to many other technicalities, to enable them to free the prisoner from the accusation of a paltry offence for which, had he been found guilty by the jury, the judge would have no alternative but to sentence the prisoner to forfeit his life. These were the objections to the indictment.

Then, of course, there was the presumption of innocence which placed the initial burden on the prosecution to make out a *prima facie* case before the accused was called on to make answer or present his defence. It is, therefore, eminently feasible to assert that the doctrine of *prima facie* case in civil matters under the English common law, may be considered as a transplantation of its prototype, firstly used in criminal indictments.

However, be that as it may, before very long, the judges formulated the rule of law, namely, that in civil actions, before the defendant is called on to present his defence, the plaintiff must make out a *prima facie* case. A non-suit may be granted either for what the trial judge considers lack of sufficient evidence to constitute a *prima facie* case, or, assuming all the facts in his favor, the plaintiff, as a matter of law, is not entitled to a verdict. The method referred to herein was extended to apply to both jury and non-jury trials.

If the trial judge, at the close of the plaintiff's case, is of opinion that, had he been sitting as the judge upon the facts instead of the jury, he would have had to decide that the evidence submitted by the plaintiff was not sufficient to justify him, sitting as the judge of the facts, to render judgment in favor of

the plaintiff, he, as a matter of law, then says that the plaintiff has not made out a *prima facie* case and withdraws it from the jury. That is the end of the trial and of the plaintiff's legal endeavour to obtain redress for an injury which, he alleges, was caused by the defendant's failure to show care and foresight.

At its origin, the liability of the person who caused injury to another was based on the principle of loss, damage or hurt. It was an action in trespass. The special liabilities of innkeepers and cariers, which are among the oldest branches of the law of torts, provide many examples of absolute liability.

In the course of time, the responsibility of the person causing damage or injury was placed on the principle of (1) owing a duty, and (2) failure to take care or to act as a reasonable man would under similar circumstances: in other words, that the injuring party acted negligently. Nevertheless, fault had to be brought home to the injuring party, before the court would mulct him in damages.

A long line of old cases in England, dealing with the liability of common carriers at common law, held that the common carrier had a duty placed upon him to convey a passenger with care and foresight. Therefore, when an accident occurred and a passenger was injured — the action being *quasi ex contractu* — the law required the carrier to produce evidence to show that the reason why he committed the breach of contractual duty was because of the intervention of something which he could not forestall, such as a fortuitous act, an act of God, a pure or inevitable accident, and, therefore, he, the carrier, was blameless of any wrong doing.

Then, there arose cases like *Hammack* v. *White* (supra) where it was sought, unsuccessfully, to incorporate the principle of the liability of common carrier *quasi ex contractu* into the ordinary action of tort. But the court refused to accept the plaintiff's argument in that case, and clearly and unmistakably held that in order to render the defendant responsible for the injury caused, the plaintiff was under the legal obligation to produce affirmative evidence of negligence. In other words, fault had to be proven: it was not presumed.

In *Byrne* v. *Boadle* (supra), the first judge non-suited the plaintiff because, in his opinion, the plaintiff had not made out a *prima facie* case of negligence which would justify the judge in leaving the issue to the jury. True, the plaintiff proved the accident, but he did not bring home to the defendant any fault on his part — there was not a scintilla of evidence which in any way connected the injury with fault on the part of the defendant.

On appeal, the question was therefore distinctly raised: on the evidence submitted by the plaintiff was there a *prima facie* case made out? The appellate court held that from the facts of the accident, from the surrounding circumstances and from the inference which the court itself felt legally justified in

drawing as a result of the accident plus surrounding circumstances, a *prima facie* case of negligence has been made out.

When counsel for the defendant argued that unless the plaintiff made out a *prima facie* case, the defendant had a legal right to remain silent, Chief Baron Pollock replied "But here the situation is whether the plaintiff has not shown such a case".

There was, therefore, no necessity to invent new rules, or to graft exceptions upon the common law liability of wrongdoers (actions in tort) to the effect that instead of the plaintiff being required to prove fault, the defendant was compelled to disprove negligence. One thing is certain: there was not a shifting of the burden of proof. The court simply held that the plaintiff made out a *prima facie* case to be presented to the jury. It then became the defendant's legal obligation, if he wished to escape liability, to bring in evidence in exculpation. If he did not do so, the plaintiff's *prima facie* case would, in consequence, be treated as his (plaintiff's) whole case, and, in the absence of evidence to the contrary, judgment may be given against the defendant. It was solely a question of procedure under the English common law, and anything pertaining to a learned disquisition on *Res Ipsa Loquitur* was entirely out of place.

Once the court comes to the conclusion that the plaintiff has made out a *prima facie* case, everything else in the shape of personal comment in which the judge indulges, might be regarded as a literary endeavour *simpliciter.* Legally speaking, such comment is just plain surplusage: a discussion of an abstract theory perhaps, but wholly unnecessary for the decision of the case at hand, and, therefore, *obiter.* These private incursions into the realm of legal literature make interesting reading. Indeed, they may exhibit the jurisprudential learning of the judge, but, in English common law, a judgment is not a treatise on a question of law.

A judgment constitutes a concrete application of the law to the facts as brought out in evidence. It is only the actual principle — to borrow an expression often used in Canadian constitutional cases and found in the judgments of the Judicial Committee of the Privy Council — the "pith and substance" upon which the judgment is based that represents a legally binding authority, and forms the subject matter of *stare decisis;* everything else must be disregarded.

In the writer's opinion, the judgment of the court in the *Byrne* case (supra) may be squarely placed upon the sentence previously quoted "But here the situation is whether the plaintiff has not shewn such a case" *(prima facie).*

The same observations apply to the case of *Scott* v. *The London & St. Katherine Dock Co.* (supra), namely, that it was decided upon a question of the sufficiency of evidence constituting a *prima facie* case. The majority

of the court said "Yes", the minority said "No". It was a question of procedure throughout.

A multitude of interpretation have been given to the apposite remarks of Chief Justice Erle in the *Scott* case. Let me repeat the remarks:

> There must be reasonable evidence of negligence. But where the thing is shown to be under the management of the defendant or his servants, and the accident is such as in the ordinary course of things does not happen if those who have the management use proper care, it affords reasonable evidence, in the absence of explanation by the defendants, that the accident arose from want of care.

The Chief Justice was not speaking in the abstract, nor was he delivering a lecture: he was addressing himself to certain facts in the case before him. What were those facts? The plaintiff was injured by bags of sugar falling upon him. The first judge non-suited the plaintiff at the close of his evidence. In the second round, the plaintiff was successful, because the judgment for non-suit was set aside and a new trial ordered. Then there was an appeal from the judgment ordering a new trial.

The court of last resort was therefore called on to answer this question: was there sufficient evidence in the first instance to constitute a *prima facie* case? I wish to emphasize that what the court had to deal with was not the question whether upon the whole of the evidence which had been previosuly submitted by both parties either one or the other was entitled to judgment. We must bear this clearly in mind, in order to be able logically to follow the *dictum* of the Chief Justice.

When Chief Justice Erle says "there must be reasonable evidence of negligence", he, without any possible doubt, refers to "reasonable evidence of negligence" for the purpose of a *prima facie* case. He could not have meant anything else, because nothing else was before the court. At that time, the plaintiff had not obtained judgment in his favour, he was only granted the right to have a new trial. Then the Chief Justice expostulates upon matters which, later, became such propositions of law as "management", "ordinary course of things", "explanation".

The writer wishes to make one point clear, which, in his judgment, is beyond controversy. Everything which Chief Justice Erle said in the *Scott* case (supra) refers to a *prima facie* case only. The writer's view in this respect gains support from the language of the Chief Justice himself when he says "We all assent to the principles laid down in the cases cited for the defendants; but the judgment (of the appellate court) turns on the construction to be put on the judge's (trial judge) notes. As my brother Mellor and myself read them we cannot find that reasonable evidence of negligence which has been apparent to the rest of the court". The principles to which the Chief Justice alludes establish the proposition that the plaintiff, in a case of this kind, *must* prove negligence.

Had the legal world interpreted the remarks of Chief Justice Erle in the sense in which he wished them to be taken and interpreted or understood, namely, as applicable to the facts of the case before him, *Res Ipsa Loquitur* would not have been born or invented.

Unfortunately, however, the remarks were subsequently made to apply to the whole case, that is, to the case after both the plaintiff and the defendant have introduced their respective proof. From this initial step to go one step further and erect a doctrine, theory, rule, etc., with a separate and independent existence — a doctrine which at times reacts contrary to, or in derogation of the accepted principles governing decisions based upon negligence — was very easy. That is how the problem has been complicated and that is how it stands today.

The *Byrne* and *Scott* cases (supra) are quoted extensively in *Res Ipsa Loquitur* decisions in all forums and are considered of paramount importance in the development of the doctrine. In the opinion of the writer, these two cases, upon which the whole superstructure of the doctrine has been erected, are what we call in French law "des arrêts d'espèce", judgments based upon the particular facts in each case. Neither of these cases did at any time, nor does either of them today profess to establish a new theory of the law of negligence. But, if a principle is deducible from these cases, it is evident that in both of them the principle is whether the plaintiff should be non-suited, or, whether he should be allowed to go to the jury. Everything that was said judicially in each case resolves itself into the answer to the question whether the plaintiff should be completely deprived of his right to present his case to the jury, or whether he should have his day in court. Once the case was allowed to go to the jury — a *prima facie* case having been established in law — the ordinary rules of evidence would apply. In other words, when the plaintiff successfully passed the hurdle of non-suit, he, thereafter, was under obligation to prove his case as he would otherwise do, that is, by preponderance of evidence.

Res Ipsa Loquitur is now presumed to be invoked either upon a motion based on demurrer (raising a point of law) before the case is submitted to the jury, or after the whole evidence is in.

Based upon a fallacious theory in which the writer does not concur, there may be some justification for the application of the so-called doctrine when a demurrer is raised. There is absolutely no warrant for its application after the whole case has been submitted to the jury.

The absurdity of such a contention — applicability of the so-called doctrine after the whole of the evidence has been submitted to the jury — is exemplified in the decision of the Court of Appeal of Ontario in the case of *Interlake Tissue Mills Co. Ltd.* v. *Salmon, Beckett et al.*[17].

[17][1948] O.R. 950.

Not only is it a question of law reserved for the judge at trial to say whether the plaintiff has made out a *prima facie* case, which would justify the judge in leaving it with the jury, but it is also a question of law, equally reserved for the judge at trial to say, after all the evidence is in on both sides "whether there is or there is not evidence which permits of the application of the maxim. If the evidence is such that clearly the maxim applies then the trial judge should instruct the jury concerning it. There may be cases, and this is one of them, where the evidence may or may not result in the principle being applicable, depending entirely on the view the jury takes of the evidence. Since the trial judge cannot tell in advance what view the jury may take of it, he should, in such cases, also instruct them with respect to the principle".

It is reversible error if the judge at trial fails to properly instruct the jury thereon.

With all due respect, the writer considers the discussion such as appears in the reasons for judgment of the Court of Appeal, a concatenation of illogical reasoning and a jumble of incomprehensible jargon of legal chinoiseries.

In the opinion of the writer, the many cases which he read and analyzed show that fantastic, irreconcilable, untenable, almost unimaginable propositions and counter propositions of law, doctrines, sub-doctrines, new doctrines, by-products of doctrines, etc., have been built upon an original non-existent theory. Where that will end only the protagonists of the doctrine may be able to tell.

For a long time flying was considered an ultra-hazardous undertaking, and, apparently some courts are still imbued with that idea. If the courts wish to assist people who are injured in such ultra-hazardous, or what they consider to be an ultra-hazardous undertaking, and where the plaintiff is often hard pressed to prove fault in the defendant, let the courts, if they so wish, say "absolute liability". *Res Ipsa Loquitur* is an unworthy judicial fiction and it ought to be eradicated. It never was intended that this so-called doctrine should have, and there is no reason why it should continue to have a separate existence, that is, an existence separate and apart from the ordinary law of negligence.

Professor Ehrenzweig[18] contends that negligence without fault has been invented because the industrial revolution demanded a new rule to protect victims of the hazards of modern mechanical enterprize. The courts sought this new rule within the traditional law of negligence. To make the old rules serve new needs, legalistic devices had to be used — *Res Ipsa Loquitur* (presumption of a *prima facie* case for reprehensible conduct) and *Respondeat Superior* (imputation of such conduct to lawful enterprise).

18(1951) NEGLIGENCE WITHOUT FAULT.

But, says the learned author, if a hazardous activity is lawful, it should not be penalized as reprehensible.

What we have done, continues Ehrenzweig, is to use the concept of negligence — with an implication of blame attached to it — and endeavoured to engraft it upon a system of liability primarily designed to secure compensation. This has caused many inconsistencies. A clear distinction must be made within the Law of Negligence between (1) liability based on the censure of reprehensible conduct, and (2) liability for the unavoidable and insurable consequences of lawful (entreprise) activities.

In so far as applications for demurrer are concerned, *Res Ipsa Loquitur* may be made innocuous by enacting rules of procedure similar to those in force in the Province of Quebec today, viz: — eliminate applications for non-suit in civil actions and permit both parties to the litigation to submit evidence. Let judgment be entered thereafter as usual, e.g., upon a preponderance of probability.

The question of how to deal with the extension of the doctrine, namely, after the whole of the evidence has been presented, is far more serious and difficult a problem to handle.

Irrespective of whether *Res Ipsa Loquitur* is a malignant, or any other kind of accretion to the existing body of law, the only way we would eliminate it would be for the courts to interpret the dictum of Chief Justice Erle in the *Scott* case, (supra) in the sense which the writer indicated above. If that is not possible — lawyers are aware of the reluctance of courts and judges to reverse themselves — then possibly a statute may be passed declaring its non-existence or non-efficacy, or, in some other way, make the doctrine inapplicable, or eliminate it from the procedure at trials. Generally speaking, this would not be an easy task.

Whether *Res Ipsa Loquitur* is a doctrine, whether it pertains to substantive or adjectival law, whether it should be eradicated in ordinary actions of negligence, are questions which may be debated at great length, and with equal erudition on both sides.

However, in so far as actions based on negligence against air carriers is concerned, a recent article by Captain J. A. Newton[19] has, in the writer's opinion, completely revolutionized our thinking with respect to the applicability of the doctrine of *Res Ipsa Loquitur* to aircraft accidents. Captain Newton's article deals with "pilot error".

In air transport of passengers and goods, in addition to the technical factor, reliance must be placed upon the skill, judgment, memory and physical and psychological conditions of the pilot. These qualifications vary between

[19](1951) Group Captain J. A. Newton, Royal Air Force, A.F.C., A.R., Ae.S., Technical Officer, Operations/Accident Investigation, *The Human Factor In Aircraft Accidents.* This article first appeared in the Journal of the Royal Aeronautical Society, February 1, 1951 and was reprinted in the ICAO Monthly Bulletin, September, 1952.

different human beings and from day to day in the same human being. It thus becomes apparent that accidents due to the human factor are impossible to predict and therefore to prevent. The human organism is not infallible in aerial operations.

"The analysis of human make-up", says Newton, "with its underlying physiological and psychological tendencies, its idiosyncrasies and habits, all reacting under varying stresses and physical environments, is an extremely complex task".

Since 1910, the medical profession has given a great deal of attention to the medical aspect of aviation, but all its efforts were diverted toward the general physical fitness rather than the psychological aspect.

During the Second World War, we frequently heard air force personnel suffering from "operational fatigue". This led to a closer study of the psychological factor in aviation. Says Newton: "Since it must be accepted *a priori* that it is impossible entirely to eliminate the possibility of accidents resulting from human error, the impossibility of predicting accurately the human reaction to any set of circumstances must be taken into account".

The reasons for aircraft accidents which may be attributed to human error are:

1. Error of judgment
2. Poor technique
3. Disobedience of orders
4. Carelessness
5. Negligence

The contributory causes to the classification above may be divided as follows:

(a) Lack of experience
(b) Physical condition
(c) Physical defects
(d) Psychological condition
(e) Poor reaction

All of the above contributory causes may be either inherent or temporary.

It is fairly apparent that with the exception of "psychological condition", all the factors enumerated above contain or include an element of personal volition upon which an eventual finding of "lack of care" may be founded. The writer does not propose to discuss them.

It is different, however, with the contributing factor "psychological condition", and more particularly that of a temporary character.

Captain Newton describes it as "the condition of the mind, conscious or sub-conscious, in relation to the sensations, feelings, emotions and memories which affect the judgment and skill of a person in a manner detrimental to

the efficient conduct of his work. Most people have experienced the effects of delusion and illusion, the former being the mental state of mistaken belief resulting from an error of judgment and the latter, the state in which sensuous perception conveys an impression other than the truth of what is perceived. It is under these conditions that many unexplained accidents occur: unexplained because of a lack of tangible evidence".

Newton discusses two forms of "psychological condition": (1) mesmeric stupor" and (2) "leans".

The writer considers these two forms of such immense value to our own appreciation of the notions "proper care", "want of care", and "fault" as they are related to the subject under review, that he proposes to reproduce *in extenso* Captain Newton's statement anent thereto.

(1) "There has been a suspicion for many years that inexplicable accidents to airline aircraft, in many cases captained by exceptionally experienced personnel, have been due to mesmeric stupor. This condition can easily be brought about by the combination of relaxation, fatigue, continuous engine noise and mesmeric effort of looking at lighted instruments, and so on, which causes the pilot to lose a material part of his faculties of thinking, perceiving and understanding. This condition, when encountered, unfortunately leaves the pilot and others unaware of his condition. Pilots will make absurd mistakes without knowledge of them or remembering them later. In fact, after an accident pilots have sworn that they read off a certain height on their altimeter, whereas the aircraft was much lower and all evidence pointed to the fact that the altimeter was reading correctly".

(2) "The other example is the so-called leans. The leans are a false physical sensation or type of vertigo experienced sometimes by pilots during instrument or combined instrument and visual flight and in exceptional cases, when forward visibility is bad. This sensation is stronger and more apt to occur when the pilot is fatigued or confused, or when there is an element of recognized danger present. When a pilot is momentarily occupied with other things, a slow lateral tilting of the aircraft or other movement from straight and level normally will remain unnoticed up to a certain point. Due to the sensory perception of movement being disproportionate, the mind is more sensitive to strong accelerations than to weak ones and this slow movement is not recorded. The correction, however, being fast, makes an immediate impression and there is an opposite sensory illusion that the aircraft is now tilted and needs to be moved in the opposite direction to regain its level. The ability, or willingness, to ignore these false warnings is conditional on the will power, training and experience of the pilot. If the sensory illusion is not ignored there will be a continuous tendency to lean markedly to one side and the mental and muscular effort required to control the aircraft, in a short time will tire and disconcert the pilot to such an extent that control will be

lost, or marginal limits will not be maintained. The leans can also be caused by the optical illusion due to the non-parallelism of roads, shore lines, railways, clouds, and so on, in bad visibility and in rows of lights or light couples when seen without other references on dark nights. The most usual of these cases takes place when the pilot attempts to fly under conditions of alternate visual contact and instrument flight, especially when landing in bad weather conditions when quick transition from the exclusive use of the normal senses to the use of the specially developed instrument interpretation and *vice versa* is made. There seems to be a repeated slight time-lag in the changeover, during which the senses re-orientate themselves and during which time there is a tendency to lean. This period appears to be cumulative and measurably increased with fatigue".

With Captain Newton's article before us, can we, as a matter of law, apply to aircraft disasters, in every case when the cause of the accident is unknown, unexplained or impossible of ascertainment, the principle of *Res Ipsa Loquitur,* such as it was formulated some 88 years ago by Chief Justice Erle in the *Scott* case?

The present writer's answer is a most emphatic "No".