THE SAL FORENSICS CONFERENCE 2009

THURSDAY, 8 OCTOBER 2009

Opening Remarks of

Chief Justice Chan Sek Keong

1. Over the next two days, the Conference will involve experts in discussions on a broad range of topics on forensics. Since I cannot contribute anything worthwhile to these discussions, what I would like to do now is to offer a few comments on how a judge should deal with expert evidence on matters that he is not expected to know, and there are of course many things that a judge does not know.

2. The judge can only rely on his experience of human affairs, his intellect and analytical power, and sometimes his common sense, to understand the evidence of the expert in order to make the proper factual findings in the case. He has to rely on the honesty and objectivity of the expert, and this in turn means that the expert must assist the court in the same way, with honesty and objectivity, in presenting their hypotheses or theories on what happened and how it happened.

3. In a court of law, the truth is not out there somewhere, but has to be inside the court room as the judge must decide what it is. There are broadly three degrees of proof of a fact - certainty, probability and possibility. The law is only concerned with probability, because certainty imposes too high a standard whilst possibility is too low a standard. There are two basic standards of proof in law: proof beyond a reasonable doubt and proof on a balance of probabilities. But scientific evidence can achieve near certainty, whilst certain kinds of expert evidence are no more than the personal opinion of the expert.

4. Thus, while the courts must welcome expert evidence to assist them in fact finding, judges must be aware that there is a wide range of evidence which could range from simply “expert” to “scientific”. A scientific fact is verifiable and testable in similar conditions, e.g., cold fusion failed as a scientific fact because it could not be verified under the same test conditions. A reconstruction of past events to determine how and why a certain thing happened cannot be verified in the same way. As Henri Poincaré, a French mathematician and philosopher of science, once said, “Science is built up of facts, as a

house is built of stones; but an accumulation of facts is no more a science than a heap of stones is a house". Facts by themselves mean nothing without a hypothesis which can be tested against other relevant facts.

5 Max Gluckman, a social anthropologist, once said and I quote "a science is any discipline in which the fool of this generation can go beyond the point reached by the genius of the last generation". What he means of course is that in matters of science, the present knows more than the past, and the future knows more than the present. In matters of science, this is a truism. Forensic science has made vast progress in the last 50 years as a result of the tremendous advances in science and technology, making available a large array of forensic tools to pathologists, anthropologists, psychiatrists and other experts to determine all sorts of identification such as body and bullet identifications, DNA profiling, toxicology identification, even footwear identification. Improvements in physical forensics and now the development of computer forensics have inevitably meant a large quantity and variety of forensic evidence entering the courtroom in recent years. The examples are DNA evidence, fingerprint evidence, handwriting evidence, medical and psychiatric evidence,

and vehicular accident reconstruction evidence. One day, even polygraph evidence may be admitted as evidence in court, or a truth machine is invented to render all criminal trials redundant except on sentence.

6. I had intended to discuss a capital case which I (and the late Justice Chua) tried in 1990, viz., *Public Prosecutor v Ang Soon Huat.*[1] Ang was charged with trafficking in slightly above 18gm diamorphine. His counsel disputed the weight. So, the whole case turned on how the weight was determined. I was going to discuss the methodology used by the prosecution's expert, but I understand that Justice Kan will be speaking to you later about that case, so I will let him tell you the full story. However, I would just add in passing that the prosecutor in that case is also now a High Court judge. He made a complicated mathematical submission based on probability theory involving the application of the normal distribution or Gaussian distribution. His submission was that on the basis of the test results, the probability of the amount of diamorphine being less than 20 gm was lower than 1:10,000,000. In other words, there was a "one in ten million" chance that prosecution's experts' findings of weight were wrong.

[1] [1990] SLR 915; [1990] SGHC 121

Ultimately, of course, the question that the court had to answer was whether the prosecution had proved beyond reasonable doubt that the amount of heroin was not less than 15 gm. I will let Justice Kan tell you the rest of the story. The case was a great triumph for him.

7. A judge must give careful and due consideration to expert evidence, but he must remember that it is he and not the expert has to decide what the facts are. Even where the scientific evidence falls into the realm of (what may be referred to as) hard science, a significant probability of error may exist if less than exact and meticulous methods were employed in the analysis. Here is recent illustration. There is an ongoing coroner's inquiry in Shah Alam, Selangor, on why Teoh Beng Hock, a political aide, was found lying dead on the floor of the building where he was interrogated. Was it an accident, a murder or a suicide? Teo's blazer had two DNA profiles, one from him and the other from an unknown person "Male 1". Who was Male 1? Could he be the person who had thrown Teoh out of the window? The coroner was told that "Male 1" was another deceased (Gopala) whose post mortem was done just before Teoh's. The forensic expert testified that the probability of the DNA profile belonging to

Gopala was 99.9%. The moral of this story is that forensic experts must exercise utmost care and thoroughness in analysing the evidence or they risk assisting, *not* in the administration of justice, but in the miscarriage of justice.

8. Albert Einstein once said, and I quote, “The whole of science is nothing more than a refinement of everyday thinking”. To paraphrase him, whoever the expert is who is giving evidence in the case, the judge has to sit back and ask himself or herself two basic questions: (a) is the methodology acceptable and (b) what does all the evidence add up to?

9. I now have the great pleasure in introducing our keynote speaker, Dr Henry C Lee. He is a man who has not only refined, but defined, the role of forensic science in the courtroom. Dr Lee is currently the Chief Emeritus for the Department of Public Safety in Connecticut. He is also the Director of the Forensic Research and Training Centre in Bradford Connecticut as well as the Founder of the Henry C Lee Institute of Forensic Science.

10. Dr Lee is undoubtedly one of the world’s leading forensic scientists. In an illustrious career spanning more

than 39 years, Dr Lee has provided expert testimony in many cases all over the world, including the famous (or infamous) OJ Simpson trial and more recently, the investigation into the attempted shooting of ex-President Chen Shui Bian. He is also a prolific writer, having authored hundreds of articles in professional journals and having co-authored more than 30 forensics-related books.

11. Dr Lee is also not a stranger to Singapore. In 2005, he was engaged as a consultant to the Singapore Police. But I first met Dr Lee in October 1998 when the Attorney-General's Chambers organised a forensics seminar[2] where he was the star of the show. He did not fail us. At the conclusion of the seminar, the DPP who was in charge of the slides left a new and expensive notebook on the stage. He thought no one would dare to steal from AGC. The laptop was stolen. Unfortunately, there were no traces for Dr Lee to look at. Dr Henry Lee will be speaking on the subject "Investigation of High Profile Cases Involving DNA Evidence". If you have not had the pleasure of hearing Dr Lee before, you might not want to attend another forensics conference unless Dr Lee is the keynote speaker.

[2] The International Crime and Technology Conference, 14-16 October 1998

12. Please join me now in welcoming Dr Henry Lee on stage.