

CHANGES TO PRACTICAL  
LEGAL TRAINING FOR  
WOULD BE LAWYERS  
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It is not clear how the proposed new national scheme will affect those who serve a period as a judge's associate as part of their practical legal training for admission. Under the present Territory rules, twelve months spent as an associate counts as six months towards the required period of articles which is one year. (Twelve months is the usual period of service as an associate, and the period of "credit" cannot be more than six months no matter how long is spent as an associate.)

It seems unlikely that an articulated clerk could achieve all the necessary competencies in only six months of articles. If the requirement of 90 hours or programmed training is also adopted, this would be a significant imposition on both clerk and master for a clerk doing only six months articles. Perhaps the period of post-associate articles will have to be twelve months, or associates will have to attain some competencies by courses while serving as an associate.

Whatever the details of the new scheme as ultimately implemented, it is clear that there will be changes, and at first blush they would seem to be changes for the better.

### Commercial Lawyers Committee

The Law Society Commercial Lawyers Committee was formed to provide advice and recommendations to Council on commercial law matters and to discuss relevant issues. The committee is currently comprised of:

Tim Jacobs (Chair)  
Bill Parish  
Tracey Reeves  
Alastair Shields  
Peer Schroter  
Jim McEwen

Any interested commercial lawyers are invited to join this committee. Please contact Tim Jacobs at Ward Keller on 8946 2901 or [timjacobs@wardkeller.com.au](mailto:timjacobs@wardkeller.com.au)

# DNA EVIDENCE: ALTOGETHER USEFUL

John Adams, Director of Public Prosecutions

Earlier this year at about 6.00 am I was sitting at my desk preparing yet another prosecution. While watching dawn break and sipping on some coffee I was thinking how I was to argue that yet another drunk should spend more time in gaol.

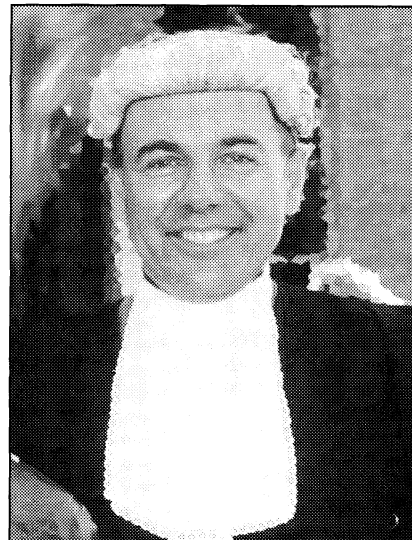
As I was wondering how to answer another no case submission my gaze turned to a brochure that had been on my desk for a week or so. A DNA conference in Adelaide. Now there's an idea. Accommodation in the Stamford Grand Hotel, a gala dinner, and three days away from the office.

Over the years I had prosecuted several cases where DNA evidence was important. Whilst preparing these cases I had several meetings with the scientists and learned some of the jargon. The statistical side always remained somewhat of a black art. What do odds of one in 20 million mean?

During one of my cases my opponent was brave enough to ask for the calculations supporting the statistical conclusions so I gave them to him at the bar table — a big lump of pages with numbers all over them. He complained to the court that the material may as well be in French. I secretly agreed.

I forwarded the DNA brochure to the boss with a request to attend the conference together with a carefully crafted argument about raising the office expertise etc. So I found myself in Adelaide early in September this year.

The conference was open to all interested persons and defence lawyers were encouraged to attend. There were about 150 attendees including representatives of the manufacturers of DNA testing kits and many of the leading lights throughout Australia. These people made the topic sound simple. They spoke of "take home messages" and this is what I was able to "take home".



John Adams

### Basic theory

Human beings (and all living things) are made of cells. The organization of these cells is dictated by Deoxyribonucleic Acid (DNA). There are over three billion pairs of DNA in each person. Each person is different (except identical twins) because whilst they inherit equal parts of DNA from each parent the possible combinations are almost limitless.

### Forensic testing

DNA exists in every cell in the body and is identical in every one of these cells. It looks like a double stranded helix.

I was told at the conference that there is enough DNA in each human body to reach to the sun and back three times. I am not sure why I was told this but it was probably in order to give me a useful edge at the next quiz night I am unable to avoid.

DNA can be extracted from blood, saliva, semen, hair follicles, fingerprints, teeth, bone and tissue.

Analysis involves isolating the DNA material at certain sites on the long double stranded helix. This material is

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# DNA EVIDENCE: ALTOGETHER USEFUL

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then identified. This process is now carried out by machine with the assistance of special kits of materials that can only be used for one test.

The precise contents and processes of the testing kits are closely guarded commercial secrets, at least until the technology moves on to the next level. The knowledge was costly to acquire and the issue of subpoenas in DNA challenges had resulted in interesting questions for the trial judge.

At the present time it is usual to examine the DNA at nine sites, but this can vary.

From previous testing it can be observed how likely (probable) it is that the observed DNA material would appear at each site. When this probability is multiplied against that at each of the other sites the result is the probability of that DNA sample appearing in the record of previous tests.

The previous history of tests is contained in a database. Not everybody in the world has been tested (there being

many good reasons for this).

Once the probability of the DNA sample appearing in the database is known statisticians can then calculate the probability of that combination appearing in the general population.

## What DNA can do

With absolute certainty DNA can exclude a person from being the perpetrator of a crime. That is, if the DNA sample (say semen) found at the crime scene does not match that of the suspect, someone else must have left the sample.

This is a very important point. In the Northern Territory the forensic laboratory at Berrimah regularly excludes suspects from investigations. In fact they exclude well over 100 suspects for every one they include.

During the conference we were told of numerous examples where accused persons on death row in the United States had been excluded after conviction.

## The prosecutor's fallacy

Because not everyone has been tested the science can only say what is the likelihood of a particular DNA sample occurring in the overall population. Due to the almost infinite variety of possibilities these likelihoods can be very low, typically one in several million or less.

It is very tempting to say that the likelihood of someone else committing the offence is thus one in several million. This does not follow. The evidence only says that the likelihood of the sample being found in the general population is one in several million.

Whilst this is a powerful pointer to the identity of the offender, courts are interested in the probability that the accused committed the crime. This assessment depends on all the evidence. Perhaps there is alibi evidence; or the accused was at the scene at a closely related time, but left the DNA material in an innocent manner.

## Relatedness

Identical twins have identical DNA because they come from the same fertilized egg.

To digress, my 11-year-old son plays competition cricket with identical twin boys and these twins have very different bowling actions as well as batting averages. I have often wondered why this is so.

As one would expect full brothers or full sisters are more likely than strangers to have the same DNA at the particular tested sites. This is because they have the same parents. The testing can identify the sex of the person who supplied the DNA sample.

If one or more brothers of the suspect exist this can significantly increase the likelihood of a particular profile appearing in someone other than the suspect and upset the statistics. Cousins also present this problem but to a much lesser extent.

The difficulty is not one for the scientists, rather one for the courts. If the statistical evidence is challenged on this basis then evidence will be required to eliminate the brother, cousin etc. Usually the relative is well excluded from suspicion by the other evidence. One sure method is to have the relative himself tested.

## Conclusion

There have been many challenges to the admissibility of DNA evidence over the last decade. The conference was organized by the South Australian DPP after that office had been involved in a lengthy voir dire in relation to that topic, the systems used at the Forensic Science Centre in South Australia and the relevant expertise of those sought to be called to give the evidence (*R v Karger* (2001) SASC 64).

I suppose such challenges will continue but the area has now been closely examined and it appears, to me at least, that in the normal course there is no reason to exclude DNA evidence. Altogether a useful tool.

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