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***Learned Helpfulness:
a New Approach to
Legal Education***

by

Kevin Borick QC

SA Lawyer (in collaboration with Dr Bob Moles,
Associate Professor of Law, University of Adelaide)

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The Networked Knowledge Program Learned Helpfulness

Kevin Borick QC – Bob Moles and Bibi Sangha¹

The battered woman syndrome introduced us to the concept of “learned helplessness”. That is the process whereby an individual becomes helpless in the face of overpowering, consistent brutal force.

The concept of “learned helpfulness” is therefore a way to describe a process whereby my learned friends are both seen to be, and actually are, *helpful* to the communities we serve.

There are, at the present time, about 30,000 embryonic learned friends in Australian law schools. Just how many of those will turn out to be both learned and friendly is a matter for conjecture.

The Networked Knowledge Program which will be described to you today is a method of learning which is designed to have the respect of the professions and the wider community. It is a program of far wider application than the teaching of the law but, insofar as this is a conference of mainly criminal lawyers, the description of the programme will focus on the training of future criminal lawyers.

The catch-cry for the programme is “learning through doing”. *Doing* in this context means finding a solution to a problem. The fundamental proposition of the program is that either, there is always a solution to any problem, or there is at least a way of advancing our understanding of the issues giving rise to any problem. The program provides an inexpensive, efficient way to find the quickest way to the solution which must exist. The second fundamental proposition is that the quickest route is preferable to one which might have less imperfections, but would take too long to be of any real use.

Dr Moles will first explain the basic concept and its philosophy. The authors will then explain the background of their involvement individually and jointly. In this way we will provide you with an overview of the way in which academics and practitioners can work in a mutually supportive manner. We will then further provide you with a number of examples of how it works in practice.²

Essentially the Program is to enable law school academics and their students to teach and learn whilst providing practical support to lawyers in their daily work. By this means we hope to extend the range of research opportunities available to those studying law units.

- Develop more flexible methods of delivery of teaching in such units.
- Develop opportunities for practitioners to have input into the development of student projects and teaching.
- Enable students to develop “value-added content” for lawyers and their clients and for public access.

The establishment of the NK program will help to achieve a university’s goals and add-value to the work of any Law School.

It will give students who choose to work with it the opportunity to work with other students in teamwork whilst having an emphasis on ethics, individual responsibility and accountability. It will focus on bringing together students with different experiences or needs – so that students will have the opportunity to work with, and learn from, each other. Later year students will work in groups with earlier year students – what we call “vertically integrated teams”.

¹ Kevin Borick QC is of the South Australian Bar, Bob Moles is an Associate Professor at Adelaide University School of Law and Bibi Sangha is a Lecturer at Flinders University of South Australia School of Law.

² Our discussion at the conference will focus upon the recent issues and cases on which we are working.

It is important to emphasise that any students within a School of Law should be able to join the Program, and obtain the advantages of the external contacts and supervision which this will give rise to. It is a matter for lecturers within individual subjects to determine whether the experiences so gained can count as assessable components within individual courses. We will encourage interdisciplinary teams – so that we will have law students in teams with medical, science, or psychology students, for example. Specialist teams can be put together to suit the needs of any particular project.

Students these days have many different needs and abilities, and also have many more demands to cope with in addition to their studies. We need to provide opportunities which are responsive to both their needs and abilities.

We also need to provide methods of learning which will have the respect of the professions and the wider community. Indeed, we need to provide them with opportunities to engage with our students during the learning process – so that the students can appreciate the difficulties and time constraints which are involved in practical research, and the skills which are used in overcoming them.

The online threat

The method of teaching “at” our students through the standard lectures and seminars can easily be replicated in the developing online environment. One can easily imagine the scenario where a series of “famous” lecturers in an area of study provide online lectures and tutorials which will lead to a degree from an internationally acclaimed university. Harvard and Oxford Universities have invested substantially in online programs. Many universities without a clear strategic plan or investment strategy will find it impossible to compete with them.

The response

If we really want to provide an integrated learning experience for the students which cannot be replicated within the online environment, then we have to do two things:

- **Recognise the individual qualities of each student** – especially their prior experiences and learning which they bring to us. Treat each student as an **ASSET** not a **LIABILITY**.
- **Develop a collaborative network within the local / national / international communities**, and recognise that there are many people who can be seen as a valuable resource for our learning and research strategies - and who can in turn benefit from our input into their daily work.

In “Move over McKinsey, student projects are taking over”, (Business Review Weekly – June 15 1998) Haynes and Setton state that “Many companies are finding that using student MBAs is cheaper, and just as effective, as hiring one of the big management consultancies”. We have found that well-motivated students soon earn the respect and trust of seasoned practitioners, and contribute well to their research and associated strategies. This is often evidenced by the payments which the practitioners choose to make to the students for “a job well done”.

New knowledge – new revenues

We can generate intellectual property by enabling our students to partner with skilled professionals. The students can write as they learn and create new content for both professional and public needs for information.

This more active engagement with our students and the wider community will lead to new forms of knowledge and information sharing which the students and the wider community will value. The tangible form of the recognition of this value will be the extent to which we can create “value-added” knowledge which will give rise to new opportunities for us all. Publication of outputs is therefore an integral part of the success of the new strategy. The software associated with this form of publishing will also give us instant details about the number of documents published over any period of time, and their authors and supervisors. It will also give us a great deal of information about the users of that information. This “meta-data” is itself, important new information which will help us to develop and refine our evolving management strategy.

Strategic goals

If we were to start from the "big picture" view of the strategic goals of the university and the Law School, it is clear that

- Government funding to the university will be based in the future on involvement with industry and the professions and funding to be obtained from external sources in addition to those from government sources. In other words, government funding will be influenced to a great extent by industry funding. For areas such as science, engineering and medicine one can readily see how such departments can develop linkages with industry. With conventional law teaching and research, it is more difficult to see how this can come about. The new initiatives which we are developing have not only demonstrated the wide range of opportunities which are available to us – in South Australia – interstate – and overseas – but also the clear opportunities to link these to revenue generation.
- We have to bring about substantial changes in student perceptions of their experience at the Law School. It is clear from our experience so far that the students have considerable enthusiasm for these new initiatives and the opportunities which they bring to them.
- We have to develop more positive perceptions of the University Law School. The program which we are developing has widespread and enthusiastic support amongst students, practitioners, the business community and others.

It is clear that the initiatives being proposed here will have greater success if the opportunities which they create can contribute towards assessment for the degree subjects which the students are undertaking.

Networked Knowledge developments

A brief overview of some of the issues which are involved will enable us to see how they promote progress towards the attainment of the university's strategic goals.

DEVELOPMENT OF STUDENT CAPABILITIES

The basic premis of the development plan is that we will constantly have to do more with less. New sources of funding, especially utilisation of venture capital, will prove to be very costly to us in the long run. So we have to look to see where we have existing resources which can be applied to new uses, without substantial additional cost.

The secondary premis is that the quickest route to altered perceptions and revenue flows is preferable to one which might have less imperfections but would take considerably longer. "Learning through doing" should be the catch-cry in the new environment. The educational and commercial environment is changing so quickly, that the refinement of "plans" can merely be the way of delaying action, or rendering proposed actions ineffective.

The most valuable and under-developed resource which is available to us – is the students themselves. As a resource, they are available to us at no additional cost. They are intelligent, enthusiastic – and can learn quickly in the right situations. We should involve them in what we describe as "value-adding" activities as much as possible. With nearly 1,000 such students in a typical Law School, we can now begin to develop programs which will draw upon their wide range of skills and interests. The product of their activity will add considerably to the public standing of the Law School, the University, and the profession.

It goes without saying, that we think that it is important for our undergraduate students to develop an international perspective to their work, and to appreciate that collectively, they may be able to "make a difference" to our justice systems. We have some 30,000 undergraduate students studying in Australia. We will give you a brief overview of the range of program activities.

SCHOOLS DEVELOPMENT PROGRAM

There is a perception that Law Schools frequently draw upon a narrow range of elite schools for their intake. The schools sector however, also represents a significant area where we could develop materials for law and justice-related issues. Educational inequalities give rise to social injustices. This

program has assigned students to schools around the State. Our students can liaise with the legal studies teachers in those schools to:

- Provide presentations to the school children about law and justice issues – the school students may be able to relate more to an exposition by undergraduate students, than to one by an academic or practitioner.
- Assist the school teachers in the development of relevant and current materials – which could be made available from our web site, and relate to topical issues being discussed in the media.
- Link up with barristers, solicitors, judges and broader social programs to help the school to access a wider range of resources.

LITIGATION SUPPORT PROGRAM

Student teams have been assigned to practitioners to enable them to conduct research into matters coming before the courts. Practitioners, especially criminal lawyers, frequently tell us that – because of resource restraints - they are often underprepared when their matter comes before the court. We now have students who are involved in the preparation of major criminal and civil trials and appellate matters. We have had four teams working on cases which went to the Australian High Court. Both the practitioners and the students have expressed their considerable support for this program, and it has already led to some students receiving not inconsiderable payments in return for their efforts. Students invariably agree that “seeing the law in action” is not only stimulating but contributes substantially to “long-term learning”. Some practitioners are happy to make payments to their student researchers, especially where the research has led to a successful outcome in the case.

COURTS AND LEGAL INSTITUTIONS REPORTING

The courts administration can benefit from the considerable support which we could provide in explaining the role of the courts to the wider community. We already have students who have written materials on each of the major legal institutions both within this country and overseas. We can set up a system of court-monitors who will track progress of significant cases within each court system, and provide timely updates on developments. This could generate funding from press and other media organisations who would often find it more cost-effective to utilise our students to track progress of cases rather than assign a full time reporter who is not legally trained.

JUDGES AND MAGISTRATES

Students have been working with a number of judges and magistrates who are interested in developing research into law and social justice issues in addition to having research support in their conduct of particular cases. This part of the program can be rapidly expanded, and the students particularly appreciate working in close contact with such people. They gain insights and skills which would be relevant to their studies in many courses. They can of course experience opportunities which would not be available to them once they qualify as practitioners.

MOCK TRIALS

During this last year, we have undertaken “mock trials” in each of the major courts in the State. The students have found this to be most interesting, and there are clear opportunities for developments involving practitioners, judges, magistrates and police.

LAW SOCIETY

Students are now sitting on each of some 24 committees of the Law Society. A number of initiatives have arisen from this source, both in connection with the work of the committees, and other work which the practitioners and judges on those committees, have referred to the students.

CASE REPORTING

Students can be used to provide concise and accurate summaries of recently reported cases from a wide range of jurisdictions. This will promote their legal training at the same time as providing a “case-reporter” system, which will prove to be of much benefit to the legal profession and the wider

community. Clearly students on all courses in the faculty could gain some credit for writing of relevant case-notes. The online availability of such output can bring both credit and income to the Law School both nationally and internationally.

INDIGENOUS PEOPLE

We have found that very often, lawyers working with indigenous people pursue their own perceptions of what "they" – the indigenous people - need, rather than taking the time to understand the culture, values and goals of the people they serve. We propose training undergraduate students to work closely with aboriginal people on their own land and in their own environment, to first learn what it is the aboriginal people want to achieve. Many of our students have had previous involvement with aboriginal people – having been brought up in those communities, or having worked with them in other ways. Those experienced students can lead others into a fruitful and mutually respectful relationship with aboriginal people, and then help to train judges and lawyers and others based on their experience and understanding. Many issues will arise in relation to commercial developments in relation to aboriginal lands, and we will seek to provide training, advice and other support to aboriginal people to ensure that they are fully informed and able to negotiate on all matters affecting their interests. Petrol sniffing, drugs and alcohol are matters upon which aboriginal people require access to better education and strategies to enable them to deal with these issues. Frequently these social problems and commercial issues will need to be tackled together. Criminal lawyers have told us, that in representing aboriginal clients, they often feel that the underlying issues are more to do with the social and medical circumstances, and that they would appreciate readier access to reports and support in these areas.

THE SOUTH AFRICA PROGRAM

This was really the start of the Borick / Moles / Sangha collaboration. Kevin had been to the International Criminal Law conference in South Africa in December last year. He was appalled by what he saw. There are some 60,000 people in South Africa who are in detention awaiting trial. It will take some of them 2 years to get a hearing, during which time they might well contract aids. The prison conditions are appalling. Some 5,000 awaiting-trial prisoners could be out on bail if they could arrange bail of between R1-R500 – one Rand is about 0.23 Australian dollars. One senior judge in South Africa, Justice Fagan, has said that "these people are in detention because of their poverty". When Kevin returned to South Australia, he met up with Bob and Bibi who had been developing the student program, and he realised that there was a vast number of law students around the world who could "learn whilst doing".

We will work with the South African universities to develop student teams there to support their judiciary and legal practitioners. We will then link the South African student teams to others working in Australia, the USA, Canada, UK, Malaysia and India. Teams will focus on specific issues, and work together in analysing the problems and possible responses. The Canadian or American students might focus on the constitutional issues with which they would be more familiar. Australian students might focus on criminal issues and those related to case-management systems which are well developed in some states. This means that law students around the world will develop a constructive international perspective, and be able to contribute to, as well as to learn from, their counterparts in other countries. Their focus will be upon "real issues" with the determination that their involvement will "make a difference" to the outcome.

THE AFRICAN BOXERS

At the present time, we are providing support to some African boxers, who having come to Australia for the Olympics, are now seeking to remain in Australia to develop their training and careers in this area. Australian business people have recognised that they have considerable talent, and are putting up substantial sums of money to provide them with support and training. The following web site provides details of this program: <http://www.akboxing.com.au>

POLICE TRAINING AND MANAGEMENT ISSUES

Students can work with a police training college to revise teaching materials, review prosecution briefs and engage in mock trials. The police will put considerable effort into the development of relationships

between the cadets and the law students and we will be likely to develop some "buddy" or pairing system. Students will give presentations at the College on materials which they have revised and will get to meet the cadets and the officers running the programs. Probationary police officers will also participate in the mock trials, and will be notified "as witnesses" through the normal police department procedures. We have been working with families in a number of police shooting cases, and it is important that we learn from other jurisdictions, where police are not armed, about how they respond to potentially violent situations short of using deadly force. We will look at areas of police management, strategic planning, crime prevention, and also work with the police rapid response group. Such a group is keen to understand how young people think, and they will have much to learn by working with our students. Understanding the culture and operation of the police is not something which the students can gain through undergraduate courses at many law schools, yet is an important aspect of knowledge for any junior lawyers.

INDUSTRY SUPPORT PROGRAM

We are confident that industry groups would pay sums of money to have research teams looking at legal issues, which arise in their industry, in addition to matters of law reform. The building industry, small businesses, insurance, outsourcing, food processing, and the scare relating to petroleum distribution all give rise to major legal issues which individual companies, and often individual legal practitioners are ill-equipped to deal with. A team of students with appropriate professional and academic supervision can gain both interest and financial support from industries related to their areas of interest. It is important to note that our student research teams can be "fired-up" by industry groups whose head offices are either interstate or overseas. At the present moment, we are examining issues related to the Mining and Minerals Industry in South Australia. In discussions with people from the Dept of Primary Industries, they have suggested that they would, in principle, have no difficulty in providing experienced lawyers to teach a course on Mining and Mineral Resources law. This is an area which is of particular importance to South Australia, as the lands, owned by the indigenous people cover 28% of the landmass of South Australia, and is the area where exploration is likely to be most beneficial. Primary Industries is the regulator for the mining industry, and controls the grant of licences for either exploration or mining developments. They have significant problems in processing applications at the present time which we could examine with them. These delays are holding up billions of dollars of investment in South Australia, and is of great concern to the government.

Primary Industries is particularly keen to ensure that any applications for development bring both financial and social benefits to the Aboriginal people, and respect their culture. The Department would also be willing to fund trips by students to the Aboriginal lands to enable them to examine on-site the way in which geological explorations are conducted, and also to meet with the aboriginal people to understand their concerns, and perhaps to engage in educational programs for the aboriginal people. Naturally, all of this would only be done with the permission of the aboriginal people, but it is clear from our discussions with them, that they would appreciate these opportunities.

Despite the fact that some \$40m is being spent by State and Federal government on the issues related to the Anunga Pitjinjatjarra lands, the 3,500 people living there still live in conditions of abject poverty. They suffer from malnutrition, and all of the medical conditions associated with poverty. There are serious issues of petrol-sniffing and substance abuse amongst their young people. Economic development can provide revenue streams which can lead to improved conditions, educational programs, and business opportunities. Contracts can include social obligations in each of these areas. Criminal activities could be reduced by sensible partnerships with business, as we hope will also be the case in the context of South Africa.

GOVERNMENT DEPARTMENTS, SOCIAL PROGRAMS AND LAW REFORM ISSUES

There are a wide range of government departments and government funded bodies who are involved directly or indirectly in issues of law and law reform. The Attorney General's Dept, the ACCC, the Small Business Office, the Public Advocate, the Equal Opportunities office, the Rape Crisis Centre are just a few that students have been working with. There are clear opportunities for our students to work with many of these groups to develop discussion papers on issues of law reform.

CORRECTIONAL SERVICES

The Correctional Services Department has some major issues in which our participation has been invited. They have an interesting schools program called Straight Talk for which our students could do both introductory work and arrange follow-up discussions. We understand that there is to be a review of the Correctional Services Act, and clearly there would be an opportunity for a student research team to work with both the CEO of Correctional Services and the Minister for Corrections in the development of new legislative proposals.

POLITICAL SUPPORT PROGRAM

Ministers, MPs and Councillors – actual and prospective – are very much engaged in issues of law reform and development. Student research teams are keen to work with politicians from all sides, whether in or out of government, on a wide range of issues. It gives students an important insight into the processes of government, and strengthens their sense of community concern and responsibility. We are confident that by demonstrating the wide range of practical ways in which we can assist these important players in the democratic processes, that they will wish to assist us by seeking sources of funding.

COMMUNITY LAW CENTRES

There are a number of community law centres in both metropolitan and rural areas, and our students would find much to interest them in working with their legal advisers by providing them with much needed research support. It is very important for our students to get some sense of perspective through an appreciation of the issues which ordinary people have to cope with from day to day.

MEDIA SUPPORT PROGRAM

Our student teams will be working with people in both the print and electronic media. They can be used to track the development of cases or of proposed legislative changes – and liaise with many of the interest groups involved. It goes without saying that the students will gain much by way of professional skills and understanding from close contact with journalists in their areas of interest.

LAW AND MEDICINE

We have people experienced in both psychological and medical aspects of law, who deliver programs to a wide range of groups both within and outside the justice system. Programs which help court officers in dealing with jurors who have been involved with traumatic cases, and programs which help doctors avoid the risks of litigation, for example. We hope to be training some law students in these programs. The students will then be involved in the delivery and development of those programs and generate new revenues and opportunities. There are clear opportunities for law and medical students to work together on these issues.

MISCARRIAGES OF JUSTICE ISSUES

There are also a number of cases at any time where concerns have been expressed with regard to “wrongful convictions” or where people are concerned that an apparent “suicide” might have been a wrongful death. There is a clear opportunity for a group of independent law and medical students to conduct an initial review of both the evidence and procedures to see if there is a *prima facie* case for further inquiry. Even a negative conclusion by such a team might be found to be re-assuring to families and others involved in such cases. Doubts or suspicions that proper procedures have not been followed, can be undermining of confidence in our justice system, even if they are unfounded. The Innocence Project in the USA has led to journalism and law students undertaking research which has led to the overturning of many convictions on the basis of new DNA evidence, or the identification of new witnesses. Many of those convicted were facing the death penalty. Clive Stafford-Smith, a New Orleans lawyer on his recent visit to Australia, suggested that as many as 30% of his clients are likely to be innocent of the charges for which they have been convicted.

LAW AND OTHER DISCIPLINES MORE GENERALLY

All other disciplines have legal aspects to them, whether engineering, commerce, architecture, computer science etc. A large proportion of our students are involved in other degrees, and can provide a natural bridge between the law school and those other disciplines – and through them to those industry sectors. Instead of law being the one of weakest area of the university in terms of industry involvement, we could easily become the strongest.

FORENSIC SCIENCE CENTRE

The interface of science and law will continue to be productive of many issues of social concern. Whether related to issues of infertility, cloning, DNA databases, use of polygraph (lie detector) testing, and many others. Practicing lawyers find it difficult enough to keep up to date with the current rate of legal changes. It is beyond the capability of most to understand the complications within each of the scientific areas with which they have to deal. The briefing and examination of expert witnesses thus becomes very difficult. We will utilise cross-disciplinary teams of students to research and explain many of these issues to lawyers in simple language which they can understand. Our students doing microbiology and law, being bi-lingual (in the languages of science and law) can explain to lawyers what DNA is really all about. This empowers the lawyers to look more carefully at the explanations put forward by the experts.

THE INDEPENDENT LAW REFORM COMMISSION

We are seeking to establish an independent Law Reform Commission in South Australia. This will take up issues which arise in many other sectors, and seek to develop discussion papers which enable people from all sectors of society to “have their say”. The students, in conjunction with all other interested parties, will then seek to provide models of the various alternative solutions, together with an independent analysis of the strengths and weaknesses of each, and estimates of the costs of implementation. In this way, we hope that our students will provide a valuable service to elected representatives and government, as well as providing a vehicle through which “ordinary people” can have a voice. The independent law reform commission will be able to tackle issues which need to be debated, as opposed to those which fit the sometimes partisan politics of the current incumbents of state and federal governments, and local councils. By being able to tap into an international research network, we can analyse solutions which are being discussed and implemented around the world.

Watson's - An Independent Forensic Science Service? (IFSS)

Given that the government has outsourced so many of its services over the past few years, it seems to us that an independent forensic science capability could be funded and developed from an combination of private sector and university sources. No doubt insurance companies and business generally, have an interest in the reduction and effective investigation of crime. What is the range of cases for which a privatised service could be used? Kevin Borick has appeared in a number of cases where “inadequate police investigations” have occurred. With increasing scientific complexity arising from issues such as DNA, there may be scope for increasingly privatised and specialist investigation services. Universities have already provided such services in a number of areas. In our view there is potential to be gained from extending and formalising the provision of such services. Some of the areas of university expertise would include the following:

MEDICINE - PATHOLOGY

Clearly the pathological aspects of medicine – the progress of disease and the effect of trauma – are essential areas of forensic medicine. The medical school has people who specialise in pathology, and are developing “expert systems” in this area. There are obvious opportunities for joint research and support.

FORENSIC ANATOMY

Professor Maciej Henneberg is a specialist in this area, and he describes his skills as follows: Identifying fragmentary human skeletal remains, including cremated remains, using experience gained as an osteologist in identifying several thousand of skeletons excavated by archaeologists.

Reconstruction (approximation) of faces from the skulls and identification of skulls by superimposition on photographs of missing persons. PhD projects in location of human remains in the Australian terrain, dermatoglyphics and face approximation and recognition.

Following specific skills are available:

1. Identification of human skeletal remains including fragmentary bones and burnt bones. This is best done in situ at the place of discovery when the position of discovered bones is as little disturbed as possible. The exact position and context in which remains are found provide important clues as to the circumstances of deposition and possible date. In the ideal situation notify me as soon after discovery of remains as possible. We try to come to the place of a find as soon as possible. Removal of bones by a forensic anthropologist allows him to accumulate a wealth of useful information that is lost when an untrained person removes the bones from their original position.

In many situations skeletal remains found will be those of ancient Aboriginal Australians. When this is the case the find must be immediately reported to Aboriginal authorities.

2. Facial approximation. Building the face from the bones of the skull. With the decomposition of the soft tissues of the face a lot of information about the individual is lost. We can restore general appearance of a face from the bones of the skull, but it is impossible to restore cosmetic detail or any scars and other minor individual imperfections. The method provides successful identification in a minority of cases and should be used only as a "last resort".
3. Anatomical identification. Both, the general shape and size of a body and details of its parts, are individually variable. It is possible, therefore, to establish from a photograph or a videotape, identity of a person even if only a part of his / her body is visible. The reliability of such identification will vary depending on body part and quality of images available, but even small portions of the body (eg an auricle or an iris of the eye) can sometimes provide conclusive identification.
4. Body position and movement. The human body is a biomechanical system of a particular weight, inertia of parts and ranges of motion that are defined by underlying anatomy. I have been involved in cases when it was necessary to determine whether a particular person could move in a particular way or a given body could be shifted as alleged by a suspect of a particular strength and body build within a confined space of a furnished room. As much detail of the bodies in question and of the circumstances are needed since some seemingly unusual piece of information can be crucial.
5. Difficult cases of dermatoglyphics (fingerprints). These are normally handled by police experts, but sometimes peculiarities arise, like, eg. a partial print with very unusual dermal ridge configuration that can indicate a particular growth disturbance of a physical condition.

My basic work is that of an academic. I am glad to help, but most routine cases can be handled by the Forensic Science Centre. I am only called upon if the Centre cannot provide appropriate expertise.

One can readily see from this description that Professor Henneberg is involved in a wide range of activities which would not only be of interest to law students, but to which they could also contribute. Professor Henneberg informed me that he was recently asked to provide advice to the police with regard to the subjects of pornographic photographs. The person found in possession of them claimed that the subjects were all of an age to consent to the activities. Professor Henneberg was able to determine that the anatomical development of the subjects was not consistent with that explanation.

I take the view that Professor Henneberg's expertise would be more widely used, if it was more widely known through the legal community. We have a current case where a child died from a violent blow - Professor Henneberg has said that he would be able to assist with research to establish whether such a blow could have been inflicted a) by a sibling of the deceased b) by the mother of the deceased. Such tests were not conducted prior to the conclusion of the trial, because "nobody knew of the existence of such expertise, and how it would be relevant to that case".

FORENSIC ODONTOLOGY

The markings made by teeth by biting on body parts or other artefacts such as an apple, cheese, or chocolate can be as precise as a fingerprint in identifying the person who made the mark. Teeth are also extremely important to the process of identification where a body has become decomposed or

damaged through fire or other events. We understand that the dept of odontology at the university already receives some \$150,000 from the SA Police – and clearly these collaborations can be developed.

The FSC has some 50 cases per annum, where the help from this Dept is essential. This relationship has been developed since 1973.

The Department runs an elective “forensic odontology” course in which law students could participate. They also run short courses for overseas students which can also be made available to law students. Law students will be able to attend at post-mortem examinations as part of their training. They will also be invited to give seminars to dental students on the workings of the legal system, and to take dental students on court visits. The odontology dept was recently required to provide advice to an overseas country on the age of a convicted person, who was scheduled to be executed. Their examination determined that he was not of a sufficient age to be despatched in this manner.

PHARMACOLOGY

This department of the university has a substantial interest in issues relating to the use and abuse of drugs, alcohol and other substances. They understand a good deal about their physical and psychological effects and issues related to addiction. As these issues are frequently involved in legal matters relating to breaches of the criminal law and family violence, the people working in this area are keen to develop a closer relationship with members of the legal community. In my recent discussions with the Aboriginal Legal Rights Movement, they have indicated that the work being conducted here could be of great assistance to them, as substance abuse is an important issue amongst their people.

PUBLIC HEALTH POLICY

An area in which the legal and ethical issues are of prime importance and into which our law students could have significant input. We have had a student working with a member of staff in this area. There are many aspects relating to new provisions dealing with privacy and access to medical records, which will be of great interest to both lawyers and doctors.

PSYCHOLOGY

Forensic psychology is developing as a specialist discipline within psychology. The “profiling” of potential offenders and victims is an important tool in understanding whether deaths may result from suicide or other causes, and who may be responsible for them. Interpretations of statements to determine if the “narrative coherence” is consistent with the known characteristics of the statement maker. The program activities in this area will complement the work being done by NADA which is the adolescent sexual assault centre in Adelaide.

The current head of psychology has only recently been appointed to Adelaide University, and has a special interest in issues related to forensic psychology, especially with regard to matters affecting children.

MOLECULAR BIOSCIENCES - MICROBIOLOGY AND IMMUNOLOGY

Infectious diseases, diagnostic and forensic procedures, reactions including allergic reactions to drugs and foods – the analysis of which will involve “polymerase chain reaction” (PCR) and “haemolytic uremic syndrome” (HUS) which forms of testing are well developed in this area of the university. Because modern scientific investigations are now far more powerful and sensitive, it is important, at the earliest stages of investigative procedures, to know what needs to be done to ensure that possible evidence is not contaminated in the early stages of investigations.

GENETICS AND MICROBIOLOGY

Major developments are taking place – especially with genetic profiling and genetic database developments. Crimtrak, which is the national database of DNA for those convicted of serious criminal offences, has been much in the news lately, with the suggestion that South Australia has been lagging behind. A Supreme Court judge recently criticised the unavailability of South Australian expertise in this area. He thought it to be an unnecessary expense to bring in experts from Victoria, if we has such expertise available locally. I agree.

MUSEUM OF SOUTH AUSTRALIA

They have substantial data arising from their holdings of birds mammals and reptiles which have been deposited with them over the years. This provides an almost unique source of data from which to do DNA mapping. This can prove to be of substantial benefit where police and customs are involved with people suspected of trafficking in rare or protected species.

ENVIRONMENTAL SCIENCES - ENTOMOLOGY

How insects solve crimes. This section has been written for us by James F. Wallman of Adelaide University.

Over 700 years ago in rural China, a villager was viciously murdered with a sickle. An inquest was held into the death, and the local farmers were ordered to assemble and place their sickles on the ground in front of them. The weather was hot and flies quickly alighted on the blade of one of the implements, attracted to traces of human blood and tissue. When the sickle's owner was confronted with the insect evidence, he promptly confessed to the crime.

This is the first recorded case of insects being used to solve a crime, documented in a textbook on forensic medicine from 1235. As such, it is a simple application of what is now known as forensic entomology, the scientific study of insects involved in matters pertaining to the law.

Most commonly, this branch of science uses insects to estimate the time that has elapsed since the death of a murder victim. This is done by determining the time of arrival, and subsequent development, of insects, especially flies, that are attracted to corpses to feed and reproduce. There is a need to use insects in this way because pathological methods of determining time since death lose their accuracy after about 24 hours.

Aside from providing an indication of time of death, there is other important information that insects can reveal about a murder. Since all insect species have particular geographical ranges and habitat preferences, identifying the insects on a corpse can indicate whether a body has been moved after death.

The manner and cause of death may also be inferred from insects. For example, the location and pattern of maggot infestation in a dead body may suggest death has occurred in a certain way, even when the associated tissue damage has been eaten away by the maggots. Insects have also been shown to accumulate poisons and drugs present in cadavers. Toxicological tests done on the living tissues of maggots are able to detect these substances if there are no remaining human tissues suitable for analysis, or if the body has been removed. In such situations DNA analysis of the gut contents of maggots also has the potential to identify the deceased.

Finally, establishing a link between a suspect in a criminal investigation and the crime scene is another important way in which insects can be of use to police. Insects present in clothes or on a motor vehicle can betray the fact that a suspect has been at the scene of a murder.

Despite the potential that insects have for the administration of justice, their use still has serious limitations. Much research remains to be done to refine the various forensic applications of insects outlined above. This is especially so in Australia, where only a very few specialists work in this discipline. Rigorous procedures must also be followed when collecting insects at a crime scene. It is important to stress the inherent difficulties of forensic entomology since flawed forensic evidence may threaten a person's liberty. Insects can play a useful role in criminal investigations, but they must be applied conservatively.

* Dr James Wallman is an Associate Lecturer in the Department of Environmental Biology at the University of Adelaide. He has been researching aspects of the biology of blowflies, with particular reference to their application to forensic science, for over ten years. He is the consultant to the S.A. Police in forensic entomology and has been called as an expert witness in this area in several criminal and civil matters in S.A. and interstate.

BOTANY

The presence of any traces of twigs, leaves, seeds or other growing elements can likewise help to determine where bodies (or suspects) may have been and when – or for how long they may have been

buried. We have significant expertise within the university which can help to identify fragments of such material, and where they may have been located. We have recently been asked to assist in determining the growth rate of cannabis plants.

PHYSICS

Understanding the velocities and angles involved in many vehicle collisions and other forms of accidents, can help to test the accuracy of statements. The utilisation of special lighting techniques to identify areas of bloodstains at crime scenes and on bodies – thermal imaging to find bodies which have been buried, or areas where the soil has been turned are just a few of the more obvious examples. Fragments of glass can be identified by its refractive index and indicate whether particles on clothing are from the scene of a crime or an accident.

CHEMISTRY

Ballistics and the chemical analysis of powders and residues is a special interest of Dr Kobus, whose special area of interest is in the area of chemistry of fluids and residues. There are obvious opportunities for collaboration between this dept and the FSC and the police forensic science dept.

COMPUTER SCIENCE

Computer science is important in all areas, but the ability to utilise computer capabilities for database development – 3 dimensional modeling – calculating possible velocities, impacts, directions etc requires specialist computing skills. Some of our students have been working with a criminal lawyer on a major criminal matter to assist with the coding of statements, so that the complex network of relationships between witnesses and the various dates and times mentioned can be more fully analysed. We have also been asked to assist a software development company in providing ideas for a software program which can facilitate internet commerce. They appreciate that students are often involved at the forefront of ideas dealing with technology, and that a “buzz group” of interested students could help them with their research or testing.

FORENSIC AUDIO

For the analysis of sound recordings on tape or other media, to identify individual sound components, or to ascertain whether the tape has been edited – the unit, in Performing Arts, has extensive sound mixing equipment, and appropriate software to identify the individual sound components visually. This enables any of the elements to be amplified or repeated in a number of different ways. A number of lawyers have indicated that they would be interested in having access to such equipment to isolate sounds on a tape recording, or to check whether it has been edited without their knowledge.

LANGUAGES AND LINGUISTICS

Particularly important in areas which require interpretation of written material or audio speech. Subtle variations in written symbols, and intonations of speech can be understood by people working in these areas.

MECHANICAL ENGINEERING

This section has been written for us by Ian Brown, the Operations Manager for MechTest at Adelaide University.

In this brief outline, the questions of: “What is Forensic Engineering?” and “What can MechTest offer in this field?” are addressed.

1 Forensic Engineering

Those involved in Forensic Engineering Have an overriding duty to assist the courts on matters relevant to their expertise in an objective and unbiased manner regardless of who is retaining the expert. Based on sound scientific and engineering principles, the opinion may satisfy the test of beyond reasonable doubt or indicates the most probable cause.

2 MechTest Capabilities

The Department of Mechanical Engineering through its commercial arm MechTest is able to provide forensic consulting services by drawing on the expertise of the Department's staff and facilities. MechTest can provide expertise in inter alia:

Material analysis - Stress analysis - Load estimation - Combustion characteristics - Fluid flow - Vibration and acoustic analysis - Vehicle and body dynamics - Design and Manufacturing systems - Welding processes

Below are some examples of the application of the scientific and engineering knowledge available in the Department to forensic investigations.

An analysis of a material's fracture surface often provides strong evidence as to the mode of failure of a component whether it is due to bending, torsion, tension or cyclic loading which can cause fatigue. Microstructural analysis of the material can provide additional information such as the material's history, composition, strength, defects and its service environment. In many cases the information gained from microstructural analysis is unequivocal. Our expertise in many welding processes and our involvement in the CRC for Welded Structures are used for investigations involving structures fabricated by welding

A sound knowledge of combustion and fuels is essential in fire investigations. The ignition sources and the available fuels dictate the maximum temperature of the fire. The actual temperature of the fire can be determined from an analysis of the microstructure of the materials at the fire scene.

Fluid dynamics can be used to estimate the force acting on a body in a gas or liquid steam or the size of droplets that can be carried in an airstream. It can also be used in fire investigations to find the rate of heat removal from a fire or the amount of fuel available to the fire.

Acoustic and vibration analysis is used for assessing noise levels. Typical applications are:

environmental noise - factory noise - hearing loss -

Our expertise coupled with our facilities and equipment to analyse noise and vibrations is the best in the state and arguably the best in Australia.

Through our involvement in manufacturing and design we can also assist the courts to understand the characteristics of good and safe design as well as the ergonomics of the man-machine interface.

The examples given above are only "the tip of the iceberg". MechTest is involved in a very wide range of consulting areas and welcomes not only telephone enquiries but actively encourages members of the legal profession to visit our facilities and discuss any areas where MechTest can contribute its expertise.

The department is happy to bring in other expertise where relevant from physics, electrical, chemical or civil engineering. This department works closely with the Centre for Electron Microscopy and Microstructure Analysis – see below.

CIVIL ENGINEERING

We have worked with a civil engineering firm involved with the extension of the Adelaide Airport runway, which was undertaken by the particularly innovative contractual method of "partnering". These types of companies can be particularly important, as they invariably link in with projects around Australia and overseas.

GEOLOGY

Any traces of soil, rock or other mineral particles, on or in the vicinity of a body or crime scene can help determine whether the body has been moved, or where other people involved might have come from.

CENTRE FOR ELECTRON MICROSCOPY AND MICROSTRUCTURE ANALYSIS

Electron beam analysis which can be used in both materials and biological investigations. A wide range of applications in areas of accidents and materials failures, environmental and pollution issues, examination of tissues and fibres.

The ability to use microscopes for identifying processes of disease and trauma at the cellular level is becoming more complex, especially when linked with developments within computing. Both computers and microscopes are expensive items, and there are clear opportunities to share investment in more expensive items of hardware and software.

METEOROLOGY

A precise understanding of weather conditions on certain days, or over a period of time is essential to understanding processes of decomposition and decay. Photographs can be "timed" by the length and direction of shadows which appear in them.

PHOTOGRAPHY

Using photographs to record evidence and as evidential items themselves requires specialist skills in interpreting and manipulating photographic images. Forensic photography is an issue which more lawyers, especially those practicing in criminal law, should be familiar with. We also have a number of contacts within South Australia who have specialist skills in medical and forensic photography, and would be happy to work with people within the University with similar interests.

Management Issues

PROFESSIONAL MANAGEMENT

It is essential to ensure that students can be supervised to develop their understanding of professional ethics and responsibilities. They will need to be carefully trained in issues relating to "professional conduct", "confidentiality" and "conflict of interest" to ensure that there is no improper transfer of information from one student group to another, or to anyone else. They will need to understand how to behave in court, on committees and in meetings with judges, legal officials, legal practitioners and their clients. They will need to be trained in issues related to the conduct of meetings, and their role in relation to such meetings. They will need to understand the basic philosophy of "risk management".

AN AUSTRALIAN STANDARD FOR NK PROJECTS

The rules of professional conduct relating to this Program will be written up to the standards appropriate to those developed by the Australian Standards Office. The ASO has not developed a standard for the conduct of such projects where tertiary students are involved with industry and professional groups. We will therefore be developing and proposing a standard for their adoption. This will be the first university project to develop these standards with them. They will include issues of file management, writing of minutes of meetings, notetaking, submission of regular reports on projects, and the "exit" strategy on completion of the project, or the termination of a student's involvement with a project.

ANXIETY AND STRESS MANAGEMENT

Many tertiary students find the diet of "hit or miss" exams very stressful. On the other hand, they can learn to tackle far more complex tasks, in very demanding situations of court sittings or meetings with judges and senior practitioners, without the dysfunctional aspects of stress. This is not to say that they do not feel "challenged", or "under pressure" at times. Psychologists, and especially sports psychologists have much to say about the way in which "pressure" can be used to help us extend our range of achievements, or operate in a dysfunctional manner. We believe that the aspects of teamwork, good professional and academic mentoring, and the speedy and effective feedback which students receive, shifts the stress-related factors from the negative to the positive aspects of the spectrum. It is therefore important that students have opportunities for regular de-briefing sessions where they can discuss openly the aspects which give them cause for concern.

PROTOCOLS

These detail the ways in which the students handle confidentiality, conflict of interest, file management etc, and are set out in a separate document.

Publication

This is a complex area which is the subject of a number of reports which have been independently commissioned by Networked Knowledge. It will suffice to say a few words about this aspect here.

An important obligation of all students involved in project teams is to produce publications which we can put up on our web site. It may be just a very small piece on some aspect of procedure – or an in depth study. We can handle all options. However, it is worth remembering that people can best access information if it is provided in 2 ways – a quick reference guide – or executive summary (for those on the move) and the research notes which will give a more in depth analysis. The top level “table of contents” will be automatically prepared from the other 2 as part of the publication process.

The materials can then be automatically linked to the full-text of cases on web sites such as SCALE or AustLii, for Australian materials, or other web sites for overseas cases and materials.

REFEREEING OF MATERIALS

All materials to be placed on the NK web site will be refereed. This means that an appropriate professional or business person will be required to provide confirmation that they have read the material and regard it as being of an appropriate standard for publication on the web site. This is not so different from the current system of refereeing academic materials with the possible exception that the class of referees is extended to a wider range of professional people. Most of the materials which will be generated by the students will be prepared in conjunction with their external professional supervisors who will obviously be willing to referee materials which result from this collaboration. Indeed, this will be part of the agreement which is entered into at the time at which the external supervisor seeks the research support. The referee will be asked to indicate that the materials to be published do not contain any information which is in any way restricted or confidential. They will also be asked to indicate if there is anything in the material to be published which could give rise to liability by way of defamation.

APP “PERSONAL PROFILES” AND “PROFESSIONAL PROFILES”

Each of the people working with the NK Programs will be able to develop personal profiles which will be made available through our web site, and as videos and print based materials where appropriate. With the establishment of some 14 new law schools in Australia over the last few years, and with many of the traditional law schools substantially increasing student intakes, students will need to consider a wide range of future employment possibilities. The development of a personal profile during the course of their legal studies will enable them to demonstrate to potential employers the wide range of skills which they have developed. They will include their research reports, published case-notes and details of contacts which they have worked with and of their practical experiences. If these profiles are directly accessible by the legal and wider community through the NK web site, then they may be able to search the profiles to “self-select” students appropriate to their research needs. These profiles in combination with the value-added content which the students generate, will increase the attraction of the web site.

FEEDBACK

We would be most interested to obtain feedback in relation to issues where research is required, or on ideas for new strategies which could be considered for implementation. If you would be kind enough to contact Bob Moles in the first instance, you can be assured that we will consider all suggestions with our colleagues and students.

Bob Moles contact details: Associate Professor, Adelaide University School of Law, SA 5005

Office: 08 8270 6524 or Home: 08 8270 6512 - Mobile: 0405 10 6524 Email: bobmoles@one.net.au