Dramatic scientific breakthroughs in the past 20 years, particularly the discovery of DNA profiling, have revolutionised forensic science. Evidence can now be obtained from microscopic traces of body fluids, drugs and explosives, with sufficient certainty for it to be pivotal in an investigation or trial. We can now investigate crimes such as burglary faster and more effectively using DNA, fingerprints and shoe marks than by any other means. In major crimes, eg. homicide, forensic scientists have moved from being backroom boffins to major contributors in high profile investigations. Changes in the law to accommodate new scientific techniques have been slower to take place and sometimes of questionable utility. Changes in legislation have resulted in highly effective DNA databases, but case law dealing with statistical interpretation of DNA\(^1\) has solved some problems while creating others.

Notwithstanding, forensic science has been incorporated into the landscape of policing, criminal justice and government policy on crime and security, as well as figuring highly in the public perception. It seems clear that science can contribute considerably more to criminal justice, safety and security, but various barriers prevent this. Police, lawyers and scientists are not natural partners, and need to work co-operatively and effectively. The contribution of forensic science relies on the knowledge, systems and communication processes of these differing professionals and current evidence suggests these relationships could be improved. It is well-known that with certain exceptions (eg. Senior Investigating Officers, Senior Scenes of Crime Officers), police knowledge of forensic science is often poor, and hampers effective investigations. To my knowledge, no similar study has taken place of lawyers, but personal experience and anecdote suggest that their knowledge is no better. The usual proposed resolution to this is more training, but without diminishing the value of training, this is an over simplistic response.

Firstly, police and lawyers are busy professionals with an ever expanding portfolio of responsibilities. Secondly, organisational boundaries, conflicting systems, and professional barriers are unsurprising in such a complex environment. Dealing with such issues is a challenge, but essential if we are to reap the benefits as opposed to the risks of new technologies such as microfluidics (‘lab on a chip’) and stable isotope analysis.

Two recent initiatives, the Scottish Institute for Policing Research (SIPR) and the European Academy of Forensic Science (EAFS), are grappling with some of these issues. Funded jointly by the Association of Chief Police Officers in Scotland (ACPOS) and the Scottish Funding Council, the primary aim of SIPR is to carry out applied research to develop evidence-based policing practices. This includes the exploration of how the police (and consequently, the legal system) use forensic science. A major focus of EAFS is the development and implementation of good practice in criminal investigations throughout Europe.

This includes effective use of forensic science across jurisdictions and the development of improved means of communication and storing evidence and intelligence. Each of these research groups is attempting to explore and understand complex phenomena using a multi-disciplinary approach combining academics and practitioners. There is a need for further initiatives of this type to ensure that forensic science continues to contribute to criminal justice and to minimise any adverse consequences that derive from this complex environment.

\(^1\) R v Doheny, R v Adams (1996) – Court of Appeal, Criminal Division.