Professor Patricia Wiltshire – Written evidence (FRS0078)

My credentials for answering these questions
I am a Forensic Botanist/Palynologist/Mycologist and have worked closely with investigating police officers on over 250 cases of serious crime. My evidence has, on many occasions, been pivotal and, on occasion, the only forensic evidence available in the case. I have worked on many high-profile cases including the murders of: the Soham girls, Sarah Payne; Millie Dowler. I also worked on the cases of all five victims of the Ipswich serial murderer, as well as other murders and rapes. My work has enabled police to locate clandestinely buried human remains on several occasions where all other methods failed. I have worked extensively with PSNI in Northern Ireland in cases involving IRA murders, my evidence being central in gaining convictions. I have worked with every police force in the UK and in Southern Ireland. I have also worked for the defence in many cases of serious crime.

In any case, my contribution starts at the crime scene and ends in the court room. In other words, I am involved personally at every level of an investigation and am responsible for designing the investigative strategy to fit in with that of the senior investigating officer. I have published the Protocols for Forensic Palynology and these are lodged with the Forensic Regulator. In my view, the present forensic landscape is a sorry sight.

1. Inevitably, forensic science is contributing to the delivery of justice in the UK but provision of the whole service is fragmented with some areas offering routine and well-monitored results, but others being questionable both in scientific merit and approaches. Even the large providers offer a flawed service in some areas. If they do not have a discipline in-house, they commission it from outside. I have evidence that evidence provided to the police has been sub-standard in some instances, and could lead to serious miscarriages of justice.

2. The provision of forensic science in the past was much more robust and creditable. It has become problematical that, with the demise of the Forensic Science Service, many of their scientists took up employment in universities to become responsible for forensic science courses for under- and post-graduates. Some have tried to continue providing a forensic service but without the constraints formerly applied. Furthermore, there is too much concentration on teaching the theoretical aspects of the various subjects and emphasis on student projects, many of which get published and yet offer little to the advancement of true science.

Understanding and use of forensic science in the criminal justice system
3. For my own disciplines, there are huge databases of academic literature which underlies the basic scientific foundation. The science takes many years to absorb, and it is only through being a practitioner that one realises the pitfalls of taking other peoples’ experiences at face value. The basic techniques in botany, palynology, and soil science which are my areas of expertise, have long been established and well-tested. One needs to be expert in these subjects long before any attempt is made to apply them in a forensic context. Some disciplines cannot be learned or acquired quickly, although this is not the impression gained by some university students.
When a discipline is well-established, its forensic applications can only be enhanced by the practitioner being involved in many cases. Every case is unique and offers conditions that will not be offered in any other. There are certainly common elements when approaching any specific case but for environmental work, the practitioner must be very experienced and be able to “think on their feet”. Because of the hugely multivariate nature of the environment, any case involving soil science, geology, botany, or palynology (any ecological element), experience of case work is equivalent to research.

If information is missing in one’s database, it might be necessary to execute small experimental procedures to test hypotheses. The information gained from such experiments add further to the body of the database.

4. The channels of communication between scientists and lawyers is hampered mostly by the attitude and practices of the lawyers, and interference by Police Scientific Support Managers. The legal profession is notoriously lacking in scientific knowledge or understanding and a practitioner must make every effort to have one-to-one conferences with barristers to aid preparation of their briefs. The police can often be too controlling (largely because of cost), and the lawyers are reluctant to be informed well before a court case. They often prepare their briefs too close to the court case and sometimes get the information badly wrong through a lack of understanding. There is also too much interference by the CPS and Legal Aid authorities, the former because they may have cognitive bias towards getting a conviction and the latter because of costs. In either case, justice is not well served.

5. Very poor – lawyers should make more effort. Judges should also be more willing to be instructed. I have experienced bias and ignorance in the judiciary.

6. No.

**Standards and regulations**

7. No, I do not think the present situation is sustainable. There are monopolies in two or three large providers who cannot possible retain the required range of expertise in-house. They simply commission the universities to carry out individual tasks and yet they seem to accept anyone who says they have the expertise.

8. I do not think the present Regulatory system is adequate. There is too much emphasis on processes rather than on expertise. It seems that an appropriate laboratory is more important than the people who work within it. It is easy for a large provider to fulfil the criteria required by the various UKAS standards. It is not so easy for individual scientists with a high level of skill and experience but who is not part of a large provider. I think the best regulation is by the National Crime Faculty where a scientist’s record is scrutinised. Other methods do not seem to include this criterion.

Crime Scene Managers seem to have an accreditation scheme although whenever I attend a scene, they rarely have any idea of my requirements which are utterly critical at the early stages. They often compromise evidence that might be pivotal to a case through ignorance of the requirements of the various
disciplines. They also fail to understand that one expert can spoil the evidence of another.

9. The Regulator should be prepared to widen the horizons. At the moment there is too much emphasis on UKAS and requirements to conform to standards that are, actually, not necessary in some disciplines. A good forensic scientist already understands the need for protection against contamination, good record-keeping, and so on. An individual scientist does not need UKAS for that. In my view the National Crime Faculty methods are by far the best.

10. There is little to be learned from the Northern Irish Forensic Science model. The Scottish one seems more robust but it is difficult to pass comment.

**Research Landscape**

11. There is too much emphasis on giving the universities funding for research when so many of the people applying for the funding have virtually no forensic experience themselves. Any environmental discipline such as botany, geology, soil science, should already have the scientific rigour in training. Useful research comes from casework.

Many of those applying for grants are not even members of the Chartered Society for Forensic Science.

12. There are huge skill gaps in the environmental sciences. This is partly because there are now no courses in the British universities on Botany or Mycology. What is needed is for those with the skills to be funded to mentor younger forensic scientists.

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