



Editorial

Forensic odontology special issue—September 2010

It is with the mixed feelings of relief on the part of two members of the editorial team to see a publication that has long been envisaged finally coming to fruition and a wonderful sense of anticipation for what promises to be a quite outstanding gathering in Leuven to celebrate this Special Issue. John Clement and David Sweet congratulate Guy Willems for his insight and perseverance. Several of the contributors will be well aware that a Special Issue of FSI devoted to forensic odontology that Clement and Sweet initiated several years ago never came to fruition. This was largely due to ill health on our part. Fortunately and quite independently, Willems later resurrected the idea of a Special Issue of FSI devoted to forensic odontology and was generous enough to allow us to incorporate much of what had been originally envisaged and drafted to be substantially revised and now to become part of the program for the Leuven IOFOS meeting. In a way, the passage of time has improved the outcome because certain aspects of our discipline have made great advances in the last 5 years and all of us are adapting to the new paradigm predicted by Michael Saks a few years ago that would put all of the forensic sciences under intense scrutiny.

It is a tragic irony that the sinking of The Herald of Free Enterprise in Belgian waters in the mid 1980s should be seen as a pivotal turning point in DVI. This disaster was important for several reasons. Firstly, it was a truly international event and one that required colleagues from all over Europe and Britain to work together collaboratively for an extended period of time; each group answerable to different legal systems. This provided a very valuable insight for what would be required decades later following the Indian Ocean tsunami of 2004. It was also one of the very first times when a computer system was seriously deployed to collate data and suggest matches from comparisons of the AM and PM data. Whilst this was not a success at the time, nevertheless it did indicate what would be needed in the future as transportation disasters could be predicted to occur with even greater loss of life, as ever larger aircraft were being planned and built. Of course, such evolution in DVI preparedness has had an important collateral benefit because systems developed to cope with large accidental losses of life can be implemented following periods of warfare or civil strife, such as occurred in the former Yugoslavia where appalling massacres resulted in mass graves and secondary and tertiary burials as the perpetrators strove to hide their crimes. In all of the above, forensic odontology has had a very important role to play. This could not have been envisaged at a time when DNA technology was advancing rapidly. Yet in the past quarter century the importance of dental records and the deployment of forensic odontologists has not diminished in DVI,

rather the reverse is true. This is firmly recognised now by the investigating authorities and in this sense forensic odontology has matured in the eyes of others. We can look forward to “battle hardened” internationally-agreed protocols and standard operating procedures for odontology now in DVI and should be proud of the fact that of all the disciplines involved in the process we have always been in the vanguard of such initiatives.

Age estimation from the dentition of both the living and the dead has similarly benefitted from an enormous amount of study in recent years. This has certainly been helped by increasing access to panoramic radiography in dental practice, and access to hand held x-ray devices that are portable for use in remote mortuary settings and even the routine use of CT in a growing number of mortuaries as part of the autopsy procedure. Numerous refinements to well-established methods are adding precision to our estimates of age and, again, consensus on agreed methodology has enabled valid comparative data to be collected. At a period in history when the unauthorised or illicit movement of people around the world has reached unprecedented proportions due to a combination of illegal immigration, flight from regions of conflict or, more darkly, as a result of the trafficking of persons into sexual slavery, the ability to give good age estimates to children from their dentitions has never been more important.

The ability to infer appearance from remnant skull evidence has long been a goal in forensic odontology and it has been very interesting to observe the migration of this problem from a hands-on, craft-based approach by a few experts with the anatomical knowledge and dexterity needed to make sculptures to a much more statistically driven, engineering-based approach building on entirely different concepts. One of the great benefits of this migration is the ability to generate an audit trail that can be reproduced by others allowing valid comparisons to be made between methods that intrinsically remove artistic subjectivity. The results can then be promulgated for everyone's benefit and once again strengthen opinion evidence in the court room. Once more, these rapid advances have only been possible because of increasing access to 3D scanning technology and huge increases in computing power at modest cost.

The one area where controversy still exists in our discipline relates to the analysis of bite mark and other patterned injuries and whether our current analytical approaches will stand up to scrutiny in a well-informed adversarial system of justice. Recent cases of very delayed exonerations on DNA evidence from the USA would indicate that, in some quarters at least, we have a problem. It is therefore very gratifying to see several papers devoted to how the strength of opinion of the odontologist should be presented to

the courts and the role of the expert witness within the various legal systems. The problems surrounding bite marks is not an easy issue to resolve and certainly more research seems indicated. Several presentations will inform those attending the IOFOS meeting in Leuven. It is our earnest hope that where differences of opinion exist we can nevertheless all leave the conference having agreed on some common ground and perhaps develop strategies for the studies needed to restore faith in bite mark analysis on the part of those of our legal colleagues who are currently very sceptical about its validity.

It only remains to welcome all those who are able to attend the meeting in Leuven and to hope that the proceedings, which are a wonderful distillate of the state of the art and science that is forensic odontology in 2010, will be read widely and will inform the reader and stimulate research and debate well into the future.

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