Dear reader,

“I suppose we are done here.”

It is fair to say that the “gold rush” in dentistry has been over for a long time. Ever since the world market price for the precious material has skyrocketed during the 2000s, it has become more lucrative for many to get the gold from fillings out than to actually get it in.

Subsequently, the market for dental gold has crashed, particularly in countries, where state-of-the-art materials like composites or ceramics have now become the norm. With the ongoing development and refinement of these materials, it can be assumed that the hours of the world’s oldest filling material are finally counted.

In Asia, however, gold will stick around for a while, if not only for the reason of being used as a filling material. According to reports by environmental groups, dentists working in small scale gold mining areas in the Philippines have partnered with miners to trade mercury in form of dental amalgam for gold, a practice which significantly adds to the country’s already severe mercury waste problem.

This practice has been commonplace for decades and has developed into a lucrative business, particularly for the dental profession, as amalgam is easy to import and trade in the country owing to lax regulations. While there have been initiatives to make miners comply more with waste management standards, there have been no interventions against the dental professions for this practice so far.

As one of the few Asian countries to have signed the Minamata Convention for a global phase-out of mercury, the Philippines have committed with miners to trade mercury in form of dental amalgam for gold, a practice which significantly adds to the country’s already severe mercury waste problem.

I was first exposed to the world of 3-D imaging for dental applications in 1985. At that time, when patients had severely resorbed ridges, and root form implants were just becoming accepted in the US market, subperiosteal implants were a recommended treatment alternative. Conventional subperiosteal implants required two separate surgical procedures, the first for an impression of the alveolar basal bone for the fabrication of the implant, and the second for the placement of the implant.

Each surgical intervention required an invasive and extensive flap to expose the underlying bone. With the inception of CT, a scan of a patient’s jawbone created a 3-D dataset that would allow for the fabrication of a physical resin-based medical model. From this model, the subperiosteal implant could be designed and fabricated, circumventing the need for the first surgical procedure reducing patient morbidity by 50 per cent.

Of course, the slice thickness and resolution did not result in a high degree of accuracy, and often the implants did not fit office devices provided a significant catalyst for the dental industry to allow for instant access to the technology.

Three-dimensional imaging modalities have truly empowered clinicians with an increased visual acuity of individual aspects of patient anatomy for a wide variety of clinical applications. These include but may not be limited to oral surgery procedures, orthodontics, periodontology, endodontics, temporomandibular joint disorders, bone grafting, sleep apnoea, dental implant placement, and reconstruction. The utilisation of CBCT data has been further expanded and augmented with the ability to merge/superimpose cross-platform data from intra-oral and optical scans for increased diagnostics and to create a direct link to CAD/CAM.

We have come a long way since 1985, but not far enough in my humble opinion. I truly believe that every dental school should not only have a CBCT imaging device, but also be actively integrating the technology into the undergraduate and graduate curriculum, teaching clinicians how to use these most powerful tools to provide our patients with the best possible care but without the guesswork.

The evolution continues within the pages of our new cone beam international magazine. We will do our best to provide our readers with useful information by presenting a variety of clinical applications and state-of-the-art concepts that showcase CBCT technology and related applications. It is time to realize that there is a real danger when we are bound by 2-D concepts, when clearly today we live in a 3-D world. And, as Sir William Osler stated, “What the brain does not believe is not possible.”

Yours sincerely,

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Empowering clinicians

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