## *Guest Editorial*

# Fast Food or Slow Food Orthodontics?

**Birte Melsen**

A few weeks ago, I opened my lecture for the German Orthodontic Society by claiming: "It is high time we get the patient back in center". There was a great applause–but aren't we doing that all the time?

Where are we? Where do we come from and where are we going? Our profession, as a specialty, was born only a century ago when Angle gave six week courses to general dentists who wanted to focus on orthodontics.

At that time, dentistry had evolved into a separate profession, developed by an amalgamation of services: sometimes done by general physicians, barbers and, in some villages, even the blacksmith who could extract teeth to relieve pain. Dentistry focused on research from the beginning in 1838, and by 1839, *The American Journal of Dental Research* was introduced.

But is Orthodontics a scientific profession? Orthodontics comprises "diagnosis, treatment planning, and case management." The terminology applied within our profession reveals how far we are from the scientifically-based medical profession. The classification we call "diagnosis" expresses a relationship between the jaws seen from a buccal perspective: a relationship that can express a deviation in the skeletal, dentoalveolar or dental relationship. The classification itself does not include any information about etiology, pathogenesis, nor prognosis. It does not get any better when we start talking about tension and pressure in relation to tissue reaction. Bone biologists know that neither the osteoclasts nor the osteoblasts react to pressure, but rather to strain deformation of the cytoskeleton. We exert pressure on our bones in the fitness center to avoid osteoporosis and avert deterioration of our skeletons, yet how can we claim that we generate resorption when we deliver pressure to a tooth?

Nevertheless, an increasing number of orthodontic journals are being introduced, and more than 61,000 articles in PubMed were found with the keyword *orthodontics*. The number of journals and publications continues to grow exponentially, overwhelmingly with topics related to the development of "tools," either for analysis or for facilitating the production of appliances.

Following the introduction of the cephalostat, almost simultaneously in Europe and in the US, the majority of papers focused on the analysis of the headfilms for the assessment of skeletal morphology, growth, and treatment effects. The error of the method and the weakness in predictability of growth was vastly ignored. The focus of topics is changing. In the Seventies, for example, airway assessment based on lateral head films led to the removal of adenoids and tonsils in a vast number of children. This interest faded due to the weakness of 2D images, but is now renewed based on the introduction of 3D imaging. There is no doubt that the applicability of new tools: virtual models, CBCT imaging, and 3D photos, have made the description of our patients more valid. But have the treatment approaches themselves become more scientifically based? The question regarding the influence of different treatment approaches on growth is still an unanswered question. The randomized controlled trials may have been of great value for the organization of health care, but have they solved the problem regarding prediction of treatment outcome for the individual patient? The standard deviation is frequently larger than the mean.

In reality, when choosing an appliance, should we focus on the fact that "The shortest distance between two points is a straight line?" Or accept the outcome of levelling as not only a result of mutual bracket position, but rather predominantly influenced by growth and function as stated by Dr. Tweed 50 years ago in an interview in the JCO? In the market, is the manufacturers' advice to outsource based on sound scientific results? Is it high time that the scientifically-qualified dentist who has gone through a specialist education starts looking into the profession with the eyes of a medically trained person, or should we let our profession return to the short courses where it started?

In the next issue, I will try to look into the future to identify a profession that has the patient in the center; a profession that can distinguish between patients who need goal-oriented treatment with individually produced appliances; a profession that can treat patients with conventional treatment, as well as by outsourcing of bonding, bending and archwire sequences. Or will future patients, due to the effort and pressures of the market, increasingly be drawn into treatment by nonspecialists with "Fast Food Orthodontics," and sometimes end up with a need for retreatment by a specialist?

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