

Reviews and Abstracts

JOURNALS

European Journal of Orthodontics

Comparison of cephalometric analysis using a non-radiographic sonic digitiser (DigiGraph workstation), with conventional radiography

K. H. S. Tsang and M. S. Cooke, University of Hong Kong, Hong Kong (1999; 21: 1–13).

Morphological changes in periodontal mechanoreceptors of mouse maxillary incisors after the experimental induction of anterior crossbite: a light and electron microscopic observation using immunohistochemistry for PGP 9.5

T. Piyapattamin, Y. Takano, K. Eto and K. Soma, Tokyo Medical and Dental University, Japan (1999; 21: 15–29).

Arrested eruption of the permanent lower second molar

H. Vedtofte, J. Andreasen and I. Kjaer, University of Copenhagen and Copenhagen University Hospital, Denmark (1999; 21: 31–40).

Ectopic eruption of the maxillary canine quantified in three dimensions on cephalometric radiographs between the ages of 5 and 15 years

P. McSherry and A. Richardson, The Queen's University of Belfast, U.K. (1999; 21: 41–48).

The length and eruption rates of incisor teeth in rats after one or more of them had been unimpeded

R. A. Burn-Murdock, London, U.K. (1999; 21: 49–56).

Histological and histochemical quantification of root resorption incident to the application of intrusive force to rat molars

L. H. Lu, K. Lee, S. Imoto, S. Kyomen and K. Tanne, Hiroshima University School of Dentistry, Japan (1999; 21: 57–63).

Palatal bone support for orthodontic implant anchorage—a clinical and radiological study

H. Wehrbein, B. R. Merz and P. Diedrich, Free University of Brussels, Belgium, Institut Straumann AG, Switzerland, and Klinik für Kieferorthopädie, Germany (1999; 21: 65–70).

***In vitro* comparison of the retention capacity of new aesthetic brackets**

L. Fernandez and J. A. Canut, University of Valencia, Spain (1999; 21: 71–77).

Motivation for and satisfaction with orthodontic-surgical treatment: a retrospective study of 28 patients

L. Nurminen, T. Pietilä and H. Vinkka-Puhakka, University of Turku, Finland (1999; 21: 79–87).

The crystal growth technique—a laboratory evaluation of bond strengths

S. P. Jones, J. R. Gledhill and E. H. Davies, Eastman Dental Institute, London, U.K. (1999; 21: 89–93).

The Angle Orthodontist

Craniofacial morphology and tooth wear: a longitudinal study of orthodontic patients

J. R. Almond, B. G. Leroux, D. J. Knight and D. S. Ramsay, University of Washington, U.S.A. (1999; 69: 7–13).

The craniofacial morphology of bruxers versus non-bruxers

D. V. Young, D. J. Rinchuse, C. J. Peirce and T. Zullo, University of Pittsburgh, U.S.A. (1999; 69: 14–18).

Treatment results in dental school orthodontic patients in 1983 and 1993

A. F. Firestone, R. U. Häslar and B. Ingervall, University of Bern, Switzerland (1999; 69: 19–26).

The compensatory mechanism in high-angle malocclusions: a comparison of subjects in the mixed and permanent dentition

D. Betzenberger, S. Ruf and H. Panherz, University of Giessen, Germany (1999; 69: 27–32).

Occlusal changes from adolescence to adulthood in untreated patients with Class II Division 1 deepbite malocclusion

I. Feldmann, F. Lundstrom and S. Peck, Linköping, Sweden, and Harvard School of Dental Medicine, Boston, Ma., U.S.A. (1999; 69: 33–38).

Corrosion of stainless steel, nickel-titanium, coated nickel-titanium and titanium orthodontic wires

H. Kim, J. W. Johnson, West Virginia University, U.S.A. (1999; 69: 39–44).

Bracket bonding with 15- or 60-second etching and adhesive remaining on enamel after debonding

R. Osorio, M. Toledano and F. Garcia-Godoy, University of Granada, Spain, and University of Texas Health Science Center, Texas, U.S.A. (1999; 69: 45–49).

3-D experimental identification of force systems from orthodontic loops activated for first order corrections

C. Menghi, J. Planert and B. Melson, Royal Dental College, Germany (1999; 69: 49–57).

Laboratory evaluation of a compomer and a resin-modified glass ionomer cement for orthodontic bonding

D. Millett, D. Catanach, R. McFadzean, J. Pattison and J. McColl, Glasgow Dental Hospital and School, Glasgow, U.K. (1999; 69: 58–64).

Decalcification in relation to brackets bonded with glass ionomer cement or a resin adhesive.

D. T. Millett, J. H. Nunn, R. R. Welbury and P. H. Gordon, Glasgow Dental Hospital and School, Glasgow, and Dental School Newcastle upon Tyne, U.K. (1999; 69: 65–70).

Assessment of second-order clearances between orthodontic archwires and bracket slots via the critical contact angle for binding

R. P. Kusy and J. Q. Whitley, University of North Carolina, U.S.A. (1999; 69: 71–80).

A re-examination of various extraoral appliances in light of recent research findings

S. Braun, K. G. Lee and H. L. Legan, Vanderbilt University Medical Center, U.S.A. (1999; 69: 81–84).

Orthodontic considerations in individuals with Down syndrome: a case report

S. S. Desai and T. J. Flanagan, New York, U.S.A. (1999; 69: 85–88).

Case Report: assessment, documentation and treatment of a developing facial asymmetry following early childhood injury

R. C. Sjursten, H. L. Legan and J. R. Werther, Vanderbilt University Medical Center, U.S.A. (1999; 69: 89–94).

American Journal of Orthodontics and Dentofacial Orthopedics**Management of severe cleft maxillary deficiency with distraction osteogenesis: procedure and results**

A. A. Figueroa and J. W. Polley, University of Illinois, U.S.A. (1999; 115: 1–12).

Overjet reduction and molar correction in fixed appliance treatment of Class II, Division 1 malocclusions: sagittal and vertical components

B. Nelson, K. Hansen and U. Hägg, Lund University, Sweden; University of Hong Kong (1999; 115: 13–23).

Shear bond strength of composite, glass ionomer and acidic primer adhesive systems

S. E. Bishara, V. V. Gordan, L. VonWald and J. R. Jakobsen, University of Iowa, U.S.A. (1999; 115: 24–28).

Cephalometric evaluation of the anterior open bite treatment

Y. Chang and S. C. Moon, Seoul National University, and University of Korea (1999; 115: 29–38).

Influence of angulation on the resistance to sliding in fixed appliances

L. C. Articulo and R. P. Kusy, University of North Carolina, U.S.A. (1999; 115: 39–51).

Shear bond strength of resin-reinforced glass ionomer cement: an *in vitro* comparative study

S. H. Chung, P. T. Cuzzo and F. K. Mante, University of Pennsylvania, U.S.A. (1999; 115: 52–54).

Effect of brushing with sonic and counterrotational toothbrushes on the bond strength of orthodontic brackets

P. A. Hansen, W. Killooy and K. Masterson, University of Missouri at Kansas City, U.S.A. (1999; 115: 55–60).

Two unilateral complete cleft lip and palate orthodontic cases treated from birth to adolescence

S. W. Rosenstein, University of Illinois, U.S.A. (1999; 115: 61–71).

Prospective survey of percutaneous injuries in orthodontic assistants

J. A. McNamara and R. A. Bagramian, University of Michigan, U.S.A. (1999; 115: 72–76).

A longitudinal cephalometric study of postorthodontic craniofacial changes

E. H. Harris, R. Z. Gardner and J. L. Vaden, University of Tennessee, U.S.A. (1999; 115: 77–82).

Discomfort caused by bonded lingual orthodontic appliances in adult patients as examined by retrospective questionnaire

S. Miyawaki, M. Yasuhara and Y. Koh, Nara Medical University, Japan (1999; 115: 83–88).

The role of the orthodontist in the diagnosis of Gorlin's syndrome

M. R. Maroto, J. L. B. Porras, R. S. Saez, M. H. de los Rios and L. B. Gonzalez, Madrid, Spain (1999; 115: 89–98).

Effects of mandibular incisor extraction on anterior occlusion in adults with Class III malocclusion and reduced overbite

E. Faerøvig and B. U. Zachrisson, University of Oslo, Norway (1999; 115: 113–124).

A comparison of the shear bond strengths of two glass ionomer cements

M. P. Meehan, T. F. Foley and A. H. Mamandras, University of Western Ontario, Canada (1999; 115: 125–132).

Intermaxillary forces during activator treatment

E. G. Katsavrias and D. J. Halazonetis, Athens University Dental School, Greece (1999; 115: 133–137).

Magnetic resonance images and histology of the sphenoccipital synchondrosis in young monkeys (*Macaca fuscata*)

Y. Nakamura, K. Noda, Y. Kuwahara, L. Minyeong, S. Tanaka, K. Kawasaki and K. Kobayashi, Tsurumi School of Dental Medicine, Japan (1999; 115: 138–142).

Bonding of hybrid ionomers and resin cements to modified orthodontic band materials

V. A. Mennemeyer, P. Neuman and J. M. Powers, University of Texas, U.S.A. (1999; 115: 143–147).

Class II, division 1 case with multiple treatment challenges

S. L. Cureto and M. S. Polk, Tennessee and Georgia, U.S.A. (1999; 115: 148–152).

Analysis of rapid maxillary molar distal movement without patient cooperation

M. E. Runge, J. T. Martin and F. Bukai, Loyola University Chicago, U.S.A. (1999; 115: 153–157).

Impact resistance of ceramic brackets according to ophthalmic lenses standards

C. G. Matasa, Florida, U.S.A. (1999; 115: 158–165).

Skeletal anchorage system for open-bite correction

M. Umemori, J. Sugawara, H. Mitani, H. Nagasaka and H. Kawamura, Tohoku University, Japan (1999; 115: 166–174).

Craniofacial adaptations induced by chincup therapy in Class III patients

T. Deguchi and J. A. McNamara, Matsureto University, Japan, and University of Michigan, U.S.A. (1999; 115: 175–182).

International Journal of Adult Orthodontics and Orthognathic Surgery

Correcting vertically altered faces: orthodontics and orthognathic surgery

G. W. Arnett, R. G. Kreashko and J. S. Jelic, Santa Barbara, California, U.S.A. (1998; 13: 267–276).

Morphologic analysis of dentofacial structure in patients with acromegaly

M. Takakura and T. Kuroda, Tokyo Medical and Dental University, Japan (1998; 13: 277–288).

Anterior-interior mandibular osteotomy in treatment of obstructive sleep apnea syndrome

L. Krekmanov, L. Andersson, M. Ringqvist, B. Wilhelmsson, M. L. Walker-Engström, A. Tegelberg and I. Ringqvist, Västerås, Sweden (1998; 13: 289–298).

Morphologic changes in the upper airway structure following surgical correction of mandibular prognathism

F. Nakagawa, T. Ono, Y. Ishiwata and T. Kuroda, Tokyo Medical and Dental University, Japan (1998; 13: 299–306).

Surgical manipulation of the occlusal plane: new concepts in geometry

J. P. Reyneke, University of the Witwatersrand, South Africa (1998; 13: 307–316).

Stability after Le Fort I osteotomy in cleft lip and palate patients

R. Saelen, K. Tornes and A. Halse, University Hospital Haukeland, University of Bergen, Norway (1998; 13: 317–323).

Orthodontic fixation of mandibular fracture: a case report

H. F. McKeown and P. J. Sandler, Chesterfield Royal Hospital, U.K. (1998; 13: 324–326).

Correction of posttraumatic maxillary deficiency by anterolateral alveolar osteotomy

M. Gurol, S. Uckan, N. Guler, M. Kurkcü and O. Inan, Selçuk University, Turkey (1998; 13: 327–331).

Journal of Clinical Orthodontics

Digital photography in the orthodontic practice

G. Fiorelli, E. Pupilli and B. Patanè, University of Sienna, Italy (1998; 32: 651–656).

Ectopic eruption of mandibular incisors

R. A. Newman and G. V. Newman, New Jersey, U.S.A. (1998, 32: 657–662).

A rationale for removable retainers

T. Collett, University of Melbourne, Australia (1998; 32: 667–669).

The Damon low-friction bracket: a biologically compatible straight-wire system

D. H. Damon, Sheboygan, U.S.A. (1998; 32: 670–680).

Maintaining anchorage with a combination Nance–Goshgarian transpalatal arch

J. M. Cobo, B. Diaz and F. de Carlos, University of Oviedo, Spain (1998; 32: 681).

The Connecticut intrusion arch

R. Manda, R. Marzban and A. Kuhlberg, University Connecticut, U.S.A. (1998; 32: 708–715).

Segmental lingual orthodontics in preprosthetic cases

P. A. Echarri, Barcelona, Spain (1998; 32: 716–719).

The effectiveness of an elastomeric module dispenser in cross-infection control

G. S. Takla, S. J. Cunningham, E. N. Horrocks and M. Wilson, Eastman Dental Institute, U.K. (1998; 32: 721–726).

Clinical use of the Churro Jumper

R. Castannon, M. S. Valdes and L. W. White, Mexico (1998; 32: 731–745).

Treatment of mandibular alveolar prognathism by a lower anterior subapical osteotomy

T. Ichida, T. Kikuta, J. Fukuda and K. Yamada, Kyushu Dental College, Japan (1998; 32: 747–751).

A new and improved indirect bonding technique

L. W. White, U.S.A. (1999; 33: 17–23).

An orthodontic attachment for patients with fixed prosthetic restorations

R. J. Radlanski, Universitat Berlin, Germany (1999; 33: 24–26).

The 30-second difference

W. Hamula and K. Brower, Colorado Springs, U.S.A. (1999; 33: 35–44).

Glass ionomer cement dressing for surgically exposed impacted teeth

K. J. Nordenvall, Sweden (1999; 33: 45–49).

The SUPERspring II: a new appliance for non-compliant Class II patients

L. Klapper, Loyola University, U.S.A. (1999; 33: 50–54).

Complex surgical-orthodontic case with a transposed cuspid and mandibular asymmetry

R. M. Port, Illinois, U.S.A. (1999; 33: 75–81).

Alignment of impacted canines with cantilevers and box loops

S. Patel, V. Cacciafesta and C. Bosch, Aarhus University, Denmark (1999; 33: 83–85).

Criteria used by general dentists to choose an orthodontist

G. Guymon, P. H. Buschang and T. J. Brown, Indiana, U.S.A. (1999; 33: 87–93).

Effects of head posture on headgear force application

P. D. Johnson, Y. Bar-zion, M. Taylor and T. Wheeler, University of Florida, U.S.A. (1999; 33: 94–97).

Nickel titanium closed-coil spring for extrusion of impacted canines

L. Ross (1999; 33: 99–100).

Precision finishing in lingual orthodontics

V. Rummel, D. Wiechmann and R. C. L. Sachdeva, University of Munster, Germany (1999; 33: 101–113).

Australian Orthodontic Journal

Anomalous dental morphology and root resorption during orthodontic treatment: a pilot study

U. Thongudomporn and T. J. Freer, The University of Queensland, Australia (1998; 15: 162–167).

Craniofacial morphology in Chinese and Swedish children with Angle Class I and Class II occlusal relations

X. L. Zeng, C. M. Forsberg and S. Linder-Aronson, Beijing Medical University, China, and Karolinska Institute, Sweden (1998; 15: 168–176).

The reproducibility of cephalometric landmarks: an experimental study on skulls

U. Hägg, M. S. Cooke, T. C. K. Chan, T. T. H. Tng and P. Y. W. Lau, University of Hong Kong (1998; 15: 177–185).

A twelve-month clinical trial comparing the bracket failure rates of light-cured resin-modified glass-ionomer adhesive and acid-etch chemical-cured composite

P. V. Fowler, New Zealand (1998; 15: 186–190).

Activator and Begg appliance management of a severe Angle Class II, division 1 malocclusion

J. Cameron and W. J. Sampson, University of Adelaide, South Australia (1998; 15: 191–199).

Distraction osteogenesis in a patient with micrognathia and a rare facial clefting syndrome

A. A. C. Heggie and P. A. Scott, Royal Children's Hospital of Melbourne, Australia (1998; 15: 200–205).

WEB SITE REVIEW

In this issue the Reviews and Abstracts section takes a new approach. Instead of picking an article from each journal and subjecting it to a critical review, I have looked at the information that our patients are accessing through the internet. As you know this information is unrefereed and largely uncontrolled (unless someone makes a complaint about a particular site), and as such has the opportunity to complement, confuse, or contradict information that we might give to patients.

Of necessity the information that comes from the internet will be generalized, and might not be suitable for our patient's personal situation, it may be giving our patients unrealistic expectations of what can be achieved, and it may be just incorrect information. I have not encountered a situation yet where a patient believes what they have discovered on the internet in preference to the information that I am passing on to them, but it must be only a matter of time.

We should be spending time looking at the internet sites to find out what information our patients can get hold of and preparing ourselves accordingly. This must be undertaken on a regular basis as new sites appear with great frequency, and existing sites are being constantly updated. Perhaps the British Orthodontic Society could operate an accreditation scheme similar to the BDA for sites that have been submitted to the BOS for approval?

The topic that I chose to explore is **Cleft Lip and Palate**.

In the University of Wales, the default browser is Netscape. This supports 10 different search engines; Alta Vista, Excite, GoTo, HotBot, Infoseek, Looksmart, Lycos, Netscape's own search, Snap, and Yahoo. Over the period 1st and 2nd July, 1999, each of these search engines was asked to find information on 'cleft lip and palate'. Each gave a list of about 10 matches (except GoTo which gave 40). The results for each search were different in several respects.

Alta Vista

Reported 3678 matches, and listed the first 10. It gave up to three lines of descriptive text and followed with a web address, which was html ('hot') linked. The size of the site in kilobytes and the date last updated completed the information. Alta Vista also offered the opportunity to go directly to Snap, Infoseek, DejaNews, Excite Lycos, and Yahoo, and search using those engines without having to re-type 'cleft lip and palate'. I was unable to contact Deja News.

Excite

Told me that it had found 73,453 'hits' and followed with the first 10 titles that it had found. After each title there were three or four lines of text followed by the web address, and underneath this line was the invitation 'search for more documents like this one' At the end of the list of top 10 'hits', there was a helpful section that suggested some further key words to help refine the search.

GoTo

The 40 sites listed were not an exhaustive list, as the viewer was invited to look for 'More Results' at the end. The description of the sites tended towards a keywords type of approach, which in some cases was quite helpful, whereas in others it made it almost impenetrable and certainly not user-friendly to a lay person seeking information. Several of the sites listed were different pages from the same web site.

HotBot

Gave the top 10 matches, but did not give a total number of 'hits'. The information given was similar to that given by Excite, with an invitation to search again using Lycos.

Infoseek:

Had 58,345,322 'hits'. The Directory topics were health—medical Specialities—Plastic Surgery. This gave the title, a line or two of information, the date the page was last updated, the size of file, the internet address, and an invitation to 'Find similar pages' for the top 10 'hits'.

LookSmart

Listed its top nine, divided into two groups, the first six were matches from Looksmart, and the second three were matches from the entire web. both gave no more than two lines of information and had the usual 'hot links' to the site. The second group of three also had the size of the site and the date.

Lycos

This told me it had 2026 'hits' and listed its top 10. The title was given together with three or four lines of information that was obviously truncated (but for no obvious reason), followed by the web address and an invitation 'more like this'. It also offered the option to refine the search.

Netscape Netcenter

This gave the impression that some care had gone into its list of six sites because it stated at the top that these were 'Web sites reviewed and categorised by a team of editors'. The final site listed was called Ann'sStudio and started in bizarre fashion with 'My areas of interest and passion—Korea and Korean adoption, Star Trek, photography, violins and cleft lip and palate issues.' We all wonder about editorial decisions sometimes!

Snap

This was set up quite differently to the others. It divided the list into five categories with one or two sites for each category. For example, 'Health: Diseases and Conditions: Birth Defects: Cleft Lip & Cleft Palate' was one category, and 'Kids & Family: Parenting: Behaviour & Development: Speech' was another.

The internet address for each site within each category was given, together with two lines of further information. The addresses given showed that some of the sites were, in fact, different pages of the same site.

Yahoo

Yahoo gave 14 sites in all. There was a wide geographical spread with American and Australasian cleft associations listed, as well as the International Institute for Birth Defects. No website addresses were given, but key words were 'hot linked'.

Common features for all search results were the familiar 'hot' (hypertext) links to other sites and to other pages from within sites by clicking on the highlighted text. Each offered the opportunity to scroll through the entries on the following page. Readers will forgive me, I hope, for not following up all the thousands of 'hits'. I looked at the first page of sites given for each search engine.

The sites fall into three broad categories:

1. *Those produced by professional teams.* These are frequently a small section of many pages from a hospital website. The language tends to be couched in professional terms and there will often be brief biographies of the team members. The information on the team's approach to management of clefts varies from minimal to quite full. The minimalist approach (e.g. <http://www.nuds.nwu.edu/cphome.htm> or <http://www.healthanswers.com/database/ami/converted/001051.html>) is unlikely to be of value to a new parent and is very user unfriendly. If the parents were persistent enough to click onto some of the links to support networks, they are likely to find either Widesmiles, About Face, or the Cleft Palate Foundation—all of which are American—and are much friendlier sites. Professionals inspecting the site would learn nothing.

A good example of a professional site is that run by Scottish Rite Children's Medical Center (sic) in Atlanta, Georgia (<http://www.scottishritechildrens.org/services/cleftwhatis/shtml>). This site loads easily and quickly, it is written in parent friendly language, it is illustrated as necessary, and uses colour where appropriate. It provides an excellent model for other professionals to follow.

A variation on the professional team are the commercial current awareness databases. These work by requiring professionals to subscribe to their webpages. The company will filter the articles in the medical journals and send you information on your chosen specific topics. They will also do searches for you. One such organization, HealthGate, based in the USA, but with a recently introduced UK arm, also provides free information about clefts ostensibly directed to parents (http://www.healthgate.com/hic/cleft-lip_palate/), which is not very user friendly and was written for HealthGate by the Institute for Child Development in Hackensack, New Jersey.

2. *Those produced by Lay Support Groups.* The heavy emphasis on American sites means that our own CLAPA only featured in the top 10 'hits' on two searches (Excite and LookSmart). Unfortunately, on the four occasions that I tried to get past the CLAPA home page (<http://www.clapa.mcmail.com/>) to find out about 'Overview of Cleft Lip and Palate' or any of the other 'hot buttons', I could not get through. However, a quick phone call to CLAPs put it right. It is a well written site, a bit short on illustrations, but offering sound information, and well worth recommending to your patients or their parents.

'Wide Smiles' (<http://www.widesmiles.org/index.html>) describes itself as 'Your Cleft Lip and Palate Resource'. This is a huge site with many pages, covering all aspects of cleft care. It has a smiley face (☺) logo with a notch in the upper right lip. It also operates a Webring. A webring is a mechanism which gives the opportunity for individuals to produce their own web page and, indeed, two of the hits in my trawl (one in Excite, and one in Infoseek) were webring sites sponsored by Widesmiles.

Smiles (<http://www.cleft.org/index.html>) and the Cleft Palate Foundation (<http://www.cleft.com/cpf.htm>) are both hybrid sites. They are lay support sites, but have executive sponsorship, the first from the Children's Hospital of The King's Daughters and the second from the American Cleft Palate-Craniofacial Association. The latter is not very user friendly, but it does have a publication list to alert parents to sources of further information. The former is colourful and has pictures (hence the relatively slow load time), and is written in user friendly language. It is also, clearly, an advert for the hospital.

3. *The individual's site.* Some of these have the sponsorship of a larger organisation (see Widesmiles above), but others have no real affiliation. Producing one's own webpage is becoming easier all the time, and relatively little computer knowledge and understanding is necessary. This is reflected in the quality of presentation.

It is clear that the majority of information on the web is American. CLAPA was listed in the top 10 of Excite and LookSmart. Infoseek had a page from Panula, Lovius, and Posposil about surgery, which was followed by two related sites on teenage pregnancy, neonatal health, and genetic disorders from COHIS.

Patients and/or parents who turn to the web for further

information are faced with a 'curate's egg'. If they are persistent, they will probably find one of the good sites, and come away well informed. If they hit on a bad one, it is likely to increase anxiety, rather than reassure.

My advice would be to look for yourself, and have the web address to hand of two or three sites that you can recommend.

R. G. OLIVER

REVIEW

Orthodontics and dento-facial orthopedics—past, present and future. Parts 1, 2, 3.

C. F. A. Moorrees (*Kieferorthopädie*, 1998; 12: 17–26, 127–140, 195–208).

The first of these three papers, by a senior and well-respected member of the orthodontic profession, take us, with commendable speed, from the Egyptians' attempts to define the proportional relations of the face to Andrews' Straight Wire Appliance.

The second paper starts with some recent developments in fixed appliances and materials, and then gives an historical review of functional appliances. The paper is completed by a section on cephalometrics. As might be expected, there is a heavy emphasis on Moorrees' Mesh Diagram in this latter part of the paper.

The final paper of the trilogy starts with a criticism of the use of computerized cephalometrics, lamenting the loss of basic diagnostic skills that follow from over-reliance on technology. The middle part of the paper is devoted to an examination of growth of the face and dentition, which provides a reminder of the myriad ways of describing the complex three-dimensional events that take place during the child's early years.

The final part of the paper draws together the author's thoughts on the future. He sees greater competition to provide orthodontic services from both the generalist and the paedodontist. There will be new ways of rewarding the impoverished new graduate within a business framework. New materials will give greater control over tooth movement and an increased understanding of the histochemical

events will lead to less iatrogenic tooth damage. The use of electronic tools to communicate more effectively with patients and machine-formed individualized archwires in improved alloys, bent at the chairside will become commonplace.

Finally, he believes that quality control of training programmes (at risk due to funding restrictions to universities) and in the orthodontist's office will assume great importance.

The sheer breadth of subjects covered is a tribute to the stature of one of the great names within orthodontics. Is his vision of the future any more accurate than yours or mine? Time will tell, but as Churchill said about the necessary skills of a politician, we must have 'the ability to foretell what is going to happen next week, next month, and next year, and to have the ability afterwards to explain why it didn't happen'.

The BJO has received a copy of

Revue d'Orthopédie Dento Faciale, 1999; 33: No. 1, International Edition (published in French and English).

The whole issue is devoted to pain (Doleur). The articles are:

History and current aspects of pain treatment in Europe

R. Goepel

Ethics and pain

C. Hervé, G. Moutel and A. Béry

Pain mechanisms and their current treatment

J. Azerad

Quality of life during orthodontic treatment: taking into account discomfort or pain?

C. Boudillat

Pain suffered by the adult patient during orthodontic treatment

C. Boubli

Pharmacology and pain

Y. Boucher

Mechanics of the facial envelope 1 Introduction

J. Talmant, J-C. Talmant and J. Deniaud