THE ORTHODONTIC MATERIALS INSIDER

Since 1976 ORTHO - CYCLE

Since 1987

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A quarterly dedicated to orthodontic professionals, and to the renewal of their habits and tools by ORTHO-CYCLE, A COMPANY THROUGH WHICH YOU CAN RECONDITION, BUY AND SELL ORTHODONTIC APPLIANCES.

Editor: Claude G. Matasa, Dr. Chem. Eng., Dr. Techn. Sci., Professor of Oral Bio-Materials

Climbing the success ladder

According to the United States Department of Commerce bureau and the Census Bureau, 7 out of 10 new employer firms in the United States survive at least 2 years, 1/2 survive at least 5 years; 1/3 at least 10 years, and a quarter stay in business 15 years or more.

Foster and Kaplan, drawing on research they've conducted at McKinsey & Company on more than 1,000 companies in 15 industries, show that even the best-run and most widely admired companies are unable to sustain market-beating levels of performance for more than 10 to 15 years.

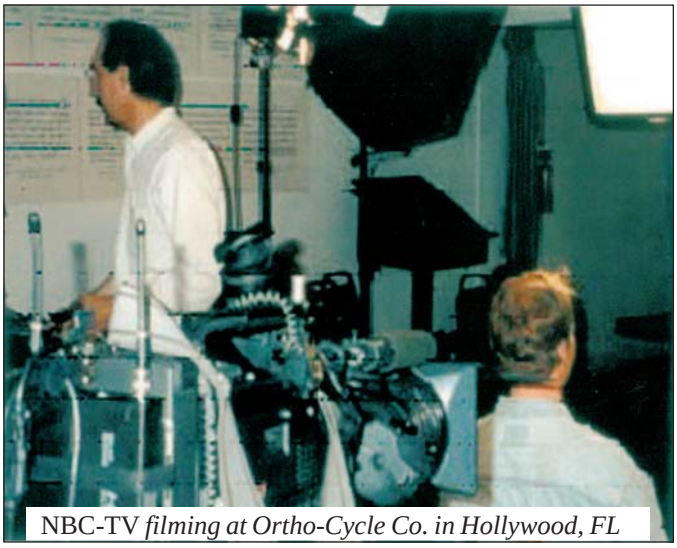
Using their research on the performance of more than 1,000 corporations in 15 industries over a 36-year period, they show that the corporate equivalent of El Dorado —the golden company that continually outperforms the market, has never existed. Without trying to foresee its future, Ortho-Cycle, do its quality management approach and to a changing market, is reaching now the pinacle of its success.

Started in 1976 in Hollywood, California, the city where the smile is a symbol, Ortho-Cycle moved to Hollywood, Florida, the city where, according to its founders, the real capitol of the movies should have been located. While deprived from elevations, the last city offers, along beautiful landscapes, a highly desirable climate thoughout the year.

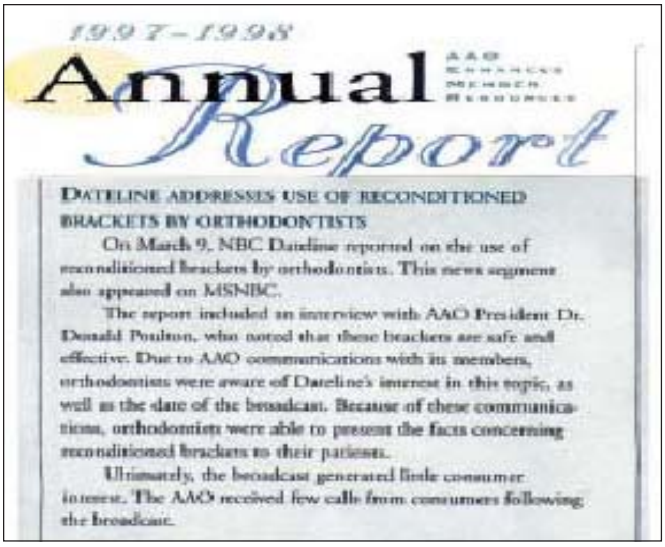
Taking advantage of the favorable conditions, Ortho-Cycle decided to break myths and denigrations and expose its orthodontic recycling. Located in a visitors loaded area, the company has been not only visited by thousands of clinicians, but also by NBC-TV. At the company' invitation, a team of six TV operators came, hoping to find reprehensible facts. (NBC belongs to the same network of interests as the giant 3M, owner of the largest orthodontic manufacturer, Unitek Corporation).

NBC-TV's first attack ocured in 1990, when David Horowitz, in a "Fight back" broadcast, denounced recycled attachments as a health danger. As expected, NBC's TV "Date line" program-report on orthodontic recycling of March 9, 1998 had its purpose not to inform, but to scare the public. While in appearance it may have looked objective, accepting the obvious, it contained deceptions, half truths, omissions and innuendos.

An honorable orthodontist who recyled with us, Dr. Dou-



NBC-TV *filming at Ortho-Cycle Co. in Hollywood, FL*



1997-1998 Annual Report

DATELINE ADDRESSES USE OF RECONDITIONED BRACKETS BY ORTHODONTISTS

On March 9, NBC Dateline reported on the use of reconditioned brackets by orthodontists. This news segment also appeared on MSNBC.

The report included an interview with AAO President Dr. Donald Poulton, who noted that these brackets are safe and effective. Due to AAO communications with its members, orthodontists were aware of Dateline's interest in this topic, as well as the date of the broadcast. Because of these communications, orthodontists were able to present the facts concerning reconditioned brackets to their patients.

Ultimately, the broadcast generated little consumer interest. The AAO received few calls from consumers following the broadcast.

glas D. Durbin, was chosen to take the brunt of the attack. He defended himself by showing that "The 'war' inappropriately started and waged by Ormco and others is the lowest form of attack. I believe their offense is destined to be regretted greatly; and that they, someday, will wish they were a leader in environmentally conscious conservation of resources and should have initiated bracket recycling/sterilization themselves".

It didn't take too long till his prediction came true: summoned to give AAO's position, its President Donald Poulton noted that "recycled brackets are "safe and effective". Of special importance was that of the Food and Drug Administration which controls the field: "Substantially equivalent [to new ones]", F.D.A. (1991).

Other similar comments soon poored:

-"Not dimensionally different", M.W. Haller, Forensic expert (Insider, 1998).

-"Not clinically different", Ontario Dental Association (1994)

-"Not altered mechanically", D. L.Buchman (AJO 1980)

-"Economic, achieving the same performance", G.. Buchwald (AJO).1989).

-"Can be incorporated in orthodontic offices", D. E. Machen, DDS, Attorney, Judge and AAO Consultant (AJO 1993).

Willing to take the matters to an end, Ortho-Cycle submitted its activity to the prestigious Scandinavian Institute of Dental Materials NIOM (merged recently with the giant Nemko, a company accredited according to EN 45011 (ISO/IEC Guide 65 and ISO/IEC 17025).

Along the related ISO certificates of compliance, it has received the coveted CE. A CE marked product has the benefit of free circulation within the EU and EEA, and even some EU candidate countries in Eastern Europe, as dictated by EU Directives and corresponding national regulations. When a pro- duct is CE marked, manufacturers or their representatives are able to demonstrate that their products are fully compliant.

On the other hand, during the years, the profession's acceptance of the manufacturer labeled "single use medical devices" (SUD) has changed dramatically: "Reprocessing medical devices and reusing single-use items is expected to change the face of the medical device industry."
(www.hospitalmanagement.net/features/feature80981).

There is an increasing body of evidence strongly supporting the use of reprocessed single-use devices (SUDs). The three primary reasons include (www.medisiss.com/compelling-reasons.asp):

1. Safety:

"Reprocessed devices are typically subjected to greater scrutiny and inspection than brand new ones. Each and every SUD that's reprocessed is closely inspected on an individual basis, while original device manufacturers often test new SUDs in batches".

2. Financial.

"Today, reprocessing generates hundreds of millions of cost savings each year for healthcare providers...a figure that would grow significantly if every provider embraced the use of reprocessed devices."

3. Environmental

"The safe use of reprocessed devices helps us conserve resources so we can be more cost-effective in delivering care."

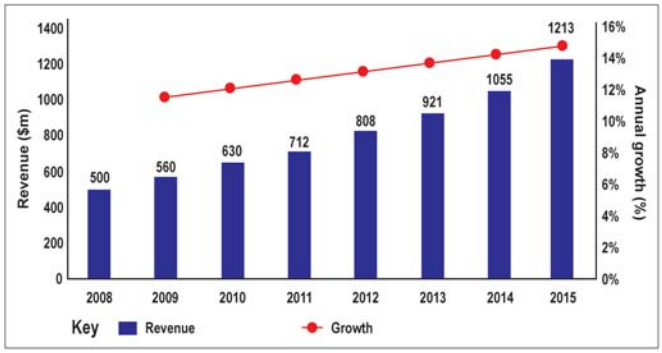
If the manufacturers suit in a Los Angeles Court of Ortho-Cycle in 1996 for recycling has ended up with a moral and financial defeat, a similar action today will appear just foolish.

On average, reprocessed medical devices are 50% cheaper than new devices. A survey of nearly 3,000 hospitals in the US showed over $150m in savings were generated for each year through reprocessing.

In the US in 2007, nearly 45% of hospitals had agreements with third-party reprocessing companies, a number that increased to 70% in 2008 after the economic recession. Most of the medical devices that are now reprocessed are being reused under FDA surveillance by reprocessing companies.

Over 3,000 hospitals in the US now have a reprocessing programme either in-house or outsourced. Industry experts note that devices such as external fixators also enable large savings amounting to over $150,000 annually in some cases, while operating room (OR) equipment remains the most commonly reprocessed equipment, saving up to $100,000 for a 100-bed hospital.

The recycling of SUDs, single use devices, is steadily growing, as the diagram below shows:



Medical device reprocessing market, revenue ($m), global, 2008 to 2015.

We cannot end without showing Prof. T. M Graber's conclusions which we believe represent the thinking of most of the clinicians who had been exposed to our activity:

"He has developed an elevated but practical recycling process for orthodontic appurtenances that has saved millions of dollars for practitioners (and patients) in the cost of their armamentaria. By replacing adhesive's charring with its dissolution, and metal electro-polishing with a method used by manufacturers, burnishing, he has allowed his company, Ortho-Cycle, to be both ISO and CE certified by the prestigious Scandinavian Institute for Dental Materials. Aside its economic effect, the recycling of stainless steel devices reduces the amount of harmful chromium and nickel ions which, if dumped, pollute our groundwater. Today, even the intrusive and comparatively difficult to sterilize pacemakers and catheters are often recycled. I have personally read the manufacturer letters sent to Professor Matasa, with grudging recognition of his avant garde discoveries." (Insider, March 2005)

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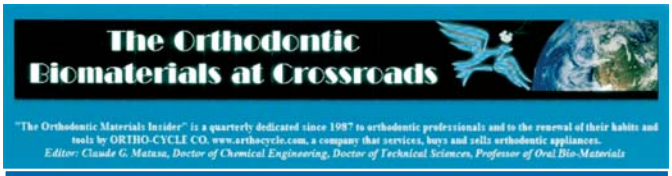


Since 1990, On paper and Online

Dedicated since 1987 to orthodontic professionals and to the renewal of their habits and tools, our newsletter, The Orthodontic Materials Insider, has been used to promote recycling while discussing in parallel the advances in the field. Today, its primary goal has been achived, and...

The Moor has done his duty: the Moor can go....

but still look for its next issue

How Insider kept its promise

Norman Wahl

As a historian responsible for the ongoing series "Orthodontics in 3 millennia" in the *American Journal of Orthodontics and Dentofacial Orthopedics*, I had occasion to review the topic of orthodontic recycling. I had been a satisfied user in the years before my semiretirement, but other than that, I hadn't given it much thought. Then as I leafed through the literature (make that "surfed the Web"), I began to realize that anyone having the temerity to offer a service designed to depress the sales of new brackets and expect orthodontists to place second hand hardware into the mouths of their patients must be a very brave man (Insider Sept. 2006).

Toward the end of 1987, when Ortho-Cycle had been in business for 11 years, Dr Claude G. Matasa, decided that it was time to do more than recycle brackets. He had already been skewered by dental manufacturers for cutting into their sales by selling brackets to orthodontists at a third their original cost, although he was by now well on way to overcoming orthodontists' initial reluctance to placing secondhand hardware into the mouths of their patients.

Claude was a shrewd businessman, but research and teaching were closer to his heart. He wanted to pass on to clinicians the knowledge gained by years of investigating orthodontic materials—not just brackets—but adhesives, acrylics, corrosion, microbial contamination, and how to deband with the least amount of damage to enamel as well to the bracket. After all, he was a man of science, holding doctorates in chemical engineering and technical science and an associate professorship in oral biomaterials.

The way to do this was to publish a quarterly newsletter, which would be distributed to orthodontists worldwide, free of charge. He named it *Phoenix Without Ashes*—a title that caught one's eye even without revealing its subtle meaning. It referred to the mythical bird that builds a nest near the end of its 500-to-1000-year life, which it promptly torches. From the ashes a fledgeling emerges to repeat the cycle.

"Without ashes" referred to the fact that Dr Matasa's rejuvenation process is done without the ashes associated with charred attachments. In 1995, the newsletter's name was changed to *The Orthodontic Materials Insider*. With the 2008—issue, the *Insider* went online. How he managed to put out a 8-page, 1-man document every 3 months and still run a complex recycling operation is a testament to Claude's dedication and determination. And the language problem any immigrant arriving in this country relatively late in life would have, didn't make the effort easier. Yet his articles were always informative, well researched, and relevant. Here are some highlights of past issues:

- He gave us the Ten Commandants of direct bonding (March 1988).
- He told us what was wrong with brand-new, direct-bonding brackets (March 1989).
- He introduced us to computer imaging (April 1991).
- He gave us a do-it-yourself test for bacterial contami nation of brackets (September 1991).
- He described the fallacies of "preadjusted" appliances (September 1994).
- He suggested the replacement of the approximate aging exposure with a scientifically proven method (Arrhenius's Law, Nobel Prize 1903 (April 2008)
- He gave us a list of the "deceptions, half-truths, omis sions, biases, and innuendos" contained in NBC-TV's March 1998 telecast on bracket recycling (which were successfully rebutted by experts in the field).

In the slightly edited words of Dr Samir E. Bishara of the University of Iowa, the *Insider* "was the first to call attention to the flaws encountered in the manufacturing of mesh-based brackets. In Prof Matasa's research, he used metallographic and microhardness analyses, disclosing phase structures and measuring the metal's strength. He also developed a practical recycling process for orthodontic materials that has saved millions of dollars for practitioners and indirectly benefited patients.

"Another subject explored in the *Insider* was the impact resistance of ceramic brackets. Using a method borrowed from industry, he helped identify which brackets are fragile and which have the most impact-resisting shapes. Prof Matasa has also analyzed the frictional properties of ceramic brackets using atomic-force microscopy. In his newsletter he has demonstrated that, by using scanning electronic microscopy, one can observe a lack of affinity between hydrophilic ('water-loving') surfaces (enamel and stainless steel) and hydrophobic ('water-hating')

resin-based adhesives and sealants. In order to improve bonding, through the *Insider* he was the first to implement and document the effects of silanation and etching on metal-based attachments He thoroughly evaluated the leaching of attachments and the mechanism of corrosion. The cytotoxicity of current polyurethane elastomers was examined using embryonic cells. "Furthermore, the aerobic and anaerobic attacks of microorganisms on both metal and adhesives were brought into question, leading to the addition of biocides to prevent the attacks. Dr Matasa taught clinicians how to preserve the integrity of the slot by using gauges during bracket debonding, alleviate their fear of cross-contaminating 2-paste adhesives (by showing that they can be stored in 1 container), improve both etching and bonding by adding surface-active agents.

CONFESSIONS OF VIPs IN ORTHODONTICS

O, tempora! O, mores
Prof. Dr. M.M. Kuftinec

Dr. Mladen Kuftinec is currently retired from practicing orthodontics but still enjoys speaking and lecturing. He worked in private practice for over 35 years and is a retired Professor and Director of Orthodontics at New York University College of Dentistry. Over the years, Dr. Kuftinec also held academic positions at University of Louisville, Medical College of Virginia, MIT and Harvard-Forsyth. Today, he is a course speaker for Dentsplay/GAC International.

CGM: Among clinicians, you have distinguished yourself by paying special attention not only to the ways but also the means of the orthodontic attachments. How it all started?

MMK: My original exposure to orthodontics came at that time in Boston, the Mecca of academic orthodontics. At Harvard, it was inspired by the traditional European school and the culture of predominantly removable appliances. As curiosities, my professor showed us some pictures of treatments where "little locks" were placed on various parts of dentition, usually via cemented strips of thin metal. These looked rather scary and we just couldn't understand why anyone would want to wear these. In a "by the way" fashion, it was also mentioned that forces exceeding 500 g were typically used. It was the time of transitioning from the rather heavy and crude techniques of Tweed, Stoner and Lindquist into much lighter and easier to accept for a young students, the Beg philosophy and technique. Little did I know then what was in the store for me and indeed for our profession during the ensuing 40 years.

I practiced Begg technique, or perhaps I should say the Harvard version of it, for approximately 10 years. It was taught what attachments and which arch wires had to be used. It was quite clear that if it is Begg, the bracket should have been made by TP and the wires by Australian Wires. Don't question, don't experiment, because ALL was already tried and nothing worked better than the original, green covers Begg book prescribed. How often did I and my contemporaries heard our teachers "don't try anything new, do what we teach you and what we learned from Begg, Kestling, Roche, Cadman, Fine, Goldberg."

In approximately mid-70-ies, Unitek started marketing its variation of the Begg bracket, surely more motivated with the idea of recapturing a segment of the market then with improving treatment results. Influenced by Angle's edgewise technique, they added another stage by promoting the "Stage 4" bracket, which had as goals to correct multiple root position irregularities, improve the torque of the maxillary anterior teeth or attempt to reverse often severely flared lower incisors. It also allowed good clinicians to correct often misaligned second molars, which were not typically included in the treatment setup.

The Begg technique has contributed to the spread of orthodontics not only by leading to the Stage 4" brackets but also to the vertical slot provided edgewise brackets. While the former have disappeared from the market within few years, that latter continue to be in demand. It is interesting that the significant majority of newly trained orthodontists embraced the Begg as the system of the new time, the technique of the new golden era of orthodontics. There is no way to go forward from perfection! I was among those who attempted to increase the control of the tooth movement, only to be routinely shut down as a non-believer or even a rebel.

Well, what was happening? Where did later all the enthusiasm and interest for the Begg go? Wasn't this popular, biologically justified technique good enough for our training programs, for our residents and for our patients? Several factors occurred at approximately same time period that practically caused the Begg to un-popularize. Internally, the problems included an agonizingly long and labor intensive stage III of the treatment. Also, with the lack of the tri-dimensional control of tooth movement, too many finishing details were left for and depended on the wear of the Tooth Positioner. Generally speaking, our patients did not use their positioners nearly as much as we have hoped for. Two other developments, external to the Begg philosophy took place in the early 1970's. One was George Andreasen's brilliant recognition that orthodontists could benefit from adopting a material developed and used in the military. The material was largely composed of Nickel and Titanium alloy, first put to a practical use at the Naval Ordinance Laboratory, thus NiTiNOL. By using arch wires composed of NiTi we greatly reduced the need for bending the wires and, I will argue, have substantially reduced the levels of forces applied upon the teeth, in order to initiate their orthodontic movement.

The second significant development was Larry Andrews' introduction of the Straight Wire Appliances [SWA]. Among numerous advantages of the SWA, the ones that we, perhaps, don't mention often enough include less chair-side work and predictably shorter, yet "better" treatments. The Begg, Tweed and all other modifications of the edgewise appliances could not compete successfully with the SWA.

The usually university based biologists were also seeing repeatedly untoward effects of the Begg treatments, namely too many 4 first premolars were extracted and also too often the remaining teeth viewed on final, after treatment records were damaged, either due to the root resorption, developing caries in the areas inaccessible to good oral hygiene practices for extended periods [for instance in the area of the torquing auxiliary] or carious lesion, where the partially washed out cement under the band material allowed for a hidden progression of decay.

By that time, the edgewise attachments gained enough appreciation to become competitive: as mentioned, the last nail in the Begg popularity coffin was Larry Andrews 'Straight Wire Appliances. The SWA attachment, along the NiTi wires, was too much for the Begg brackets to resist. Sic transit gloria mundi…

CGM: Modifications are part of progress: modifications of Angle's edgewise brackets are many. The wings recommended by Lewis and Lang to control rotation are currently used only in Alexander's discipline, the Broussard vertical slot brackets are obsolete, and so are the deep slots once used to hold two superposed arch wires. Would even some of today's self ligating brackets still be considered edgewise (with the edge forward or on, by, or toward the edge, according to the word's definition?

MKK: That is an interesting way of looking at this situation, the one that gives many clinicians the proverbial headache of riches. One needs only to step back, consider this objectively and ask if it makes sense that we in orthodontics simply cannot agree on what makes an attachment ideal. It would seem that multiple factors enter in our decision making process. In my opinion, there is a strong influence of the authority figure when we were trained, probably our favorite clinical teacher or the favored treatment approach of a particular department where we trained. Over the years, my students kept telling me that they generally used those attachments that the supply company sold them as a part of the "graduation package deal" Others use the appliances that are found or inherited in the offices they join or take over. There is also, I'm sad to say, some degree of "keeping up with the Jones". I distinctly remember receiving donations of hundreds, even thousands of new brackets from practitioners who replaced their entire inventory of attachments or auxiliaries just because something else came into vague. It happened during the time of popularization of the straight wire appliances [in my previous institution at one point I had over 2,000 cases of donated Begg brackets]. Ceramic attachments and more recently the self-ligating systems have generated a similar effect. The 'Main Street' orthodontists don't want to be left out of the modern, perceived to be high-tech appliances and materials.

The fair question and the one that must be asked are: are the brackets of this young century objectively better than those of the last? Can we, in an unbiased manner demonstrate and prove that, for instance, interactive self-ligating brackets are BETTER than, let's say, Begg brackets? Of course, first we must define 'better'. Does better mean less expensive to make, easier to work with, achieve the needed and desired tooth movement in a shorter time; can be proven to cause fewer untoward biologic effects ["scars of orthodontics"]; require shorter time for individual adjustment appointments and overall treatment times? I know that this is not an all inclusive list of possible defining characteristics; undoubtedly there are many more. In the whole, then, I would offer that if all possibilities of interpreting 'better' are considered, the answer is a resounding YES: the modern orthodontic appliances are BETTER than they used to be.

CGM: After a long and successful career, I am sure that you have advices for the new generation of orthodontists based upon the 'goods' and 'bads' you have encountered in your profession. While searching on the internet for controversies in chemistry, you will find few references regarding some mechanistic interpretations that have since then been put to rest. Looking for the same in orthodontics, one can find hundreds of pages and even books on the topic. Clinicians, as well as academic orthodontists, have for many years tried to sort out and separate these trends. There are numerous controversies within the profession, such that you couldn't have escaped from rejecting certain common beliefs and their related consequences.

MMK: You are asking an interesting, albeit a very provocative question. It almost sounds like you want to summarize my orthodontic "philosophy" and beliefs answering your one question. I'll try to rise to your challenge and give you my views on several orthodontic dilemmas.

Let me start with the one that confronted me the first, a short time after I arrived to the States from my native Yugoslavia [note: Yugoslavia does not exist any longer; it was formed in the middle of the World War II in 1943 and it fell apart into 6 independent republics during the 'liberation war' of 1990's]. In my home country, the study of 'stomatology' was very much tied to medicine, the biological aspects of dental diseases or being emphasized. In the States, biology is often pushed aside in favor of superb techniques. The practicality of it can easily be seen in comparing treatment results, with a proviso that the patients are very often treated to better results here, than in Europe. I plan to explain again the term "better", this time in more details.

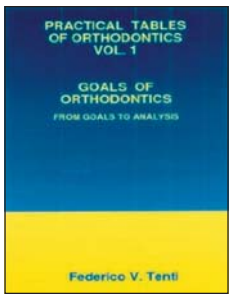
I encountered a serious conflict of my beliefs and learned knowledge when evaluating respective results of then in Europe prevalent functional appliances, compared with those of ubiquitous in America fixed orthodontic appliances. It didn't take me long to decide that much of the detailed finishing work is more predictably and easier done with the fixed appliances. This belief stay throughout my career, even though it should be noted that the 'functionalists' have come a long way toward improving the final results of their therapies.

Next on my list of dilemmas is easier to identify with, because I was in a class of hundreds, perhaps even thousands of younger orthodontists. It is taking place in mid – 60's and the influential orthodontic winds were blowing from Adelaide in Australia. The Begg treatment philosophy and his technique, so convincingly packaged and promoted by the Rocky-Kestling group, excited many biologically oriented orthodontists. Even though we had an occasional problem with extracting teeth where we really didn't want [need?] to extract, we just liked the ideas and concepts of the light wire, and light forces tooth move-

ment, absence of any rectangular wires. It also helped that, largely through the efforts of the Kestling – Rocky group, instruction in the Begg technique was standardized and relatively easy. I treated thousands of patients with the Begg appliances and I could predict that most of the malocclusions would be treated in 3 years or less. The philosophical rival of the Begg technique was the Tweed philosophy with its heavy handed, large cross-section arch wires, with a lot of patients' discomfort and fairly regularly observed "scars of orthodontic treatment", namely root resorption, alveolar crest loss, gingival recession. The Begg seemed a clear choice to many.

Once more, let us return to the term "better treatment". What do the clinicians mean when they say better? In fact, it is very possible that we all have a different, our own definition of what is better. Let's start the argument: better for whom? For the patient, his parents, orthodontist, his staff, the society, government, appliance manufacturer? Is it better to be in orthodontic treatment 4 years, because the clinician is chasing that often elusive perfection in his work [do we know and have we ever agreed on what that perfection in orthodontic treatment really is?!] Maybe, I will argue, it is better to complete the active orthodontic treatment efficiently, meaning in a shorter time, and not necessarily achieve correction of the last degree of rotation and the last fraction of millimeter of crowding. It is, in my firm opinion, it is BETTER to treat our patients in a shorter time, avoiding scars, preserving the roots of all teeth, not damaging soft tissues surrounding the teeth, not causing the decalcification or caries due to the long term bands wear. It is better not to provide, or more correctly force on our patients discomfort or pain – especially if it can be done otherwise.

CGM: Many thanks.



Prof. Dr. Federico Tenti.

Plus ça change, plus ç'est la meme chose

When I was instructed in orthodontics, many years ago, two techniques, two philosophies, were prevailing: the Tweed's and the Begg's philosophy. "Learn to work well, and you don't need to beg" used to say one of my teachers. "Work Well" was meaning to strongly tighten the ligatures (at that time no kind of self ligating brackets were invented).

"Years after I perceived that it was not necessary to tighten ligatures, but, on the contrary, if I leave ligatures loose, I may obtain many of the benefits of Begg technique, without his numerous dangers, also with Standard brackets." Now Begg's technique is completely abandoned and the original Tweed's too. "Years before I was approached, during a Congress by Prof. Hoffer from Milano (Italy), who told me: "Tenti, don't you use, perhaps, that dirty, damned iron materials ?""He was instructed in orthodontics many years before in Wien (Austria) by Prof. A.M. Schwartz, who discovered the phenomenon of hialinisation and so became a defender of Removable Appliances and Andresen too. "Prof. Hoffer knew very well that I was a pupil of Prof. Cesare Luzi sr. from Bologna (Italy), who taught me how to use bands and brackets in the same time with the Functional Appliances, when necessary. I always remain faithful at this taught."At that time Italy (and Europe, I suppose) was divided in two schools, without comprehesion or compromises: Milano (Hoffer) and Bologna (Mai, Luzi)."In my recent books and in my teachings, I say when to use Fixed Appliances and when Functionals ones are absolutely necessary (for obtain Orthopaedic effect in Class II and III)"

Premises
0.1 – The Orthodontist's Forbidden Dream
0.2 – Three Paths Towards Success in Treatment Planning – First Path
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0.5 –The Four Undisputed Final Objectives of Orthodontics
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1.02– What is Ugliness ?
1.03– Indices of Ugliness: Definition and Usefulness
1.04– Seven Indices of Facial Ugliness
Index N° 1: Curvature of the Chin
1.05– Curvature of the Chin. Evaluation
1.06– Curvature of the Chin. Treatment approach.
1.07– Index N° 2 : Skeletal Class and Soft Tissue Class
1.08– Skeletal Class and Soft Tissue Class. Evaluation
1.09– Skeletal Class and Soft Tissue Class. Treatment approach.
1.10– Index N° 3 : Labial Protrusion. Evaluation
1.11– Labial Protrusion and Sex
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1.36 – Inclination of Upper Incisors and Skeletal Class
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1.40 – Narrow Upper Arch and Cuspid Inclination
1.41– Index N° 7 : Oblique Occlusal Plane. Detection
1.42 – Oblique Occlusal Plane. Treatment approach.
1.43 – Panoramic Overview of Esthetics

Interview with Dr H P Bimler on the history and development of the Bimler Appliance (1999)..

Question (CG Matasa): Dr Bimler, I would like to ask you some questions about the Bimler Appliance and how you came to use it with so many patients over the last 50 years.

First, what was the direct background of your interest in Functional Appliances?

HPB: Well, back in the 1930´s in the practice of my father, Dr Walter Bimler, I was quite familiar with the heavy and uncomfortable activators of that time. They seemed cruel to me, as the patients could have never been happy with such a thing in their mouths.

I was thinking then that there must be a better way to help the patients. But most of all, in those days I was concerned with Ceph, and in 1939 presented, with my father, what was the first public appearance of what later became the system of Bimler Ceph…….

The Bimler Appliance was created in response to the troubles in Germany after the last European War.

CG Matasa: Please tell the exact details:

HPB: After I was released from the English Prisoner of War Camp, I made my way back to Germany, to Wiesbaden, where my family had managed to escape from the Russian invasion. My father had managed to send our entire private clinic west before the collapse of the German Forces, so we could start to treat patients very quickly, and, after seven years of war time, there were many patients.

The Bimler Appliance was created by me after hundreds of attempts, by trial and error, to minimize the amount of acrylic (or actually Bakelite) in removable appliances and make the wires foremost as the major part of the appliance. I tried many things. But slowly I discarded all of those ideas and designs which did not perform as I wanted them to do, and by 1950 actually, the Bimler Appliance was finished, as it is known today, with the Bimler B and C following along shortly thereafter.

CG Matasa: You had quite some patients to work with, in the development of the Appliance.

HPB: Yes, many patients were waiting for much-needed treatment, so I had many chances to see how efficient my designs were. The Appliance, in its final form worked beyond my original expectations…..which was fortunate for both the patients and my clinic, as I discovered with the Appliance working more or less by itself, a visit by a patient every four weeks was enough to keep the treatment progressing, and the patient involved.

So I developed the Bimler Treatment Sheet, which sits on the lap of the patient and records the measurement of the dental arches so one can control the treatment at a single look, has the advantage as well of giving the patient, and the doctor, something else to do during the visit of the patient, as the activation of the Appliance only requires a fraction of a second. So you make a point on the chart, it is recorded, the patient is happy, and thinks the doctor is doing something. In reality, of course, the patient, with the Appliance, is doing all of the work. But we must have something to look at and show the patients. Imagine how confused the patient would be if you merely sat there, adjusted the Appliance and dismissed the patient after ten seconds! But that is the true state of affairs. The Treatment Sheet also gives the solid documentation that any decent doctor should have, and which is indispensable for the scientific work.

CG Matasa: This development of the Appliance permitted you to treat rather sizeable numbers of patients at one sitting. Once, I believe, you treated 150-160 patients in one morning.

HPB: Yes, it is simple when each patient only requires less than a minute. You must remember that unless the Appliance worked the way it did, I would never be able to treat as many patients as my clinic did, some 24,000 plus. At one point I had more than 2,500 active patients and this in a clinic only open four days a week, and closed two hours each of those four days for lunch. I always left the office at 16:30 each day. The clinic was closed for holidays, and we gave every worker, as required under German law, 30 days off a year. During this time I conducted numerous courses and overseas lectures, some 150, normally demanding weeks away at a time.

I never gave out appointments for patients under treatment, I simply told them to visit me when they were in the area. Sometimes they would show up when the waiting room had 50 or so people in it, so they would either go away for a little shopping or a cup of coffee and come back 30 minutes later, by then, the waiting room would be empty. In this way I saved everybody a lot of trouble. They came back when they wanted to see me, some even a year later when the treatment was more or less finished.

Additional to this, I can mention that I had hundreds of dentists sending me models for Appliance prescriptions each month, which our laboratory would make into Appliances and then ship back. At one time I had 35 people working for me.

CG Matasa: So you have certainly examined a great many models and patients to see how very efficient the Bimler Appliances are.

HPB: Effective and easy to wear. As I noticed, after one or two years, that the lazy patients who only wore the Appliance at night, were getting the same level of treatment as those patients who wore the Appliance night and day. You see, in the beginning, I was reducing the volume of the Appliance so the patient would wear it during the day time hours.

However, it turned out that it was not necessary to wear

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it all day.
This made the Bimler Appliance very popular in Wiesbaden.

CG Matasa: Indeed, 10% of the population eventually was treated by you, is that correct?

HPB: Sometimes to the third generation.

CG Matasa: Any other surprises you encountered in the treatment of patients and the Bimler Appliance?

HPB: I was surprised that the Class III patients, Frontal Cross Bite cases, will wear the Appliance voluntarily day and night, as it makes them feel better in the joints. They feel uncomfortable unless they wear the Appliance.

CG Matasa: What are the weaknesses of the Bimler Appliance?

HPB: Unless the Bimler Appliance is constructed correctly, and kept stable by being in state of symmetry, the appliance looses it maximum effect. Each part must always be kept either in the horizontal or the vertical plane: the upper labial arch in the horizontal plane, it is continued in the vertical curves which lead to the next horizontal plane, the wires crossing the dental arches, to continue up to the palate which is again more or less vertical.

CG Matasa: To the Coffin Spring?

HPB: Exactly, the Coffin Spring itself is again in the horizontal plane. So we are always changing from on plane to the other in a right angle. That's what makes the appliance stable. And it allows the doctor, when the appliance is deformed, to bring it back in the correct shape.

CG Matasa: For maximum efficiency, the Bimler Appliances has to be constructed correctly from the start?

HPB: And furthermore, as every dental technician had his own handwriting, the appliances would look different in the different places. For a uniform look, we developed the prefabricated parts for the construction. Indeed, we have reports from all over the world how much more effective the appliances made from preformed parts are. It really helps in manipulation and activation as well as in the construction.

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OUR NOTE
Lots of orthodontists who got to know us along the past 35 years, trust us.
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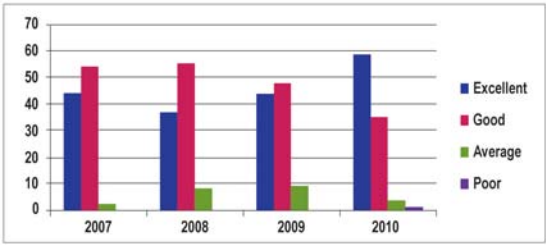

A recent survey among our current customers showed a significant increase of the satisfaction levels when it comes to the quality of our service. Also, we identified areas for improvement.