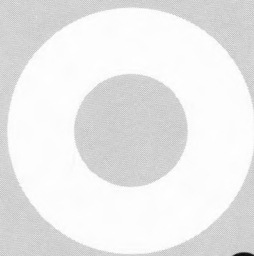


WINTER • 1992

The **JOURNAL**
of the **AMERICAN COLLEGE of DENTISTS**





OBJECTIVES **of the AMERICAN** **COLLEGE of DENTISTS**

The American College of Dentists in order to promote the highest ideals in health care, advance the standards and efficiency of dentistry, develop good human relations and understanding, and extend the benefits of dental health to the greatest number, declares and adopts the following principles and ideals as ways and means for the attainment of these goals.

(a) To urge the extension and improvement of measures for the control and prevention of oral disorders;

(b) To encourage qualified persons to consider a career in dentistry so that dental health services will be available to all and to urge broad preparation for such a career at all educational levels;

(c) To encourage graduate studies and continuing educational efforts by dentists and auxiliaries;

(d) To encourage, stimulate and promote research;

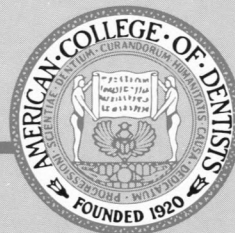
(e) To improve the public understanding and appreciation of oral health service and its importance to the optimum health of the patient;

(f) To encourage the free exchange of ideas and experiences in the interest of better service to the patient;

(g) To cooperate with other groups for the advancement of interprofessional relationships in the interest of the public;

(h) To make visible to professional persons the extent of their responsibilities to the community as well as to the field of health service and to urge the acceptance of them;

(i) To encourage individuals to further these objectives, and to recognize meritorious achievements and the potentials for contributions to dental science, art, education, literature, human relations or other areas which contribute to human welfare—by conferring Fellowship in the College on those persons properly selected for such honor.



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CONTENTS

From the Editor's Desk	3
Forum: Dentistry's Prestige	4
New ACD Executive Director Selected	5
Paffenbarger Research Center <i>W.A. Marjenhoff, L.A. George</i>	6
Dental Demographics: Postdoctoral Training: Students and Programs	10
<i>H. Barry Waldman</i>	
Convocation Awards	
Gies Award to Clifton O. Dummett	16
Gies Award to Thaddeus V. Weclaw	17
Award of Merit to Phyllis Hart Davis	18
Honorary Fellowship to Aletha Kowitz	19
Michael G. Buonocore: The Pioneer Who Paved the Way for Modern Esthetic Dentistry	20
<i>Malvin E. Ring</i>	
Gies Editorial Winners for 1992	
Reading Between the Lines	29
<i>Daniel M. Laskin</i>	
Treat Older Patients Responsibly	30
<i>William W. Howard</i>	
The Eighth Specialty: Ignorance	31
<i>David W. Chambers</i>	
New Fellowships Conferred	32
Deceased Fellows	38
News of Fellows	40
Section Activities	42
Book Report: Dental Education At Meharry	45
Information for Authors	46
Index of Authors for 1992	47
Annual Index of Articles for 1992	48
Directory for Officers and Board of Regents	49

Gordon H. Rovelstad

—EXECUTIVE DIRECTOR EMERITUS

Gordon H. Rovelstad retired as Executive Director for the American College of Dentists in December, 1992, the culmination of an exemplary career in dentistry.

Actually, Dr. Rovelstad managed to achieve a number of different careers in dentistry and he proved himself to be outstanding in each one: he has been a general practitioner, a pediatric dentist, a clinician, a clinical professor, a Navy career dentist, a scientist and researcher, an administrator and an educator. He has repeatedly demonstrated his ability, as a leader among leaders in numerous professional organizations, in a career that has accented his total dedication to the dental profession. Throughout his lifetime, he has believed strongly in paying attention to detail, going by the rules and holding to the highest possible standards.

Dr. Rovelstad received his dental degree from Northwestern University and later returned there for his MSD and PhD degrees. He joined the Northwestern Dental School faculty as an Assistant Professor of Pediatric Dentistry and soon became Chief of Pediatric Dental Service at Children's Memorial Hospital in Chicago.

He was called to active duty in the Korean War, serving with the First Marine Division in Korea, and he remained in service for a career in the Navy, specializing in dental research. His abilities and commitment were soon recognized and he eventually became the head of the Navy's dental research program.

With almost every organization in which he participated, he quickly rose to be a leader. Along the way, he has



Keith P. Blair

been President of the American Academy of Pediatric Dentistry, President of the American Board of Pediatric Dentistry, President of the International Association for Dental Research, President of the William John Gies Foundation, Chairman of the Graduate and Postgraduate Education Section at the American Association of Dental Schools and President of the American College of Dentists.

When his Navy career was over, he returned to the academic world as a Professor and Chairman of the Department of Pediatric Dentistry at the University of Mississippi. He was soon appointed as Assistant Dean for Education Programs and he intended to remain at that school for the rest of his professional life.

However, he was elected to the ACD Board of Regents and became ACD President in 1979-1980 when

FROM THE EDITOR'S DESK

the College was searching for a new Executive Director. Though he did not seek the position, the job sought him when members of the Board were convinced that he was their choice. He was gradually persuaded to accept the appointment and he became the ACD Executive Director in 1981.

During his twelve-year term, the College has increased in size by nearly 30%, has established a computerized office management system, has chartered ten new Sections and has acquired a national headquarters office space that the ACD owns without debt. There has been increasing interest and a greater amount of activities throughout the College in recent years.

Wherever he has been and in all of his varied careers, Dr. Rovelstad has set standards for excellence, with many of these standards still in effect. Throughout his entire fifty years of professional life, he has earned the respect and admiration of his peers and of his legions of friends in dentistry.

Yet, for all of his well-deserved honors, awards and accomplishments, Dr. Rovelstad has remained unassuming, considerate, kind and thoughtful to all who know him and work with him, a genuinely nice person. The world of dentistry has greatly benefited by his efforts and contributions and he certainly has earned the right to retire.

The entire dental profession, and particularly the American College of Dentists, can say to Gordon Rovelstad, "Thank you and *WELL-DONE!!*"

Keith P. Blair

FORUM

DENTISTRY'S PRESTIGE - THEN AND NOW

The Journal of the American College of Dentists, Dec. 1963, reported that a newspaper editor referred to our profession as living off our free democratic society instead of contributing to it. That issue also carried a quotation from the Journal of the ADA, March 1963, in which another newspaper editor cast us as members of "Anonymous, Anonymous".

The latter editor based his conclusions on the fact that as he attended worthwhile community meetings he rarely found a dentist in attendance, whereby other professions were represented. He also mentioned that he found scant reference to dentists when he scrounged in the morgue of his newspaper. He further added that our dental journals carried too many articles on finances.

Many dentists responded to the accusations, including myself, and the ADA Journal carried a fine cross-section of the dentists' views.

At the time, I was a practicing dentist, but having been schooled in journalism I was associated with a group of newspapers plus other forms of the printed word. As such, I was surprised that a newspaper editor would base his findings upon such cursory and restrictive knowledge. However, the incident did prompt me to look into the subject with a bit more depth because in my locale of northern New Jersey we had many dentists engaged in a considerable amount of extra outside activities. One dentist was a mayor of a city of 40,000 people.

I was more curious, however, in what the general public thought of us. After a bit of searching, I found that the most in-depth study on the subject of prestige was conducted by the National Opinion Research Center at the University of Chicago. Their study reported that out of 90 professions and businesses listed on the

survey, the dentist was ranked number 18 in 1947. A similar study was conducted again during 1963 when the dentist rose in rank to number 14.

As an aside, in both studies the newspaper editor was not considered, but the reporter and columnist were ranked in the mid 40's during both studies.

When I inquired as to the results of the Research Center's findings during the late 70's I was advised that it had discontinued this project. More recently, the most up-to-date survey made by a recognized company was published in February 1990 by the Gallup Group. This study listed 25 choices of businesses and professions, rating them as to honesty and ethical standards, and we found the pharmacist was rated #1, the clergy #2, and the physician and dentist were tied for #3.

For the next full year I questioned more than 100 dentists, both active and retired, as to why they thought we had risen in prestige. There were a host of answers and I detected, in many instances, that there were distinct differences in the thinking between the active and the retired dentists. As an example, retired persons seem to think that dentistry rose in acceptance because of our approach with our patients. Dentists were more personal, explained everything before treatment was done, answering all questions, and were honest in their proceedings.

The active dentists agreed with that evaluation, but leaned more to stressing the great advancements made in treating the patient: with implants, use of lasers and bonding, we had come out of the age of drill and fill and had come into the more lofty realm of being high on the list of the health care team.

Both groups praised our dental schools as to the fine caliber of den-

tists they had produced. When I asked the active practitioners if they were content with their choice of dentistry as a career most answered "Yes", but most answered "No" when I asked them as to whether they would advise their children to become dentists.

Both groups agreed that we should do pro bono work, with the older men leaning towards performing it in their own offices. The active men believed they would prefer devoting x amount of gratis time elsewhere than in their office. Interestingly, a few active dentists thought that our prestige went up as our fees increased.

Practically, all dentists thought they should be active in our communities with civic, charitable, and church endeavors, but that this would not elevate our profession in prestige. Patients look upon their doctors as personal possessions and do not appreciate their traipsing around in a plethora of extra-curricular activities.

In actuality, I approached almost 200 dentists and 111 responded, mostly verbally. Some were even good enough to contact me via phone or mail after they gave the matter some further thought. Lately, a number of them are wondering what effect the publicity we are receiving from the few AIDS cases will have upon our profession.

To summarize, I guess that the true answer, as to the question of prestige, will lie in whether the pharmacist will remain number one. Pharmacy is not a dramatic profession, but I was able to determine that people voted for it because pharmacists are friendly, accommodating, dependable, trustable and also seem to have the time to answer questions.

Dr. Aaron Markowitz
Delray Beach, Florida

Dr. Sherry Keramidas Selected as New ACD Executive Director



Sherry Keramidas

During the recent meeting of the ACD Board of Regents, held at Orlando, Florida, the Board selected Dr. Sherry Keramidas as the new Executive Director to succeed Dr. Gordon H. Rovelstad, who is retiring after serving for twelve years in that position. She will assume her new duties on January 1, 1993.

Dr. Keramidas has an extensive background in managing health professional and research organizations and foundations, as well as strong ties with the dental profession.

Before joining the College, Dr. Keramidas served for over four years as the Associate Executive Vice President of the American Physical Therapy Association. In that role, Dr. Keramidas managed multi-million dollar programs related to research, education, accreditation, health policy and professional development. During her tenure, she was responsible for major increases in research funding by private and federal agencies, development of databases on research and education, establishment of a major seminar series on research design, grantsmanship and outcomes/effectiveness research.

She also secured grant support from the Agency for Health Care Policy and Research to address manpower and access to care issues and provided input into activities of the Institute of Medicine related health professions and clinical researcher development. She has been actively involved in issues related to health care restructuring, monitoring of reform proposals and development of clinical guidelines and has lectured extensively in these areas. Dr. Keramidas also

developed and managed the Association's strategic planning program.

Previously, Dr. Keramidas was the Associate Medical/Scientific Director of the Cystic Fibrosis Foundation for over seven years. During her tenure, she developed and managed comprehensive programs of research, training and care delivery approaching \$30 million. She also was directly involved in efforts to raise support for the Foundation's research programs. Dr. Keramidas also spent over five years as a consultant in program evaluation, planning and development with the National Institutes of Health and other federal agencies. Her NIH experience included managing the evaluations of the National Institute of Dental Research National Caries Program and the Craniofacial Anomalies Program.

Dr. Keramidas has gained recognition for her skills and accomplishments in association management, strategic planning, professional education, research planning and grantsmanship, and communication. She also has experience in the health services field, including efforts related to health manpower, access to care, and outcomes/effectiveness research.

Dr. Keramidas received her Ph.D. in the neurosciences in 1976 from Purdue University. She has earned the Certified Association Executive (CAE) designation from the American Society of Association Executives who also selected her as a Future Leader. Dr. Keramidas is a Fellow of the American Association for the Advancement of Science and a member of the Sigma Xi Scientific Honorary and Phi Kappa Phi Scholastic Honorary Societies.

Paffenbarger Research Center

The Cutting Edge of Dental Science

W.A. Marjenhoff*

L.A. George**

The ADA Health Foundation's Paffenbarger Research Center (PRC) at the National Institute of Standards and Technology (NIST) has been in the forefront of transferring new and improved dental technologies to the profession since 1928. The list of PRC/NIST innovations is long and impressive.

During the past five years, dentistry has seen the commercialization of a PRC adhesion system for bonding composites to dentin and enamel simultaneously and glass-ceramic inserts that improve the properties of composite restorations. Licenses are currently being negotiated with dental manufacturers for a variety of other products based on ADAHF patents.

Current research includes the further development of calcium phosphate cements for various dental and medical applications; resins that exhibit minimal dimensional change on hardening; protective coatings for dentin, as well as enamel; and synthetic dentin.

One of dentistry's best kept secrets, albeit unintentional, may be the research accomplishments of the ADA Health Foundation's Paffenbarger Research Center (PRC) at

the National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland.

Dedicated to serving both the public and the profession of dentistry, PRC scientists adhere to an objective articulated by Dr. Wilmer Souder, who first directed dental research at the National Bureau of Standards in 1919: to render an improved dental health service through proper materials properly used.

The PRC also shares the major goal of NIST's Dental and Medical Materials Group (DMMG), of which it is a part: "to provide basic materials science, engineering, and test methods, which may be used by sectors of the health care industry or profession for the development of new or improved materials, delivery systems, and standards."

The creation of improved materials and transfer of dental materials technology from laboratory to marketplace have been hallmarks of the PRC and the DMMG. In this respect, the activities of the PRC foreshadowed a more recent and explicit commitment on the part of the federal government to assist American manufacturers to compete in the world marketplace. The Omnibus Trade and Competitiveness Act of 1988 provided a mandate for NIST "to assist industry in the development of technology and procedures needed to improve quality, to modernize manufacturing processes, to ensure product reliability, manufacturability, functionality, and cost-effectiveness, and to facilitate the more rapid commercialization... of products based on new scientific discoveries."

The ADA entered into its unique collaborative research agreement with the federal government in 1928, and the list of innovations emanating from that alliance has been impressive, to say the least.

The list includes the development of the panoramic radiograph; the turbine contra-angle handpiece; rhodium front-surface dental mirrors; the first radiopaque mineral fillers (glasses) for composite restorative materials; alginate impression materials and the tin-foil substitute used in processing acrylic denture resins; and spherical alloys for dental amalgam, containing less mercury than amalgam predecessors. Dental composites and the current generation of pit and fissure sealant resins and orthodontic bracket bonding resins were developed at the PRC by the Center's current director, Dr. Rafael Bowen.

During the past five years, the dental profession has seen the commercial introduction of several additional developments from the ADA Health Foundation laboratories at NIST:

Adhesion System

Bowen's adhesion system for bonding composites to dentin and enamel simultaneously has been licensed by several dental manufacturers who have introduced products based on the patents.^{1,2} Dentists bought more than \$3 million worth of these products last year alone. Products based on the system command a market share greater than 11%. Total sales of products based on the system have ex-

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** L.A. George

ceeded \$12 million since the technology was first transferred in 1986. The bonding patents, like all patents emanating from PRC research, are assigned to the ADA Health Foundation. The royalties the manufacturers remit to the Health Foundation help fund additional research at the PRC. Recent improvements in the bonding system have been transferred from PRC laboratories to the licensees, and dentists can expect to see significant improvement in the shelf-life and bond strengths of these commercial materials. Further improvements in the adhesion system are in development. In order to allow his continued research on the system, NIH awarded Bowen a prestigious MERIT Award in 1988, and he is expected to receive a 5-year renewal of the award.

Calcium Phosphate Cements

The patents for calcium phosphate cements (CPC), invented by ADAHF scientists Laurence C. Chow and Walter E. Brown, have been licensed to a company founded by surgeons who plan to introduce commercial materials for use in making cranial repairs following neurosurgery. Experimental materials have also been used successfully in operations to reconstruct the frontal sinus cavity, to build up facial bone structure and to repair physical defects in the pituitary gland. Clinical trials of the material are currently being conducted in compliance with regulations governing Food and Drug Administration (FDA) approval. The properties

of CPC are being further improved for possible applications as a root canal filler or sealer, a base material for fillings, capping for exposed pulps, alveolar ridge augmentation, replacement for bone lost as a result of periodontal disease or abscesses, and as a bone cement for hip and knee prostheses.

The PRC's Ming Tung received a patent last year for a remineralization/desensitization system that contains calcium phosphate and carbonate. The system should find ready acceptance in toothpastes and chewing gums. An aerosol application is being further developed and promoted to dental manufacturers.³ This product has great potential as a remineralization agent to prevent and repair dental caries, a desensitizing system for sensitive dentin and root areas, and for remineralization following acid etching in dentin and enamel adhesive bonding systems. Tung and his research team are also developing the FDA's calcium phosphate standard reference material under a service contract from that agency.

Two-Component Fluoride System

ADA researchers at the PRC have also developed a two-component fluoride system that holds excellent clinical potential. Mouth rinses and dentifrices formulated from the system would deposit up to 20 times more fluoride on teeth and in plaque without increasing the fluoride content of the regimen.^{4,6} When formulated as a professionally administered topical fluoride gel, it deposits significantly more fluoride

than does the acidulated phosphate fluoride (APF) gel currently in use. Another significant advantage is that the new gel can be applied to the cervical and interproximal areas of the teeth where protection against caries is needed the most.

Glass-Ceramic Inserts

In research conducted over the past five years, the ADA's PRC research team found that the properties of composite restorations can be markedly improved by the incorporation of glass-ceramic inserts prior to polymerization.^{7,8} This technology was developed under the auspices of an NIDR Center of Excellence for Materials Science Research grant awarded to the ADA Health Foundation in 1989. The technology was commercially introduced to dental practice last fall. The tooth-colored inserts, or "megafillers," have been shown to decrease polymerization shrinkage stresses, increase stiffness (modulus of elasticity), and can be expected to improve the dimensional stability of occlusal and interproximal restorations.

Radiation Shielding Materials

In another Center of Excellence project, Frederick C. Eichmiller, the PRC's associate director and chief clinical research scientist, invented novel radiation shielding materials to be used during radiation therapy of head and neck cancers.^{9,10} Oral cancers are highly curable because of their localized nature, ease of treatment access, and high radio-

responsiveness; however, radiation therapy often results in damage to normal tissues surrounding the tumor being treated. Shields preventing exposure of these surrounding tissues have historically been used with success; however, difficulties encountered in the fabrication of the shields have resulted in their underutilization, particularly in treatment facilities lacking dental or maxillofacial services. Dr. Eichmiller's materials are formulated to provide ease of fabrication, placement, adjustment, removal, and repair. A patent on these putty-like shielding materials is currently pending. Laboratory tests of one version of marketable material have recently been completed, and the material is being subjected to *in vivo* testing in anticipation of licensing by a dental manufacturer. This technology should significantly reduce the side effects commonly associated with radiation therapy of many types of cancer.

Protective Coatings

Another Center of Excellence research project that ADA scientists are engaged in is the development of protective coatings for dentin, as well as enamel.^{11,12} A research team is preparing and evaluating a range of organophilic and hydrophilic (water-soluble) surface-interactive coating monomers that dentists can apply to decrease the incidence of caries on crown and root dentin surfaces. With the ability to bind and bond to both enamel and dentin and then polymerize, these materials are intended for use as shields against attack by microorganisms.

More than a dozen monomers have been synthesized, characterized and studied in this effort, and substantial progress has been made in defining the parameters of likely monomer candidates. Test procedures for determining the applicability of monomers have also been defined. The polymers have to adhere to the tooth structure while immersed in water and acid and withstand both temperature change from 5°C to 55°C and simulated toothbrushing for one year.

The synthesis and development of monomers that exhibit minimal dimensional change upon hardening are also being achieved by Center of Excellence scientists.¹³⁻¹⁶ This project includes both NIST scientists and an ADA research associate. The research team is working to dramatically improve adhesive bonding, prevent margin gaps and leakage, and increase the service life of composites and related materials through the use of monomers that undergo minimal, zero or even positive volume changes on polymerization. Several classes of novel monomers have been synthesized, characterized and evaluated in this effort. Significant progress has been made in this regard with free-radical activated, single- and multiple-ring-opening monomers, as well as monomers that undergo ring opening through hydrogen abstraction.

Synthetic Dentin

Synthetic dentin, another material being developed in the Center of Excellence, would be useful for pulp capping, as a cavity liner, root canal filler/sealer, and for restoring other

defects where the material would be in contact with vital tissue. Like natural dentin, the synthetic dentin materials will consist of an inorganic phase and an organic phase. The inorganic phase is a rigid network of interlocking hydroxyapatite crystals formed by a self-setting calcium phosphate cement (CPC) described earlier. The organic phase comprises a biocompatible, hydrophilic crosslinking polymer that also has calcium-binding groups on the backbone of the molecules. Ideally the strengths of synthetic dentin will be derived from both the inorganic and organic components as well as from the coupling of the two phases. Thus, synthetic dentin may be significantly stronger than CPC while retaining the high biocompatibility required for biomedical applications. The material would be hydrolytically and dimensionally stable, and it would also be adhesive enough to produce bonding to the tooth structure. PRC researchers are currently evaluating synthetic dentin materials formed by combining CPC with synthetic monomers^{17,18} or genetically engineered protein bioadhesives.¹⁹

Other ADA researchers at the PRC are supported by NIH grants to develop microanalytical dental research techniques²⁰⁻²² and to investigate pathological calcification in the cardiovascular system, particularly as it affects tissue-derived bioprostheses.²³⁻²⁵

The success of the Paffenbarger Research Center is a tribute not only to the expertise and dedication of its staff, but to the ADA and federal government's commitment

to dental research and to the profession's determination to ensure its technological future.

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Dental Demographics

Postdoctoral Training: Students and Programs

H. Barry Waldman*

The vast increases in knowledge, the multiplying complexities in delivering health services to diverse populations, the need to provide services to the developmentally disabled and medically compromised patient, and pecuniary realities — these are some of the factors leading to general and specialty postdoctoral training in dentistry and medicine. While predoctoral programs have upgraded continuously their curricula in an effort to maintain currency with the evolving demands for care, increasing numbers of young men and women are seeking added opportunities to improve their knowledge and skills beyond those attained during the traditional period of training.

Dental educators in particular, and the profession in general, may need to face the basic question "is there a need to lengthen the required formal four year period of professional training" in an effort to produce generations of generalist and specialist practitioners who are better prepared for the exigencies of health care services in the 1990s and beyond.

Increasing numbers of specialists

Between 1970 and the mid 1980s, the number of specialists more than doubled and the number of specialists per one hundred thousand population almost doubled. During the same period, the number of general dental practitioners increased by 30

percent and the number of general practitioners per one hundred thousand population increased by 11 percent (Table 1).

Further training in general practice

Prior to the 1970s, the emphasis in postdoctoral programs tended to be

in the needed training of dental specialists. However, during the past twenty years attention also has been directed to improving and extending the educational experiences in general practice residencies (GPR) (associated with hospital training) and advanced programs in general practice experiences (Advanced Education in General Dentistry [AEGD] or

Table 1.
Number of active dentists and dentist-to-population ratio by practice: 1970, 1986¹

Type of practice	1970		1986	
	Number	Dentists per 100,000 population	Number	Dentists per 100,000 population
All active	102,200	49.5	143,000	58.9
General practice	92,880	45.0	121,700	50.2
Specialty practice	9,320	4.5	21,300	8.8
Dental Public Health	90	<0.1	170	0.1
Endodontics	460	0.2	1,900	0.8
Oral Pathology	90	<0.1	160	0.1
Oral/Maxillofacial Surgery	2,190	1.1	4,730	1.9
Orthodontics	3,900	1.9	7,150	2.9
Pediatric Dentistry	1,070	0.5	2,600	1.1
Periodontics	930	0.5	3,030	1.2
Prosthodontics	590	0.3	1,560	0.6

Note: There are differences in the numbers of dentists reported by the Manpower Committee of the American Association of Dental Schools (using ADA data) and the number of dentists estimated by the Department of Health and Human Service (also, using ADA data).²

Table 2.
Senior dental student plans for postgraduate education selected years 1986-1991³

	1986	1988	1990	1991
Post graduate education plans				
Yes, immediately	29.1 %	35.4 %	39.3 %	40.6 %
Yes, but not now	18.7	24.4	23.9	25.7
No	52.5	40.2	36.8	33.7
Applied to specialty program				
Accepted	11.5 %	13.0 %	14.2 %	14.0 %
Not accepted	6.4	5.9	7.7	8.8
Applied to general practice residencies				
Accepted	18.9 %	26.7 %	29.2 %	28.9 %
Not accepted	4.3	7.6	8.9	10.1

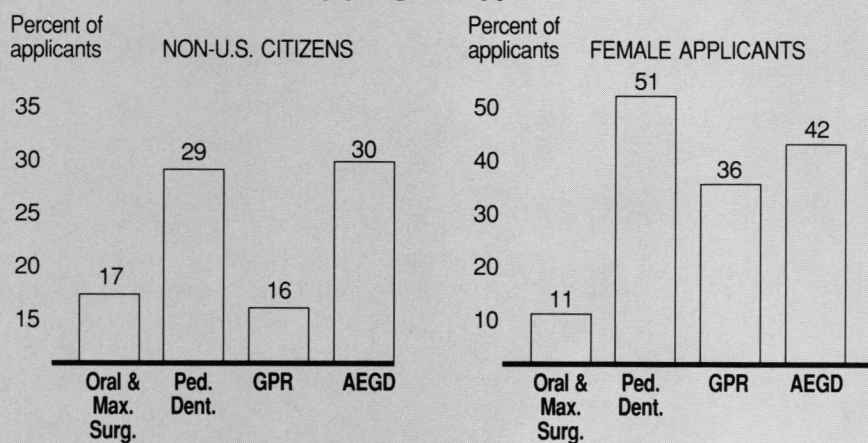
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Figure 1.

Non-U.S. citizen and female applicants by program type: 1991⁵



AGD]](associated with dental school and non-dental school programs). In the 1990s, the number of entry places in GPR and AGD program are greater than the entry places in specialty programs.

In 1991,* almost two-thirds of senior students anticipated postgraduate education — 39 percent applied to general practice programs and 23 percent applied to specialty programs (Table 2).

Applicants and Students

During the 1990s, demographic data on postgraduate program applicants are available from the American Association of Dental Schools Postdoctoral Application Support Service (PASS). PASS serves as an information clearinghouse (comparable to the long-term system developed by American Association of Dental School Application Service

[AADSAS] that was established for admission to schools of dentistry). PASS forwards student background information, deans' letters and dental school transcripts to designated programs. Four postdoctoral dentistry areas receive applications through the PASS services: oral and maxillofacial surgery, pediatric dentistry and both forms of general dentistry programs (AGD and GPR).

Three hundred and twenty programs participated in the PASS service for the 1992 application cycle; 84 percent of all oral and maxillofacial

programs, 80 percent of all pediatric dentistry programs and almost 75 percent of all postdoctoral general dentistry programs.⁴

In the 1991 applicant cycle, 29 percent of the applicants to pediatric dentistry programs and 30 percent of the applicants to AEGD programs were non-U.S. citizens. Fifty-one percent of the applicants to pediatric dentistry programs were females, compared to 11 percent of the applicants to oral and maxillofacial surgical programs (Figure 1). In the 1992 applicant cycle, there were 3.2 applicants per entry place in surgical programs, compared to 1.8 for pediatric dentistry program entry places and 1.6 for general practice programs. Oral surgery programs have an average of 2.1 entry places. Pediatric dentistry and general dentistry, respectively, have 2.7 and 4.1 entry places.⁴

As a result of applicants submitting applications to many programs through the PASS service, in 1992 the typical oral and maxillofacial surgery program director received 103 applications for the available first year seats. Postdoctoral general dentistry program directors received 46 applications. Pediatric dentistry directors received 26 applications. The median number of applications per seat received by each program was 57.5 for

Table 3.

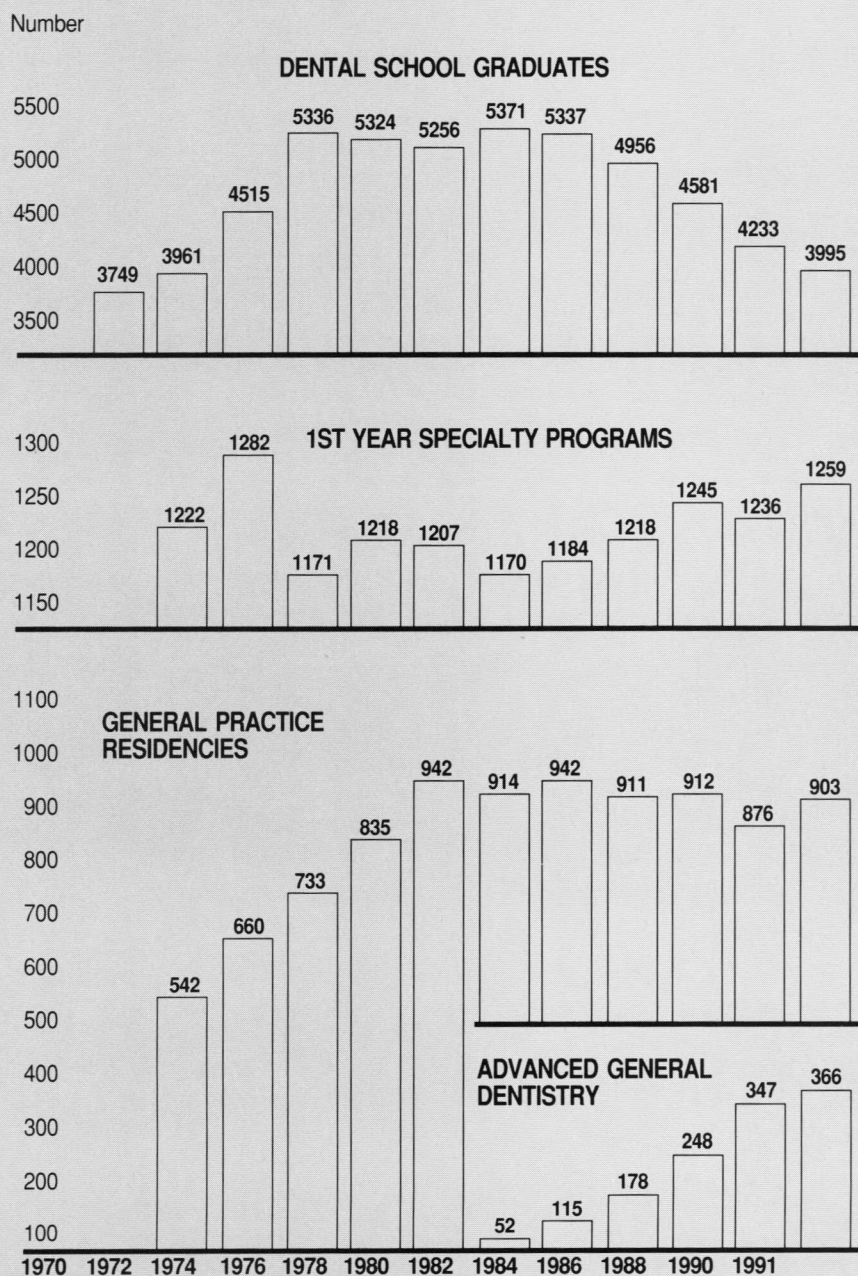
Specialty and advanced general dentistry training entering class enrollment: selected years 1971-1991⁶

Type of program	1971	1975	1980	1985	1990	1991
Specialty	1,203	1,227	1,207	1,209	1,236	1,259
General practice residency	516	694	942	943	876	903
Advanced general dentistry	—	—	—	120	347	366
Total advanced training	1,719	1,921	2,149	2,272	2,459	2,528
Number of dental school graduates	3,775	4,969	5,256	5,353	4,233	3,995
Percent of dental school graduates entering advanced training	45.5%	38.7%	40.8%	42.4%	58.1%	63.3%

* Unless otherwise noted, a specified year represents the beginning of a particular academic year (e.g. 1991 represents the 1991-92 academic year).

Figure 2

Number of dental school graduates, first year students in speciality, general practice residencies and general dentistry programs: selected years 1970-1991⁶⁻⁷



Note: Various publications by the ADA list slightly different numbers of graduates during particular years.

surgical residencies, 11.4 for postdoctoral general dentistry and 10.5 for pediatric dentistry.⁴

Despite dramatic changes in the number of graduates from schools of dentistry during the past twenty years, (with particular increases during the late 1970s and early 1980s) the number of students enrolled in first year specialty programs have remained relatively constant (ranging from 1,203 to 1,259 between 1971 and 1991). Between the early 1970s and the mid 1980s there were marked increases in the number of students enrolled in general practice residencies. Since the mid 1980s, there has been an irregular decrease in the number of students enrolled in GPR programs and an increase in the number of students in advanced general dentistry programs. By 1991, almost two-thirds (63.3 percent) of graduating dental students were enrolled in advanced training programs (Table 3 and Figure 2).

While there have been minimal changes in the overall number of students enrolled in postdoctoral specialty programs, since the mid 1970s, there were some changes in particular specialty program enrollments. There were decreases in the number of first year students enrolled in public health dentistry, oral pathology, oral and maxillofacial surgery, and orthodontic programs. During the same period there were increases in the number of students in endodontic, periodontic and prosthodontic programs and a series of increases and decreases in pediatric dentistry programs (Table 4).

Postdoctoral programs

During the past decade, there were increases in the number of dental public health and AGD programs. During the same period there were

Table 4.
Number of students entering specialty programs:
selected years 1975-1991⁶

Specialty	1975	1980	1985	1991
Dental Public Health	35	22	21	20
Endodontics	134	129	131	156
Oral Pathology	25	23	20	16
Oral & Maxillofacial Surgery	223	217	211	215
Orthodontics	304	283	294	285
Pediatric Dentistry	176	190	157	177
Periodontics	178	190	179	195
Prosthodontics *	152	153	175	171
Total	1,227	1,207	1,209 **	1,259 **

* Over time, there have been changes in the titles of programs

** Totals include students enrolled in various combinations of prosthodontic and oral & maxillofacial surgical programs

Table 5.
Number of advanced training programs:
selected years 1980-1991⁶

Program types	1980	1982	1984	1986	1988	1990	1991	1991	
								Dental School	Non-dental School
Dental Public Health	12	13	14	15	17	17	17	6	11
Endodontics	48	48	48	47	46	46	47	39	8
Oral Pathology	28	27	25	20	16	14	15	11	4
Oral & Max. Surgery	117	116	115	114	119	110	109	42	67
Orthodontics	54	54	54	57	57	56	54	47	7
Pediatric Dentistry	64	64	59	58	55	55	56	38	18
Periodontics	55	56	54	55	54	53	54	44	10
Prosthodontics *	104	97	89	73	72	67	66	40	26
Combined	3	4	3	2	2	2	2	2	
Gen. Pract. Res.		276	272	267	267	257	254	30	224
Adv. Gen. Dent.		9	14	31	45	68	71	40	31

* Includes various types

decreases in the number oral pathology, oral and maxillofacial surgery, prosthetic and GPR programs.

In 1991, there were 420 specialty and 325 general dentistry training

programs throughout the country (339 of all programs were within dental schools and 406 were not affiliated with dental schools). Oral and maxillofacial surgery programs

(109) represented more than one quarter of all specialty programs (Table 5).

Postdoctoral program directors

Most dental school and non-dental school specialty program directors are board certified. By contrast, the great majority of directors of general dentistry programs are not board certified. For example, only one percent of AGD dental school program directors are board certified (Figures 3 and 4).

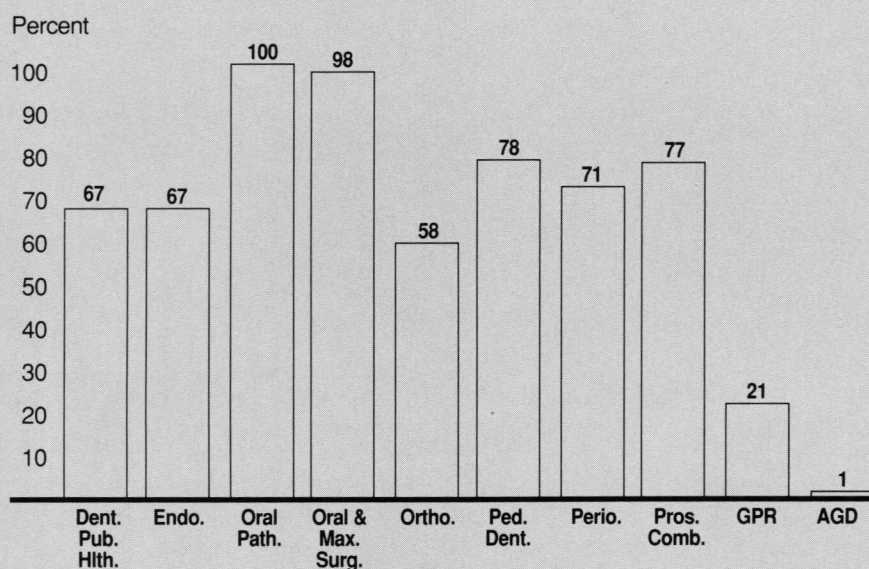
Eighty-six per cent or more of all postdoctoral dental school program directors are full-time in their position. A smaller percent of non-dental school programs have full-time directors (Figures 5 and 6).

Will postdoctoral education become a requirement?

The old adage of "voting with one's feet" would seem to be appropriate when reflecting on the facts that 1) almost two-thirds of dental school seniors anticipate postgraduate education, either immediately upon graduation or at some time in the future³ and 2) in the 1990s, more postdoctoral students are entering general dentistry programs than specialty programs.⁶ The reality is that rather than dental educators or the profession in general imposing an additional year (or years) of formal training on would-be practitioners, recent graduates (whether because of the host of complicating patient or health delivery system factors, economic necessities resulting from increasing educational debts, inadequacies of predoctoral education or any combination of these and other reasons) are electing to increase the length of their formal

Figure 3.

Percent of DENTAL SCHOOL program directors that are board certified: 1991⁶



Note: Figures 3 through 6 do not include 8 dental school and 6 non-dental school programs in prosthetic-combination & maxillofacial surgery, prosthetics & maxillofacial surgery, or combined specialty

preparation prior to venturing into practice.

In response to the growing demand for postdoctoral training, (by both U.S. and foreign trained graduates) and concurrent complications in the selection and admission process for thousands of prospective students, the PASS system has become an organizing factor. The majority of postdoctoral programs have full-time and board certified directors. Indeed, the system (which would require some expansion) seems to be in place for a "required" additional year of formal training after graduation from a school of dentistry.

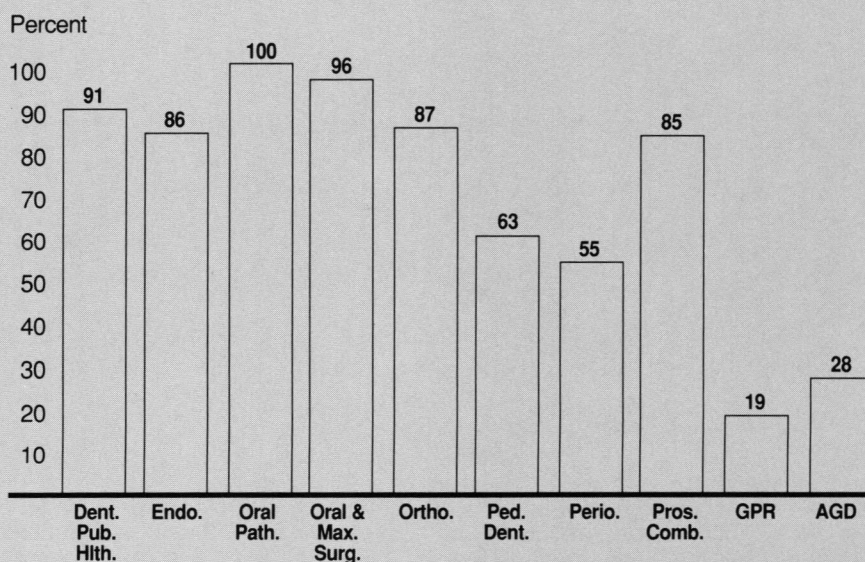
Despite the evolving complexities in the delivery of dental services, before we consider adding the required year of training, it would seem appropriate to call for an intensive review of the predoctoral curricula in our schools of dentistry.

"Could it be that we are demanding unnecessary requirements for the men and women in our (current) dental school education process that, in most instances, have questionable relevance to the actual practice of dentistry? Could it be that we are maintaining their inclusion...as a result of the need to...satisfy the *raison d'être* of a particular dental school department that seems more concerned with some arcane fact than the practical everyday activities of virtually all dental practitioners?"⁸

While postdoctoral education seems most appropriate for developing the knowledge and skills of the dental specialist, the reality is that greater numbers of students are now being enrolled in postdoctoral generalist programs than in specialist programs. Yet many of skills that, at

Figure 4.

Percent of NON-DENTAL SCHOOL program directors that are board certified: 1991⁶



one time, seemed beyond the abilities of predoctoral students are now being incorporated in predoctoral curricula. *

No doubt there are advantages to extending the educational process to

* In my own case, having graduated from dental school in the late 1950s, I was required to complete a graduate program in order to secure needed training for the care of pediatric handicapped patients. Much of this didactic material and clinical training are now provided to third and fourth year students at my institution.

include varied faculty, experiences and settings for services. But to add further requirements to the "end" of the educational process when at the "beginning" of the process, an increasing percent of students are being accepted to schools of dentistry with less than four years of college training (approximately one-third in 1991, compared to less than one quarter in the early 1980s)⁹ would suggest a need to review the entire educational process as a totality.

Postdoctoral programs are a sig-

nificant component of the education system of dental practitioners. Should we not consider them within the context of total planning process for the education of the next generations of practitioners?

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Figure 5.

Percent of DENTAL SCHOOL program directors that are full-time: 1991⁶

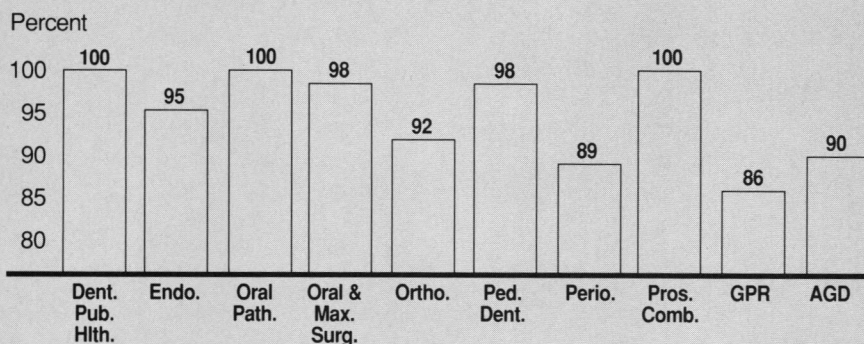
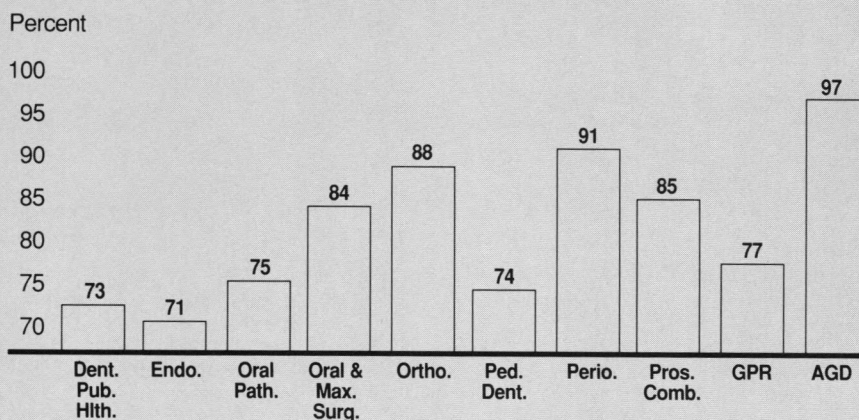


Figure 6.

Percent of NON-DENTAL SCHOOL program directors that are full-time: 1991⁶



GIES AWARD PRESENTED TO CLIFTON O. DUMMETT

Citation Presented By Regent Ruth S. Friedman

The William John Gies Award was established by the American College of Dentists in 1939 in order to recognize Fellows of the College for outstanding service to dentistry and its allied fields. This award personifies professionalism in its finest form and represents the highest honor that the College can confer on its members.

The William John Gies Award for 1992 is being presented to two Fellows of the College. The first is Dr. Clifton O. Dummett of Los Angeles, California, Professor of Dentistry at the University of Southern California.

Born in Georgetown, British Guiana, South America, Clifton Dummett took his secondary education at Queens College, from which he received the Junior and Senior Certificates of Oxford and Cambridge Universities before coming to the United States in 1936. After completing his pre-dental requirements, he graduated from Northwestern University Dental School in 1941, went on to receive the M.S.D. degree in Periodontology from Northwestern University, and as a Fellow of the Julius Rosenwald Fund, completed studies in Public Health Dentistry, receiving the M.P.H. degree from the University of Michigan in 1947.

Dr. Dummett was appointed Dean, Meharry Medical College School of Dentistry in 1947, becoming the youngest full-time dean in dental education. He resigned this position in 1949 because of his opposition to the racial segregation aspects of the Regional Plan for Education of the Southern States and accepted an appointment as Chief, Dental Service, Veterans Administration Hospital, Tuskegee, Ala-



Clifton O. Dummett

bama. There he inaugurated the first residency in Periodontology in the United States approved by the American Dental Association Council of Dental Education, and then later established an approved residency training program in Oral Surgery and an approved rotating Dental Internship Program.

His military service was with the U.S. Air Force at Elmesdorf Air Force Base, Anchorage, Alaska, as Chief of Periodontics and Oral Medicine, Base Preventive Dentistry Officer and as Consultant to the Alaskan Air Command.

In 1966, Dr. Dummett became Chief, Dental Service of the Veterans Administration Research Hospital, Chicago, Illinois. At the request of the Office of Economic Opportunity, Dr. Dummett was granted a leave of absence from his duties at the V.A. Research Hospital to be appointed Dental Director of the South Central Multi-purpose Health Services Center, Los Angeles, California. He was appointed Associate Project Director and Health Center Director of the University of Southern California, South Central Multi-purpose Health Services Center in

February 1968 and in July was named the Assistant Dean for Extramural Affairs with an Academic Appointment of Professor and Chairman of the Department of Community Dentistry, School of Dentistry, University of Southern California.

Dr. Dummett has authored numerous papers, monographs, reports and, in collaboration with his wife, Lois Maxine Doyle Dummett, has authored two books, Charles E. Bentley: A Model for All Times and The Hillenbrand Era: Organized Dentistry's Glanzperiode.

Dr. Dummett has served as President of the International Association of Dental Research, Member of the Executive Council, American Academy of Periodontics, President, American Association of Dental Editors and President of the Los Angeles Dental Society.

He has received many honors including the W. J. Gies Editorial Award (1962), Honorary Membership, American Dental Association (1969), the Award of Merit, Northwestern University (1971), Alfred Fones Award (1976), Distinguished Service Award of the American Association of Dental Editors (1976), the Pierre Fauchard Gold Medalist (1980), and the Hayden Harris Award of the American Academy of the History of Dentistry (1987). In 1972, he was elected to the Institute of Medicine of the National Academy of Sciences.

Mr. President, it is a privilege to present to you the distinguished author, educator, administrator, sociologist and pioneer in health care services, Dr. Clifton O. Dummett, for the William John Gies Award of the American College of Dentists.

GIES AWARD PRESENTED TO THADDEUS V. WECLEW

Citation Presented By President-Elect Albert Wasserman

The second William John Gies Award of the American College of Dentists for 1992 is being presented to Dr. Thaddeus (Ted) V. Weclaw, who is known as the "Father of Continuing Education in Dentistry."

A native of Chicago, Ted Weclaw graduated from the University of Illinois, receiving the D.D.S. Degree in 1930. He entered into the practice of dentistry in Chicago, Illinois in 1930 and participated in the branches of the Chicago Dental Society. During this time he experienced difficulty in advancing his education without entering into specialty programs. Few post graduate courses were available for dentists without a specialty. Additionally, hospital assignments, as well as advanced clinical positions, were closed to dentists without advanced education.

In March of 1951, Dr. Weclaw brought together eight dentists with the Founder of the Academy of General Practice (Medicine), a group dedicated to the development of continuing education in medicine. The purpose of the meeting was to develop and introduce continuing education programs for the general practitioner in dentistry. This resulted in the initiation of a special course for the general practitioner undertaken at the University of Illinois in 1952, with Dr. Harry Sicher of Loyola University as the Lecturer. The course focused on the development of bone and bones. Dr. Weclaw not only was the prime mover to bring this about, but he also put it on film so as to make it available to numerous others. Following this, Dr. Weclaw called for an organizational meeting for a "Dental Academy" to focus on continuing education for the general practitioner of dentistry.



Thaddeus V. Weclaw

A state charter was granted in 1952 and headquarters were established in Chicago. Although organized as a local group, Ted Weclaw foresaw the development of a national organization. Today, with a membership of over 35,000 dentists throughout the country, it can be said that the concept of continuing education as espoused by the Academy of General Dentistry is firmly entrenched.

Chancellor of the Academy of Continuing Education and part-time Instructor at the University of Illinois Dental School, he was named Director of the Illinois Good Government Institute in 1939. In the 1940's, his civic activities included leadership in a number of war-time organizations: Chairman, World War II War Price and Rationing Board Deputy Commander, World War II Civilian Defense. He received the 1946 Congressional Award for World War II Activities.

Dr. Weclaw served as the President of the Academy of General

Dentistry for the first fourteen years of the Academy's organization. He then served as Editor and Founder of the Academy's Journal for twenty-one years. He was Executive Director for two years. He was elected President Emeritus and Editor Emeritus, after having given birth to and nurturing the Academy from the very beginning, and personally financing much of the work of organizing the Academy.

In recognition of Ted Weclaw's vision and perseverance, he has been honored widely, with Distinguished Memberships in three professional organizations, Fellowships in five academies and colleges, Directorships of four societies, Member of an honorary fraternity, installed as an officer of the Ordre Palmes Academique by the French Government, and admitted to the City of Chicago Senior Citizens' Hall of Fame.

A Fellow of the College since 1968, Dr. Weclaw has lived and practiced in Chicago until his retirement in 1986. Married and the father of one daughter, Dr. Ted Weclaw has continued to promote continuing education in dentistry, wherever and whenever he can. He has virtually dedicated his life to his dream, a vision that has benefited all of us in the profession of dentistry.

Mr. President, it is my honor and privilege to present to you Dr. Thaddeus V. Weclaw for the William John Gies Award of the American College of Dentists.

Sadly, Dr. Weclaw became ill and died on October 16, 1992, the same day as the Annual Convocation where he received the Gies Award in absentia.

AWARD OF MERIT PRESENTED TO PHYLLIS HART DAVIS

Citation Presented By Regent Alston J. McCaslin, V

The supporting services of the dental profession are universally recognized as being very important to the mission of the profession. From these derive many of the elements that enhance the effectiveness of dentistry in the delivery of care and the management of its own affairs. The Award of Merit of the American College of Dentists was established by the Board of Regents of the College in 1959 to recognize unusual contributions in dentistry and its services to humanity by persons who work with the profession in common purpose, but are not Fellows of the College.

Phyllis Hart Davis has been selected for the Award of Merit of 1992. She has served as Executive Director of the Los Angeles Dental Society for over half a century.

Phyllis first started with the First District of the Los Angeles County Dental Society as a part-time typist for \$10.00 per week in 1935. She was promoted to Assistant Secretary for the First District Dental Society in 1937. It was in 1962 that she became the Executive Secretary of the Los Angeles Dental Society and was officially named Executive Director in 1971. Thus, she has been counselor, helper, and example for dental leaders for over fifty-three years. In addition to significant organizational skills that have guided the Los Angeles Dental Society for those many years, she has demonstrated admirable people skills, modesty and humbleness. She has had great impact on the leadership careers of countless dental volunteers in a professional organization that, at times, has numbered over 1,200.



Phyllis Hart Davis

Phyllis has received many honors. She was a double-prize winner in 1967 at the Western Conference of Association Executives for presenting the following:

"Down with Defeat" - an outline of the Los Angeles fluoridation campaign.

"Service to Volunteers" - a display of calendars, packets, and information for use by dental volunteers.

She received a Certificate of Recognition from the American Association of Dental Editors for her work on the dental society publication. In 1972, she received the Key Award from the American Society of Association Executives, was elected in 1975 to Honorary Membership in the Los Angeles Dental Society, and in 1989 was elected to Honorary Membership in the American Dental Association. She was the

first woman to receive the new title of Certified Association Executive, and she was honored by the California Museum of Science and Industry with an award reserved for those who have achieved acclaim or excellence in the fields of science and industry. It was in 1941 that she met Oron Davis on a blind date, whom she later married.

Phyllis Hart Davis has given of herself without regard to personal gain. Her influence, because of her skill, reached out to dental societies and constituencies well beyond the limits of Los Angeles. She has demonstrated qualities of formal and informal leadership. She is the epitome of diplomacy and tact in an environment often charged with emotional and political controversy. She has thrived under a different dental society president every year for fifty-three years. Her unique ability to adapt to an individual personality, to bring out the best, to keep the organization on track, but to serve in the background without spotlight, is an incredible achievement.

Upon the occasion of her retirement, the following was said of Phyllis Hart Davis, "Although the contributions of Phyllis Hart Davis to the success of the Los Angeles Dental Society as an effective professional organization would fill many volumes, they can be summarized by four meaningful terms: Efficient, Knowledgeable, Cheerful and Dedicated."

Mr. President, it is an honor for me to present Phyllis Hart Davis to you for the Award of Merit of the American College of Dentists.

HONORARY FELLOWSHIP PRESENTED TO ALETHA A. KOWITZ

Citation Presented By Regent Edward C. McNulty

The American College of Dentists confers Honorary Fellowship upon persons who are not members of the dental profession but have contributed in an outstanding manner to the advancement of the profession and to its service to the public. These contributions may have been made in education, research, administration, public service, public health, medicine and many others.

Miss Aletha Kowitz, Director of Library Services of the American Dental Association and Secretary-Treasurer of the American Academy of the History of Dentistry, is exceptionally qualified for Honorary Fellowship in the American College of Dentists.

Aletha began her career as a Chemist with Synthetical Laboratories, and then as a Research Chemist with the Glidden Company in Chicago. Her interests in Library Science were demonstrated when she became an Abstractor for Chemical Abstracts and then Chemical Librarian for the Glidden Company. In 1959 she took a position at the Medical Center of the University of Chicago as Assistant Circulation-Reference Librarian. In 1970 Aletha came to the American Dental Association as Reference Librarian for the Bureau of Library Services. She held this position until 1976 when she was appointed Assistant Director, and in 1977, Director, Bureau of Library Services, American Dental Association. She also serves as the Editor for the Index to the Dental Literature, as well as a Freelance Indexer of medical and dental books and journals.



Aletha A. Kowitz

Miss Kowitz graduated from the University of Chicago in 1951 with a major in chemistry, and later received a Master of Arts Degree from Rosary College majoring in Library Science. She continued studies at the Institute for Library Administration at the University of Illinois, Medical Library Association, University of Chicago, Rosary College, University of Illinois Institute for the Preservation of Library Materials and Northwestern University where she received a Certificate in Library Management.

Throughout Miss Kowitz's career, she has served as Lecturer at Rosary College, the Medical Library Association and the Special Libraries Association, Illinois Chapter.

Aletha Kowitz holds membership in the Medical Library Association, Special Libraries Association, Chi-

cago Library Club, American Chemical Society, American Institute of Chemists, American Society of Indexers, the American Academy of the History of Dentistry, Iota Sigma Pi and the Odontographic Society of Chicago. She has served as President of the Chicago Library Club, President of the American Academy of the History of Dentistry, and is now serving that organization as the Secretary-Treasurer.

The Excellence in Teaching Award was presented to Aletha in 1971 by Rosary College, The Award of Merit in 1985 from the Chicago Odontographic Society, Honorary Membership in the Odontographic Society in 1986 and the Myrtle Watt Award for Topical Collecting, Medical Subjects Group from the American Topical Association. The latter was awarded jointly with Dr. Hannelore Loevy in 1990.

Aletha has authored or co-authored a number of articles on Library Science, as well as the History of Dentistry. She is highly deserving of Honorary Fellowship in the American College of Dentists not only for her personal dedication and efficiency of service in the management of 50,000 volumes and 900 periodicals, comprising the largest dental library in the world, but also because of her participation in civic and church affairs.

Mr. President, Miss Aletha Kowitz's contributions and leadership in dentistry merit the acknowledgement and the recognition conveyed by the Award of Honorary Fellowship in the American College of Dentists.

MICHAEL G. BUONOCORE, THE PIONEER WHO PAVED THE WAY FOR MODERN ESTHETIC DENTISTRY.

Malvin E. Ring*

The public's perception of the dentist of today is considerably different from that held as recently as twenty or thirty years ago. Previously dentists were generally regarded as "toothpullers." Today's popular images of the dentist portray him as one who constructs extensive fillings and restorations, who provides root canal treatments, who performs delicate and extensive periodontal therapy and who changes physiognomy with orthodontic treatment. This reflects prevailing current professional attitudes, which assume conservation and restorative care to be the norm for dental treatment.¹

More than this, however, people are turning to the dentist to improve their appearance, to transform disfigured teeth into healthy and attractive ones, to make an ugly smile beautiful. This has resulted in a revolution in dental care, with the demand for esthetic improvement having risen to undreamed of heights. New methods of veneering stained and deformed teeth are constantly being brought out. Bonding, as a means of repairing fractured incisors is now standard practice. But bonding has additionally proven to be of immense value in improving a patient's appearance, from closing diastemas to lengthening foreshortened teeth. All of these techniques, so important to the modern practice of dentistry, owe their existence to the



Portrait of Dr. Michael G. Buonocore.

foresight, ingenuity, brilliance and perseverance of one man, Dr. Michael G. Buonocore. (Fig. 1)

Dr. Buonocore's Early life

Michael Buonocore was born Dec. 17, 1918 in the Bedford-Stuyvesant section of Brooklyn. His parents, Joseph and Emilia Buonocore, were Italian immigrants who had come to this country some years earlier. His father, who was a musician, had joined the U.S. Navy as a clarinetist. When Michael was still a young boy, the family moved to Bensonhurst, in Brooklyn. He received his early edu-

cation at Our Lady of Guadeloupe School and New Utrecht High School, and then attended St. John's University, in Brooklyn, where he received a B.S., as well as an M.S., in chemistry. Michael's family was not a large one. He had a younger brother, Anthony, who worked for the telephone company and a younger sister, Carolyn, who married an orthodontist and went on to have 12 children.

Buonocore was intensely interested in the healing sciences and felt sure that proper application of chemical research would eventually lead to the eradication of caries. He wrote to Dr. Basil Bibby, then Dean of Tufts University dental school, and expressed his feelings, telling him that "all that was needed to eradicate caries was a good chemist." This so impressed Bibby, that he then and there sent Buonocore an application to enroll as a dental student at Tufts.

At that time Buonocore was teaching chemistry at St. John's University, as well as doing research for Macy's on toxicology of cosmetics. But the lure of dental school was too great, and he enrolled at Tufts in 1942. Since he came from a poor family, he had little money to pay tuition and maintain himself. He found a place as a "houseboy" with a wealthy family in Boston, and in exchange for his services as a servant and general all-around factotum, received his room and board.

In the beginning of 1943 the Army Specialized Training Program (ASTP) was launched, and Buonocore, like freshman dental students throughout the United

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Author - *Dentistry - An Illustrated History*

States, was taken into the U.S. Army. He continued in this program until his graduation from Tufts in 1945.

While he was in dental school, his future wife, Myra Hoyt, was a graduate student at Boston University. She was a native of a little town, Contoocook, Maine and had received her undergraduate degree from Bates College in Lewiston, Maine. At Boston University she was pursuing a course in psychiatric social work. The need for these specialists was very great because of the large number of soldiers who were returning from World War II with emotional disorders, and the American Red Cross paid the tuition of those who were studying to be psychiatric social workers. Myra was enrolled in this program, and

in return agreed to give 2 years of service to the Army after receiving her degree.

While at Boston University she met a number of Bates College alumni, who had become dental students at Tufts, and they invited her to a party. There she met Dr. Joseph Volker, of the dental school faculty, and who was later to become the Chancellor of the University of Alabama. He introduced Myra to Michael, and they began seeing each other.

However, the two were not fated to be together immediately. Mike left Boston upon graduating from Tufts and went back to Brooklyn, where his family resided. He received an appointment as a researcher at the Guggenheim Clinic in New York

City, and worked there for 2 years. Myra, in the meanwhile, had completed her studies, and was sent to work at Brooke Army General Hospital in San Antonio, Texas. After her two years were up, she moved to Nassau County, New York where she became the Supervisor of the psychiatric clinic operated by the Red Cross. At around this time, Mike left Guggenheim and bought into a dental practice in Bensonhurst, becoming a partner of Dr. Angelo Columbo. Soon thereafter, on May 31, 1947, Mike and Myra were married.

The coming of the Korean War saw Mike drawn into the Army. The Army needed many dentists to care for the thousands of soldiers who were being sent to battle in Korea,



A research laboratory in the old Dental Center building, very similar to the one in which Dr. Buonocore carried on most of his research.

and in good conscience couldn't recall those dentists who had served their country so valiantly during the four years of World War II. Therefore Congress decided that any dentist who had received his dental education - in whole or in part - under the ASTP program, and had not served as a dentist in the recent war, was obligated to join the service. Like many other dentists in a similar situation, Mike enlisted and was stationed at Fort Knox, Kentucky, from 1951 to 1953. While there, their first child, Janet, was born.

During the years that Mike was at Fort Knox, Dr. Bibby had been named Director of the Eastman Dental Center. He wrote to Mike and asked him to come to Rochester upon completion of his army service and join the staff of the Eastman Center and do research. Mike accepted this offer, and at the end of 1952 the family moved to Rochester. There the family increased by one: their son, Michael Hoyt Buonocore, was born. Both of the Buonocore children are physicians today. Janet, who graduated from the University of Pennsylvania, is a specialist in pediatric cardiac surgery in Scottsdale, Arizona. Their son, Michael, has both a Ph.D. in Electrical Engineering and an M.D. from Stanford, and is a specialist in medical imaging devices at the University of California at Davis. Innovative and forward looking, as was his father, he is currently engaged in a project, sponsored by General Electric, which has as its aim the production of CAT scan images in three dimensions.

Early Research

When Dr. Buonocore joined the staff at the Eastman Center his title was Research Coordinator and Di-

rector of Chemistry and Dental Materials. One of the earliest problems that attracted Dr. Buonocore's attention was that of caries; he wanted to find a method to further reduce the caries rate in children. This was before caries reduction, due to the widespread adoption of water fluoridation, became evident. His earlier research in chemistry had made him aware that industrial metals were acid-treated before being painted, and that this acid treatment made paints and resins adhere more closely to the metal. It seemed good sense to him to apply this method to teeth. (Fig. 2)

His initial research, funded by a grant from the Surgeon General's Office, involved chemical modification of the enamel surface by the use of acids. "The acid etch technique was designed to alter the tooth surface to produce a new surface to which existing self-curing acrylic restorative materials might adhere," he later wrote in his book, describing the premises that led to his work.² He reasoned that a tooth's enamel surface was covered with tiny imperfections - microscopic pits and fissures - and that these were probably filled with detritus which would block the adhesion of acrylic to the surface. Washing the tooth with acid, he felt, would remove this material and allow the resin to adhere. However, he soon became aware that not only did the acid etching remove debris, it also created millions of tiny imperfections of its own, and found that resins applied to this surface clung tenaciously to it.

The research consisted initially of using extracted teeth. Half were not treated in any way, the other half had their enamel surfaces etched. Then a drop of acrylic was

placed on each tooth. Adhesion was tested by trying to dislodge the acrylic by thumbnail pressure. Very strong adhesion occurred on the treated surfaces, while the acrylic easily flaked off untreated surfaces.

The Start of Clinical Testing

It was decided to test this acid-etch technique intra-orally on volunteers. The first dentist to assist in these trials was Dr. Eribert Cueto, a graduate student studying under Dr. Buonocore. (He stayed on this project for a year and then enrolled in Eastman's orthodontic program. He is now a practicing orthodontist in Falls Church, Virginia.)

Volunteers were recruited from among patients at the Center, but also from the families of faculty members, such as Megan and Edward Kennedy, children of Dr. James Kennedy, who is now the Dean of the School of Dental Medicine, University of Connecticut. In all, 269 subjects were selected, ranging in age from 5 to 17.

The procedure consisted of treating the non-carious molars and bicuspids of these children. A rating system was devised to score the condition of those surfaces, both before and after having had sealant applied to them. Teeth on only one side of the mouth were etched, the other side serving as the control. In the first tests the etching was done with a solution of phosphomolybdate-oxalic acid. Examination of the patients was conducted after six months and again after a year. The results were very impressive. Of the 201 subjects who stayed with the trials, a total of over six hundred teeth had been sealed, and this resulted in almost an 87% reduction in the rate of new caries as con-

trasted with the control side. Additionally, 71% of the sealed teeth showed no loss of sealant while 19% showed only partial loss. On treated surfaces, the acrylic adhered for an average of 160 hours, while the acrylic fell off most of the untreated surfaces in an average of only six hours.

In the next series he treated the teeth with an 85% phosphoric acid solution. The treated surfaces retained their acrylic an amazing average of over a thousand hours, while the control teeth held theirs for only eleven. In fact, attempts to remove the acrylic from treated surfaces more often than not resulted in a fracture of the resin, rather than a clean separation from the surface.

The results of the tests were beyond even Buonocore's expectations, and he immediately foresaw the possibilities inherent in bonding as a caries preventive. "We foresee that the formation of good bonds of the sort we have demonstrated, to enamel surfaces, open the possibility of successful sealing of pits and fissures for caries prevention," he wrote in his initial report, "In addition, good bonding at the enamel cavity margins would protect against secondary or marginal decay."³

Extension of Research into Other Areas

Buonocore realized that bonding to enamel was not sufficient; restoration of dentin was the principal goal in rebuilding teeth. Working together with Dr. J. Quigley, he carried out further research on the application of the bonding technique to dentin. By 1958, his research more clearly defined the changes that took place with acid etching and the application of resin to the etched tooth

surface. He theorized that the bond formation was due to either physical penetration of the adhesive material into the dentin, or to a chemical combination of the adhesive with the organic material of the tooth. However, the results weren't as clear cut as those with enamel bonding, and so he didn't want the dental community to embrace a technique that was not yet fully understood or tested. "Because the methods and materials used in the study are purely experimental," he wrote, "their use in clinical practice is not now recommended."⁴

Continuing Research on Adhesion

Although the sealant technique was an apparent clinical success, Dr. Buonocore felt that adhesion

was not yet well enough understood. By this time he had a new clinical assistant, Dr. Louis Ripa, who was pursuing graduate studies at the University of Rochester while simultaneously enrolled in the Pediatric Dentistry program at Eastman, from 1963 to 1965. (Dr. Ripa's thesis on incipient carious lesions culminated his years of studying under Buonocore. Co-authored by Dr. A.J. Gwinnett and Dr. Buonocore, it was published in 1965 in the Archives of Oral Biology as "The 'prismless' outer layer of deciduous and permanent enamel," and has become a classic. Dr. Ripa is today Distinguished Professor and Chair, Department of Children's Dentistry, School of Dental Medicine, State University of New York at Stony Brook.) After completing his thesis, Dr. Ripa continued for a year as



Dr. Buonocore in his laboratory in the old Center.

research associate to Buonocore, and as clinical examiner in further sealant trials. (Fig. 3)

Dr. Buonocore felt that in order to reap full benefit from the use of

adhesives, new thinking and a new approach to dental restorations had to be adopted. "The search for a dental adhesive is a pioneer effort," he wrote in a 1963 paper. "The prop-

erties of a successful adhesive may be novel and different from materials presently used; therefore, we may need to espouse not only new concepts in cavity design and a reevaluation of requirements related to the physical properties of materials, but also a reorientation of approach to dental treatment."⁵

After Dr. Ripa left Eastman, Buonocore's new assistant was Dr. A.J. Gwinnett, who had come from the dental school of the University of Western Ontario. By 1965, it was apparent to them that their work would have a great impact on the way teeth were restored. Not only would bonding open up new avenues previously unavailable, but the amount of undercutting in cavity preparations would be markedly reduced.⁶

Although he had been working on the problem for almost fourteen years now, Dr. Buonocore was still unwilling to see the profession adopt the new techniques until all questions about it had been settled. He continued his research into just what it was that made the resins adhere to the tooth. His 1963 paper in the Archives of Oral Biology answered the question. He felt that adhesion was due to what he called "prism-like resin tags," presumably formed by the penetration of the resin into enamel spaces created by the acid conditioning. But what resin material would be best for the purpose? "Based on theoretical considerations and experimental results," he wrote in this paper, "a material should be sought that has a high wettability for enamel surfaces, a high surface tension for effective filling of capillary spaces, and which will polymerize in situ to a tough, impermeable, abrasion and bacterial resistant polymer."⁷



Mr. Richard Glana, Dr. Buonocore's longtime research associate, etching teeth *in vitro* as part of the sealant research.

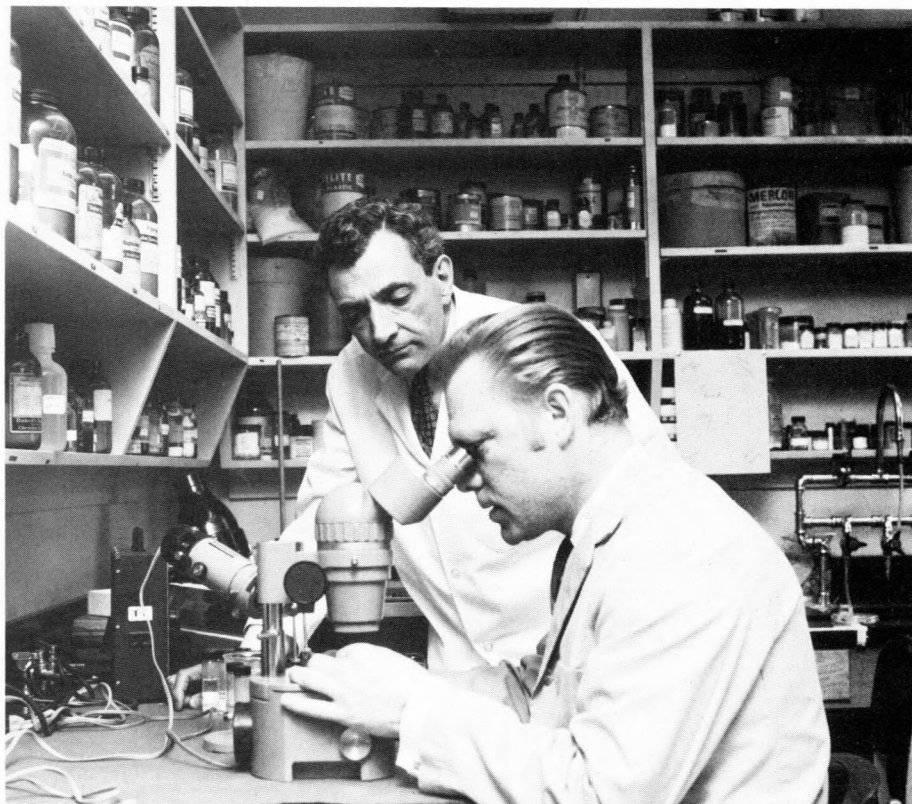


Dr. and Mrs. Michael Buonocore (far right) at a dinner hosted by the Eastman Dental Center in the late 1970's at the Country Club of Rochester. The occasion was the honoring of Mr. J. Wallace Ely, then president of the Dental Center's Board of Trustees. The others at the table are either members of the Board or faculty members.

The Search Culminates in Success

In 1967, Mr. Richard Glana joined the staff of the Eastman Dental Center, and in 1969 was assigned to Dr. Buonocore as his full-time Research Associate. He was to remain with him until Dr. Buonocore's death in 1981. Mr. Glana, as research technician, aided Buonocore in all phases of the research, preparing the materials used, grinding tooth specimens for microscopic examination, and assisting with the clinical trials. (Fig. 4)

At about that time, Dr. Bibby retired, and, in 1970, Dr. William D. McHugh was named as the third director of the Eastman Dental Center. It was during Dr. McHugh's tenure that Dr. Buonocore did the remainder of his important research.



Dr. Buonocore (standing) and Mr. Richard Glana, working together on a research project.

Buonocore was very prescient regarding the requisite qualities of a satisfactory restorative material. "I remember," said Dr. Ripa, "that Dr. Buonocore used to sit down and say things like, 'Think about it: why don't we have a procedure to treat a fractured anterior tooth by using a material with which we, like an artist with a brush, could build that tooth up to its natural form, rather than using a pin or large crown? And why can't we use a light to harden the material so that you would have all the working time you needed to place the material exactly where you wanted it?'"⁸

Four years after Buonocore outlined what he felt were the necessary qualities of a resin, the search finally ended when it was announced

that Nuva-Seal, produced by the L.D. Caulk Co. was the material of choice for repairing fractures. The research trials were carried out under the auspices of the United States Coast Guard at the Coast Guard base on Governors Island, New York, using Coast Guardsmen as subjects. Even though the tests were conducted over a 16 month period, Buonocore's cautiousness was evident in the paper announcing the breakthrough. "Because of the short period through which this study has been concluded," he wrote, "we cannot attest to the further long-term durability of the resulting restorations...If longer-term restoration results are

as satisfactory as those encountered so far, this technique could provide a new, more desirable approach to the treatment and restoration of anterior fractures."⁹ Finally, in 1973, Dr. Buonocore felt that the material should be released to the profession, and the rest is history.¹⁰ (Fig. 5)

Dr. Buonocore felt, too, that one of the most important avenues for research was the development of a successful technique of bonding to dentin. On December 16-18, 1974, an "International Symposium on the Acid-Etch Technique", sponsored by the 3-M Company, was held in St. Moritz, Switzerland. Dr.

Buonocore's paper, "The Challenge of Bonding to Dentin," was read for him, since he was too ill to attend.

Some Personal Insights on Michael Buonocore

Dr. Ripa, who worked with Buonocore in the earliest phases of the sealant research, offered some personal observations about him. He felt that he was scientifically imaginative and innovative. "Even as he was working on the sealant project, Dr. Buonocore was aware of the extension of the bonding concept to other areas of dentistry, such



The new Eastman Dental Center, Rochester, New York.

as direct bonding of orthodontic brackets, repair of fractured teeth without the gross mechanical retention used at the time, and cosmetic repair of hypoplastic defects. But he was extremely cautious about the way the sealant data was presented to the scientific community. He read and re-read his first manuscript, and had Dr. Bibby review it several times before submitting it for publication. His concern was that the results were extremely good. Scientific skepticism is expected and natural in research, but when re-

sults are too good, the skepticism may be a subjective reaction rather than a natural phenomenon of the scientific process."¹¹

What made Dr. Buonocore so outstanding? "He had two things," said Dr. Ripa. "He had a visionary's dream, and he had the scientific acumen to make that dream a reality. In addition, where some dental research is concerned mainly with the evaluation of the properties of materials, Dr. Buonocore was more concerned with the use of the materials."

Dr. Buonocore's Last Years

One of Dr. Buonocore's closest professional associates was Mr. Richard Glena who worked closely with him on his projects, (Fig. 6) and who gave the author many insights into Dr. Buonocore's persona. He described him as being six feet tall, a chain smoker - until his illness - and very fond of food, one who "could pack it away." He was also an avid bridge player.

While the new building for the Eastman Dental Center (Fig. 7) was



A research laboratory in the new Eastman Dental Center, typical of the one in which Dr. Buonocore carried on his last researches.

under construction - the original one had been opened in 1916 - and while they still worked in the old building, Dr. Buonocore, his feet up on the hissing steam radiator and looking out the window at the snowy Rochester landscape, turned to Mr. Glena and said, "You know, it isn't necessary to have fancy stainless steel equipment or fancy laboratories to do quality research. What is important are the ideas you have and how you put these ideas into effect." (Fig. 8)

In 1973, Dr. Buonocore went to Brazil to deliver a series of lectures there. He was away for about three weeks, and soon after his return he complained of feeling ill. Initially, it was thought that he had contracted malaria, but repeated clinical examinations disproved this. He then developed pneumonia, and was so ill that they despaired for his life. He recovered from this, however; yet they were still unable to make a definitive diagnosis of his illness. In 1976, he noticed a numbness and tingling in his hands, making it difficult for him to hold an instrument. His physicians now diagnosed it as a "pinched nerve" in his neck, and he was operated on to relieve the pressure on the nerve. The problem was not alleviated, however. He finally had a biopsy of bone-marrow taken from his hip, and it clearly showed Hodgkin's Disease, so he underwent a series of chemotherapy treatments. Nevertheless, he continued working and doing his research, and continued as a consultant to the L.D. Caulk Co. until six months before his death on July 7, 1981.

Many honors have been accorded to Dr. Buonocore after his passing. The Rochester Chapter of the Ameri-

can Association for Dental Research established the Michael G. Buonocore prize for the best paper delivered at its annual scientific meeting. There hangs on the wall at the Eastman Center today a beautiful bronze plaque in memorial to Dr. Buonocore, with the text composed by Dr. Ripa. After describing Dr. Buonocore's life and work, it ends with the following, which sums up Michael Buonocore's place in the history of his beloved profession.

Dr. Buonocore will be remembered by the dental profession as the Father of Adhesive Dentistry. His colleagues and former students will remember him as a friend who achieved his goals and had fun doing it. The legacy of his fertile imagination, inventiveness and scientific acumen will continue to influence the practice of dentistry for years to come.

(The author wishes to thank Mrs. Myra Buonocore and Mr. Richard Glena for their invaluable assistance in the preparation of this paper.)

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Gies Award for the Outstanding Editorial Published in 1991

Reading Between the Lines

Daniel M. Laskin*

It has been said that those who fail to heed the lessons of the past will live to repeat the same mistakes. One needs only to turn to our professional literature to find innumerable instances where careful clinical trials have failed to confirm the efficacy of historically used procedures. And yet, our journals continue to be replete with a multitude of case reports, opinion pieces, and poorly or uncontrolled retrospective studies that form the so-called scientific basis for our clinical practice. Too frequently, we see new techniques based on experience with a minimal number of patients, enthusiastically supported by their creators and quickly adopted by practitioners, soon reach their apogee and then quietly descend into oblivion without a word in the literature to mark their demise.

Unfortunately, there is often a tendency to accept the printed word without realizing that there are many unintentional errors commonly made in experimental design and interpretation of data that we must be able to recognize to make proper judgments about the reliability of the information. It takes but a quick perusal of the literature to realize that even our journals, despite careful scrutiny and peer review of articles, often unintentionally publish what ultimately turns out to be half-lies or, perhaps more euphemistically, half-truths. As providers of service to the public, we need to be able to validate every aspect of our clinical practice. We owe it to our patients to see that those procedures we do and those therapies we use have a basis in fact and not in empiricism. To do this, however, we need to learn how to critically evaluate what is presented in our journals.

There are a number of errors commonly made in clinical studies that one has to recognize. The first is an inadequate definition of the condition being studied. Unless the patient population is clearly defined, it becomes extremely difficult to judge the validity of the results and, even worse, it becomes impossible to determine the precise situations in which the procedure can be used effectively.

An improperly selected group of patients can also invalidate the results of a clinical trial. Physiologic and anatomic differences associated with age and gender can readily introduce variables that will have profound effects on the clinical findings; and use of too few patients, a very common mistake, can lead to sporadic

observations that may not be applicable to the general population. Lack of randomization is also a problem because it can concentrate variability and introduce selection bias.

Perhaps the most frequent error encountered in study design is the matter in which it is controlled. Meunch has stated that "nothing improves the performance of an innovation as much as the lack of controls." Controls based on reports from the literature, and historical controls based on one's own previous work, may be better than nothing, but reliable data require properly randomized controls and, when possible, use of blinding techniques. One must always be suspicious of studies without adequate controls. The use of subjective rather than objective observations also should cause one to be wary of the results. Despite the fact that the investigator may consciously try to avoid bias, there are still so many uncontrollable factors, including those introduced by the patient, that interpretation of subjective findings always become extremely difficult.

Even when other errors in study design are avoided, the failure to do long-term follow-up on patients can still result in the advocacy of treatments that ultimately prove to be ineffective. Early positive findings can merely be the result of placebo effects, and there may not have been sufficient time for the observation of adverse reactions, complications, relapse, or recurrence. Regrettably, such late findings often are not published when they negate previous glowing reports.

Although it is obviously necessary to have reliable data, the proper analysis and interpretation of these data are equally as important. There is a general tendency to assume that statistics give data credibility without realizing that such manipulations cannot improve the quality of the original observations, interpret the information, or determine clinical relevance.

We need to remember that a *P* value does not establish truth, and a statistically significant difference is not always a clinically significant difference. It should be evident that, in the best interest of our patients, we need to be extremely careful in our evaluation of the professional literature, and in our quick adoption of recommended therapies. A hypothesis that has not been properly tested is nothing more than a hypothesis, no matter how much time has passed or how many improperly designed studies appear to confirm it. Perhaps Alexander Pope best expressed the appropriate attitude for the astute clinician when he admonished, "Be not the first by whom the new is tried, yet not the last to cast the old aside."

* Daniel M. Laskin, DDS, is the Editor of the Journal of Oral and Maxillofacial Surgery. This editorial appeared in the January 1991 issue.

The three Gies Award Winning Editorials on pages 29-30-31 have been selected by the Editorial Award Judging Committee of the William J. Gies Foundation as the outstanding editorials published in 1991. Presentation of Awards was made at the Annual Meeting of the American Association of Dental Editors on October 15, 1992 in Orlando, Florida.

Gies Honorable Mention Award for 1991 Editorials

Treat Older Patients Responsibly

William W. Howard*

As dentists, we influence some of our patients' lives far more dramatically than we may realize.

Many years ago when I was in full-time practice, I was treating a middle-aged man who occasionally mentioned that he was concerned about his mother, who was not doing well. As he was leaving my office after his final appointment, he turned to me and asked if I would be willing to examine his mother, to see if I could do anything for her. She had stopped eating, which made him wonder if something could have been wrong with her teeth.

A week or so later, he carried her into my office and placed her in the chair. She looked terrible. She had a lifeless, white complexion, and stringy, ungroomed white hair. She was expressionless. Her mien was typical of the heartbreaking appearance of so many people parked in nursing homes to spend their last days.

She did not respond to any of my questions or comments, but sat there, staring blankly. There was no detectable light in her being. Her son recounted her health history. She was 85 and had no physical problems of which he was aware, other than mild arthritis.

She was, at best, passively cooperative as I carefully examined her mouth and commented to her as I proceeded. Servicing of her complete dentures was many years past due. I lined them with tissue conditioner. I told her son that I really did not know if what I had done would be of any benefit, but that I would continue to do what I could.

The son returned with her a week later. She demonstrated some improvement in her demeanor. Although she still would or could not communicate verbally, she demonstrated some eye movement and personal awareness. I added some tissue conditioner and rescheduled her for the following week.

She was able to walk into the operatory for her third appointment, although she was extremely slow and feeble. She was able to speak, but expressed little more than her thanks for my help.

I had the dentures processed. During subsequent appointments, her personality and appearance improved dramatically. She became a beautiful, well-dressed, well-groomed lady, full of expression and vitality for one of 85.

What was the cause of her having given up on life? She said to me, "Dr. Howard, my doctor keeps telling me that there is nothing wrong with me but old age. He is simply not interested in doing anything for me." What a cruel remark. I strongly recommended that they change physicians. They did. That fine lady lived several more years and died quietly in her sleep.

Another most memorable patient was George Miller. When Mr. Miller first came to me, I was in my third year of practice. During the initial examination, he took me by the arm and said, "Young man, I may look like an old man to you. I'm 73, but I'm going to live past 100. I want you to practice the very best dentistry for me that you possibly can. I don't want to lose any more teeth."

Well, I practiced the very best dentistry possible for him and learned a lot in the process. He never lost any more teeth, and the last time I saw him, he was 103.

When he returned for recall appointments, he talked with anyone in the reception room that was willing to listen. He would say things like, "You know, when I first had this work done, I thought it was quite expensive. But, really, that was the very best money I ever spent." What a charming and delightful man.

Now that I am teaching, occasionally a student will say something like, "I really don't think we should do too much for this man. He is past 60." I tell them about George Miller and that nice lady.

Why do some practitioners so quickly write patients off simply because they are old? Young people tend to be impatient with older people; "they take so much time." True, they often are not in a hurry and seem to want to talk a little longer than younger patients. It is important to realize that we can learn a great deal from them. They should be our most delightful group of patients, considering who they are and what they represent. As my dear mother used to admonish me when I was a child, "Always be nice to old people. If you are lucky, someday you will be one."

*William W. Howard, DMD, is the Editor of the Journal of General Dentistry. This editorial appeared in the November-December, 1991 issue.

Gies Honorable Mention Award for 1991 Editorials

The Eighth Specialty: Ignorance

David W. Chambers*

Specialization is essential to both quality and efficiency. Adam Smith proved that point two hundred years ago when he compared the productivity of teams of pin makers who performed specialized tasks to individuals who did the job start to finish. The teams of specialists outperformed those in the craft model by a factor of almost one hundred to one.

Division of labor has been an important factor in raising the standard of living of Western society ever since. Letting the experts do what they do best and are properly equipped to do improves performance and lowers costs through reducing error.

Inclusion of specialties in dentistry has had the same effect. Growth in the profession continues to come from those who focus hard on specific problems and push themselves to new and better solutions. This fact is recognized in the organization of dental schools around subject-matter disciplines.

Departments in dental school correspond roughly to the seven specialties recognized by the ADA and sanctioned on the belief that specialization is the best way to treat a significant segment of the dental needs in this country.

But there are alternative ways of defining specialization, and the one chosen by dentistry is a puzzlement to me. Wynton Marsalis is a specialist at jazz trumpet - there may be none better. He also plays the cornet and several other instruments and has made outstanding recordings of classical trumpet repertoire. By contrast, dental specialists hold out to the public the fact that their "practice is limited."

It is probably true in a general way that limiting what one does improves one's skills. But in dentistry, this would only be the case for judgment; technical skills reach asymptote shortly after graduation.

But is it fair to limit the knowledge of others? Are the best interests of the public advanced by limiting what general practitioners can learn about the areas of practice traditionally limited to specialists? Does specialization automatically mean selective ignorance?

I have talked with directors of continuing education programs who receive angry phone calls from specialists complaining about courses sponsored by school, local components, or even state organizations where specialty topics are presented. They want general practitioners barred from enrollment.

The First Amendment to the Constitution makes that illegal. Human nature makes it impractical. Ignorance has a distinct shape and capacity. If it is not filled with skill and wisdom, it will be filled with confusion and nonsense.

* David W. Chambers, EdM, MBA, PhD is the Editor of Contact Point (University of the Pacific). This editorial appeared in the Winter, 1991 issue.

The continuing education courses in motel rooms and out of the backs of station wagons - the ones that promise to expose the secrets of orthodontics or oral surgery in four weekends - serve a purpose. They will no more be legislated out of existence than prohibition stopped the consumption of alcohol.

The answer seems to be to drive out misinformation and confusion with sound education training in orthodontics, periodontics, facial pain, oral medicine, implants and all other specialties and protospecialties of dentistry. That will best serve the needs of the public, general practitioners, and specialists alike.

The only study I know of where the question was put to an empirical test was conducted in the orthodontic department at the University of Washington about fifteen years ago. It was found that the more exposure dentists had to orthodontics, the more likely they were to refer patients to specialists for orthodontic care.

It is ultimately impossible to limit knowledge (correct or erroneous) about specialty areas in dentistry. It is also political suicide. As Wilson and Fassel observe in their book, *The Addictive Organization*, "When only partial information is given, people always feel a sense of uncertainty and dependence on others; they never have all the information they need to make informed decisions. Such lack of information leads to hypersensitivity among individuals and infighting among groups."

You see, Adam Smith didn't tell us the whole story when he demonstrated the power of division of labor. It only works when guided by effective management. Somebody has to decide how to divide up the tasks in an optimal fashion, organize the workers, and see that the whole business is carried off as planned.

In the North American dental care system, the manager is the general practitioner. That should be the last person in whom specialists would want to cultivate ignorance. There is no way generalists can appreciate what those in the specialties do, the complexity of cases, and the risk of mistreatment without exposure to the specialties. And that exposure can come either through unsupervised practice or through planned education.

This is the challenge the specialties face. Take the leadership role. Set the standards for what general dentists must know and be able to do with regard to each specialty and encourage every effort to educate to these standards.

Sanctions should not be applied against any dentist for what he or she wants to learn. But sanctions must be encouraged for any professional who mistreats a patient out of ignorance - whether that dentist is a generalist or a specialist.

There are no limits on quality in dentistry; no part of the profession should encourage specialization in ignorance.

NEW FELLOWSHIPS CONFERRED

Fellowships in the American College of Dentists were conferred upon the following dentists at the annual convocation in Orlando, Florida on October 16, 1992

MARTIN J. ALIKER
Nairobi, Kenya

LESLIE S. ALLEN
Winnipeg, Manitoba

ANDREW R. ALLGOOD
Lincolnton, Georgia

OLEN R. ALLRED
Beaumont, Texas

WAYNE C. ANDERSON
Jacksonville, North Carolina

CARL J. ANDRES
Indianapolis, Indiana

JOHN D. ANDREWS
San Antonio, Texas

RICHARD A. ANSTED
Toledo, Ohio

FADY ATIYEH
Beirut, Lebanon

KEVIN T. AVERY
Oklahoma City, Oklahoma

DANIEL M. BADE
Highland, Indiana

ROBERT L. BALLOU
Corbin, Kentucky

SAMUEL D. BALLOU
Corbin, Kentucky

R. MARTIN BAUMGARDNER, JR.
El Dorado, Arkansas

DAVID B. BECKER
Revere, Massachusetts

A. MILTON BELL
New York, New York

RYLE A. BELL
Washington, D.C.

WALTER C. BELL
Reno, Nevada

CARROLL G. BENNETT
Gainesville, Florida

WILLIAM M. BLACK
Cincinnati, Ohio

RICHARD D. BLOOMSTEIN
Livingston, New Jersey

THOMAS J. BONOMO
East Northport, New York

HERB H. BORSUK
Montreal, Quebec

GERARD BOUGER
Montreal, Quebec

STANLEY BRAUN
Indianapolis, Indiana

ANDREW BREIMAN
Yonkers, New York

MICHAEL BRENYO
Washington, D.C.

SOLOMON G. BROTMAN
Jacksonville, Florida

GARY K. BROWN
Richmond, Indiana

GARY D. BURNIDGE
Tulsa, Oklahoma

WALLACE B. BUTLER
Welcome, North Carolina

WILLIAM J. BYLAND
Fort Lauderdale, Florida

ROGER P. BYRNE
Lubbock, Texas

JOHN R. CALAMIA
New York, New York

THOMAS H. CALLAHAN
Atlanta, Georgia

DALE E. CANFIELD
Portland, Oregon

CHARLES A. CASSARO
Massapequa Park, New York

EDMUND CATALDO
Boston, Massachusetts

WYATT F. CAUGHMAN
Augusta, Georgia

ROBERT J. CHAPMAN
Boston, Massachusetts

ALDEN B. CHASE
Rialto, California

JEAN-CLAUDE CHAUSSY
Cannes, France

JOHN S. CHRISTIE
Bedford, Nova Scotia

JOHN J. CLARKSON
Washington, D.C.

RAY COHLMIA
Oklahoma City, Oklahoma

HARRY B. COKER, JR.
Mobile, Alabama

PETER H. COLLINS
Troy, New York

J. FREDERICK CONRAD, JR.
Berkeley, California

SAM H. CONTINO
Pasadena, California

HENRY L. COOK, SR.
Columbus, Georgia

H. GROVES COOKE, III
St. Louis, Missouri

GABRIEL R. COULON
Bethesda, Maryland

CLYDE COVIT
Montreal, Quebec

DONALD D. CULP
Charlotte, North Carolina

WILLIAM J. DAVIS, JR.
Toledo, Ohio

RONALD I. DEBLINGER
Clifton, New Jersey

ROBERT K. DELUKE
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DONALD E. DEMKEE
Wooster, Ohio

KEITH W. DICKEY
Alton, Illinois

CHARLES D. DIETRICH
Washington, D.C.

ANDREW C. DOERFLER
Spring, Texas

JAMES E. DONLAN
Peoria, Illinois

SAMUEL O. DORN
Fort Lauderdale, Florida

B. RICHARD DRYDEN
Dodge City, Kansas

GILLES DUBE
Lachute, Quebec

THOMAS D. DUMONT
Ashland, Oregon

ROBERT EDWAB
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Winterhur, Switzerland

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Denver, Colorado

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Ocala, Florida

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RUDOLPH W. WOESSNER
Arvada, Colorado

MARSTON K. S. WONG
Fort Hood, Texas

ARTHUR W. S. WOOD
Islington, Ontario

S. JEROME ZACKIN
Lawrence, Massachusetts

MARTIN H. ZAIS
Honolulu, Hawaii

CURTIS J. ZENT
Phoenix, Arizona

EMMETT L. ZIMMERMAN, III
Metairie, Louisiana

DECEASED FELLOWS

November 1, 1991 - September 20, 1992

Allen Boyd, Jr.
Plainfield, New Jersey

* Arnold, Earle S.
Los Altos, California

* Bassett, Russell W.
Laguna Hills, California

* Bassman, Abraham H.
Los Angeles, California

* Berger, Leon W.
Indianapolis, Indiana

* Beukema, Jack P.
Rancho Palos Verdes, California

Bishop, David R.
Washington, D.C.

* Blonstein, David
Houston, Texas

Bonk, Edward L.
Mount Prospect, Illinois

* Bowers, James P.
Monrovia, California

* Bridgford, R.D.
Colorado City, Texas

Brunson, Donald L.
Baytown, Texas

Burdette, B. Hugh
Weston, Massachusetts

Bushee, Eleanor J.
Alton, Illinois

* Christian, Grietje
Laguna Hills, California

* Cook, Joe M.
Waco, Texas

* Cooper, Ralph G.
Portland, Oregon

* Crosta, Attilio J.
Lyndhurst, New Jersey

Dawson, W. James, Jr.
San Rafael, California

Detchon, Carl A.
Ft. Lauderdale, Florida

* Dietz, Victor H.
St. Louis, Missouri

* Dyer, Eugene H.
La Quinta, California

* Eberhardt, Harold S.
Edina, Minnesota

Ermoian, Ralph P.
Fresno, California

* Fern, Arthur L.
Bloomfield, Connecticut

Fischer, Eugene E.
Silver Spring, Maryland

* Fisher, Alton K.
Iowa City, Iowa

* Fixott, Henry C., Jr.
Lake Oswego, Oregon

* Fowler, William M.
San Diego, California

* Frech, Carl A.
Sun City Center, Florida

* Gilmore, Earl
San Francisco, California

* Gitnick, Philip J.
Ontario, Canada

Golec, Thomas S.
Escondido, California

* Harkins, William R.
Osceola Mills, Pennsylvania

* Harris, Alfred G.
Chicago, Illinois

* Hartman, James A.
Columbus, Indiana

Harvey, Edwin R.
Lakewood, California

* Haselton, L.D.
Saskatchewan, Canada

* Hatchett, Don
Slaton, Texas

* Haven, S. Rush
San Antonio, Texas

* Hawley, Joseph M.
Dothan, Alabama

Hoch, Stanley A.
New York, New York

* Hoffman, Olin E.
Seattle, Washington

* Huffman, Richard W.
Grand Ledge, Michigan

* Isom, Dudley R.
Pascagoula, Mississippi

* Johnston, Wilfred J.
Ontario, Canada

* Kanelos, Peter T.
Cranston, Rhode Island

* Karney, F.W. Charles
Hearne, Texas

* Kartheiser, Phillip J.
Aurora, Illinois

* Kennard, Warren G.
Hutchinson, Kansas

* Killmer, Hugh D.
Waco, Texas

* Kudler, George D.
Philadelphia, Pennsylvania

* Kurtz, Bruce R.
Palmdale, California

Lapeyrolerie, Frank M.
East Orange, New Jersey

* Larkin, John
New Braunfels, Texas

* Life Fellow
M Merit Awardee
H Honorary Member

* Leal, Joao Bacao <i>Lisbon, Portugal</i>	* Morris, William E. <i>East Cleveland, Ohio</i>	* Ryder, William B., Jr. <i>San Francisco, California</i>
* Leatherman, Gerald H. <i>London, England</i>	* Moseley, Robert L. <i>Detroit, Michigan</i>	H Saunders, J.B. de C.M. <i>San Francisco, California</i>
* Lindig, George F. <i>Plandome, New York</i>	Mouret, William J., Jr. <i>Kenner, Louisiana</i>	* Schurmer, Robert W. <i>Los Angeles, California</i>
* Lloyd, David J. <i>Farmers Branch, Texas</i>	Navab, Hossein <i>Santa Monica, California</i>	* Sommers, E.J. <i>Des Moines, Iowa</i>
Lopatofsky, George J. <i>Troy, Pennsylvania</i>	* Newman, William A. <i>Stuart, Florida</i>	* Spayde, Richard C. <i>Thousand Oaks, California</i>
* Loughlin, Francis J. <i>Jamaica, New York</i>	* O'Brien, L. Woodrow <i>St. Louis, Missouri</i>	* Straussberg, George <i>South Orange, New Jersey</i>
* Lynn, Roland <i>Dallas, Texas</i>	* O'Leary, Timothy J. <i>Indianapolis, Indiana</i>	Sullivan, John E. <i>Knoxville, Tennessee</i>
* Lytle, Floyd E. <i>Cincinnati, Ohio</i>	* Oltmans, Samuel J. <i>Minneapolis, Minnesota</i>	* Swift, Thomas H. <i>Jamesburg, New Jersey</i>
* Marquer, Victor B. <i>Metairie, Louisiana</i>	* Ostrander, Floyd D. <i>Ann Arbor, Michigan</i>	* Thomas, Glenn A. <i>Wichita, Kansas</i>
* McCabe, C. Aberdeen <i>Montreal, Canada</i>	* Pelton, Walter J. <i>San Antonio, Texas</i>	* Thompson, William M. <i>Sun City, Arizona</i>
* McDermott, Charles F. <i>Pittsburgh, Pennsylvania</i>	* Pike, Joe M. <i>St. Cloud, Minnesota</i>	* Tracy, W. Ward <i>Rowayton, Connecticut</i>
* McGowen, Marvin C. <i>Baird, Texas</i>	* Pollack, Joseph <i>West Orange, New Jersey</i>	Trevisan, Carey, R. <i>Bloomfield, New Jersey</i>
McHenry, Donnel M. <i>Chambersburg, Pennsylvania</i>	Pyron, Thomas C. <i>Memphis, Tennessee</i>	* Vann, Ruth <i>Rochester, New York</i>
* McKinney, Ralph V., Jr. <i>Augusta, Georgia</i>	Raby, Claude L., Jr. <i>Ada, Michigan</i>	* Vurgaropulos, Arthur C. <i>Hilton Head, South Carolina</i>
* Medak, Herman <i>Lincolnwood, Illinois</i>	* Rapoport, Leonard <i>Lutherville, Maryland</i>	* Ward, Sir Terence G. <i>Sussex, England</i>
* Mehringer, Edward J. <i>Arlington, Vermont</i>	* Raucher, Frederick <i>New York City, New York</i>	* Whitney, Charles J. <i>Fairport, New York</i>
* Mergele, Marvin E. <i>Houston, Texas</i>	* Reece, Wilbur T. <i>Springfield, Illinois</i>	* Wise, Donald G. <i>Chicago, Illinois</i>
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Morgan, John H. <i>Macon, Georgia</i>	Rutledge, Curtis E., Jr. <i>DeQuincy, Louisiana</i>	

* Life Fellow
M Merit Awardee
H Honorary Member

NEWS OF FELLOWS

David J. Bales, Chairman of the Department of Restorative Dentistry at the University of Washington School of Dentistry, was the recipient of the University of Washington Dental Alumni Association's 1992 Distinguished Alumnus Award. Dr. Bales recently completed his second year as Chairman of the Washington Section of the American College of Dentists.



David J. Bales

Ralph Barolet, Dean of the Faculty of Dentistry of McGill University, was awarded the Canadian Dental Association's Award of Merit. Dr. Barolet was recognized for his outstanding service to the Canadian Dental Association and to Dentistry.



Ralph Barolet

C.F. Barrett of Davenport, Iowa was recently reappointed a member of the State Board of Health by Iowa Governor Terry Brandstad. Dr. Barrett is a Past President of the Iowa Dental Association and was the University of Iowa Dental Alumnus of the Year in 1983.



C.F. Barrett

James F. Claypool recently received the 1992 Distinguished Dentist Award from the Ohio Section of the Pierre Fauchard Academy. Dr. Claypool is the Chairman of the Ohio Section of the College and received the Achievement Award of the Ohio Dental Association 1991.

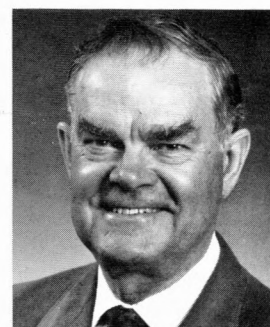


James F. Claypool



Joseph L. Henry

Michael Crompton was honored by the Canadian Dental Association with a presentation of its Distinguished Service Award. Dr. Crompton is a Past President of the Canadian Dental Association, the Canadian Association of Orthodontists and the Royal College of Dentists of Canada.



Michael Crompton

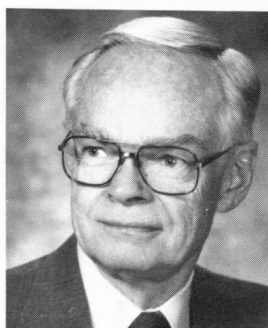
Ronald Goldstein of Atlanta, Georgia was the recipient of the American Academy of Esthetic Dentistry's Charles L. Pincus Award. Dr. Goldstein was recognized for his distinguished accomplishments in esthetic dentistry. Author of several textbooks on esthetic dentistry, Dr. Goldstein has helped produce over 70 television programs on dentistry.



Ronald Goldstein

Joseph L. Henry was appointed to the National Advisory Dental Research Council by HHS Secretary Louis W. Sullivan, M.D. Dr. Henry has served as Dean of the Howard University College of Dentistry and was inducted into the Institute of Medicine of the National Academic of Sciences in 1981. He is presently Associate Dean for Government and Community Affairs and Chairman of the Department of Oral Diagnosis and Oral Radiology at Harvard School of Dental Medicine.

Judson Klooster, Dean of the dental school at Loma Linda University since 1971, has been honored with two prestigious awards by the University of the Pacific School of Dentistry: the 1992 Distinguished Professional Service Award and an honorary degree of Doctor of Public Services at the UOP dental school commencement exercises. The Awards were in recognition of his involvement with dental education and organized dentistry for the past 45 years. Dr. Klooster currently serves as President of the American Fund for Dental Health.



Judson Klooster

Paul Stephens, was recently installed as President of the Academy of General Dentistry. Dr. Stephens practiced dentistry in Gary, Indiana for 44 years and has served as President of the Indiana State Board of Dental Examiners. He was named the 1984 Dentist of the Year by the Indiana Dental Association and was the 1979 Alumnus of the Year of Howard University College of Dentistry.



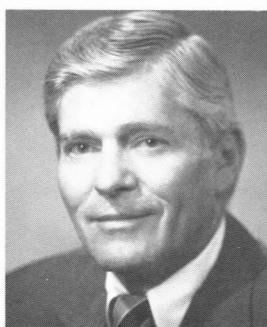
Paul Stephens

Thompson M. Lewis was recently honored when the Department of Pediatric Dentistry of the University of Washington School of Dentistry instituted a lecture in the name of Dr. Lewis and the late David B. Law. A Past Chairman of the Washington Section of the College,



Photographed at the reception in Seattle are from the left: Dr. Thompson M. Lewis, Mrs. B.J. Lewis, Dr. Gerald D. Stibbs, the 1984 recipient of the William John Geis Award, ACD Executive Director Gordon H. Rovelstad, Mrs. Gloria Stibbs and Dr. Norman H. Olsen, Dean; Northwestern University School of Dentistry.

Harold R. Schreiber, Professor Emeritus in Periodontics of Washington University School of Dental Medicine has been named the 1992 Distinguished Alumnus by the Dental Alumni Association. Dr. Schreiber is in the private practice of Periodontics in St. Louis.

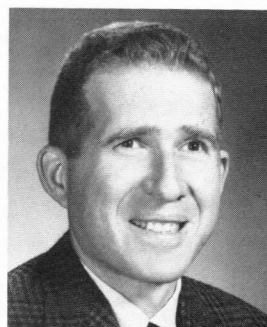


Harold R. Schreiber

Sheldon Winkler, Professor and former Chairperson of Prosthodontics at Temple University School of Dentistry, was recently awarded the International education Award by the International Congress of Oral Implantologists. Dr. Winkler serves as Editor of Implant Dentistry and was recognized for his outstanding contributions to the research, literature and education in the field of Oral Implantology.



Irvin N. Kaplan



Sheldon Winkler

Dr. Lewis was recognized for his outstanding contributions to pediatric dental education, research and practice. Dr. Lewis is Professor Emeritus University of Washington School of Dentistry where he also served as Assistant Dean.

Irvin N. Kaplan recently completed his term as Chairman of the Ohio Section of the American College of Dentists. Dr. Kaplan is also the Immediate Past President of the Ohio Dental Association and has served as Chairman of the ODA Services Corp. Board.

SECTION ACTIVITIES

Arkansas

The Arkansas Section conducted its Fall meeting on September 20 with Chairman Robert Johnson presiding. The Section presented a \$250 Scholarship to Dental Hygienist, Christie Bromfield and Dr. Johnson gave a report on the Regency 6 meeting held in Little Rock, Arkansas earlier. Dr. Dean Weddle, President of the Arkansas State Dental Association presented a very

interesting report on the affairs of the ASDA, the 12th District and the American Dental Association.

The Arkansas Section elected the following officers who will take office January 1, 1993: Chairman Marvin Loyd, Chairman Elect Robert Johnson and Secretary/Treasurer Harvey Matheny.

Florida

The Florida Section held its annual two day meeting September 26 and 27 at the Marriott World Center in Orlando with Chairman Robert Ferris presiding. Forty-one Fellows attended two outstanding programs. The first, "What's New in Periodontics and What Works" was presented by Drs. Robert T. Ferris, Geraldine Ferris, Richard Chase and Edward Gonsky. The second program consisted of a panel discussion on "Ethical Dilemmas, It's a Matter of Perspective." Moderated by Dr. Donald McNeal, the discussions were conducted by a panel consisting of Board of Dentistry member Dr.

Richard Chichetti, Practitioner Dr. Lewis Earle, Faculty member Dr. Donald Antonson and dental student E. Bustamonte.

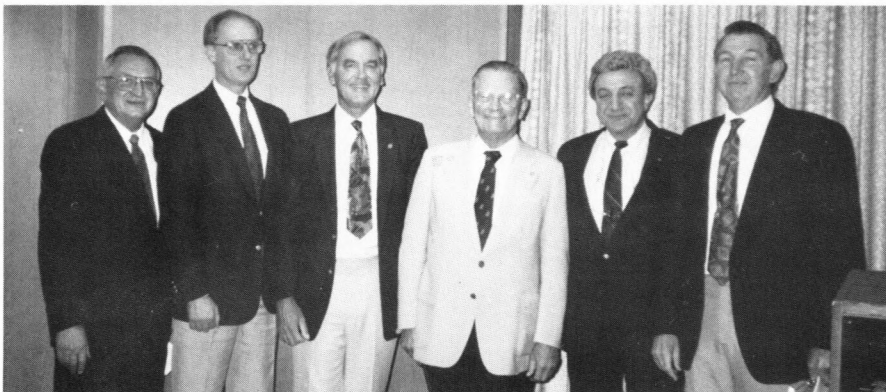
The Florida Section made a \$500 donation to the East Coast District Dental Society for Hurricane Andrew Relief, \$500 to the L.D. Pankey Institute for Hurricane Damage, \$500 to the ACD Campaign for the 90's and \$200 to the ACD Foundation. The following were elected new officers of the Section: Chairman Jose Medina, Chairman Elect William Blosser, Vice Chairman Edward Gonsky and Secretary/Treasurer Chris C. Scures.



Dr. Geraldine Ferris, with her husband, Section Chairman Robert Ferris.



Dr. Sam Dorn, left, representing the East Coast District Dental Society Hurricane Andrew Disaster Fund for Dentists, was presented with a check for \$500 on behalf of the Florida Section by Dr. Robert Ferris and Secretary/Treasurer Chris C. Scures, right.



Photographed from the left are Florida Section's Officers, Secretary/Treasurer Chris C. Scures, Vice Chairman Edward Gonsky, Chairman Elect William Blosser, Chairman Jose Medina, Immediate Past Chairman Robert Ferris and Dr. Robert Williams Past Chairman of the Section who installed the new officers.

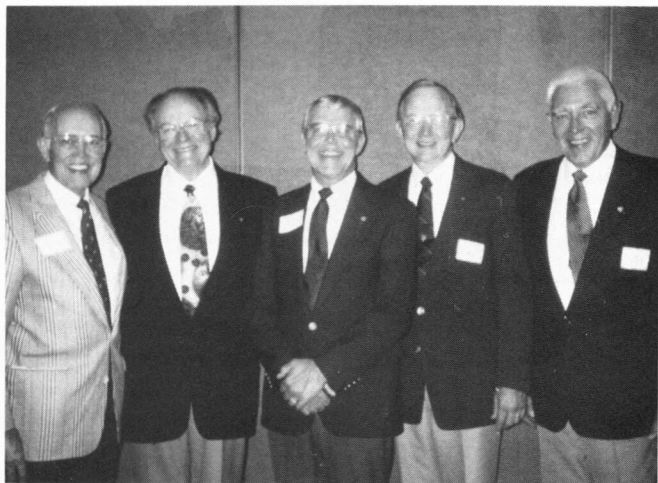


Dr. Chris C. Scures was re-elected Secretary/Treasurer of the Florida Section. Dr. Scures is also currently the President-Elect of the American College of Dentists.

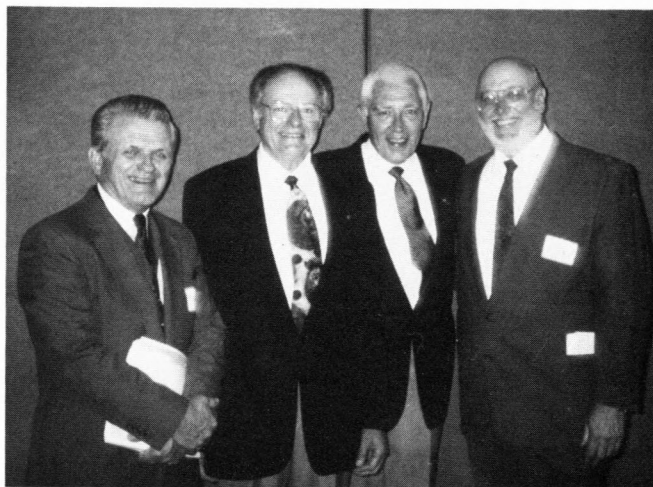
Northern California

The Northern California Section held its annual meeting on August 29 in San Francisco which was attended by a large number of Fellows and guests. Dr. Erik Olsen, Chairman, Delta Dental Insurance Company spoke on "Health Care Access, Dentistry's Role."

Photographed at the Northern California Section's meeting are from the left: Secretary/Treasurer George Yamamoto and Chairman Kenneth E. Follmar.



Photographed from the left are: ACD Past President James A. Harrell, Sr., who is Chairman of the ACD campaign for the '90's, ACD President-Elect Albert Wasserman, Regency 7 Regent Richard B. Hancock, Regency 8 Regent Walter Johnson and Section Chairman Kenneth E. Follmar.



Photographed from the left are: Lloyd Phillips, President of the North American Section of the International College of Dentists, ACD President-Elect Albert Wasserman, Section Chairman Kenneth E. Follmar and Dr. Erik Olsen.

Wisconsin

The Wisconsin Section held its fall meeting in Milwaukee September 20. The business meeting was addressed by ACD Treasurer Juliann S. Bluitt and the Section voted to contribute an additional \$500 to the Campaign for the 90's. The business meeting was followed by a gala dinner attended by Fellows of both the American and the International Colleges. ACD Regency 5 Regent Prem S. Sharma and Treasurer Juliann S. Bluitt addressed the dinner guests on behalf of the ACD. ICD President Lloyd Phillips and ICD 9th District Regent Charles L. Ziegler spoke on behalf of the I.C.D. Both Dr. Phillips and Dr. Ziegler are also Fellows of the American College of Dentists.



American College of Dentists Treasurer Juliann S. Bluitt addressed the fall meeting and banquet of the Wisconsin Section of the College in Milwaukee on September 20.

Photographed at the Wisconsin Section's banquet are ACD Regency 5 Regent Prem S. Sharma and his wife Dr. Anita Sharma.

Europe

The European Section met June 23, 1992 at Vilamoura, Portugal, which was held in conjunction with the Annual Meeting of the American Dental Society of Europe. There was an Installation of Officers and Helyn Luechauer of Hollywood, California was made an Honorary member.

Pictured, left to right, at the Annual Meeting of the European Section are Michel Varin, Paris; Immediate Past Chairman Runo Cronstrom, Sweden; Brian Parkins, London; Helyn Luechauer, Hollywood; Gerrard McKenna, Dublin; Secretary-Treasurer Juan Serrano, Cannes; Kenneth Rudd, San Antonio; Edouard Cohen, Paris; Incoming Chairman Gil Alcoforado, Lisbon; Noel O'Brady, Dublin; Paul Feinmann, Geneva; Andrew MacDonald, London; Michel Burdin, Nice; Aiden O'Reily, Dublin; and Terjel Wahr-Hansen, Oslo.



Georgia

The Georgia Section held its annual meeting recently at the Amelia Island, Florida Ritz Carlton. The Section elected District Ethics Chairmen to coordinate Ethics workshops throughout the State. This effort of the Georgia Section will be led by Dr. Earl Williams. Dr.



Photographed at the Georgia Section meeting are from the left: Regency 3 Regent Alton J. McCaslin V, Dr. Robert (Robbie) Robinson and Dr. Robert Rainer. Dr. Robinson received the GDA Award for attending 70 consecutive annual meetings. Dr. Rainer who himself has attended 32 annual meetings has for the past 20 years helped Dr. Robinson attend the GDA meetings by driving him in his car.

Robert (Robbie) Robinson who is 92 years old, received a special commendation from the Georgia Dental Association for 70 consecutive years of attendance at GDA meetings. Dr. Robert Repass received a recognition pin for 25 years of Fellowship in the College.



Photographed from left are: Section Officers, Chairman Gerrit C. Hagman, Vice Chairman Larry Miller and Past Chairman Billy Bently. Not photographed is Secretary/Treasurer Manuel Weisman.



Photographed on the left is Dr. Robert Repass who received a pin for 25 years of Fellowship in the College from Dr. William Bently, Past Chairman of the Georgia Section.



District Ethics Chairmen of the Georgia Section are from the left, back row: Drs. Earl Williams (Workshop presenter) D.T. Walton, Ronnie Harrell and Wayne Kerr. In the front row are Drs. Larry Miller, Henry Cook, Wallace Edwards and Pete Trager (Section Ethics Coordinator)

BOOK REPORT

Dental Education At Meharry Medical College

This book is an institutional history and documentary on dental education at the Meharry Medical College from its inception in 1886 to the present. It is presented in a very professional way, well written and well organized, with fifty pages of notations.

The book is an accurate and detailed record of over 100 years of a privately funded educational institution's successful struggle to survive financially and to prepare students with the proper education to serve primarily the oral health needs of Afro-Americans and other minority communities. It is a history of the educators, through the years, who developed and administered Meharry, with all of the events neatly arranged in chronological order.

This historical overview also concentrates its focus on Meharry's graduates who have supplied a considerable number of Afro-American dentists for the dental profession. It is significant to note that Meharry's School of Dentistry began at a time when the opportunities for Afro-Americans were very limited. It deals with educational discrimination in a factual way and as a part of the overall school history.

There is a generous number of illustrations and photos which add much interest to the book, including newspaper clippings, notable correspondence and priceless pictures which feature many national leaders in dentistry through the years.

The chapter on the events which unfolded in the late 1940's, when the author was the Dental Dean at Meharry, demonstrated his keen in-

sight, objectivity and professionalism in the reporting of events which took place at that time.

This book would appeal to readers who are interested in dental history and, particularly, the history of dental education. It is filled with biographical highlights of many of the educators who served Meharry over the years. It is also a compen-

dium of numerous Meharry alumni who have contributed in outstanding ways to the dental profession.

Dental Education At Meharry Medical College is published by the Meharry Medical College in Nashville, Tennessee. Copies of the book can be ordered by calling (615) 327-6207. All book proceeds are donated to Meharry.

About The Authors

Clifton O. Dummett is a Visiting Professor of History and Public Health Dentistry at Meharry Medical College and a former Dental Dean at that institution; a Professor Emeritus at the University of Southern California and Adjunct Professor of Dental History and Social Ethics at Northwestern University Dental School. Born in Georgetown, British Guiana, South America, he graduated from Northwestern University Dental School and the University of Michigan's School of Public Health. A specialist in periodontics and community dentistry, Dr. Dummett is a Past President of the International Association for Dental Research, the American Association of Dental Editors, the Los Angeles Dental Society and the American Academy of the History of Dentistry. He is an Honorary Member of the American Dental Association and a Senior Member of the Institute of Medicine, National Academy of Sciences. Dr. Dummett served two terms as Chairperson of Dentistry, American Association

for the Advancement of Science.

He and his co-author (his wife Lois) are also the co-authors of the book, *The Hillenbrand Era* published by the American College of Dentists. In October 1992, Dr. Dummett received the College's prestigious William John Gies Award.

Lois Doyle Dummett, a native of Chicago, Illinois, is an alumna of Roosevelt University. Long active in community affairs, she also served as assistant editor of the journals of the American Association of Dental Editors and the National Dental Association, and has co-authored works on dental history. She is an Honorary Fellow of the Odontographic Society of Chicago and has been honored by the Los Angeles City Council for her community services. She received a Bicentennial Salute from the Human Relations Commission of Los Angeles, and a 1991 certificate of Appreciation from the City of Los Angeles for exemplary services to residents of the Tenth Council District.

STATEMENT OF OWNERSHIP AND CIRCULATION

THE JOURNAL OF THE AMERICAN COLLEGE OF DENTISTS is published quarterly by the American College of Dentists, Suite J, 839 Quince Orchard Blvd., Gaithersburg, MD 20878-1603. Editor: Keith P. Blair, D.D.S., Managing Editor: Gordon H. Rovelstad, D.D.S., Ph.D.

The American College of Dentists is a non-profit organization with no capital stock and no known bondholders, mortgages or other security holders. The average number of readers of each issue produced during the past twelve months

was 5,252, none sold through dealers and carriers, street vendors or counter sales; 4,685 copies distributed through mail subscriptions; 4,685 total paid circulation; 567 distributed as complimentary copies. For the Summer, 1992 issue the actual number of copies printed was 5,546; none sold through dealers, etc.; 4,733 distributed through mail subscriptions; 4,733 total paid circulation, 593 distributed as complimentary copies; 5,326 copies distributed in total. Statement filed with the U.S. Postal Service, September 18, 1992.

INFORMATION FOR AUTHORS

INTRODUCTION

The Journal of the American College of Dentists is published quarterly in order to promote the highest ideals in health care, advance the standards and efficiency of dentistry, develop good human relations and understanding, and extend the benefits of dental health to the greatest number. It is the official publication of the American College of Dentists which invites submission of essays, editorials, reports of original research, new ideas, advances and statements of opinion pertinent of dentistry. Papers do not necessarily represent the view of the Editors, Editorial Staff or the American College of Dentists.

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The editorial staff reserves the right to edit all manuscripts to fit within the space available to edit for conciseness, clarity, and stylistic consistency. A copy of the edited manuscript will be sent to the author. All manuscripts are referred anonymously. Only original articles that have not been published and are not being considered for publication elsewhere will be considered for publication in the Journal unless specifically requested otherwise by the Editor.

The primary author must ensure that the manuscript has been seen and approved by all co-authors. Initial receipt of all manuscripts submitted will be acknowledged and, at the conclusion of the review procedure, authorities will be notified of (1) acceptance, (2) need for revision, or (3) rejection of their papers.

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Papers should be in English, typed double space on white 8-1/2 X 11 paper. Left hand margins should be at least 1-1/2 inches to allow for editing.

All pages, including Title Page, Tables and Figure Legends, should be numbered consecutively in the top right-hand corner. The first page should list title of manuscript with the first letters of the main words capitalized (do not use Part I, etc.), author's (or authors') initials and name(s) in capitals (no titles or degrees), complete professional address(es) (including ZIP or Postal Code), a short title of NOT more than 45 characters in block capitals, and, as a footnote, any change in corresponding author's address since the paper was submitted. With multiple authors, relate them to their respective institutions by superscript numbers. The first author is assumed to be the one to whom correspondence and reprint requests should be directed unless otherwise stated.

The second page should be an abstract of 250 words or less summarizing the information contained in the manuscript.

Authors should submit an original and four copies of the manuscript and three original sets of illustrations to: Dr. Keith P. Blair, Editor.

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anatomical nomenclature. The American Heritage Dictionary will be used as the authority for spelling nonmedical terms. The American English form of plurals will be used where two are provided. The Index Medicus and Index to Dental Literature serve as authorities for standard abbreviations.

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REFERENCES

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1. Smith, J.M., Perspectives on Dental Education, *Journal of Dental Education*, 45:741-5, November 1981.
2. White, E.M., Sometimes an A is Really an F. *The Chronicle of Higher Education*, 9:24, February 3, 1975.

Each reference should be checked for accuracy and completeness before the manuscript is submitted. The accuracy and completeness of references are major considerations in determining the suitability of a manuscript for publication. References lists that do not follow the illustrated format and punctuation or which are not typed double spaced will be returned for retyping.

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Annual Index of Authors for 1992

- Atchison, Kathryn A. Fall 14
The Ethical Issues of Fluoridation
- Bader, James D. Summer 7
Appropriateness of Care
- Blair, Keith P. (Editorials)
Where We Stand With AIDS Spring 3
Dentistry in the 90's Summer 3
Fluoridation in the 90's Fall 3
Gordon H. Rovelstad Winter 3
- Brown, John P. Summer 18
The Future of Prevention in Dental Schools
- Chambers, David W. Winter 31
The Eighth Specialty: Ignorance
- Corbin, Stephen B. Fall 18
Policy Options For Fluoride Use
- Christoffel, Tom Fall 8
Fluoridation: Legal and Political Issues
- Desonier, Olin Summer 29
Senior Student General Dentistry Program
- Foley, Gardner P.H. Spring 39
Dental Misconceptions (A Treasury of Dentistry)
- Formicola, Allan J. Summer 14
Dental Education Policy: Changing Factors
- George, L.A. Winter 6
Paffenbarger Research Center
- Grogono, Anthea L. Summer 29
Senior Student General Dentistry Program
- Gunn, Sondra M. Spring 35
Mean Career Satisfaction and Optimism
Scores Among Women
- Howard, William W. Winter 30
Treat Older Patients Responsibly
- Kaminsky, L.S. Fall 4
Fluoride: Benefits and Risks of Exposure
- Lancaster, Diana M. Summer 29
Senior Student General Dentistry Program
- Laskin, Daniel M. Winter 29
Reading Between the Lines
- Mahoney, M.C. Fall 4
Fluoride: Benefits and Risks of Exposure
- Marjenhoff, W.A. Winter 6
Paffenbarger Research Center
- Maxson, Barbara B. Spring 35
Mean Career Satisfaction and Optimism
Scores Among Women
- Miller, M.J. Fall 4
Fluoride: Benefits and Risks of Exposure
- Niessen, Linda C. Summer 29
The Role of Public Health in Academic Dentistry
- Odom, John G. Summer 32
The Continuing Education of Professional
Ethics in Dentistry
- Osborn, June E. Spring 12
Where the Nation Stands With AIDS
- Patthoff, Donald E. Summer 32
The Continuing Education of Professional
Ethics in Dentistry
- Ring, Malvin E. Winter 20
Michael G. Buonocore: The Pioneer Who
Paved the Way for Modern Esthetic Dentistry
- Shugars, Daniel A. Summer 7
Appropriateness of Care
- Waldman, H. Barry Winter 10
Postdoctoral Training: Students and Programs
- Slack, Thomas W. Spring 5
The Responsibility of Fellowship
- Woolfolk, Marilyn W. Spring 35
Mean Career Satisfaction and Optimism
Scores Among Women

Annual Index of Articles for 1992

- Appropriateness of Care Summer 7
Daniel A. Shugars
James D. Bader
- Buonocore, Michael G.: The Pioneer Who Paved the Way for Modern Esthetic Dentistry Winter 20
Malvin E. Ring
- Continuing Education of Professional Ethics in Dentistry Summer 32
Donald E. Patthoff
John G. Odom
- Dental Education Policy: Changing Factors Summer 14
Allan J. Formicola
- Dental Misconceptions: (A Treasury of Dentistry) Spring 39
Gardner P. H. Foley
- Dentistry for the 90's: A Symposium Summer 14
Allan J. Formicola
John P. Brown
Linda Niessen
- Editorials
 Where We Stand With AIDS Spring 3
 Dentistry in the 90's Summer 3
 Fluoridation in the 90's Fall 3
 Gordon H. Rovelstad Winter 3
Keith P. Blair
- Ethical Issues of Fluoridation Fall 14
Kathryn A. Atchison
- Eighth Specialty: Ignorance Winter 31
David W. Chambers
- Fluoridation: Legal and Political Issues Fall 8
Tom Christoffel
- Fluoride: Benefits and Risks of Exposure Fall 4
L.S. Kaminsky
M.C. Mahoney
M.J. Miller
- Future of Prevention in Dental Schools Summer 18
John P. Brown
- Mean Career Satisfaction and Optimism Scores Among Women Spring 35
Sondra M. Gunn
Barbara B. Maxson
Marilyn W. Woolfolk
- Paffenbarger Research Center Winter 6
W. A. Marjenhoff
L. A. George
- Policy Options for Fluoride Use Fall 18
Stephen B. Corbin
- Postdoctoral Training: Students and Programs Winter 10
H. Barry Waldman
- Reading Between the Lines Winter 29
Daniel M. Laskin
- Responsibility of Fellowship Spring 5
 (President-Elect's Address)
Thomas W. Slack
- Role of Public Health in Academic Dentistry Summer 25
Linda C. Niessen
- Senior Student General Dentistry Program Summer 29
Diana M. Lancaster
Anthea L. Grogono
Olin Desonier
- Treat Older Patients Responsibly Winter 30
William W. Howard
- Where the Nation Stands With AIDS Spring 12
June E. Osborn

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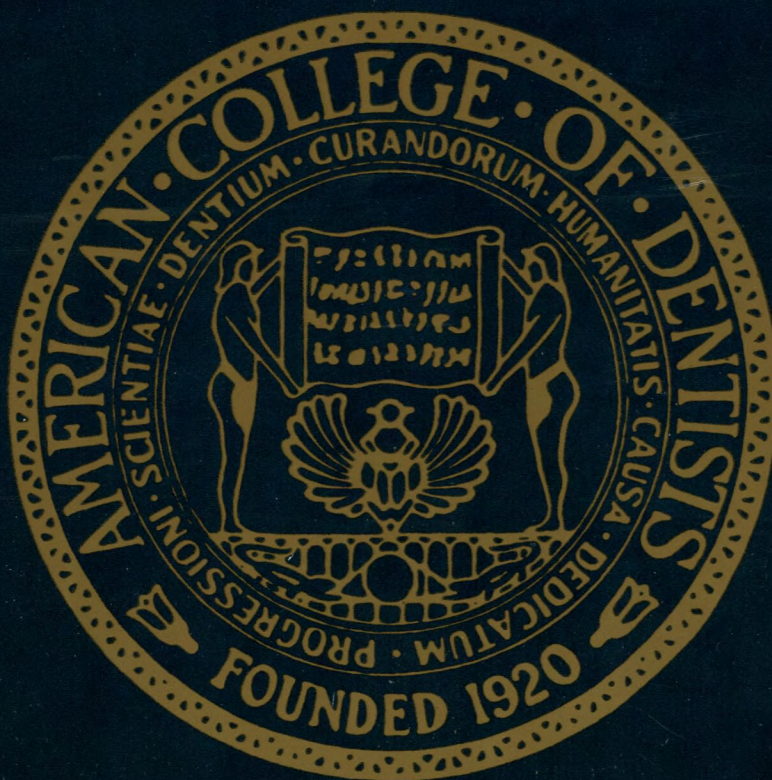
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