

# Edward H. Angle — The Growth and Development of a Man, an Organization, and a Specialty

Observations by Richard A. Riedel, D.D.S, M.S.D.

*Knowledge cannot make us all leaders,  
but it can help us to decide which leaders to follow.*

One hundred and thirty years ago, Edward H. Angle was born in Pennsylvania. He was certainly always a strict disciplinarian — a maker of rules, never a follower. Orthodontics caught his interest early in his professional career, and in 1885 he was appointed to the chair of orthodontics at the University of Minnesota. By 1892 he had become one of the first, if not the very first, dentists to specialize in what was then usually called *orthodontia*.

He tried for years to teach advanced orthodontics in dental schools, to no avail, so in 1900 he opened a private school in St. Louis. Among his early students were Dewey, Pullen, Mershon, McCoy, Oppenheim, Weinberger, Fred Noyes and others.

The St. Louis period ended with a move to New York in 1907, and then on to New London, Connecticut in 1908. He discontinued his private practice in 1911 to devote all of his efforts to teaching, and five years later he made his last big move, across the continent to Pasadena, California.

James Angle, a former student of Martin Dewey, who is not known to be related to Edward H., called on him in 1917 and persuaded him to accept him as a student. That began the nucleus of what was to become the Edward H. Angle Society of Orthodontia. Early classes were limited to three students, among whom were Atkinson, Brodie, Begg, Linn, Stallard, Steiner, Taylor, and Wilkinson.

A school building built by donations from friends and former students was opened in 1922, and the last class was accepted in 1925.

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### *The Angle Ideal*

Angle's ideal was perfection, not only in orthodontia, but in everything a man thinks, lives and does.

Alexis de Tocqueville, in his book *Democracy in America*<sup>2</sup> concluded that "More than its physical circumstances and its laws, the mores of America were the foundation of its free republic." He defined these as not only the ideas and opinions of its people, but their "habitual practices" in religious, political and economic life.

More recently, Robert M. Bellah and two co-authors have written a postmortem titled "Habits of the Heart"<sup>3</sup> in which they argue that —

"Americans no longer have any objective way of relating private and public life, and reconciling the isolated demands of the competitive workplace with the nurturing atmosphere of family and community life. The *self*, once merely a part of a large community, is currently the sole arbiter of morality."

This attitude would not be shared or condoned by Angle.

We still do form social and scientific groups, patterned after models much like the early study groups of graduates from Angle's schooling. Those early groups eventually evolved into formal societies, with bylaws and officers.

Some of the early Angle graduates in St. Louis organized the world's first orthodontic society in 1900, beginning as simply "The Society of Orthodontists." The name was augmented in 1902 with the expansive adjective "American." That gathering has now grown to the American Association of Orthodontists that we know today, still headquartered in the gateway city of St. Louis.

Those eleven men also established their first magazine, a quarterly titled *The American Orthodontist*, which we read

today as the monthly *American Journal of Orthodontics*, official publication of the American Association of Orthodontists.

A few years later, in 1909, the New York and New London graduates of Angle's school formed a society named "The Eastern Association of Graduates of The Angle School," with 16 charter members who met regularly for 30 years.

Angle presented a course on the *Pin-and-tube* appliance, which was the state of the art at the time, for the first official gathering of Angle graduates west of Mississippi in 1913. This group adopted the name "The Pacific Coast Society of Orthodontists," and it continues today as a component society of the AAO.

It was not until 1922 that a working group of Angle graduates gave birth to the Angle Society that we know under that name today. That group included Strang from the East, Wilson and Smith of Pasadena, Gough of Brooklyn, and Fred Noyes of Chicago. There were 46 members at the time of Angle's death in 1930, meeting regularly without benefit of officers or bylaws. Angle had run the society until that time.

An organizational meeting for a more formal society was held in Chicago in late 1930, following Angle's death in August. Four components were established: Eastern, Midwest, Northern California, and Southern California. Incidentally, this was just one year after the formation of the American Board of Orthodontics as the first specialty board in dentistry by the American Society of Orthodontists at Estes Park, Colorado.

I will touch on just a few selected highlights from those formative years.

*The Angle Orthodontist* was founded at that first meeting in 1930, with "Mother Angle" as Editor-in-Chief, and Frank Gough from Brooklyn as Business Manager. Anna Hopkins Angle, D.D.S. (Iowa

1902) was always affectionately known to all as "Mother Angle."

The first official address at the meeting was by Charles Tweed, speaking on "The History of the Revision of the Arizona [specialty] Law." The first scientific paper was "The New Mechanism," an introduction of Angle's final and greatest appliance contribution, the *Edgewise Appliance*, by Alan Brodie.

The first executive committee consisted of Mrs. Angle, Fred Noyes, Robert Strang, Cecil Steiner, and Alan Brodie.

Strang edited the *Angle Orthodontist* from 1930 until 1936. Noyes followed as editor from 1936 to 1949, then Wendell Wylie to 1952, followed by Morse Newcomb and Arthur Lewis. After Newcomb's resignation, Dr. and Mrs. Lewis continued for a total of over thirty years. Lewis was followed by our present editor, Ray Thurow.

National meetings were held biennially, rotating through the various components. In 1949, the Pacific Northwest component became the first regional addition to the original four, and in 1953 the first national meeting to be hosted by the new component was held in Victoria, B.C.

In 1955, the Angle Society listed 186 regular and 64 affiliate members (the AAO was about 1500). This was a time when the *Angle Orthodontist* was still partially supported by member contributions.

At the 1955 biennial meeting at the Palmer House in Chicago, the regional representatives were: Wylie (Northern California), Rathbone (Southern California), H. Noyes (Northwest), W. Downs (Midwest), R. Strang (Eastern), G. Hahn (Secretary), Newcomb and Lewis (Editors), S. Kloehn (Business Manager), and A. Brodie (Member-at-large). There was no president in those days.

At that Chicago meeting, George Hahn<sup>1</sup> described the history and philosophy of the Angle Society. As he described the 1930 organizational meeting in Chicago, he mentioned that the first official address was given by Dr. Charles Tweed . . . simultaneously, a loud crash emanated from the back of the room. Dr. Hahn looked up without missing a beat and said, "Yes, I said Charles Tweed." Even though the noise was clearly from a falling tray of dishes, it was not easy to dismiss the thought that it could be Angle stirring in his grave over the mention of the name of his student who had gone on to become a leading advocate of extraction therapy.

Therapeutic extraction was anathema to Angle, regarded by him and many of his followers as a self-contradictory name for a procedure never to be considered a part of an orthodontist's armamentarium.

Looking forward even more clearly than he could have known at the time, Dr. Hahn also echoed the thrust of Dr. Brodie's earlier paper titled "Facial Patterns: A Theme on Variations," published in the *Angle Orthodontist* in 1946, as he cautioned against the tendency to reduce a child to a common average.

At the 1957 meeting, Frances Bolton, a long-time patron of Broadbent's cephalometric research, and Dr. W. M. Krogman, whose anthropologic input has added so much to orthodontics, were both elected to Honorary membership.

Since that time, the Southwest and Atlantic components have been added, and membership has multiplied.

Angle's 75 living years of influence on orthodontics have been evident to this day as we celebrate 55 more years of Angle Society functions. The Angle Society has evolved into a professional group whose dedication and accepted duty are to contribute to orthodontics a language

of kinship, civic commitment, and friendship, without a lopsided emphasis on self-expression.

We expect to search for "the good" with a careful weighing of relative merits. Contributing to the human community are a group of socially interdependent people who share in decision-making and participate in certain practices and esthetic and ethical rituals that have bound them through time into a "community of memory."

This is in sharp contrast to the "lifestyle" enclave groups formed by people who share some aspect of private life, expressing themselves in terms of appearance, consumption, and leisure activities that serve to separate them sharply from those with other lifestyles. There is no interdependence, no shared history within such groups; there is nothing but the "narcissism of similarity."

What of dental science and dental art, and how orthodontics relates to our own lifestyles?

Can we act as did Robert Frost, who said: "Two roads diverged in a wood, and I, I took the one less travelled by, and that has made the difference."

Or, as Robert Kennedy said at Amherst College in 1963<sup>6</sup> — "And the nation which disdains the mission of art invites the fate of Robert Frost's hired man, the fate of having nothing to look backward to with pride, and nothing to look forward to with hope."

Have we learned a little during orthodontics' past? We can certainly be pleased with of the technological advances. We have come a long way — or have we?

- Vulcanite plates have long been replaced by acrylic.
- Lead solder and base metals were replaced by gold and silver alloys.

- Gold plated bands were supplanted by gold and other precious-metal alloys.
- Gold has since been supplanted by stainless steel.
- Bands have been largely replaced by bonds.
- Bracket design has reduced the need for wire adjustments.
- Wires have followed a similar pattern of introduction of new alloys.

**B**UT THE BASICS STILL HAVEN'T CHANGED — one pushes or pulls on a tooth and it moves, sometimes rapidly, sometimes less so; occasionally, not at all.

And what then? Some changes remain indefinitely stable, some changes will regress a little, and some changes will return close to the original state.

### ***What do we really know?***

- Teeth can be moved.
- Many changes in relationships can be accomplished and not relapse.
- Mandibular arch length is a constantly decreasing quantity whose rate and degree of change are subject to considerable variation of still unpredictable origin and degree.

### ***— and how about some of the proposed solutions?***

- Does the supra-crestal circumferential pericoronal fiberotomy prevent recurrence of rotations? Well, it may be better than nothing — and almost as good as the sulcus slice (fewer words make it less expensive, too).
- Are the relative facio-lingual (or labio-lingual) and mesio-distal dimensions of the lower incisors important to the stability of posttreatment alignment?

Maybe for next week, or next month, or next year, but certainly not indefinitely (and perhaps not at all).

Similarly, mesiodistal reduction of the lower anterior teeth falls into the same category — today, maybe tomorrow, but probably not forever.

- What about permanent retention? “I use permanent retention,” says the orthodontist. I respond; “it would be nice if your patients did, too.” Your patients probably don’t and won’t, at least in many instances.

Yes, I have had patients whose teeth no longer change position, but unfortunately, they’re all dead; and even then I suspect that they may rattle around a bit.

Brodie’s paper, “Facial Patterns, A Theme on Variation”<sup>4</sup> is a plea for the abandonment of the “norm concept” that is worthy of rereading by every orthodontist, for that seems to be our fate and expectation.

Does this all suggest a gloom and doom approach, a damned-if-you-do or damned-if-you-don’t philosophy? Perhaps to some, but it should also suggest a realistic approach to treatment, including a warning to patients of some expected change, and the possible need for prolonged retention. Even even more important, it should suggest a continuing quest for perfection and idealism implemented by the most informed approach and the most reliable and time-tested methods available.

Perhaps our future lies in altering biochemical and biomechanical processes, in inducing yet unknown and untried osseous responses, in soft tissue management yet untried and untested. We must continue to have an open-mindedness to the potentials for handling problems in the microcosm with which we deal.

### A Warning

To this let me add a warning — our patients cannot afford to have us act as faddists, following the latest preacher who comes to town with his bottle of snake oil and an orgone machine. Nor can we. Give the *old and proven* a thorough try before you throw it out to try the new and alluring. Ken Kahn used to say, “I was always slow in jumping on the merry-go-round — and often found everyone else jumping off the next time it came around.”

Proper diagnosis and treatment planning are still more important than bonds, “magic” wires, angulated slots, functional appliances, and the various courses in everything from practice management to TMJ treatment to computer utilization, etc., etc.

Personally, I have always been most proud of those patients for whom I have been able to apply a minimum of mechanical aids to achieve ultimate success in a beautiful dentition derived from my guidance of natural forces with little or no mechanical intervention.

TO ANGLE’S CHAGRIN, he was never able to satisfactorily grapple with the problems of change in facial esthetics coincident with (or without) orthodontic treatment. After many sessions with his artist friend Edmund Wuerpel, he resorted to the formulation of two basic rules —

- One related to the line of occlusion; *that line, with which, in form and position according to type, the teeth assume their normal position, normal occlusion.*
- The other was the “law” that requires a full complement of teeth, and that each tooth shall occupy its normal position in normal occlusion.

These challenges are addressed very succinctly in Peter Gould's *Tyranny of Taxonomy*,<sup>5</sup> which is excerpted and paraphrased in much of the following paragraphs so apropos to orthodontics.

For a perfectionist, the variations in facial form should follow the same pattern as in recent times when the desire to put things (and perhaps even people?) into tidy, non-overlapping boxes has grown stronger; particularly as the task of cutting up and ordering the world has been given over increasingly to computers.

All cluster algorithms (any special mathematical way of solving a problem), and all statistical methods, that are used to split people and things into distinct and separate categories must, by the way they are constructed, force divisions on the world — **even where no divisions exist.**

Whenever we observe and record information about the world around us, we must acknowledge the arbitrary nature of our choices and be aware of the way that our choices change over time.

As Angle learned, **whatever our purpose, when we classify we invariably invoke not one thing, but multiple criteria, and this is where the trouble starts.**

Now we are tempted to let the computer decide for us, according to criteria that may *appear* to have mathematical authority, but which are *always arbitrary and sometimes downright foolish.*

Maybe we do not know, quite literally, what we are talking about. And if we do not, a structural analysis of the problem will send us back to the beginning to think again, rather than give us a neatly partitioned set of boxes that only *appear* to be a scientific solution because of the neat finality of their appearance on the computer printout.

This sort of careful and patient exploration of structure is a far cry from the mechanistic bludgeoning of data (and orthodontic patients) . . .

As Voltaire said, "Common sense is not very common."

**W**e cannot let the innumerable and seemingly overwhelming endless variations in structural morphology, growth, treatment responses, and post-treatment adjustments of the dentition discourage our efforts. We already have remarkably beneficial capabilities, and new solutions will continue to evolve if we carefully record and continually review the results of treatment and the effects of maturation and aging. Short-term review is important, but we must also study the slow changes over extended periods of time.

To enable us to carry on and advance our personal abilities, and continue to advance our specialty, requires accurate, complete, and carefully accumulated records. Uniquely accurate pretreatment, progress, and follow-up records have been a hallmark of our specialty, and in the future, our records may even include information of a type not yet available.

Careful assessment of such records can only be as accurate and useful as the records themselves, even the most basic and routine items such as accurate casts and well-oriented cephalographs.

Wuerpel echoed Angle in a paper titled *The lengthening Shadow of a Man*<sup>6</sup> when he said in 1947:

*"If Dr. Angle could be here today, if he could speak to you, he would tell you that he is proud of you, proud and comforted that you are following wisely but not blindly, in his footsteps."*

Is it possible that, as Angle said, "there is but one best way?"

**— and could that best way be in attitude and caring, rather than in mechanical application?**

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#### REFERENCES

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