

The Human Side of Orthodontia*

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There is something mysterious to the lay mind regarding malocclusion of the teeth and this will never disappear until the public can be convinced of its simplicity. Hence the practice of orthodontia will not serve the full purpose of its conception until its precepts have passed into the category of common knowledge. Likewise, the cause of orthodontia will be materially retarded until the public recognizes its practice as a logical procedure and considers it an investment instead of an expense.

For the enlightenment of the laity regarding orthodontic problems, three words would encompass the essential features to be emphasized; size, relationship, and form. Or, to be more specific, (1) there should exist the proper size of the dental arches to accommodate the full complement of permanent teeth. (2) It is essential that those arches should conform to a typically human outline. And, (3) it is most important that the arches with the teeth in proper occlusion should harmonize specifically with the cranial anatomy.

The query arises as to whether the end justifies the means to obtain the proposed results. Is it necessary to go to the extreme in establishing normal occlusion so that the teeth will be in proper relation to the cranial anatomy? It is one thing to exhibit a set of harmonious looking models of teeth, and say that it is a nice way for teeth to look, but it is quite another thing to show that the teeth blend into the design of the face and scheme of expression, and that people cannot have their own faces without the natural dental equipment arranged in a way that harmonizes with human anatomical structures.

It is apparent that patrons do not fully appreciate the value of arch form in considering results. Recently the maloccluded teeth were cut from a plaster model of an adult patient and arranged in ideal form as determined by the natural seating of the individual teeth. The patient was thrilled by seeing a replica of her own teeth arranged in natural form. Although models of treated cases had been used for illustration, the similarity of these examples to her own dental condition made very little impression. The information that she possessed beautifully shaped teeth was accepted as bantering subterfuge. But when it was possible for her to visualize her own teeth

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arranged in natural form it was a pleasure she had not experienced before, and the evidence was so convincing that no further effort was required to demonstrate that it is the arrangement of teeth rather than the design that creates the appearance of harmony and balance in the result. This incident serves to illustrate the point that we are not fully interpreting the human side of orthodontia.

On the one hand the interest in the human side of orthodontia has been induced by the evidence of so much criminal practice, committed under the guise of real orthodontia, inflicted upon innocent childhood, together with flagrant violation of all standards of professional ethics in pursuing a mercenary course of treatment. On the other hand, one is impressed by the meager amount of procedures instigated for the prevention of incipient malocclusion which may now be recognized years before it can be mechanically treated. Frequently no serious attempt is inaugurated to counteract the progress of these subjective symptoms. This precludes, of course, such objective symptomatology as is perfectly obvious to the casual observer.

Too often are the spectacular forms of malocclusion made the excuse for rank imposition upon the forgotten child. It has been the custom of pretenders in orthodontia, assisted by certain special laboratories, to convert fantastic metal devices into dollars by the monthly payment plan without corresponding benefits to the victim. This practice results in a sacrifice of important periods of time in the life of the child, which could have been used to better advantage. On account of the mystery and confusion existing among the laity regarding the underlying conditions of the dental arches, inefficient forms of mechanisms have attained a vogue which would not otherwise be permitted, if parents better understood a few simple principles regarding dentition. Mechanical principles are advocated that would not be tolerated in any other situation and methods of treatment are quite generally used, which, under the most favorable conditions cannot bring about results compatible with our present knowledge of the subject.

Since the advent of the new Angle Edgewise Mechanism, there is no excuse for those haphazard methods of treatment that have been prevalent in the past especially among those who seem to be more interested in a mercenary program of procedure than in the actual beneficial service that can be affected.

And, also, since a method has now been developed which is adapted to all forms of malocclusion and adequate for their correction, it becomes a matter of prime importance for every person who presumes to treat any type of malocclusion, to understand its operating principles and to become pro-

ficient in its manipulation. That which was permissible, perhaps, in the past, i.e., attempting to realign teeth by self-devised mechanisms, is no longer tolerable.

Likewise it becomes an imperative duty for every operator who presumes to correct malocclusion to have a more intimate conception of the real principles of orthodontia than he ever had before. Advanced methods of treatment have produced such perfection in the balance and harmony of facial lines that a demand for this high class service has been created, hence the consideration and correction of the axial relations of the teeth become a prime requisite in every treated case. Properly treated cases no longer perpetually exhibit the earmarks of the repairman's handiwork, but rather present the natural appearance so characteristic of coordinated units growing naturally to maturity. The teeth, consequently, become an integral part of the expression of the face, and the units of dentition do not stand out as examples of artificial construction.

The human side of orthodontia demands the efficient and scientific unravelling of the intricacies of tooth malposition in such a manner that the components of the dental mechanism shall be in harmony with the cranial anatomy. It is the human side of orthodontia to expect the eradication of the anomalies of tooth alignment, thereby eliminating some of the unpleasant handicaps of young manhood and womanhood so that they may assume their positions in society as physically fit and esthetically agreeable.

It has been found, after some years of experience in dealing with the problems of malocclusion, that people continue to possess but a meager conception of the real aims and ideals of the practicing orthodontist. They have given some thought to the idea of straightening the so called "crooked tooth," but their understanding of the essentials of arch form and relations remain definitely clouded.

It is from the human side of orthodontia that the urge arises to harken to the appeal of the pedodontist. These specialists feel that the orthodontist, who examines the teeth of children from three to five years of age and presents to the parents a picture of incipient malocclusion, is not rendering his full duty to society if he has nothing better to offer than recommendations of delay until the malocclusion becomes objectively apparent when procedures of a mechanical nature may be instituted to correct the defect. Parents and dentists, too, want to know what is the matter with the natural courses of growth and development in the children. We criticize the dentist for standing by until the dental organs actually break down before measures are adopted for prevention, but we do not even suggest a remedy for incipient

malocclusion nor intimate that some obscure involvement of the biological organization may be operating to defeat the normal course of physical welfare.

The thought is being advanced that some feasible plan should be found for inducing a more natural process of the physical development of teeth and jaws which could be inaugurated at the proper time upon the suggestion of the orthodontist. This would satisfactorily appease the anxiety of mothers for a more scientific consideration of the welfare of their children in this respect. It is at least not unreasonable, on the part of those most vitally concerned, to expect the orthodontist to include some such procedure in his program of ministrations. To this end it might be expedient to halt the mad pursuit of details in mechanical precision in order to think in terms of human interest.

Every orthodontist should have continual opportunity to examine the mouths of very young children and witness the appeal of mothers for a more hopeful outlook regarding the mouths of their progeny. This is important in view of the fact that many of these families can never expect to finance a program of mechanical interference. The marvelous strides in mechanical invention have made it possible for the orthodontist to correct dental anomalies for a greater number of children than ever before. Yet this fact does not transcend his obligation to reach out to a still greater extent and cover the needs of thousands of worthy children, who, through no fault of their own, must be sentenced to a life of disfigurement because the fundamental causes of malocclusion have not been unravelled.

In days that are past, the orthodontist prided himself on being able to inform his patrons that such and such a case of malocclusion could have been anticipated and its development prevented. Now, mothers present their children before the permanent teeth have erupted and, even though malocclusion is sure to be the lot of these children, they are told that nothing can be done until the child is old enough for the mechanics of orthodontia.

What has it meant in the past to keep children under orthodontic observation? Has it not meant that they are kept contentedly waiting until it can be said with good grace that the time has come to "harness them up mechanically." That is one of the times when we trespass upon the human side of orthodontia.

The automobile mechanic services a car and can very nearly guarantee that if it is oiled and greased with sufficient regularity it will reach a ripe old age without burning out a bearing. In contrast to this, if he takes his child to an orthodontist, the latter can pretty nearly guarantee that there will be a case of malocclusion to treat at the end of the observation period and that,

in the meantime, he cannot prevent it. This illustration serves to indicate the previous trend of thought in respect to orthodontic procedure.

We have prided ourselves in conforming to the laws of physiology in our treatment, which means that when we practice mechanical violence we try to keep within the laws of God and man. Yet, do we bother very much about the youngster's physiology until we need the Lord on our side to keep us out of jail? This figure is not inserted for amusement, but is intended to emphasize the point that we do not have much concern regarding the physiology of the child until that science is enlisted for our program of moving teeth. It would seem that a biological survey could be made which would engage our interest in the problems of incipient variations of a dental nature and thus advance our theories regarding the etiology of malocclusion. The study of the relationship between endocrinology and orthodontia may open the way to a solution of problems of our specialty which have a direct similarity to problems in that branch of medicine.

The thought is being reiterated that while we possess the most efficient mechanism for the correction of malocclusion, we have not discharged our obligations to society if we overlook the advisability of more research in the direction of growth and development of childhood from birth through infancy. We must at least invite the cooperation of the biochemist who measures the effect of glandular balance upon the various parts of the body and the roentgenologist who surveys and records the progress of the various centers of ossification. Full advantage has not been taken by the dental profession to analyze the elements of information which have been developed along lines of biological research. Neither have our medical confreres seriously attempted to correlate facts that relate to the dental phase of the situation. Yet enough material has been uncovered and made available for examination from a dental point of view as to make this kind of a survey immensely valuable.

Schour and Van Dyke have made an important contribution to our knowledge regarding the very definite effect upon the teeth of white rats by the removal of the pituitary glands. Englebach in *Endocrine Medicine* has discussed, at great length, the influence of hypophysectomy in retarding the development of dogs. From the results of this research it would appear that if the dental aspects of a large number of cases of known endocrinopathies were observed by the dental profession, they would discover quite as many classical examples of dental aberrations in connection with endocrine balance as exist in other portions of the anatomy.

It is desirable to know why the jaw development is retarded at a time when the teeth are engaged in their unfolding program, and it should be de-

terminated whether growth of these parts could be induced to conform to a more normal expectancy if replacement treatment were administered at birth or during early infancy. These particular phases of endocrinopathy will probably not be developed until, by concerted action, the dental profession demands a more serious attempt at solution.

That parents are becoming more and more concerned about the future dentition of their children is evident by the number that are presented in infancy. They do not know how to ask for normal occlusion, but they desire their children to have an efficient dental mechanism and their own natural faces. When the pedodontist tells almost every mother that her child needs orthodontic treatment, these mothers quite naturally wish to know the reason why the course of physical welfare is so prone to suffer detrimental variations in this respect. It is of course understandable that if the teeth, as to size and proportions, are laid down in a very definite manner at a time when the dimensions of their future location have not been proportionately established, should some of the metabolic factors which govern the formation of these environmental tissues suffer a disturbance, we have a clue to the discrepancies in growth and development of the resultant parts. May this not explain why the apparently normal child may so frequently be the subject of an anomalous condition of dentitional in-harmony?

Thus it would seem to be necessary for us to delve deeper into the etiology of this complication to evolve a more explicit conception of this developmental process and so be better prepared to give these parents some satisfaction regarding the needs of their children at a time when it would be most beneficial instead of condemning almost every child to the wearing of orthodontic appliances to save his own face and dentition. There should be some program we could offer these mothers besides the spectacle of mechanics.

Englebach states "that if all organizations promoting welfare of maternity would add to the pre-natal information which they now supply simple formulas for determining the normal growth and development of children throughout the pre-school years, it would help immensely to bridge the gap of years in which comparatively few observations are made," and he makes the prediction "that if the time of the various centers of ossification are routinely determined by X-ray examination at birth, the number of hypothyroidisms discovered during infancy will be tremendously increased."

A large number of congenital hypothyroidisms are not discovered at birth and an equally numerous group of children present with symptoms of incipient malocclusion of obscure etiology which, in all probability, dates back to influence present in babyhood. Since the endocrine glands exert

a known influence over all growth and development, we are naturally lead to the conjecture that functional unbalance of these glands may be a causative factor in producing discrepancies in mouth and jaw harmony.

If Doctor Angle were here today, I can imagine him saying that a sufficient number of appliances for making any form of tooth movement has been devised and are at our disposal. He might also state that malocclusion is being anticipated five or six years before it actually occurs, but he certainly would not advise us to sit down and wait until the defects become entirely objective, so that these appliances could be used. We can now more fully than ever realize the wisdom of his policy in stressing the importance of the collateral sciences. It is evident that deep down in his consciousness there was a strong conviction that the next great advance in the progress of orthodontia must develop from this source. That the biological sciences hold the key to the mysteries which are clouding the field of our specialty and that it is necessary for us to possess a greater familiarity with the principles of nature's laws, so that we can more clearly recognize the causes which combine to divert these processes from their natural channels, is perfectly obvious.

In conclusion, I would emphasize the expediency of thinking more frequently in terms of human interest. A program of education should be advocated to acquaint the public with the difference between orthodontia and mere pretense. The problems of growth and development in infancy and juvenility should be attacked with vigor. The appeal of the children's dentist should receive a response, and the anxiety of the mothers who present their children for infantile diagnosis should be satisfied. The orthodontist should be no more excused from his responsibility to society in making a more thorough investigation of the etiology of incipient malocclusion than the dentist should be relieved of his efforts to prevent dental caries by dietetic or prophylactic measures.

The pretenders in orthodontia should be accorded a rude awakening as imposters upon the ethics of the profession and the innocent child should be protected from this form of charlatanism which has become crude enough to verge upon criminality.

But a silver lining in the cloud of doubt appears to be developing in the form of the biological sciences. Endocrinology holds out its lamp of learning for those who are ready to receive its beneficent rays and with an educational program properly established, orthodontia should conspicuously enter its next great epoch of progress in the cause of humanity.

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