

WORLD'S COLUMBIAN DENTAL CONGRESS

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COMMITTEE ON NOMENCLATURE.

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"It is desirable that this Committee present a plan by which an universal system of Nomenclature may be adopted by the Congress that would be acceptable to the profession of the entire world."

To the Members of the Committee :

It has been a difficult matter to decide upon a plan of procedure for this committee. It has seemed necessary that we adopt a different plan from that recently pursued by the committees of the older sciences which had already an established form of nomenclature that needed only correction and amplification of rules. Dentistry can hardly be said to have anything like a recognized form of technical speech, and yet a close analysis of its literature shows much progress toward the formation of a definite system, though still too chaotic to be generally recognized. Therefore, addressing definite questions to members of the profession with the view of obtaining opinions as to

the advisability of adopting particular rules will be unavailing until some definite plan of nomenclature is fixed in the minds of those to whom the questions are directed. It is therefore necessary, first, that some plan be proposed that will serve as a line from which deviations can be marked. I have therefore written the following pages as a discussion of the duties of the committee and an outline of the range of their work as it presents itself to my mind, together with a plan or basis for the systematization of our nomenclature, with a specimen of the plan of working it out upon that basis. All of this must be regarded by the members of the committee as suggestive only, and subject to any manner of change that may seem best after concensus of opinion and further study.

It must be evident to every one that the time given us for this work is insufficient for its complete accomplishment, but it is highly desirable that the basis upon which to proceed in the future should, if possible, be established at the Chicago meeting. To this end we have need to study carefully principles and methods, and to give these the test of trial by working out sufficient detail under them to establish their capability of meeting the needs of the profession.

I therefore ask each member of the committee to do all in his power to further the work, and have a hope that the outline given may aid them in the formation of definite plans of thought and of study of the subject.

I ask each member of the committee to examine these pages carefully, and at the earliest moment give me answer to the following questions, and also such other suggestions as may occur to him.

QUESTIONS.

1st. In your opinion what part, or parts, of the rules of nomenclature in use by related sciences should become an integral part of the rules in dentistry?

2d. Will the scheme suggested on pages 9-10, in your opinion, serve as the basis for the establishment of a suitable system of dental nomenclature?

a If *not*; have you a scheme to suggest?

b If partially approved, suggest such changes as seem to you to be required, with a full discussion of them.

c If *yes*; does the *plan* of working out the nomenclature under that scheme, as exhibited in the specimen of rules given herewith, meet with your approval?

d Does the detail of the work on pages 10 to 18 meet with your approval? Give objections in detail.

3d. What particular part of the work will you undertake to follow out in detail?

4th. Should this circular be sent to well known dental writers and teachers for opinion and criticism?

5th. Can you meet with this committee in the city of Chicago, for committee work, one week before the meeting of the Congress?

When replies are received they will be filed, and a digest prepared for the use of the committee in further work. It is therefore important that answers be returned promptly, in order that the concensus of opinion can be placed before the whole committee at the earliest time possible.

Jacksonville, Ill., Feb. 20, 1893.

G. V. BLACK, *Chairman of Committee.*

Duties of the Committee on Nomenclature.

The nomenclature of any science is necessarily a growth. Therefore the duty of this committee is not to create a nomenclature, but rather to systematize the nomenclature that it may find in vogue. Word-making, further than supplying some minor deficiencies, is not in the line of its duty. When any considerable number of men become interested in a given subject, and begin to communicate with each other, they fall into the habit of using similar terms in their expressions of thought in regard to that subject, and especially, they come to use similar names for the objects, or subjects, of their discussion. Eventually they fall into the habit of naming similar things in names that possess certain similarities in meaning, in their endings, or in their prefixes. Finally they come naturally on some grouping of names that is suggested by similarities of subject, and in this way they begin the operation of classification. This is seen also in the inflection of the words of a language. Words are at first changed slightly to express a different shade of meaning, and by usage this becomes an established inflection. These inflections become the classifications of the shades of meaning of classes of words. The grammarian, in taking this up, studies the usage of the words, their inflections, their place in the sentence, their function in the expression of thought, and enunciates the laws of their use. This he calls grammar. He does not make a language. He only discovers the rules for the use of the words of the language, and enunciates them. What for? That there may be uniformity in the use of the language, and that writers and speakers may the better understand each other.

This is practically what this committee on nomenclature is set to do. Not to make a nomenclature, but to discover the laws toward which the usage of the technical words of dentistry is tending, and to enunciate those laws. In other words, to examine the nomenclature as it stands and provide rules by which its usage can be rendered regular, uniform and harmonious. While in many respects this is like forming a grammar of a language, it differs in that redundant words must be refused place. For it is found that different men have called the same things by different names, resulting in confusion, and some of these must be left out, and the rule established of calling a particular thing by a particular name. In doing this it is necessary to learn the tendency of the modes of expression, and to select of the many words offered by the habit of speech of the profession, such as will form an orderly system

of nomenclature that shall be as compact and terse as possible, and yet have sufficient flexibility under its rules to allow of indefinite expansion to cover the needs of future growth. In doing this it may be found best to supply a few words, or some inflections of words, to supply deficiencies and to render the nomenclature regular in form. Word-making should be strictly limited to this duty.

RELATED SCIENCES.

The last two decades have been times of great activity in the revision and correction of nomenclature in the several sciences, and very lately much has been done in zoology, botany, chemistry, and others, and the principle may be considered as established that representative bodies in any of the sciences have the right to legislate on this subject, and to control the forms of nomenclature used in their particular fields of work. When such a form of nomenclature is established by a fair majority its rules become binding upon all workers in that field. The penalty employed to enforce these rules is simple and effective. *Any book or writing in which the established rules of nomenclature are not observed shall not be recognized.* It is simply passed over in silence by all workers in that field of science, or it is definitely condemned.

But certain rights as to nomenclature are accorded to original workers in any field. Any one making a discovery has the right to *name* the result of that discovery. There is no prescription as to what the name shall be, only that it shall take the form prescribed, provided particular forms have been prescribed in the field to which the discovery belongs. Otherwise than this, the name proposed by an original worker must be received and recognized. No one has the right to change it. Neither has the man who has proposed it any more right to change it than any other person. It must stand. If it is found that there was a mistake, that the supposed discovery was a rediscovery of something that had been named, or if, in case of an instrument or other supposed useful object, the thing named goes out of use, or is found not useful, the name must be dropped—it lapses, and must not be applied to any other object or discovery.

As applicable to dental instruments, this principle may be illustrated in this way: Dr. Perry has invented and placed on the market certain instruments which he calls *Perry's separators*. The particular instruments he designates *A, B, C, D*. Afterward Dr. Perry found that other forms were needed, and he placed the forms *E* and *F* with those previously given the profession. All of this is according to the established rules of nomenclature in other fields of science. But if Dr. Perry should now find that another form is better than *F* for the purposes intended, he cannot withdraw that form and replace it with another named *F*. He can withdraw the *F* entirely and replace it with *G* or any other letter that may be chosen in the order that he has established. The meaning and usefulness of these rules and their application to

all forms of science, seems to be clear and commendable. For instance, in writing to-day I recommend Perry's separator *D*. A person who may read my writing next year, or at any after time, should know that the separator *D* is the same thing that I recommended. No man has the right to change that pattern and retain the name *D*, not even Dr. Perry. This law should extend to all dental instruments, and to everything else in dentistry. If Dr. Jones, in the course of his study, discovers a disease not before recognized, he should name that disease, and if he does so in accordance with the rules of nomenclature in pathology, the name should be recognized by all. But if it should be found that his supposed discovery was a mistake, that the condition named does not occur, then the name must not be used at all, for that or any other purpose. In other words, if a thing is dropped, its name must be dropped with it.

It is only by the enforcement of rules of this kind that confusion in names can be prevented. It becomes the duty of this committee, then, to follow the lines of procedure established by usage in other lines of science; and as far as possible to fit good and wholesome rules, already in use in other fields of work, to our own. The arbitrary formation of rules and unnecessary prescribing of words for use is to be avoided.

RIGHTS OF INDIVIDUALS.

In this work the rights of individuals must not be forgotten. For even after a system of nomenclature has been fixed in a particular field, some original worker may make discoveries that will give certain parts of the subject matter a very different aspect, requiring a different form of nomenclature to harmonize the new facts developed with associated facts. An instance of this is the discovery of certain insufficiencies of the muscles of the eye by Dr. Geo. Stevens, who proposed a new form of nomenclature covering this particular field. This was officially recognized by the Ophthalmic Section of the American Medical Association at its meeting in Washington in May, 1891, and is now in common use by ophthalmologists. This is a recognized means of the growth of a nomenclature in accord with the growth of science that cannot be abridged any longer than may be required for a general agreement as to the correctness of alleged discoveries. This refers to such discoveries as seem to require a nomenclature that will displace a previously established nomenclature in its particular field. Discoveries of lesser note and in which it is merely the acceptance of a new name, the new name is, if in harmony with the established nomenclature, accepted with the acknowledgement of the alleged fact without formality. This is simply a statement of the principles that are already established in the fields of scientific thought around us, and which should become an integral part of ours simply as common law.

THE RANGE OF THE COMMITTEE'S DUTY.

It is necessary that we be careful not to enter fields that do not belong to

us. Dentistry is a specialty among many related sciences, all of which may use the same thought in the same fields and in the same manner. As dentists we must deal with pathology ; but the prescribing of rules of nomenclature in pathology belongs to pathologists, and we must follow. Dental lesions must be named in accord with the rules the pathologists give us. But we have a right to demand that these rules be followed, and to interpret them so far as dental lesions are concerned. As to the names of medicines, we can do nothing more than to follow the rules of the general materia medica. In histology the histologists have control. The dental nomenclature of the general and comparative anatomists is clearly insufficient for our purposes, and we must necessarily form our own ; but in this we have no right to go beyond the teeth and their membranes. Having clearly the right to this, we control all that nomenclature based upon it, which includes nearly all of operative dentistry. Dental irregularities should have its own nomenclature. Prognathus and orthognathus jaws, as known by ethnologists, have nothing to do with mal-posed teeth. Prothetic dentistry, and crown and bridge-work also need our attention.

The naming of dental instruments, especially operating instruments, is one of the most important subjects with which we have to deal. There is no part of our professional vocabulary that is in such hopeless confusion. Indeed, with the exception of a few general terms, we have at present no words so generally understood as to enable us to transmit accurate ideas of instrument forms in spoken or written language. This confusion of instrument forms leads to unnecessary multiplication of them, and to confusion in instrumentation, rendering definite systems of operative procedure practically impossible.

In some fields of dentistry it may be doubtful if there is yet sufficient development to justify the formation of rules of nomenclature. An original worker may propose good forms of nomenclature to represent his discoveries, even in the absence of fixed rules, but generally the tendency of expression should be fairly defined by custom before a healthful system of nomenclature is likely to be arrived at as the work of a committee. If, however, the devotees of any science are in the habitual use of fixed terms for the better known parts of their work, it may be expected that those out-lying portions that are undergoing development will quickly fall into line. Therefore, these need not trouble us. What we, as dentists, now most need is a systematic nomenclature for the central mass of our work. If we can accomplish this we will have little difficulty with that which is to follow.

SHOULD A STRICTLY LATIN NOMENCLATURE BE OUR AIM?

This is a question that cannot be ignored, and it seems that it ought to be decided mostly by a close examination of the history of professional development. There is undoubtedly a large number of members of the profession to

whom a strictly Latin nomenclature would be most acceptable. But on the other hand, there is probably a much larger number who would be displeased with the Latin terminations, and who would adopt them with difficulty, if at all. It is desirable that dental nomenclature should become uniform in the different modern languages. This would seem to require us to adopt the Latin forms, though this may not be absolutely necessary.

The earlier dental writings were mostly in the Latin tongue, but later and before the beginning of the present century, writings in the vernacular languages began to be common. In all of these, however, most words that we would now regard as belonging to the nomenclature proper retained the Latin forms. But early in the present century the Latin terminations were generally dropped, and the terminations of the vernacular languages substituted. This change seems to have been coincident with the early formation of dental societies, and the effort to found dental schools. As the recognition of dentistry as a special branch of study spread, the use of the Latin terminations disappeared from dental books. Before that time most of those who wrote dental books were regularly educated medical men, writing for medical men, and they followed the habits of nomenclature peculiar to the medical literature of their time. Though many of those who wrote later were medical men, they were writing largely for a class of men, who, without medical training, were pushing into the field of dentistry, and were trying to lead them to a higher plane of intelligence on dental subjects. This seems to have had a large influence toward the dropping of the Latin forms. This effort at education was in a large degree successful, for, practically, it is mostly from this body of men without regular medical training that the dental profession has been developed.

We have, however, the Latin roots of our forefathers, and to-day the bulk of our English terms are anglicized Latin words. A similar condition exists in other modern languages. There are probably fewer Latin words in general use in the German language than in the English or French. The development of dentistry as an independent profession had its rise largely in America, and the stimulus to improvement has gone forth from America to other nations, and has carried with it much of the English nomenclature. This is especially true of that portion representing operative dentistry. It is not meant by this that the nomenclature in this department is at all complete in the English—far from it; neither are the words always used in the same form, but the same Latin roots are used. Many words used in the English have crept into, or were originally used in the French and German, each language using the same Latin root for a similar purpose, and providing it with vernacular inflections. Or in the German, at least, many are used in the English form with the German inflections added in the oblique cases. Indeed all of the words derived from the Latin used in the English, naming the teeth,

their parts, surfaces, etc., and most of those used in operative dentistry, may now be found in the French and German.

This being the direction of the present growth, is it wise to try to change the current back to the Latin terminations, or will it be best for all concerned to arrange the terms with reference to the use of the same Latin roots in the several languages, and upon the same general plan, each language using its own inflections? This, while not wholly in harmony with the professions and sciences about us, agrees substantially with the tendency plainly apparent in the latter half of the present century. Medical writings show less and less of the Latin inflections; and in the sciences the adoption of fixed terminations instead of the previous Latin inflections is rapidly becoming the rule.

If, for a common dental nomenclature, the plan of using the same Latin roots in the different languages with the endings and inflections of the language in which they are employed should be thought worthy, we should expect that a few vernacular words, where Latin roots are not available, would still be used in the different languages, as the English *groove*, the German *furche*, the French *sillon*. Or the English and French *surface*, and the German *flache*. Or the English *root*, German *wurtzel*, and French *racine*. But these cases would comprise but few words—too few to seriously effect the nomenclature. The arrangement of this will require the careful conference of those who are familiar with the needs of each language.

Perhaps the gravest objection that is likely to be urged against such a course is this: Dentistry is young among the professions, and, in a sense, is yet struggling for recognition as a learned profession. All of the older professions and sciences still retain a Latin nomenclature, or at least certain Latin forms that are recognized in the various languages. Now, for dentists to adopt a nomenclature in vernacular inflections seems to point out dentistry as an exception to the rule, and will not many persons therefore regard it as exhibiting less of learning on this account? And for this reason will it not fail to draw to its ranks men of equal education with those entering kindred professions? How much force there may be in this argument is uncertain.

THE SCHEME.

The scheme, then, that is suggested is, in its briefest statement, this:

1st. Use words derived from the Latin whenever available, making use of the root with the inflections peculiar to the language in which it is employed.

2d. When a word from the Latin is not available, agree upon a word from another language and use it in the same way.

3d. When the same word for use in the several languages is impracticable, select a word from each vernacular language. These should be as nearly as possible exactly translatable.

4th. The plan of the nomenclature must be the same in the several languages.

5th. Adopt such general rules employed in other sciences as may be adapted to the needs of dentistry.

Note.—1, 2 and 3 are meant to apply especially to *dental anatomy* and *operative dentistry*, but may be found available for other departments.

THE NOMENCLATURE.

The following pages are given as an illustration of a plan of working out the nomenclature under the scheme suggested. The rules proposed apply to other languages the same as to the English, and only require translation. It is desirable that every word, the use of which is in doubt, should receive full discussion.

DENTAL ANATOMY.

The second edition of Black's Dental Anatomy has just been issued, and in this especial attention has been given the subject of nomenclature, not only in its application to dental anatomy, but also to the anatomy from the standpoint of the needs of the dental profession in operative dentistry, and other branches of dental practice. In this there has been no considerable departure from the customs that prevail in the nomenclature of the comparative dental anatomists, except where it has been found necessary to be more minute in the descriptions of the teeth, and in the exclusion of many superfluous words. The words selected are, with a very few exceptions, common in dental literature. In selecting words from those in general use the effort has been to adopt those that were capable of the greatest variety of application by the adoption of the modes of inflection common to the English tongue. In this respect a few words have been assigned inflections not used before, and which are equally available in other modern languages. These are the adjectives ending in *al*, descriptive of the surfaces of the teeth. To them *ly* has been added to make them adverbs of direction for use instead of the words *up*, *upward*, *down*, *downward*, *in*, *inner*, *inward*, *out*, *outer*, *outward*, *back*, *backward*, *forward*, *posterior*, *anterior* and the like, the use of which has always been attended with difficulty, ambiguity and much confusion. The uses of these inflections will be more fully explained later. The *occluding* is the only one of the surfaces of the teeth that does not end in *al* as given in the Dental Anatomy. It is proposed now to derive an adjective from the participial form of the Latin word *occludo*. The anglicised adjective would be *occlusal*, agreeing in ending with labial, lingual, and the others; and may

also take the syllable *ly*, becoming an adverb of direction. This addition completes the list of names of the surfaces of the teeth in adjectives ending in *al* and taking the syllable *ly* as adverbs of direction, and makes all of this very important portion of the nomenclature perfectly regular in form. The uses of the word may be illustrated thus :

The *occluding* frame is for arranging the *occlusion* of artificial teeth, or so adjusting the *occlusal* surfaces of the upper and lower teeth that they will *occlude* properly. In the molar teeth we have many *occlusal* cavities, and occasional *occluso-buccal*, or *occluso-lingual* cavities. Often the *occluso-buccal* cavities are formed by the extension of a buccal decay *occlusally* until the *occlusal* enamel breaks down. Disto- and mesio-*occlusal* cavities are formed in like manner.

This makes up a usage list that is characteristic of the surface of the tooth which the word *occlusal* designates, standing as it does, centrally to the crown of the tooth.

The adjective *morsal*, derived from the Latin word *mordeo*, to bite, has recently been proposed by the editor of the *Cosmos* to take the place of the word *occluding*, and other words for the designation of that surface. In two respects this word is more applicable than any previously proposed, while its derivation is on the same plane as that of *occlusal*. *Morsal* would mean the biting surface, while *occlusal* means the closing surface, or the surface that shuts against and effects a closure, or *occlusion*. The word *morsal* also has the advantage of brevity, it being one syllable shorter than *occlusal*.

The word *morsal* has the disadvantage of being derived from a Latin word that is not domiciled in the modern languages in the original Latin meaning, certainly not in the English. The words derived from it found in English dictionaries are mostly little used, and when used, are used in a sense that hardly suggests the meaning of the word from which they are derived. Thus: *Mordant* is a fixative for a dye stuff; *Mordacious*, literally, given to biting, but used figuratively, meaning sarcastic, severe, scathing; *Mordication*, coroding, corosion, etc. The word *morsel*, a bit, or a bite of food, is the only word derived from *mordeo* which, in its modern usage, reflects the meaning of the Latin root. The word has the objection of being practically entirely new.

Morsal has not the advantage of the variety of inflection of *occlusion*, *occluding*, *occlusal*, etc., and its use could not displace all of these forms of the word from our nomenclature. Its adoption would therefore be only for a part of the uses of the word *occlusion*, and would really be adding another word to the list of technical terms.

When corrected by the use of one of these new terms to make terms descriptive of the surfaces of the teeth perfectly regular, and some other minor changes, the nomenclature used in the anatomy referred to will probably stand as the form to be adopted, unless further objection be offered than has yet appeared. In this case it becomes the key to the nomenclature in opera-

tive dentistry, for that should be based upon the anatomy. It is therefore suggested that the nomenclature given in the anatomy receive the careful scrutiny of the members of the committee.

CARIOUS CAVITIES.

Dr. Louis Jack's Classification, (American System). Cavities divided into three general divisions.

A SPECIMEN FROM THE LITERATURE.

1st. Those where there is easy direct approach to all parts of the cavity, and where the cavity is bounded by an unbroken wall, however irregular the outline may be.

2d. Those where the approach is more or less indirect, and when they are so situated that the instruments used for preparing and filling them cannot be applied at any (every) desired angle to the margins.

3d. *Compound Cavities*, which are produced generally by the union of two of the previous divisions, which is effected by the extension of the caries until confluence occurs.

The principal modifications of each of the divisions are caused by the extent of the decay, the weakness of margins and the conditions of extreme sensibility often accompanying dental caries.

These divisions he again divides as follows:

Class 1st.

- a* Defective sulci.
- b* Coronal cavities.
- c* Labial and buccal cavities.
- d* Palatal and lingual cavities.

Class 2d.

- a* Proximate cavities in the incisors and cuspids.
- b* Mesial cavities in bicuspid and molars.
- c* Distal cavities in bicuspid and molars.

Class 3d.—*Compound Cavities*.

- a* Proximate, with coronal surface, or cutting edge.
- b* Proximate with labial or buccal.
- c* Proximate, with palatal or lingual.

Attention is called to the foregoing classification, and to the *terms* used in its expression, for the purpose of illustrating further the range of the committee's work. With such classifications this committee has nothing to do. They are individual matters that may well be left to the discretion of every teacher. The *terms* used require our attention.

In this classification the phrase *compound cavity* is employed to represent one that occupies more than one surface of the tooth. The phrase *compound fracture*, as used in surgery, always refers to complication with injury of the soft parts, and some dental writers have used it in a similar sense, des-

ignating a cavity as compound when the pulp of the tooth is involved. This leads to confusion that needs authoritative correction. The tendency noticed in dental literature seems to be toward dropping this phrase, and it will probably be better to rule it out of the nomenclature because of its having been used in two distinct meanings. Other words available are *complicate*, *complex* and *composite*. The last of these seems to be the least objectionable. The words *simple cavities* and *composite cavities* may be used in a general way; the first indicating cavities that involve but one surface of a tooth, and the latter cavities that involve more than one surface. They should be used only when it is not desired to express the location of the cavity, or cavities; as in the phrases *simple cavities* in the molars, *composite cavities* in the bicuspid. For the closer designation of cavities the names given below should be used.

The other terms used in the specimen of classification come under the rules given below for the naming of cavities with which they may be compared.

NAMES OF CARIOUS CAVITIES.

In the study of the literature of the last half century the tendency observable is to designate cavities by the names of the surfaces of the teeth involved. The simplest, and at the same time the most adequate service will be to systematize the method in vogue, preserving such parts of the nomenclature as may be rendered useful, and only supplying deficiencies.

To this end the following rules are proposed:

Rule 1st. Carious cavities shall be designated by the names of the surfaces of the teeth in which they occur.

Note.—These names are: *Labial*, for the incisors and cuspids. *Buccal*, for the bicuspid and molars. *Lingual*, for all of the teeth, both upper and lower, discarding the word *palatal* entirely. *Mesial* and *distal*, for the proximate surfaces. *Occlusal*, for those surfaces that form the *occlusion*. Also the adjective form, *incisal*, may be used to designate the cutting edges, when occasion requires.

Rule 2d. When two or more surfaces are involved in the carious process and have become united, these names are rendered in compound words, giving the preference, first, to mesial and distal, as the prefixes, and, second, to occlusal. In doing this, drop the final *al* and add *o*, thus, disto-lingual, mesio-buccal, mesio-labial, occluso-buccal, occluso-lingual, etc. Note that *occluso-* as a cavity name is used only with *buccal* and *lingual*.

Note.—*Suggestions:*

1st. To require that the name of the surface originally involved, or that most involved, should be made the prefix.

2d. To require that *occluso-* be the prefix in all cases in which that surface is involved. This would include almost all composite cavities.

3d. To give no rule whatever as to which word should form the prefix.

4th. In literature there is now an evident tendency toward leaving out the hy-

phen from those compound words in which the second word begins with a consonant, thus: *Distolingual*, but *disto-occlusal*. Should this tendency be followed?

Each member of the committee should answer definitely as to his preference.

Rule 3d. When three or more surfaces are involved the first two are to be designated as in rule second, and the other surface or surfaces connected with it by *and*, thus: *Disto-occlusal and buccal cavity*.

Note.—It seems better not to undertake to compound these words in triplets, as: *disto-occluso-buccal cavity*. However, such compounds may be admitted, and they will probably become the rule as the forms become familiar.

Rule 4th. Cavities in the angles of the teeth are designated by the names of the angles, thus: *Disto-buccal angle cavity*. *Mesio-lingual angle cavity*.

Rule 5th. When there has been an extension of decay from a surface to, and involving a contiguous angle of the tooth it is designated by an added phrase, thus: *Distal-disto-buccal angle cavity*.

Rule 6th. When speaking of mesial and distal cavities collectively, the term *proximate cavities* should be used.

Besides these there are certain pit cavities that seem to merit special names, especially those of the buccal pits of the lower molars. These are quite different from the cavities occurring on the smooth portion of these surfaces, both in fact and in the results of the operation of filling. These should be distinguished as *buccal pit cavities*, and thus distinguished from *buccal cavities*.

The word *proximate*, as applied to the surfaces of the teeth, is to be used as a collective term applied to the surfaces generally, as, the proximate surfaces of the teeth, or, the proximate surfaces of a particular class of teeth; as the proximate surfaces of the incisors, or of the bicuspid, &c. It may also be used in the singular when it is not desired to point out a particular surface; as in the phrase: when filling a proximate surface. The word should not be used as sometimes seen in our literature, to point out particular surfaces; as in the phrase, posterior proximate surface. In this particular case the proper expression is, distal surface. In all cases the words distal and mesial should be used when a particular proximate surface is to be designated. Therefore *proximate* cannot be used in naming cavities except as specified in rule 6th.

From time to time several words have contested the place in which the word *proximate* is here employed. Such as *inter-dental*, *contiguous*, *posterior*, *anterior*, *back side*, *front side*, &c. All of these should be rigorously ruled out of our nomenclature. Besides these, several forms of the word proximate have appeared and are now used without much discrimination. These are, *proximal*, *approximal* and *approximate*. Of these, *approximal*, has probably attained the widest use, it having been introduced by Dr. James White, late editor of the *Cosmos*, and all, with a very few exceptions, of the communications to that influential journal have been made to conform to it by the editor.

Dr. White's reasons for the introduction of the word will be found in the *Cosmos*, together with some communications in regard to it, in the February and March numbers of 1880, which is the date of the beginning of its use. Before that time the editor of the *Cosmos* had as rigorously used the word *proximate* in its pages. The chairman of this committee has never been satisfied with this change, and as dental science has progressed toward a more systematic nomenclature this dissatisfaction has become more pronounced. The reasons may be briefly summed up as follows:

1st. The addition of the syllable *ap* adds nothing to the usefulness of the word, and is objectionable in that it renders it longer, and more cumbersome. The principal reason for its addition was that it made the word different in form from the word used in a similar but slightly different sense by botanists, which is not considered a valid reason for a change of form.

2d. The addition of the syllable *ap* practically destroys the word for all of those uses in which prefixes play a part, or for the compounding of this with other words. This is illustrated by the compounds *inter-proximate*, as in *inter-proximate space*, *inter-proximate contact*, *inter-proximate gingivae*, *inter-proximate abrasion*, *inter-proximate lodgements*, and various compound phrases that may now be used, or may become useful in the future. The addition of the syllable is contrary to a rule that should always be observed in the selection of technical words where two or more are available. This rule is: When two or more words are available for use in a given sense the choice should fall on that word which gives the greatest range of inflectional and compound forms.

It is a wrong principle to use a word for one purpose and a totally different word for a closely similar purpose when an inflected word, or a word admitting a prefix, will answer both purposes as perfectly. This is illustrated by *approximal surface* and *inter-dental space*, instead of *proximate surface* and *inter-proximate space*. Such a course simplifies the nomenclature and renders it more compact.

WORDS USED IN THE DESCRIPTION OF CAVITIES.

Uniformity in the use of the principal words descriptive of carious cavities is next in importance to naming them, indeed is often even more important to an exact understanding of the meaning of an author. By the term, descriptive words, is meant, in this connection, those that indicate: 1st, Superficial extent in particular directions; 2d, Those denoting depth; 3d, Those denoting condition.

SUPERFICIAL EXTENT.

For the description of the superficial extent of carious cavities the adjective names of the surfaces of the teeth become adverbs of direction by adding *ly*. Thus: from mesial we have *mesially*; in a mesial direction. From distal, *distally*; in a distal direction; and also labially, buccally, lingually, and

occlusally. From gingival we have also *gingivally*; toward the gingival line.

Rule 7th. In describing the superficial extent of carious cavities use no words indicating direction or position on the teeth, except the names of the surfaces, the adverbs derived from those names, the divisions of the surfaces into thirds, or the anatomical names of parts or surface markings of the teeth; as the lobes, cusps, angles, ridges, grooves, pits, &c.

Example. The lower second molar has a distal cavity. It extends lingually fully to the disto-lingual angle, and buccally it extends past the disto-buccal angle, invading a small part of the distal third of the buccal surface. Occlusally there is still a strong enamel supported by a portion of sound dentin.* Gingivally the cavity extends to the gingival line across the whole extent of the distal surface.

Instead of the adverb ending in *ly*, used in this example, such phrases as *toward the distal*, *to the lingual*, *in the lingual direction*, may be used, though the use of the adverb is the more direct mode of speech and is generally to be preferred. In no case should the terms *outer side*, *inner side*, *backward*, *forward* and the like be used. Terms of this class have been much used in the past and have always given trouble on account of their ambiguity. The term *pit cavity* has been much used in the past for designating small cavities starting in the pits, and should be continued. But the use of the grooves, ridges, lobes and other surface markings for the designation of particular points on the surface of the teeth have never been much in vogue, though admirably fitted for the purpose.

DIVISION INTO THIRDS.

It has long been a custom in anatomy and surgery to divide the long bones into thirds to facilitate the description of particular parts. This is known as division into thirds. In dentistry this has never been used considerably, though it is occasionally seen in our literature. It is capable of very useful employment in connection with rule 7th. For this purpose any one of the surfaces of a tooth may be divided in either one of two directions, or in both directions. The occlusal surface may be divided bucco-lingually or mesio-distally. The buccal surface may be divided mesio-distally or occluso-lingually, and the mesial, distal and lingual surfaces may be similarly divided. The use of these divisions may be illustrated by the following:

Example. The lower first molar has a mesio-occlusal cavity which involves the middle third of the mesial surface bucco-lingually, and extends gingivally a little past the junction of the middle and gingival third. Of the occlusal surface it involves the middle third bucco-lingually, and extends distally to the center of the middle third, or to the central pit.

* Following the recommendation of the recent committee of the A. A. A. S. on the spelling of chemical terms, the final *e* is left off the word *dentin*.

DEPTH OF CAVITIES.

The technical language of the profession has developed but few words denoting the depth of cavities, and the usage of these is very indefinite. The practice most common in our literature is to speak of cavities as *superficial*, *shallow* or *deep*, without qualification or further definition of these terms. Thus they give no definite idea. The only limit to the term *deep*, seems to be that the pulp of the tooth is not exposed, for when that is the case it is generally expressed. The only plan suggested as a remedy for this lack of exactness in expression is that in use in the French language, of which the following is a modification:

Caries is considered to be of the 1st, 2d, 3d, 4th or 5th degree as regards penetration. Caries of the first degree is confined to the enamel, the dentin not yet being penetrated. Caries of the second degree has entered the dentin and has begun to spread. Caries of the third degree has penetrated fully half the thickness of the dentin. Caries of the fourth degree has not penetrated the dentin exposing the pulp of the tooth, but has approached it so closely that it is regarded as in imminent danger. Caries of the fifth degree has penetrated the dentin and exposed the pulp. This matter of degree refers entirely to depth, and has no relation to the extent of the caries in other directions. The general use of this form of expression would be a great improvement on the modes at present in use. If, however, suitable words could be suggested and invested with as definite meanings, they would be preferable. Such words do not seem to be available. In the English we might use the terms *superficial* for caries confined to the enamel; *shallow* for caries that has just entered the dentin; *medium* for that of the third degree; *deep* when the pulp is very nearly exposed, and *pulp exposed*. But these terms are not suited for exact usage. Suggestions on this subject are desired. It seems probable that some entirely new form of nomenclature that will displace what little there is of the ineffective words in use will most likely become effective.

CONDITIONS OF CAVITIES.

The literature of the profession is very poor in words expressive of the condition of cavities. The matter of hyperæsthesia is most often spoken of, and as we have no acceptable adjective form of word to express this condition, many forms of speech have been applied, and apparently none have been satisfactory. The most common expression is *sensitive dentin*, used to express the idea that the dentin is more sensitive than it ought, normally, to be. We often hear, and see in writing the expressions, *sensitive cavity*, *sensible cavity*, *sensible dentin*, *sensitive tooth*, the cavity is very *sensitive*, etc. In most cases either the word sensitive or sensible is used in some connection to express the idea of a greater or lesser degree of hyperaesthesia. Now a certain degree of pain is normal to the dentin when subjected to the action of

cutting instruments, and the use of these words is to express a condition in which this sensation is pathologically exalted. They are therefore incorrectly used. They do not express that which is intended, and we have no adjective that does express it. This should be supplied, but it is doubtful if it can be done successfully. The term *hypersensal* (dentin) would be perfectly legitimate, and a better form of word. Still *sensal* is not in use at all, and that is an objection that should have due weight, but the prefix *hyper* should be insisted upon if the word sensitive is to be used in that sense.

The word *hyperæsthesal* as an adjective form derived direct from the noun *hyperæsthesia*, would be more correct than hypersensitive, for it conveys a distinct idea of pain, which is the condition that is intended to be expressed. Indeed, no objection could be urged to the phrase *hyperæsthesal dentin* so far as the fitting of the meaning of the term to the condition is concerned.

The term hypo-sensitive or hypo-sensal dentin should be used to express that very important condition in which the dentin has lost a portion of its normal sensation when subjected to the action of cutting instruments. The words expressing the varying conditions of the caries are equally unsatisfactory and unpromising, but withal much less important.

ADDENDUM.

It is proposed that every subject in dentistry be studied, item by item with reference to the nomenclature in use as herein illustrated and the best possible recommendations made, and it is expected that each member of the committee will take up some portion of the work. Of course the whole of this work cannot be completed before the time of the meeting of the Congress, but it is highly desirable that it proceed sufficiently to demonstrate the fitness or unfitness of the scheme or schemes suggested.