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REMARKS AND RECOMMENDATIONS

ON THE

PROFESSIONAL EDUCATION

OF

DENTISTS.

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REMARKS, &c.

It is probably known to many of the readers of the *New-York Journal of Medicine*, that that branch of the medical profession, more immediately appertaining to the practice of dentistry, has recently been brought prominently before the public, by a distinguished practitioner of Philadelphia, Dr. Gardette, and that whatever differences of opinion there may be as to the views he sets forth, there can be none as to the elevated and disinterested motives by which he is actuated. As might have been expected, his views and positions have been warmly assailed by an able and experienced controversialist, Dr. Harris, of Baltimore.

Now, the chief object of the present communication is not so much to take part in this controversy, which is in the hands of those who are abundantly able fully to illustrate and sustain the views which they have respectively assumed, as to spread abroad the impressions which a number of years of practical experience have presented themselves to the writer's mind, and which may tend to give increased interest and importance to the controversy itself, and possibly, too, to throw such light upon the topics under discussion as may lead to a clearer understanding, and a more just appreciation and decision upon the points at issue.

It is the purpose of the writer to show, that in the practice of dentistry, a thorough knowledge of medicine and surgery is absolutely essential to enable the practitioner clearly to understand and successfully to treat the cases which are constantly coming under his care, sometimes demanding all the skill, experience and acquirements which the most accomplished practitioner is capable of attaining.

That this may be the more fully demonstrated, and easily and clearly understood, it is proposed to treat first, of medical dentistry; secondly, of surgical dentistry; thirdly, of mechanical dentistry; and fourthly, of that course of professional education, by which these several branches can be best acquired and combined; which, with some remarks upon the mode in which this is now endeavored to be attained, will close this communication.

1st. *Of medical dentistry.*—It is a position, the correctness of which will be at once admitted, that in all general derangements of the system, and of local ones also, where the system becomes sympathetically involved, be they short or protracted, mild or severe, characteristic alterations and in the same ratio, are produced upon all the soft parts of the mouth. The altered actions of the several portions, resulting from disease, particularly of the stomach, or of any part of the mucous membrane, are by no signs more decidedly indicated, than by the changed sensations and altered aspect of the lining membrane of the mouth and tongue; hence the universal custom, in all deviations from health, of an examination of this latter organ, from the accuracy of the information it communicates, and from the greater facility with which it can be exposed for inspection. Whatever be the character or severity of this deranged state of the mucous membrane and soft parts of the mouth, the teeth, from their immediate connection with those parts, are necessarily exposed to, and are materially and injuriously influenced by those changes, be they mild or otherwise; whether from altered secretions of the parts, consequent upon derangement of distant organs, or simply from local irritation and inflammation; or, as frequently happens, from both these causes combined. These are fruitful sources of evil consequences to the teeth, in all stages of existence. It may be proper here to remark, that as the degree of capability of resisting injurious influences on the teeth varies almost in every individual, so likewise does it vary in the same individual at different periods of his age. When the teeth first appear through the gums, they are softer in their texture than as the individual advances in years; so that in old age, they become, where they have been originally healthily formed, extremely hard; consequently, the same deleterious influences, if applied while young, produce infinitely more serious evils than they could do at a later period of life. Hence the necessity of greater attention to the health, at this particular period, on account of the teeth, even though these be perfect in

their development. But, if, as most frequently happens, there are imperfections in their formation, and that perchance the health of the person be delicate or precarious, the closest personal and professional care and attention will be needed for their preservation. Not only does all observation and experience fully sustain the correctness of the foregoing remarks, but they establish, with equally unerring certainty, the destructive effects which all deviations from the standard of health exercise upon those important organs. Indeed, there are probably no two facts more popularly associated together, or more unequivocally correct in themselves, as cause and effect, than with bad health to have bad teeth. The influence of a healthy or diseased state of the system is in no particular more decidedly manifested, than upon the organs of mastication. Hence the obvious and absolute necessity that the practitioner who undertakes to treat the diseases of the one, should be familiar with the causes, their character, variety, &c., &c., which produce them in the other. It is true, that with the public and with most professional men, an equally popular, though erroneous impression prevails, that the medicines prescribed in the treatment of diseases, are mainly the causes of the defective teeth, so constantly met with, where the health has been disordered, and medicines necessarily administered. Upon this prejudice homœopathy rests one of its most plausible claims to superiority and to the public confidence, by assuming, that as it is the large quantities and active properties of the medicines administered to the sick, in all other modes of treatment, which are the chief, if not the only cause of the imperfections in the teeth so generally observed after attacks of illness, it follows, that as their doses are both small and mild, they cannot exert any injurious influence whatever upon these organs. The facts of the case, however, are directly the reverse. For be it remembered, that it is the *disease*, and not the *remedies*, which act so mischievously upon the teeth; and so far, therefore, as the practice of this delusion tends, from its inert and injudicious treatment, unnecessarily to prolong or to aggravate the disease, in the same proportion is it more detrimental to the health and durability of the teeth. As to the unfavorable action of medicines upon those organs, it is a somewhat singular circumstance, that it should have been so very generally overlooked; but it is nevertheless true, that in the whole list of the *materia medicæ*, there are but two classes of articles which exert any objectionable agency what-

ever upon them. The one directly, as in the employment of acids for remedial purposes, and the other indirectly, as in violent and long continued salivation, causing the alveolar processes to be destroyed, the teeth to become loose or to fall out, and from the altered character of the secretions of the mouth, to originate decay about the necks and exposed bony surfaces of the teeth, and rapidly to extend decay wherever it had pre-existed. Its tendency, too, to develop other diseases, particularly of a scrofulous character, should also be enumerated among the indirect causes of its being prejudicial to their durability. The practice of severe salivation being now, however, entirely abandoned for the milder form of treatment, which requires merely, that peculiar odour of the breath, or metallic taste in the mouth, as evidence that the system is under the influence of the medicine, and to which extent no injurious effects upon the teeth, or their appendages, will be occasioned, cannot be fairly advanced as one of the objectionable causes, to which allusion has been made; and when, with proper precautions, which are easily observed, the injurious action of acids upon the teeth can be wholly prevented, this wide spread prejudice may be safely asserted to be entirely groundless. It is therefore manifest that the valuable services of the most useful class in the community, are often greatly underrated, and sometimes severely censured for consequences which they had no agency whatever in producing. But while the medical profession is justly vindicated from the charge of producing by their medicines, including acids and mercurials, those injurious effects upon the teeth, which are unquestionably caused by other influences, the effects of the latter medicines (mercurials) when carried to excess, afford additional and conclusive testimony of what it is the chief purport of the present remarks to illustrate and to sustain, viz., the immediate and powerful influence for good or for evil, which the action of the soft parts of the mouth exercise upon the teeth themselves, in health or under disease.

From the consideration that in all general derangements of the system, whether idiopathic or symptomatic, the lining membrane of the mouth, and the connecting soft parts, partake likewise of this altered action, as set forth in the preceding statements, and that this again often materially implicates the teeth, we pass to a more practical illustration of some of the consequences of those changes, for the purpose of still farther strengthening the position here assumed. Among the variety of those

changes there are some so stealthy in their commencement and early progress, as scarcely to attract any attention from the patients themselves, until the durability of their teeth, or at least of many of them, is seriously compromised. The changed secretions of the mouth, seeming gradually, but constantly, to soften and penetrate into the substance of the teeth, until considerable portions of their bony structure are entirely disorganized. There are others, again, connected with derangements of the stomach, and depending upon or excited into action by the changes in the weather, and which are of very frequent occurrence, attended with a good deal of pain and irritation of the soft parts of the mouth, sometimes developing pretty active inflammation in those parts, producing very serious annoyance, and not unfrequently great pain and suffering, apparently in the teeth themselves, and which is much aggravated by any attempt to use the teeth for the ordinary purposes for which they are intended. Under such circumstances, the dentist is at once applied to, from the very natural inference, that such cases come more appropriately within his province. If he be without medical knowledge, and that perchance no defect can be discovered in the teeth, the patient is very coolly told that nothing of consequence is the matter with him, and that with time and patience, all annoyance will gradually subside. But if, unfortunately, some of his teeth are found to be decaying, and which most frequently happens, the mere mechanical or imperfectly medically educated operator, goes to work at once filling and filing, scraping and extracting, aggravating and procrastinating tenfold the patient's suffering, ultimately ending, in a great many instances, in swellings and ulcerations of the gums, and the loss of one, or it may be of several of his teeth. Every experienced practitioner of dentistry, whose professional acquirements correspond with what the public has a right to expect, is constantly called upon for advice and relief in such cases, and must be forcibly struck with the woeful mismanagement, which, in numberless instances, befall the poor patients, from the ignorance or incompetency of those to whom they may have applied; for the least evil that can happen to them in such hands, is to be let alone. The educated and intelligent practitioner of dentistry, however, while he sees the impropriety of any present operations, as certain to produce aggravated sufferings, will at once be able to prescribe the necessary remedies for his immediate and effectual relief; or if the case be one complicated

with much general derangement of the system or otherwise, beyond the responsibility which he ought to assume, and which if he be duly qualified for the position in which he is placed, he will have no difficulty in ascertaining, he will promptly direct his patient to the care and advice of his more experienced medical practitioners.

It would be an endless task to begin to enumerate but a tithe of the derangements of the system, in which the complication here indicated may and does occur. Every medical man will perceive them at a glance; but as a familiar and forcible illustration, and one of frequent occurrence, in which medical acquirements are so essential to the practitioner of dentistry, the influenza, with which, both in spring and fall, we are so regularly visited, may be justly presented as a striking example.

In these cases, the attack usually commences with slight irritation about the fauces; and on looking into the back part of the mouth, the edges of the anterior and posterior arches of the soft palate appear more or less inflamed, the inflammation extending frequently to the uvula, which is generally and sometimes considerably elongated. Soon fits of sneezing occur, with watery dejections from the eyes and nose, and a sense of uneasiness and fullness across the eyebrows and forehead. It now goes on rapidly to develop itself, and the progress of the attack, particularly if severe, is marked by a suspension of mucous secretions from the frontal sinuses and antrums, with a sense of weight and great uneasiness about those regions. Shooting pains begin to be felt through the temples and cheeks and sockets of the teeth, the latter seeming to be elongated or forced out of their sockets for some distance; are loose to the touch, and so very sore and sensitive that they cannot be pressed together without severe pain, and to masticate the food is an utter impossibility. Indeed, the force of the disease seems to be often concentrated upon these organs. At night, particularly, the pain in or about their sockets is most intense, precluding all possibility of sleep, the greater part of the night being frequently passed in pacing the room, until at length, from sheer fatigue and exhaustion, the patient throws himself on his bed, and falls into a short but unrefreshing slumber.

It is at this stage of the complaint that the dentist is usually called on; and if he be deficient in medical intelligence, and particularly if the teeth be at all defective, and it more frequently happens that they are so, more or less, the poor patient is at once subjected to a routine of operations, at a time and under circum-

stances when none at all are admissible, and which are always attended with increased torture at the time, and certain to be followed by a long train of sufferings and evils, by no means easy effectually to remove.

The increased severity of the disease at night is doubtless owing to the greater determination of blood to the head in the recumbent posture, and the warmth of the bed almost invariably adds additional fuel to the flame. Whenever the patient complains of having been kept awake at night, this itself will be found a distinguishing symptom, indicating active inflammation of those parts, from simple exposure and irritation of the nerve of a tooth, and when depletion by general means will be essentially necessary, as by the use of active purgatives, and after the bowels have been freely evacuated, if much pain be still felt in the part, then from three to six leeches *on the gums* will give very decided relief; but in some very severe cases, the bowels being still kept soluble, local irritants, as synapisms, or even fly blisters behind the ears, may be used with great advantage, effectually to remove the inflammation, and entirely to subdue all irritation. Pedeluvia, before depletion, will be found to be objectionable, but after this has been generally and locally employed, they act very favorably. Change of position from a recumbent to an upright posture, will generally moderate considerably the pain, though when the attack has fairly set in, this will not always, or at least for some time, mitigate much its intensity. During the day, and while erect, the patient feels much easier; but after taking food, particularly of an exciting or stimulating nature, the pain is very apt again to recur, but more particularly on retiring to bed, it is sure to run the same course as before; and this is night after night repeated, until the remedies remove the disease, or the attack wears itself out, and the patient is gradually restored to his accustomed good health. In cases as acute as is here presented, the pulse, for the first two or three days, is a good deal accelerated, but is more of a nervous than of a congestive character. The skin is heated and dry, with frequent sensations of flushing. It is not, however, so much for the purpose of giving minutely the symptoms or treatment of this form of complaint, that the foregoing details have been entered upon, as to show, that besides the derangements which attack those organs, and their appendages, requiring the mechanical dexterity of the dentist, they are likewise subject to devia-

tions from health, so grave as to require, in their treatment, the nicest medical discrimination, and in some instances, as will be presently shown, so complicated, as quite as much to embarrass, even the experienced medical practitioner, as they are entirely beyond the comprehension of the mere mechanical manipulator in dentistry.

As the most useful and probably satisfactory mode of illustrating and sustaining the correctness of the foregoing views, the following cases are given, as taken from many of a similar character, which have from time to time fallen under the observation and professional attention of the writer, and which are such as all practicing dentists, be they medically educated or not, are frequently solicited to advise upon and to treat.

Case of Mr. P. S.—He is 28 years of age; has always enjoyed excellent health until attacked by his present complaint, from which he has endured, for a long time past, severe physical and mental suffering. The former from the frequently recurring and sometimes intense pain, and the latter, because he feared that from the inability of his medical advisers to reach the seat or comprehend the cause of his disease, and the little benefit derived from the various remedies employed, some malady of an incurable character, was gradually but steadily undermining his health, and must ultimately and utterly destroy his constitution.

His illness began some eighteen months ago, with shooting pain on the left side of his face, between the angle of the lower jaw and the ear. At first it annoyed him chiefly at night, leaving, during the day, a sensation of soreness in the parts, particularly when rubbed. It soon spread, however, extending over the side of the face and head, and down the neck to the shoulder. The attacks now became spasmodic, and intensely painful, recurring during the day, as well as at night, the latter being repeatedly passed without sleep or rest of any kind. His medical adviser, considering it an inflammatory neuralgic affection, in one of rather a full habit, with a good deal of excitement, whether a cause or consequence, or both, of his disease, which partook very much of the character of inflammatory rheumatism, put him under a course of pretty active purgatives, local depletion by leeches, local irritants, low diet and rest. This course was pursued until he had become considerably enfeebled, but his sufferings seemed rather to augment than to be diminished; at least there was no alleviation of the local troubles, and as he became

weaker, his nervous system was much more sensitive, and consequently he felt the pain from the disease more acutely. No benefit resulting from this mode of treatment, he was directed to have his teeth closely examined, to ascertain if the root of the evil might not be there located. He had had them put thoroughly in order shortly before the commencement of this complaint, and on the affected side, the lower back tooth, which had been filled at that time, was very sensitive during the operation, but not more so than several others elsewhere located, which had been, likewise, at the same time, operated upon. The result of this examination was, the unqualified opinion of the dentist, (a mere mechanical one,) that his teeth had no agency in producing, nor were they in any way connected with his disease.

He was now put on a course of strengthening medicines, as columbo, valerian and gentian, &c., and nourishing diet, under which there seemed to be an improvement, though occasionally he would have very violent returns of pain. He continued to get better, for two months or more, when it again and suddenly returned with all its wonted severity. As it now seemed to assume more of a periodic character, he was put on the use of quinine. Fowler's solution was in addition tried, as well as other medicines of this class, with the effect of seeming to control the complaint for a while, when it would again return with increased violence. With these remedies, a variety of others, chiefly of a local character, were had recourse to, during the severest periods of the paroxysms, the suggestions of sympathising friends and experienced nurses. The state of the weather had obviously considerable influence upon it. When that changed suddenly to cold and damp, the attacks were decidedly worse. At one time it appeared to have passed away, more from wearing itself out than from any controlling influence pertaining to any of the articles which were, from first to last, employed in the endeavor to overcome it. This calm proved, however, to be but of short duration, for it very soon returned with all its former severity, without any apparent exciting cause, except it was from having taken a slight cold. From that time to the present he has seldom been entirely free from it for any lengthened period; the best medical aid seemed to be powerless in subduing it. As might be supposed, his health began seriously to suffer, not more from the effects of the disease and the variety and severity of the remedies employed, than from the mental anxiety and distress in the ap-

prebension that he was henceforth to be burdened with some lingering, and painful and incurable malady. So entirely had either medicines or dentistry heretofore failed in affording him any relief, that his calling upon me, was more from a kind of forlorn hope, a catching at straws—that some benefit might be possibly obtained, than from any confident feeling that such was at all likely to be the case.

After duly weighing all the circumstances of this interesting case, as here given, the first inference which forced itself upon the mind, was, that previous to the operations on his teeth, he had no inconvenience whatever, and that his system, up to that period, was in a perfectly healthy condition. Nor after the most minute examination was there any good reason for supposing that his disease was caused or kept up by any constitutional difficulty, all the functions being as regularly and as healthily performed as could be expected, under his present and past state of nervous sensitiveness and excitement. As the attacks of pain always began on the left side of the face, and about the same spot, or near to it, and as this was quite in the vicinity of a tooth which had been operated upon immediately before his malady appeared, and likewise, as it was during their existence, exceedingly painful, suspicion was naturally attracted to this point. On examining this tooth closely, it was obvious, to the experienced eye, that a diseased state of its internal pulp existed, which, of itself, was sufficient to cause and to account for all that he had suffered. This conclusion was warranted—1st. Because, up to the time of the operations on his teeth, his health had been perfectly good, without ache or pain of any kind. 2d. While this particular tooth was being operated upon, it was exceedingly sensitive. 3d. Whenever afterwards, the painful spasms came on, they always commenced in this particular location. 4th. There was not now any more cause, general or local, from derangement in his system for the disease in question, than before it first made its appearance, except the one to which it is particularly attributed. 5th. The evidence which the appearance of the tooth itself afforded of internal disease; and, 6th. Experience having repeatedly presented cases and consequences in many particulars extremely similar; so much so, as to induce the opinion given to the patient, at the first interview, and without having made any examination of the parts, that this tooth would be found to be the sole cause of all he had endured. On removing the filling

from it, the correctness of the opinion was fully verified. It had been filled very carefully with an amalgam of silver and quick-silver, and so far as the filling was concerned, had occasioned no injurious influence or irritation whatever. But on taking out this filling, all obscurity was at once cleared up. When operated upon before, the decay was found to have penetrated so deep as probably to have reached, or nearly so, the internal canal of the tooth. Of this the operator had been warned by the depth and direction of the decay, as well as the peculiar character of the pain while operating; he therefore desisted, before removing all the caries, and filled the cavity carefully. The caries, however, continued to progress, and if it had not then, it soon did reach the organized pulp within the canal of the tooth. The contact of this carious matter always produces irritation of this pulp substance, followed by inflammation, and ultimately by its total disorganization. This is sometimes slow in being accomplished, while in others it takes place very rapidly. It often, too, proceeds with little or no sensation or uneasiness to the patient, while, again, its progress is marked by a great deal of severe pain and suffering. But the most singular peculiarity, and one often met with in such cases, and some others, which will be presently noticed, and which, when it does occur, involves them in much obscurity, and adds greatly to the difficulty of a correct diagnosis, is the fact, that the sensation of pain, instead of being felt where the cause of irritation is applied, and where the irritation itself exists, is at a point more or less distant, and where no local evidence of disease can be detected. All experienced and observant practitioners are familiar with the circumstance that often, while operating upon a tooth, particularly in those of nervous temperament, it is by no means uncommon for them to refer the sensation, even though it be a very painful one, to a tooth distant from the one under treatment, in which there is no peculiar feeling whatever; the sensation being sometimes referred to a tooth in the opposite jaw, the point of impression and that of recognition being different, and often quite distant. So was it in the present case.

After taking out the filling, and pressing upon the soft decayed surface beneath, a severe spasm, such as he had been accustomed to experience, was instantly excited. This was likewise the case while removing the decay; whenever the instrument pressed upon this spot, a repetition of this severe nervous spasm was invaria-

bly produced, causing the patient to exclaim, "that is the seat and source of all the agony I have endured!" After carefully removing all the carious bone, the internal pulp was entirely exposed and clearly visible, and its appearance fully indicated the cause of all that the patient had suffered. Immediately under where the bone above was in a state of caries, a small portion of the pulp was in a state of disorganization, of a dark color, fætid odor, and a discolored watery matter oozed out. All doubt was now removed, as to the cause, character and mode of cure of the case. With the oozing out of this discolored watery discharge, he expressed himself entirely relieved from every uneasy sensation, unless the part was pressed upon. The moisture now discharged, had no doubt kept up slight pressure upon the pulp, morbidly sensitive as it was, from the presence and contact of this diseased and disorganized portion, which was all sufficient to produce the painful spasmodic attacks he had so long endured, and which this slight watery discharge entirely relieved, as he experienced no more uneasiness from it, unless it was touched; with directions to put a small quantity of tannin, on a little piece of moist cotton, very lightly into the cavity, twice a day, he was dismissed for Newport, to recruit his health, and from which he returned in about eight weeks, so rosy, robust and cheerful, as scarcely to be recognised. He had not had the slightest sensation of pain, either in the tooth or elsewhere during his absence, and on examination, the internal pulp of the tooth was found to be totally destroyed. This was carefully and entirely cleaned out, and the cavity accurately filled. From that time forward, there is good reason to believe, that he has had no farther annoyance whatever. Here, it must be admitted, is a very satisfactory illustration of the inability of the medical practitioner, with all the aid of the mere mechanical dentist, to cope with cases of such and similar character. That which follows is intended to show how inaccurate are the views, and injurious the practice, of medical men, in cases left entirely to their control, but which more properly belong to the dentist, merely observing that it is one of very common occurrence.

Was consulted by Miss —, as to the character of a swelling on the right side of the inferior maxillary bone, chiefly about the root of the second bicuspid, and extending some distance each way. It was quite hard, except in the centre, which indicated something of fluctuation, and was here somewhat tender to pres-

sure, but elsewhere it was not so. This bicuspid tooth was very much decayed, and the internal vessels or pulp entirely disorganized. Some weeks previous she was attacked with severe pain on this side of the face. At night, particularly, it was so intense as to preclude all possibility of sleep, and this recurred several nights in succession. This led her physician, to whom only she applied for relief, to the impression, that it was simply a neuralgic affection, of an intermittent character, as the parts did not present, he thought, sufficient *ocular* evidence of inflammation to account for the severity of the pain. He therefore put her under a course of quinine, in pretty ample doses, for several days, not only without relief, but being each succeeding day decidedly worse, until finally it commenced swelling, and as this increased, the pain gradually and entirely subsided. Her anxiety as to the character of this swelling was much augmented, from having had a similar state of things some two or three years previous, at the roots of the second tooth behind the one now the seat of disease, and which finally opened through the lower part of the cheek, and on the outside of the face, accompanied with a discharge which could not be cured but by extracting the tooth, and causing a very unsightly scar for ever after. In the present instance, as well as in the former, what should have been done, was not done, and what was done, was wrong. The following case exhibits the sad consequences resulting from the treatment by a dentist of unquestionable mechanical dexterity, but without medical or surgical skill or acquirements.

Was requested to visit, in consultation with her surgical adviser, a very eminent one, Miss H., who had been suffering from an affection of the right side of her face for nearly three months, and notwithstanding every effort of her dentist for her relief, and who had been in attendance from the commencement of her attack, she was growing obviously and every day decidedly worse. By direction of her surgeon, who had but recently seen her, leeches had been applied to the cheek to reduce the swelling, and the bite of one of them had opened into an abscess under the eye, from which a copious discharge of pus issued, and which had been constantly augmenting in quantity. Previous to the discharge under the eye, matter had issued from different openings in the gums of that side. On looking into her mouth, a sad spectacle presented itself. *All her front upper teeth, including the first bicuspid on the left side, and first and second bicuspid and*

first large molar tooth on the right side, had been, one after another, extracted, by her dentist, under a hope, as he expressed it, that each one might turn out to be the cause of the disease, and by such removal the complaint be cured. The soft parts were greatly swollen from the effects of these several operations, and the disease growing constantly worse, from the inflammation which necessarily follows the extraction of such a large and continuous number of teeth. The sole cause and origin of the suffering of this unfortunate patient was located at the root of the right superior wisdom tooth, which, being extracted, the disease began at once to subside. While her dentist, being ignorant of the cause, character or symptoms of disease, and which a knowledge of medicine and surgery would have imparted to him, went on committing one error after another, until he had produced this unnecessarily dilapidated state of her mouth, her appearance and her health.

The first of the foregoing cases will show clearly enough the inability of the medical practitioner, aided though he be by the mere mechanical dentist, fully to comprehend, or successfully to treat diseases of such and of similar character. In the second instance is pointed out a class of complaints which more correctly come within the sphere of the educated dentist, but he must be fully instructed in all the requisites of his department. The practitioner of medicine is obviously incompetent to their management. In the third is exhibited the incapacity of the mere mechanical dentist even to comprehend, much less to prescribe, understandingly, for the treatment of diseases on which he is nevertheless constantly consulted. While by the dentist, whose course of study has made him familiar with the human system in health and in disease, local and general, such cases are treated with as much certainty, safety and success, as any other class of ailments can be by the most intelligent and experienced practitioners of medicine.

2d. On passing to the consideration of surgery, as forming a necessary element in the professional attainments of the dentist, we are forcibly struck with the effect of habit in familiarizing and thus reconciling our minds to what, in itself, is exceedingly inconsistent, if not altogether incorrect. While the uselessness of medical knowledge to the practitioner of dentistry is attempted to be maintained by those of weight and authority, at least on most other professional topics, the necessity of surgical know-

ledge to the dentist is very generally conceded, yet there is no hazard in asserting the impossibility of a thorough proficiency in surgery, unaided by or unconnected with a corresponding degree of medical acquirements, yet custom, and even authority require, that the dentist should possess the one, while it denies, in this case, the necessity of the other. If it were possible to make them two separate and distinct branches, and in their pursuit and application entirely independent of each other, and it were asked which of the two would be most useful to the public, and most needed by the dentist, the preference must at once be given to medicine. It is to cases coming under this department, that his attention is almost constantly required, and they are also more frequently the cause of, or otherwise complicated with, derangement of the whole system. While in those more strictly of a surgical character, professional advice is not so often sought for or necessary, unless, indeed the operations of filling, filing, cleaning the teeth, &c., &c., be classed under this head, but which more appropriately belong to the mechanical department. These remarks, however, must be understood as intended to show the comparative importance of the one over the other, but not that either can be under any circumstances dispensed with. In fact, that an intimate acquaintance with surgery is likewise necessary, in the practice of dentistry, it is the object of the following remarks to demonstrate.

That the mouth should be liable to a variety of diseases, frequently entirely local as to extent, is by no means singular, when we remember the vicissitudes of heat and cold, and the endless varieties and sometimes entirely opposite characters of the innumerable articles which constantly pass into it; add to this the causes of irritation and disease, of which the teeth are often either the exciting cause or the immediate source, and it will be but reasonable to expect that the soft parts of the mouth must often be the seat of derangement, sometimes very severe in its character. Of these, a very numerous class are consequent upon a disordered state of the system, particularly of the stomach or bowels, as has been elsewhere demonstrated, and which do not properly come under the head of surgery; but those which do belong to this division, are still numerous and complicated enough to call for, in their treatment, discrimination, intelligence and experience. When required to investigate the character, or account for the intense suffering so often experienced in the de-

rangements of those parts, both physicians and surgeons are too apt to overlook their peculiar anatomical structure, to permit them to arrive at clear or correct conclusions in those cases, and their mode of treatment is consequently too often injudicious and unsuccessful. The second case which has been detailed is, by no means, an exaggerated illustration of what but too frequently takes place where the physician or surgeon only directs the treatment. From the peculiar structure of those parts, some of the signs of inflammation, most obvious in tissues less dense and more yielding, are here so trifling or obscure, and the pain so intense, as to induce the attending physician to believe that it is chiefly an affection of the nerves, without any particular irritation or derangement in the parts immediately surrounding or connected with them. It is from this view of the matter that quinine and other tonics are so freely and frequently administered. It is, however, very generally a purely inflammatory affection, and, if the structure in which it is located was more yielding in its character, so that it could readily expand or swell, we should then have here, as in other pliable and more fleshy tissues, redness and swelling in proportion to the heat and pain; in fact, the pain would be less, as the pliability of the structure was greater. It is from this inability to expand, therefore, (supposing the cause of irritation to be equal,) that the pain in these cases is so much more intense, demanding, of course, the more prompt and free employment of depleting remedies. After the use of these means and the application of counter irritants, in some very nervous temperaments, especially if the affection has been of some duration, tonics are often useful in breaking a diseased habit, and will materially aid in restoring the parts to a healthy condition. Again, this same structure frequently leads to errors of opinion as to the character of the swelling and enlargements, which are not unfrequently here met with. The most intelligent and experienced surgical practitioners are sometimes entirely at fault in their diagnosis of them. The following case, which is by no means an isolated one, will so clearly illustrate the correctness of this position, as to render all argument in the matter entirely superfluous:

Was requested to assist at an operation for the removal of a malignant tumor, situated on the right superior maxillary bone, covering chiefly the external plate of the socket of the first molar tooth, in a child of about 12 years of age. Several medical and surgical gentlemen were present, and the operation was about

being proceeded with, when it was deemed necessary first to extract the first molar tooth and the eye tooth of the same side, it being intended to make a semi-circular section of the jaw, high enough to pass a little above the swelling. The writer assured the gentlemen present that there was nothing of a malignant character in the tumor, and that the only operation necessary was the removal of the molar tooth, together with a proper course of treatment to restore the child's health, which was very much disordered and enfeebled, when all evidence of disease would very soon and entirely pass away. They nevertheless still persisted in removing three of the teeth, and in cutting out a piece of the alveolar socket, but which would have been very soon absorbed, after the loss of the teeth. It was now found that the piece of socket cut away was *perfectly sound*. This effectually opened their eyes as to the true state of the case, and of course further proceedings were wisely deemed unnecessary. Now the error in diagnosis here, was owing to the peculiar character of this texture; had a tumor of similar feel and aspect been located in parts less dense and more yielding, there would have been more warrant for the opinion which had been given of the nature of this case, in the first instance. As the parts involved in the swelling were not removed by the operation, and as the child soon after fully recovered, the error in deciding the case to have been malignant, was made conclusive. As a dentist constantly sees these parts, under all their varied aspects of health and disease, if he has been made familiar with medicine and surgery, it would be very improbable that he could ever commit such serious mistakes. There are minor matters of constant occurrence, requiring, on the part of the dentist, the kind and extent of knowledge here contended for. The treatment of fistulous openings at the roots of teeth, which are constantly met with, demand an entirely different course from what in other branches of surgery would be necessary. The diseases of the gums, whether from local or general causes, involving, as they do, the loss or preservation of the teeth, as well by decay as by destruction of the alveolar sockets, forming a very extensive class, calling for a kind of knowledge which must not be expected from, and certainly will not be possessed by, the mere mechanical practitioner. The simple allusion to these matters must satisfy every intelligent mind that the education of the dentist must reach infinitely beyond the mere ends of his fingers, if the capabilities of

the profession are intended to be made fully available, and the interests of the public are duly and truly regarded.

2d. In taking up the third branch of inquiry, viz., mechanical dexterity and proficiency, as a requisite attainment in the education of a dentist, as its necessity is so obvious and so universally conceded, it might be supposed that very little need be said, or would be required under this head. There are, nevertheless, some very mistaken ideas entertained upon this subject, not merely by the public and even by the medical profession, but by the professors of dentistry themselves, and which makes it necessary, therefore, to discuss this matter somewhat at large.

It is a very commonly received, though exceedingly erroneous opinion, that mechanical ingenuity and dexterity are the chief, if not the only acquirements which are necessary to the successful practitioner of dentistry. That it is an essential auxiliary, is most certain, but that it is not the most difficult to acquire, nor the most important in practice, it is believed can be very clearly and conclusively established. On this point, the writer is particularly desirous of being clearly understood. The mechanical aptitude and tact which the most successful operator requires, is that which most persons, with ordinary dexterity and faithful application, can readily and certainly attain. It does not surpass, and probably on a fair comparison, scarcely equals that, without which a surgeon can never attain to the rank of a successful and an accomplished practitioner. In what more properly constitutes the mechanical department of dentistry, embracing mainly the setting and arranging of artificial teeth in all their details, as well as all operations upon the natural teeth, *in situ*, though most generally requiring a good deal of management and dexterity, and always the nicest attention to neatness and finish, yet it is always within certain limits which are of constant occurrence, so that the path, though with many deviations, seldom passes beyond certain bounds, all the peculiarities of which are so frequently met with, that a few years experience makes him necessarily familiar with them. It may be called a somewhat complicated, though it is a beaten path. In the pursuit of surgery, on the other hand, the mechanical requirements are by no means within similar bounds, and while their sphere is infinitely more extensive, and sometimes even more complicated, their dissimilarity, the one from the other, is equally apparent; nor are any of them met with sufficiently often in the most extensive individual practice,

to furnish an equal amount of experience, as in dentistry, in a given time.

In thus endeavoring to define the true relative position of mechanical to medical and surgical dentistry, it must not be understood as an intention to underrate its true value, inasmuch as a proficiency in this department is quite as essential to the duly qualified practitioner as in either of the other branches. But as higher mental qualifications, both natural and acquired, are requisite to obtain a knowledge of medicine and surgery, than in the mechanical department, and as the former, when fully understood and properly applied, are capable of conferring more important benefits in relieving or removing the evils inseparable from our organization, they necessarily take precedence in measuring the scale of importance to which each is respectively entitled.

Such, then, is an exposition of the attainments which every practitioner of dentistry should have acquired, before assuming the responsibilities which devolve upon him, in entering upon his professional career.

That those who present themselves before the public for their confidence and support, whose capabilities rest solely upon their mechanical expertness and ingenuity, are more than one-third educated, is to make a very liberal allowance for all that, in a professional point of view, they are entitled to; and that with all such (and they are but too numerous) a lamentable deficiency exists, is most certain, and which demands from those who can in a reasonable manner aid in mitigating or removing the evil, that they should be anxious, earnest and prompt in applying the remedy.

4th. In proceeding to point out the mode in which this can be most effectually accomplished, the fourth division of our subject is at once entered upon, viz.: in what manner that course of education, necessary to a practitioner of dentistry, can be best acquired.

As already indicated in the preceding pages, medicine and surgery, which rank first in importance and are most difficult to attain, should receive the largest portion of his time and attention; in fact, they should be as thoroughly mastered as if they were intended to constitute the chief objects of his future career. For it must be borne in mind, that after he has once entered upon his professional pursuits, and particularly when his time shall have become much occupied with its duties, his opportunities of

practical improvement and experience in those branches will necessarily become materially circumscribed, while the necessities for this kind of knowledge will be daily augmenting. He should, therefore, be the more diligent in gaining every possible degree of proficiency in them, while he may have the time and the opportunity. Having such objects in view, no one, it is presumed, will undertake to deny or to doubt, but that a well organized medical school affords the most efficient fountain from which the knowledge here indicated can be most effectually drawn. When it has been obtained, in accordance with the rules and requirements of our medical schools, he may be considered as having mastered full two-thirds of what should constitute his professional attainments. The next step in his career is the application of the principles he has now become familiar with, to the speciality to which it is his intention to devote himself; and here it is that the deficiency in our medical schools becomes apparent. There is not, it is believed, a medical school in the country, in which either of the professors of the practice of medicine or of surgery ever make the slightest allusion, in their lectures, to this speciality, the professors of anatomy being the only ones who touch at all upon the topic, and, for all practical purposes, the little they do say is altogether useless; in fact, it must be considered as totally neglected. That this is wrong, it is presumed, will not be doubted, but the extent to which it is so, notwithstanding all the arguments and illustrations contained in the preceding pages, is but faintly traced. Under our present imperfect system, therefore, when the student of dentistry has fully qualified himself, by attendance on lectures, in perfecting himself in the two branches of medicine and surgery, their practical application to the cases which constantly come under the care of the dentist, with all their peculiarities, which are neither few nor simple, and which have been elsewhere dwelt upon somewhat in detail, together with what appertains to the mechanical department, is now only to be had in the private office of the preceptor. Of the benefits to be obtained from this source, every one conversant with the study of medicine is perfectly familiar, and to the student of dentistry it is equally necessary and useful. But that there are also advantages in both departments, from public lectures, which no private office or instruction can afford, is equally undeniable. Of the very large number of those who practice this speciality, a great many, it is believed, never avail themselves of this source of improvement;

one cause of which, no doubt is, that their previous attainments have not been such as to enable them properly to estimate the usefulness, or even to comprehend the necessity of so doing, but the most influential one may, with great justice, be attributed to the facility with which those in the practice of the profession receive, as pupils, to instruct, *only in the mechanical department*, those who never have, nor ever intend properly to qualify themselves, either in medicine or surgery.

To the serious consideration of the trustees and faculties of our respective medical institutions, this subject strongly commends itself, for if the evil is ever to be corrected, it is by them only that it can be effectually done. If it should receive from them that attention to which, from its importance, it must be admitted that it is entitled, all these difficulties and impediments could be speedily and entirely removed, and this branch of the profession would be rendered infinitely more successful in practice, and more respectable in character, and far more extensively useful to the public.

The most obvious, and, it is believed, the only certain mode by which ends so desirable could be obtained, would be by constituting a professor who should give a regular and full course of lectures on this branch in our medical schools, and in this way, its true principles and correct practice would be as effectually inculcated, and its peculiarities and difficulties, whether medical, surgical or mechanical, as fully explained and as clearly demonstrated, as in that of any other department of medical science. The public, too, would soon draw the line of distinction between those who were, and those who were not properly qualified, simply because it is its interest to do so; and the effect would be, that charlatans and impostors would greatly diminish in this particular pursuit, if they did not entirely disappear. In fact, every reflecting mind must be perfectly satisfied, that in every department of human pursuit, but particularly in medical science, and through all its branches and ramifications, the surest safeguard to the public against injury or imposition, is in the inculcation and diffusion of intelligence, by means of a well organized system of instruction.

These are not the only considerations, however, which press upon the attention of our trustees and faculties, the advantage of a regular course of instruction on dentistry, in our medical seminaries. Of the very large number of students who resort to our medical schools, it is probable that two-thirds of them, possibly

more, become resident practitioners in the country, or in locations where duly qualified dentists are not to be met with, and consequently these physicians are constantly called upon for advice, and are frequently compelled to the performance of many operations in this branch, but with what benefit to the public, may be easily judged of from the entire want of all means of instruction on this subject, in all our medical colleges, as at present organized. This is a state of things so obviously wrong, that it ought not to be allowed to exist beyond a period when a remedy can be applied.

So far, too, from such an additional professorship decreasing the number of students, it is conceived that it might be so arranged as very materially to add to them.

Throughout the foregoing pages the position is so decidedly taken, of the entire want, up to the present period, of any efficient systematized course of instruction in dentistry, that a few remarks here, for the purpose of explanation and elucidation, it is hoped will not be considered misplaced or unnecessary.

It has been a leading object in the preceding remarks, to establish the paramount importance of a thorough acquaintance with medicine and surgery, as well as mechanical knowledge, to the practitioner in this particular branch, before he can be considered fully qualified for the performance of its duties.

As our medical schools are open to all who choose to resort to them, and as students of dentistry can there obtain far the most important part of their professional education, it is obvious, that to those who choose to take the time and pains, and can command the means, together with the aid of private instruction in the office of a preceptor, they have always had, and still have, the means to qualify themselves in this particular branch. But this is a much more circuitous, tedious and expensive mode of proceeding, than if it were attached, as already recommended, to our medical colleges, as a part of their regular course of education; and this no doubt has been, too, a very influential reason why it has not been oftener resorted to. But there is a much more serious disadvantage in the way than even this view of the matter presents. There is no compulsion as to the length of time the student shall pursue his preparatory studies; there is no examination to test the student's competency to become a practitioner, nor can the public look to any responsible and reliable source for evidence of the student's qualifications. It has not

been assumed, therefore, that an efficient course of education could not, heretofore, nor cannot now be obtained, because it would not be correct to do so, but that it has been, and still is, under such disadvantages, that very few have been induced to avail themselves of it. This is the less to be wondered at, when it is known, that in the face of these difficulties, the inducement is held out to students, by those in the practice of the profession, to give them instruction in their offices for a few months only, and then countenance, by the sanction of their names, these imperfectly educated students in presenting themselves professionally before the public. Such temptations are too strong to a large majority of students in their early educational career, to be resisted. And that such irregularities do prevail, to an immense extent, among a large number of those in the practice of this speciality, is too notorious to admit of doubt or denial.

While these restraining influences continue to operate, the difficulties complained of will continue to exist, and numberless uneducated practitioners will still be found to prevail.

Under the plea of remedying all these evils, what are termed dental colleges have been recently brought into existence. Conscious of the wants in this branch of the medical profession, and of the obvious inefficiency of a large number of those who appear in the capacity of its practitioners, and a belief taken, if not altogether for granted, certainly without sufficient investigation, that these institutions must necessarily remedy the deficiencies so generally felt and justly complained of, some of the members of the medical profession have accorded to them a degree of countenance and approbation, to which it can be easily shown, that they are by no means entitled. They come before the public with such confident promises and plausible pretensions, and as at present constituted, are so decidedly inefficient, that they are a greater drawback to improvement than if they had never existed. They profess to remedy an evil, which they most effectually and glaringly magnify. They hold out the idea of giving a complete and finished course of instruction on dentistry, while full two-thirds of what should be taught, and that the most important, too, viz., all the instruction which every medical school inculcates in medicine and surgery, it does not enter into their arrangements, nor do they possess the ability, with any degree of usefulness or benefit, to perform.

Throughout the preceding pages, the absolute necessity of a

thorough medical and surgical education to a practitioner of dentistry, has been demonstrated by an array of facts sufficiently numerous and imposing, and, it is hoped, by arguments sufficiently clear and convincing, fully to establish the correctness of the position which it is the object of this communication to elucidate and to maintain. Where, then, it may be asked, and under what circumstances, can this knowledge be best obtained? Obviously, in a well organized medical school *only*. Such a school as could equally well qualify a physician, a surgeon, an aurist, an oculist or a lithotomist; and no institution which is incapable of educating the latter for their professional career, is at all more competent to impart the requisite degree of knowledge to the former. It should ever be borne in mind, that the public have nothing to apprehend from a man's understanding his pursuit in life too well, and to the medical profession throughout all its branches, is this remark more particularly applicable.

