

Inaugural address of the president, Henry Sewill ... delivered at the ordinary monthly meeting of the Odontological Society of Great Britain, February 4th, 1889.

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Publication/Creation

London : Harrison & Sons, printers, 1889.

Persistent URL

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INAUGURAL ADDRESS

OF

THE PRESIDENT,

HENRY SEWILL, M.R.C.S. & L.D.S. ENG.,

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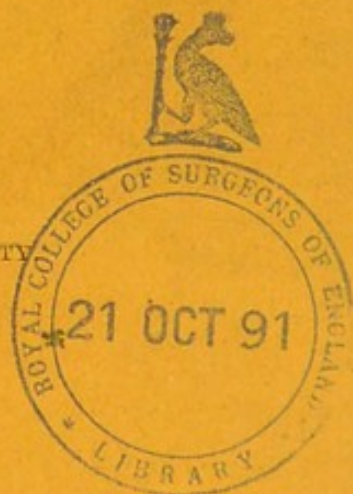
ORDINARY MONTHLY MEETING

OF THE

Odontological Society of Great Britain,

FEBRUARY 4th, 1889.

REPRINTED FROM THE TRANSACTIONS OF THE SOCIETY

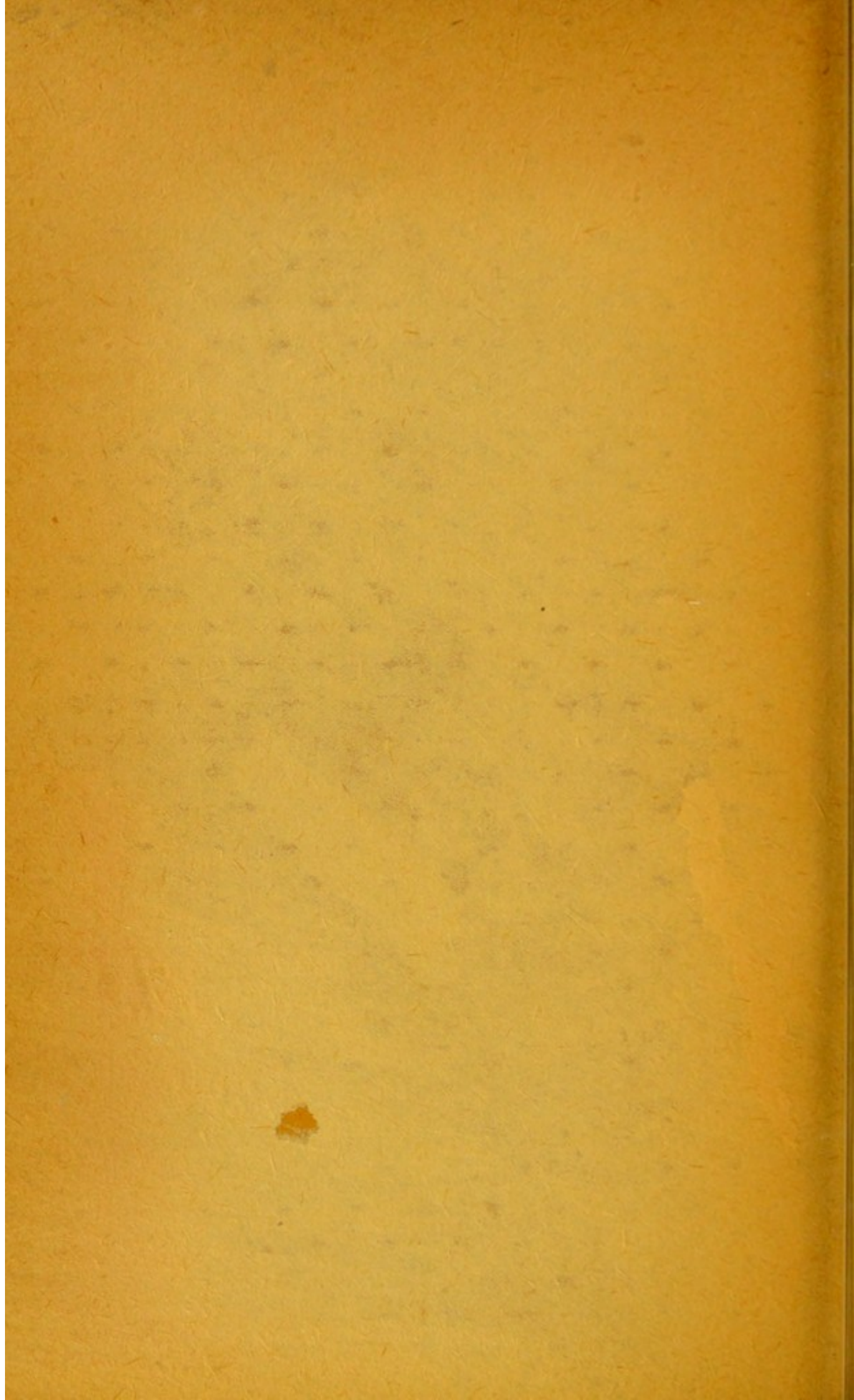


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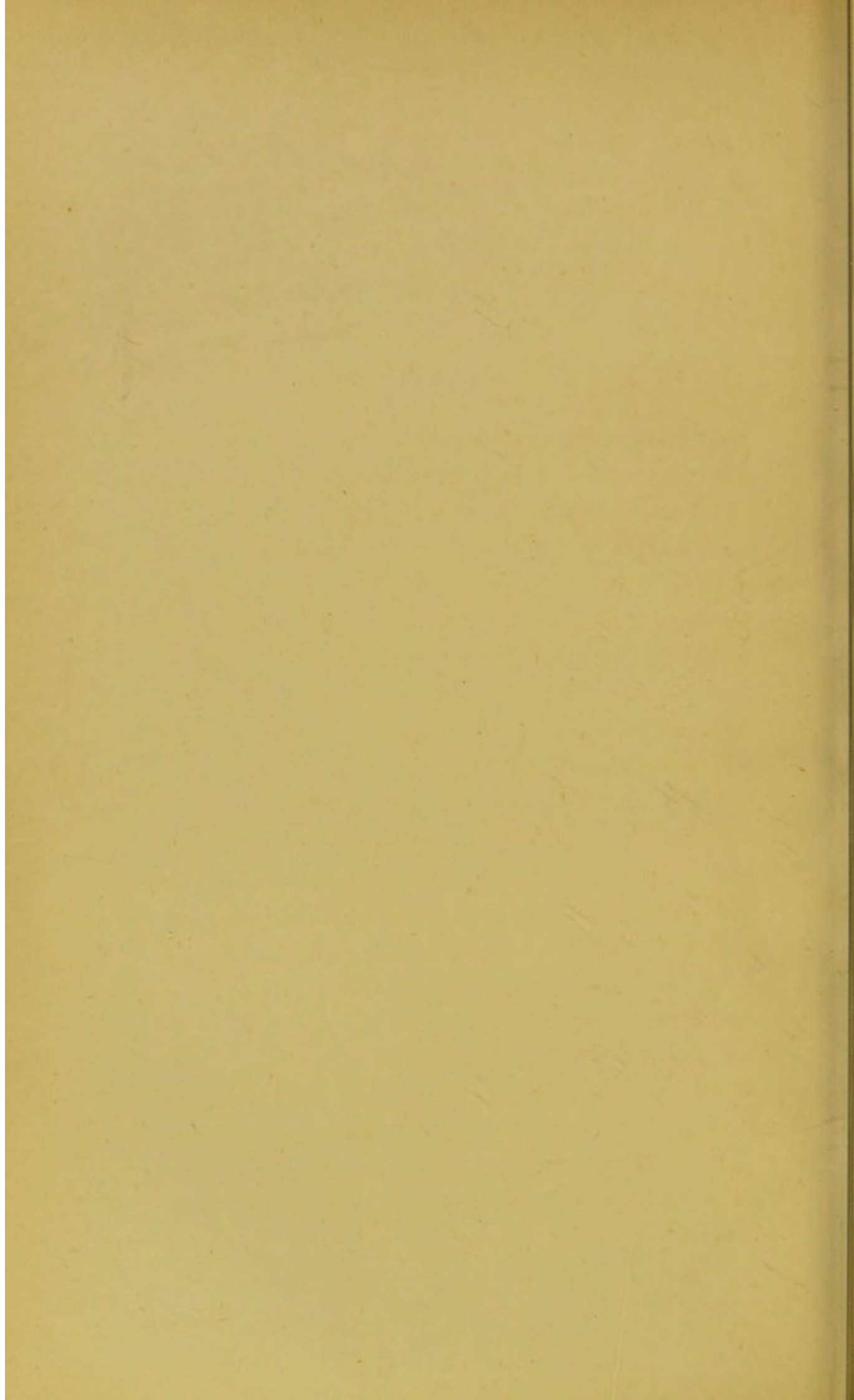
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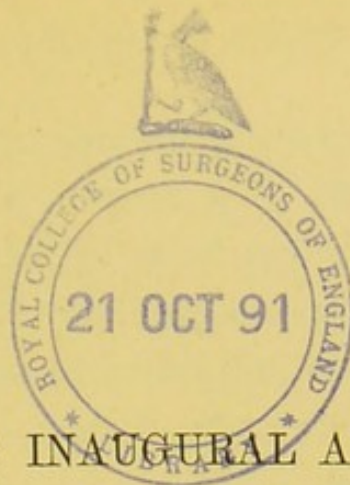
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With kind regards





PRESIDENT'S INAUGURAL ADDRESS.

ON taking this chair for the first time, my most difficult task is to fitly express my thanks for the great honour you have conferred upon me, and to adequately set forth my sentiments of pride and gratification at finding myself in so elevated a position. It has been said, and I am very willing to believe it, that election to this chair forms the highest compliment which the dental profession can pay a member. I should be callous indeed if I were not deeply moved by such a mark of esteem; and I should be pervaded by a spirit of egotism more powerful than I can acknowledge withal if I were not fully conscious of my unworthiness in many respects. In conventional language, which is none the less sincere because hackneyed, I can only say that I most heartily thank you; that I shall do my utmost to merit your confidence, and that during my year of office I shall devote myself to the promotion of the welfare of our Society. If I have any qualification for this position, it is mainly owing to the fact that I have passed through several subordinate offices.

The experience there gained made manifest to me that the success of a session, although dependent perhaps largely upon the President, depends more upon the officers, particularly the Secretaries, and most of all upon individual members. If members will do scientific work, if they will attend meetings and bring forward the results of their labours, enter with spirit into discussions, and recruit our ranks with eligible candidates, success is certain. I am sure of the zeal and devotion of our officers; and I will earnestly beg, for the sake of the Society and for my own sake, that members will exert themselves to render this year not inferior in achievement to those that have gone before.

My next difficulty is to discuss in any novel, attractive, or instructive manner that which must necessarily be my theme to-night, Odontological Science. The sole reason for the existence of our Society is the pursuit and promotion of dental science; and although questions still unanswered and problems still unsolved are of high interest, they have become by this time well worn. They have been eloquently and learnedly discussed by more than thirty preceding Presidents; and it would require literary skill and the gift of language far exceeding my feeble endowments to present them in any form which should not appear somewhat flat and stale even to junior

men, and probably wearying and unprofitable to senior members.

Notwithstanding all that has been hitherto accomplished, there yet remain unfinished tasks sufficient to satisfy the scientific ardour of our most zealous labourers. But of the questions which are still left for solution, perhaps those concerning the etiology of caries are to us among the most difficult as well as interesting. To illuminate all that is dark in our knowledge of the prime cause of tooth decay, inherent structural inferiority of enamel and dentine, demands far-reaching research. Evolution is an agent; for we have the demonstrated fact of the diminishing development of the organs of mastication from the anthropomorphic apes by regular gradations through savage races of man to the civilised European. The question of heredity is involved; for we see the dental characteristics of parents, even in the quality of the tissues, transmitted to children; often the teeth of offspring will closely resemble those of one parent, the girls as a rule taking after the father, the boys after the mother. Again, disease acquired by parents often leaves its mark upon the tissues of their offspring; and although the typical teeth of Hutchinson, the significance of which is unquestionable, are present in only a small proportion of undoubtedly syphilitic children, their occasional occurrence clearly shows

the power of hereditary disease to influence the development of enamel and dentine.

When we consider that differentiation of the rudimentary mucous membrane into the germs of the future teeth is demonstrable before the seventh week of intra-uterine life, when we recollect that hereditary bias largely governs the formation of the organs, and when we bear in mind the early periods in infancy and childhood at which the outer shell of temporary and permanent teeth has become calcified and physiologically unalterable, it seems evident that to produce sound dental tissues we must, above all, direct our energies to improvement of the race.

Disease is no necessary accompaniment of civilisation. Most diseases which lead to deterioration of the human species and leave their mark upon the organism, including the teeth, are at this day preventible, and the time must surely come when every zymotic malady shall be as unknown in civilised lands as the plague; when scrofula and rickets, and all diseases the products of darkness, filth, and starvation, shall no longer exist; and when ignorance, sickly sentimentalism, or pseudo-humanitarianism shall no longer be allowed to stand in the way of prevention of scourges like small-pox and syphilis. With finer physique, finer teeth will appear; and in presence of the fact that man is steadily gaining more and more the

conscious power of moulding his physical future, it seems absurd to suggest that in the end there can be evolved a toothless race. Our concern is, however, more urgently with the present than the future, and if we cannot help materially towards the production of sound dental tissues in our time, we can at least do much to prevent their decay, and do more to repair them when decayed.

Vitiation of the secretions of the mouth, a predisposing as well as the direct cause of caries, has not been hitherto exhaustively investigated. This, not so difficult a subject as the last mentioned, is equally important. If we were fully acquainted with the chemistry of the oral fluids in disease, more certain methods might be devised to prevent those changes which lead to the formation of acid and give rise to putrefaction and fermentation in the vicinity of the teeth.

Our knowledge of the process of disintegration of enamel and dentine in caries is almost complete, yet new facts might probably be of further practical value. The principles of treatment, the right method of preparing and stopping simple cavities, were empirically established many years before the physiology of the tissues was understood, and it is hardly possible that those principles can be overthrown. But instruments, materials for stopping, and methods of working them may be improved. The mechanical genius of our members

may find, and does find, exercise in improving our present instruments and in devising new ones. This in itself is a large subject, and very attractive; but I must not now dwell upon it.

There is vast scope for scientific work to be directed towards the improvement of materials for stopping. For these we are too much dependent upon manufacturers, many of whom, there seems reason to fear, are imperfectly acquainted with the chemistry of the compounds which they prepare. A thorough research into the metallurgy of gold might lead to the production of foils capable of more rapid and certain manipulation than those with which we are now supplied. But of much greater importance than the improvement of gold do I hold the improvement of amalgams and all the class of plastic fillings. I need not enlarge upon the superlative beauty of gold stoppings from an artistic point of view, nor emphasise the fact that the dentist who has made himself a first rate gold-stopper has mastered the greatest difficulty of his craft; and that to him no other operation will appear hard or laborious. But to insist upon gold stoppings for every case in which this material could be fitly used would be about as reasonable as to prescribe a warm winter climate for every case of incipient phthisis in which it might be beneficial. Gold fillings for carious teeth, like warm winter climates, must be considered as luxuries beyond

the reach of the vast majority of sufferers, and those most needing relief; they are too costly. Besides this, gold fillings involve the infliction of pain and fatigue which cannot be borne by every patient.

It was once the fashion of a certain class of writers to denounce the use of amalgams as a species of malpraxis approaching crime; and dire were the injurious effects ascribed to these substances. These prejudices were based upon impressions which had no scientific foundation, and it is not necessary to again expose their falsity. An ideal filling would, however, not be metallic. It would be a cement which, applicable in a condition thoroughly plastic and adhesive to the walls of the cavity, would, on setting, approximate in its character to dense enamel. The advances which have been made in preparation of non-metallic cements go to show that it is not beyond the power of chemistry to produce such a material.

Simple caries and the operation of filling by which it is treated are peculiar; there is nothing quite like them in general pathology and surgery; but when we turn to the inflammatory conditions occurring within and around the teeth we tread more common ground; for the processes of inflammation, modified only by the anatomical peculiarities of the part, are essentially the same in all vascular structures. In the case of the teeth

we have such facts to consider as that the pulp is confined within the rigid walls of a chamber which allows neither of swelling, nor of the escape of exudations; that lesions of the hard tissues are incapable of natural repair; that an exposed pulp does not tend to heal and cicatrize, and therefore, if it is to be preserved, needs to be hermetically sealed beneath an artificial covering. Except in cases where the cavity is readily accessible and bounded by strong walls of sound tissue, it seems questionable whether it may not be better to destroy a diseased pulp and extirpate it rather than attempt to save it, seeing how easily the operation may be performed, and how well the teeth endure after antiseptic treatment.

A disease which seems greatly on the increase at the present day, and which is the sole existing opprobrium of dentistry, calls urgently for investigation. Of its etiology and pathology we are almost completely ignorant, and its treatment is proportionally unsatisfactory. I allude to the malady which consists of slow wasting of the sockets, and loosening and shedding of the teeth, and which is commonly designated *pyorrhœa alveolaris*. I have formed the opinion that cases of this affection may be grouped into three classes, and that they are closely analogous to varieties of diseases of the hair commonly classed under the term "baldness."

In one variety, there is little or no inflammation or discharge until the final stage; and the cases occur mostly in robust healthy individuals, although very often of the gouty diathesis, and with massive well-formed jaws and teeth free from caries. These cases are like those of simple premature baldness. In a second group there is present either general debility, or one or another of the dyscrasiæ such as are so often associated with alopecia. A third class of cases resembles sycosis—although I do not suggest that their etiology is identical—and these are the cases of true *pyorrhœa alveolaris*. I have long made this comparison between this disease and affections of the hair, and I was much interested to learn lately that a similar analogy had been drawn by Mr. Jonathan Hutchinson.

Among other topics worthy of full discussion to which I am tempted to refer, but to which time allows me only to allude, antisepticism as applied in dental surgery might well occupy a lengthy essay. I must not, however, pass beyond my purpose, which is to suggest how extensive are the fields for our labour.

Dentistry does not, like general surgery, involve direct issues of life and death, but, nevertheless, the theories at the base of each are identical. The art of surgery was for ages founded in greater part on empirical knowledge, that is, knowledge

derived solely from experience, and neither explicable nor verifiable by the imperfect science of the day. That error should flourish, and that progress under such conditions should be halting and uncertain, need excite no wonder. We all, on the other hand, can review the epoch-making discoveries—the outcome of true knowledge—by which, from time to time, long and sure strides in advance were made possible. Indeed, the history of the healing art in every department, and not much less in dentistry than elsewhere, brings out in bright relief the fact that practice can have little permanent growth unless based upon the sure foundation of demonstrated truth; and can advance only with the general advance of natural science. Never was the prospect of improvement more hopeful than it is now, and in view of the wonderful progress which has been made within our own times in the investigation of every class of natural phenomena, it cannot be believed that any of the problems in dental science which remain unexplained will continue for ever insolvable. It would be rash indeed to ascribe limitations in any direction to future scientific achievement. For instance, we ourselves have seen chemistry advance by rapid steps to a position in which the growing wonders of synthesis no longer surprise us, so that we are prepared to take as a matter of course the artificial production

in the laboratory of any definite chemical compound found in the organic world.

In physiology we have witnessed, as a crowning marvel, localisation of the functions of the brain and almost complete unravelment of that tangled web, the nervous system.

In etiology and pathology the study of micro-organisms has been surely leading to great results, and the fundamental fact has been established that the processes of fermentation and putrefaction, which were formerly looked upon as of purely chemical character, are essentially connected with certain low forms of organisms.

These discoveries in their turn have led to the science of bacteriology, which has made of surgery a modern miracle. Passing from the time when such operations as trephining and abdominal section were very frequently fatal, we have seen arrive the day when the surgeon, almost certain of the result, no longer hesitates to act, because of the intrinsic danger of any operation, and when he does not shrink from opening the cranial cavity and searching for and removing the cause of disease from within the substance of the brain itself.

Science, by which alone such achievements have been made facile, can advance only by means of observation and experiment; but observation and experiment must be exact; the record of

mere impressions, unverified by instruments of precision, by balance, thermometer, microscope, and test-tube, are, as a rule, worse than worthless. He who in the investigation of phenomena accepts the evidence of his unaided senses can never form a true conception of the nature of things. No sense, for instance, is more easily deceived than sight, and to trust to that alone is to believe in a host of falsehoods, among which that the sun revolves around the earth will be far from the most preposterous. Healthy scepticism is the only safe habitude for the scientific intellect; it is that which every scientific explorer, worthy the name, cultivates within himself and expects to find in others. There is no shame in occasional error. The pithy phrase in the American Minister's farewell speech at the Mansion House a few days ago, applies as forcibly to the pursuit of science as to any other work of life—"the man who make no mistakes does not usually make anything."

In the promotion of scientific progress, exposure of old error thus stands in importance second only to demonstration of new truth; and, therefore, workers who may find it difficult to take up a fresh line of research may yet perform good service by examining the facts and theories of others, and subjecting their statements to searching criticism and discussion. If the future of

biological science is full of promise, it is mainly because every new statement is forthwith submitted to examination; progress was formerly long delayed for want of careful sifting of the evidence on which generalisations were formulated, and because the testimony of a great authority was often accepted without doubt or question.

For great results, such as I have exemplified, science must not be pursued in a spirit of narrow utilitarianism. The worker must not be perpetually asking what is the practical good of this or that fact; to elicit truth for truth's sake must be his main desire, and he must be satisfied by the reflection that there never was yet established a single fact, useless and isolated as it might at first appear, which did not in the end fall into its place as an indispensable atom in the sum of knowledge upon which advancement depends. The cultivation of science in this the only fruitful way calls for devotion and self-sacrifice; in any worldly sense it is rarely remunerative, and seldom brings, at least in this country, either applause or popularity. Indeed, until quite recent years, it would have been impossible to refute the allegation that the people of this nation were, compared to the French and Germans, grossly unappreciative of the value of science; and it must seem scarcely credible to the rising generation that it is only within the last decade or two

that science has been afforded a place in our general educational system, and has secured the position to which it is entitled in our ancient Universities.

Scientific research can rarely be done to order ; no superlatively great work in science, art, or literature was ever produced under such conditions. Great genius can neither be tempted by wealth nor turned from its bent by anything short of starvation and death. How many martyrs to science the years produce—men whose lives are silently given up and sacrificed in the service of humanity—the world knows not, and seems to care not. That some do so perish is beyond a doubt ; but it is indeed difficult to suggest a remedy, almost impossible to conceive a scheme, not entirely Utopian, whereby developing genius might be recognised, and, being recognised, might be cared for and guarded at the public charge. Nothing, for example, more clearly comes out in the biography of Darwin than the fact that had he not possessed resources which not only placed him beyond the reach of want, but enabled him to husband his feeble strength and concentrate all his powers on the gigantic tasks which he set himself to perform, the world would not have been enriched by more than a fragment of the store of knowledge which he at last bequeathed.

It is impossible to make the great body of the

people understand the purpose or utility of abstract science, or to recognise merit in those who labour at it. They cannot comprehend the object of a life devoted to accumulation of facts which seem to have no relation to any utilitarian purpose. It would be pretty safe to affirm that whilst thousands might be found who would regard as somewhat of a hero the proprietor of a quack medicine—the possessor of wealth which is the spoil of systematic falsehood and fraud—it would be impossible to find many individuals in any class of society acquainted with the names, much less the work, of contemporary men of science upon the accomplishment of whose tasks the world's forward movement depends. Whilst, however, genius of the highest order is very rare, talent and industry are comparatively common, and the question how best to help investigators to pursue lines of research for which they may have displayed fitness is at length assuming more and more prominence. The question will probably be solved by the methods already started, namely, endowment of research by individuals and institutions, to be followed, when public opinion demands it, by the State. We may trust that the day is not far distant when this Society and its kindred institution, the British Dental Association, shall find it possible to take part in these beneficent projects. In the meantime, although foolish

legislation may hamper investigation, and labourers be discouraged by the world's ingratitude and neglect, there is no need to fear that the good work will be checked, or that less will be accomplished now than in the past when difficulties were even greater. Since culture first existed among the British race there never was a time when some of the foremost intellects of the whole world, in every department of thought were not numbered among the inhabitants of these islands; and there never was a time when crowds of eager helpers were not forthcoming. It seems to me a matter for congratulation, that so long as dentistry has held a place as a profession in this country, it has always included in its ranks a due proportion of men of general scientific reputation; and that, besides those among us to-day whom we all know as deserving distinction, we claim among the limited numbers of this Society not less than three members whose labours have gained for them the most coveted of all similar honours—the best testimony in the world to the true value of their work—the Fellowship of the Royal Society. Those who have entered our Profession and joined our Society at the present time possess advantages for acquiring knowledge and for pursuing science greater than ever existed. We know they are animated by the same spirit that possessed those toilers after truth to whose example I have referred. Let me express

the hope that some fruits of their labour may be laid before the Society during the session in which it is to be my high honour to occupy the Presidential Chair.

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