

DENTAL HISTORIAN



Number 47
January 2008

②

Shelf 136

BRITISH DENTAL
ASSOCIATION
INFORMATION CENTRE

- 4 FEB 2008

64 WINPOLE STREET
LONDON W1M 8AL
Telephone: 0171 896 9875

(ISSN 0958-6687)

DENTAL HISTORIAN
NUMBER 47

January 2008

CONTENTS

Lindsay Society: Officers for 2007-2008	2
Editorial	3
Cover illustration	3
<i>Royal College Surgeons of England</i>	
Classification and measurement of malocclusion in 19 th century	4
<i>Michael Trenouth and Stanley Gelbier</i>	
J Sim Wallace	17
<i>J Stuart Taylor</i>	
A story within history: Napoleon's mouth	36
<i>Xavier Riaud</i>	
Kenneth Cranston	42
<i>J Stuart Robson</i>	
Ada Elizabeth Fletcher and the Ivory Cross National Dental Health Fund	46
<i>Stanley Gelbier</i>	
Two Mayfair dentists to royalty: 1775-1852	68
<i>P Beauchamp</i>	
Reports from societies	68
Henry Noble History of Dentistry Research Group –	79
<i>Audrey Noble</i>	
2007 Lindsay Society conference – Geoff Garnett	79
45th AGM of Lindsay Society - Stuart Robson	82

LINDSAY SOCIETY FOR THE HISTORY OF DENTISTRY

OFFICERS (2007-2008)

Chairman	Dr John Craig	jwcdent@aol.com
Chairman-elect	Prof Robin Basker	r.m.basker@freecall-uk.co.uk
Hon Secretary	Dr J Stuart Robson	Dunelm, Black Dyke Lane, Upper Poppleton, York YO26 6PT; stuartrobson367@btinternet.c om
Treasurer	Dr Peter Frost	PFDRYMOUTH@aol.com
Editor of <i>Dental Historian</i>	Prof Stanley Gelbier	s.gelbier@ucl.ac.uk
Committee	Drs Ian McIntyre, Mary McFarlane and Brian Williams	

Membership eligibility

In Britain: members of the British Dental Association, dental students and other interested persons not dentally qualified. Overseas: all dental practitioners and other interested persons not dentally qualified. Membership applications should be sent to the Honorary Secretary.

Subscriptions

£22 (£25 for overseas members) per annum payable in sterling in October to Dr P Frost, Hon Treasurer, 178 Peckham Rye, London, SE22 9QA. Free to student members of the BDA.

Dental Historian

Persons wishing to submit papers for publication (ideally as an email attachment) should send them to the Editor, Prof S Gelbier, Wellcome Trust Centre for the History of Medicine at UCL, 183 Euston Road, London NW1 2BE, UK; email: s.gelbier@ucl.ac.uk.

Dental Historian is sent free to members. Non-members wishing to purchase an issue can do so by sending a cheque for £10 sterling made out to the Lindsay Society to the Distribution Manager, Dr G Garnett, Hey Barn, Back Lane, Newton-in-Bowland, Clitheroe, Lancs, BB7 3EE.

EDITORIAL

This issue contains papers that feature a diverse range of interesting people, including J Sim Wallace, Edward H Angle, Napoleon Bonaparte, Kenneth Cranston and Ada Foster. They include a dentist who was also a sporting hero and a non-dentist who was massively important in bringing dental treatment to 'the masses'.

Thanks are due to those colleagues who have acted as referees or given other advice to the editor during 2007. They include David Mason, Geoffrey Garnett, David Hillam, John Craig, John Beal, Stuart Robson and Peter Frost.

Any reader who would like to learn about the intricacies of editorship whilst helping with the production of *Dental Historian* should contact the editor.

It is a pleasure to welcome the appearance of the *Dental History Magazine* which has taken the place of the *Dental History History Newsletter* produced by the Henry Noble History of Dentistry Research Group over the past ten years.

COVER ILLUSTRATION: JOHN HUNTER'S BEAVER SKULL

This picture shows an overgrown lower incisor in a beaver, from John Hunter's 18th century collection. It appears courtesy of the Royal College of Surgeons of England.

The lower incisor tooth did not occlude with the upper incisor and thus could not be worn down. It therefore continued to erupt out of the mouth. However, due to its curvature, the incisor eventually penetrated the cheek and its tip came to lie just behind the temporomandibular joint.

It is amazing that the animal was able to live for a long time whilst surely experiencing difficulties in feeding.

CLASSIFICATION AND MEASUREMENT OF MALOCCLUSION IN THE 19TH CENTURY

Michael Trenouth* and Stanley Gelbier*

The world of orthodontics

Orthodontics is "that science which has for its object the correction of malocclusion of the teeth".¹ It derives from the Greek words *orthos* (straight) and *odontos* (tooth). Occlusion forms the basis of the science of orthodontics. It is 'the normal relations of the occlusal inclined planes of the teeth when the jaws are closed'. The term occlusion is derived from the Latin *claudere*, to shut. Malocclusion is simply a lack of normal relations. The science and art of orthodontics continue to expand. In order to properly treat individuals a knowledge of the norm plus its variations and pathology are required. As with any branch of medicine or surgery, before setting up a public health or insurance orthodontic service an awareness of the range of the needs and demands of a community is essential. Surveys can be used to determine the need but first we must have a means of evaluating what we want to assess. There is a similar requirement to assess the results of treatment. So we need a system of classification and measurement of the prevalence and severity of malocclusion.

Early authors simply provided a subjective description of clinical signs. Later writers attempted to classify malocclusion according to the aetiological factors involved or in relation to treatment objectives. Still later there was a genuine attempt to measure the severity of the condition. This review outlines some

* Dr M J Trenouth BSc, BDS, MDS, PhD, FDS, DDO, DOrth, Royal Preston Hospital, Sharoe Green Lane, Fulwood, Preston PR2 9HT, England; email: Karen.Pool@lthtr.nhs.uk

* Professor S Gelbier, HonFFPH, MA, PhD, FDSRCS, DHMSA, DDPH, Wellcome Trust Centre for the History of Medicine at UCL, 183 Euston Road, London, NW1 2BE; email s.gelbier@ucl.ac.uk

¹ E H Angle, *Treatment of malocclusion of the teeth: Angle's system*, Philadelphia, The S S White Dental Manufacturing Company, 7th edition, 1907.

of the methods used to classify malocclusion in the nineteenth century, especially by Edward Angle. He was unique, introducing the concept of normal occlusion and malocclusion (deviation from normal) as opposed to his predecessors who just aligned mal-positioned teeth.

The concept of variation

Not all individuals are cast from the same mould. There is a wide variation: some are regarded as *normal*, others as *abnormal*. This variation is important in relation orthodontic diagnosis, care and measurement. As pointed out by John Hooper, the first NHS consultant orthodontist,² orthodontics differs from most treatments. Patients are not ill nor in pain and often unaware of the nature and severity of their condition.³ The decision on whether or not to provide treatment depends on the degree to which an individual differs from the norm. However, the norm itself is arbitrary and the degree of variation from it, which the individual will accept, is itself very variable.

The definition of normal

Normal may be defined in at least three ways, first, average or mean; second, ideal or perfect; third, healthy or non pathological.

In terms of malocclusion 'normal' cannot be defined as average because it is a common condition and normal to have a malocclusion. Nor can it be defined as healthy as malocclusion is part of normal variation. As pointed out by Trenouth *et al.* in 1985⁴ normal can therefore only be defined in terms of ideal and tends to be subjective and arbitrary.

² In 1950 John David Hooper, LDS, DOrth, became the first NHS orthodontic consultant to be appointed by a regional hospital board; to the Bournemouth and East Dorset hospitals in response to a petition from local dentists to the Ministry of Health.

³ J D Hooper, Orthodontics as a public service: the Wessex survey, *Transactions of the British Society for the Study of Orthodontics* 1966/7, pp. 1-10.

⁴ M J Trenouth, P H J Davies and J S Johnson, A statistical comparison of three sets of normative data from which to derive standards for craniofacial measurement, *Eur J Orthod* 1985; 7:193-200.

Defining what is meant by normal has enabled the guesswork to be taken out of orthodontics placing the subject on a scientific basis.

Classification of malocclusion

Classifications should provide a convenient way to facilitate reference and discussion. They should be simple and arranged on a purely descriptive or anatomical basis. The terms used should bear no implication as to the nature of the variety which they designate, other than providing a description of the arrangement and relations of the teeth. As classification of the norm is hard, classifying malocclusion, an abnormality, is extraordinarily difficult. Brash⁵ suggested one can compare it with the classification of an infinite number of shades of colours. He mentions that Angle's classification is not based on the nature of the condition but on what the originator considered might be done to remedy it.

In spite of the problems the classification of malocclusions is an invaluable aid to description. Anomalies need to be described before the aetiology can be conjectured or treatment planned.⁶ With a few symbols classifications convey a mental picture which can otherwise only be communicated or reported in a lengthy and possibly awkward description. As pointed out by Tulley and Campbell⁷ many classifications have been described but those based on aetiology are too complex and vague. The infinite variations of soft tissue size, shape and activity do not lend themselves to a simple or meaningful classification. Nevertheless an accurate and useful classification is required.

It is therefore of interest to see how 19th century orthodontists dealt with this issue.

⁵ J C Brash, *The aetiology of irregularity and malocclusion of the teeth*, London: Dental Board of the United Kingdom, 1929.

⁶ J S Beresford, An orthodontic perspective. Part III – classification and landmarks, *Br Dent J* 1960; 108 176-178.

⁷ W J Tulley and A C Campbell, *A manual of practical orthodontics*, Bristol: John Wright and Sons Ltd., 1960, pp. 15-19.

19th century developments in classification

In the fourth century Celsus spoke of dental irregularities.⁸ For their correction he devised a system of digital pressure, frequently repeated. In the eighteenth century Fauchard (1728),⁹ the 'father of dentistry', used his "great powers of observation and great ingenuity" to try to correct dental abnormalities by means of metal plates fastened to the teeth by ligatures.

It was in the nineteenth century that thoughts on measurement took off. Fox (1803)¹⁰ attempted to classify irregularities, probably guided by aesthetic considerations. He divided abnormalities into three classes as follows:

- 1 - of the lower jaw
- 2 - of the upper jaw
- 3 - of the arrangement of the teeth.

Kneisel (1836)¹¹ classified the relationship of teeth to others in the same arch and the arches to each other in the same mouth:

- 1 - partial (irregularities of individual teeth)
- 2 - complete (abnormal relation of the arches to each other).

Schange (1842)¹², the first person to introduce expansion of arches, is often thought of as the 'father of dental orthopaedics'. He recognised four classes of abnormalities:

- 1 - number of teeth
- 2 - form of teeth
- 3 - position of teeth – emigrations, transpositions.
- 4 - direction
 - a) individual teeth, obliquities (anterior, posterior, lateral, rotary)
 - b) relation dental arches (protrusion, retrusion,

⁸ Celsus, Books VI, VII and VIII, quoted by M G Villain, The unification of terminology and classification of maxillary dento-facial abnormalities [translated by H Chapman], *Trans BSSO* 1915, pp. 39-79.

⁹ P Fauchard., 1728, quoted by Villain, op cit., fn. 8.

¹⁰ J Fox, 1803, quoted by Villain, op cit., fn. 8.

¹¹ F C Kneisel, 1836, quoted by Villain, op cit., fn. 8.

¹² J M A Schange, 1842, quoted by Villain, op cit., fn. 8.

- inversion)
c) dental occlusion.

Carabelli (1844)¹³ classified teeth according to occlusal relations in the incisor region:

- 1 - Mordex normali (normal occlusion)
- 2 - M recluse (edge-to-edge bite)
- 3 - M apertus (open bite)
- 4 - M provsus (protruding bite)
- 5 - M retrorsus (retruding bite)
- 6 - M tortuosus (cross bite).

Harris (1855)¹⁴ produced a much shorter classification:

- 1 - deviations outwards
- 2 - deviations inwards
- 3 - protrusion of the lower jaw.

Iszlai (1881)¹⁵ dealt with the occlusal relationships of the six front teeth with their antagonists and with the inclination of the teeth arising from these malocclusions. He called the relationship of position of teeth *odonthermosis*. This he divided according to the way in which the lower anterior teeth occlude with their maxillary antagonists:

- | | | |
|-----|--------------|--|
| 1 - | enarmosis | Lower teeth occlude inside uppers |
| 2 - | epharmosis | Lowers occlude outside uppers |
| 3 - | proarmosis | Lowers occlude with cutting edges uppers (edge to edge bite) |
| 4 - | opharmosis | Lowers do not touch upper teeth (open bite) |
| 5 - | dicharmosis | Cross bite |
| 6 - | trypharmosis | Mixed occlusion which cannot be placed in any of the above groups. |

Farrar (1888)¹⁶ took as his basis the line of the dental arch. He described irregularities according to the way "they deviate forwards or backwards, inside or outside, to the right or left of the position which the tooth should normally occupy in the line of the arch". He also pointed out that a tooth may be inclined or displaced entirely.

Sternfeld (1888)¹⁷ used the words *gnathia* (upper jaw) and *geneia* (mandible) as roots for four classes of normal occlusion:

- | | | |
|-----|----------------------------|--|
| 1 - | orthognathia
dentalis | normal or correct occlusion |
| 2 - | prognathia
ethnologica | superior or bimaxillary prominence with normal occlusion |
| 3 - | orthogeneia
ethnologica | edge-to-edge occlusion |
| 4 - | progeneia
ethnologica | inferior prominence. |

Smale and Colyer (1893)¹⁸ did not introduce every variety of dental irregularity into a general classification but proposed a rudimentary classification:

- 1 - irregularity in position of individual teeth
- 2 - general crowding
- 3 - contracted arches
(a) U-shaped, (b) V-shaped, (c) saddle-shaped
- 4 - protrusion of upper anterior teeth
- 5 - protrusion of lower teeth
- 6 - lack of occlusion of anterior teeth.

Angle's terminology of irregularity and malocclusion

Edward Angle¹⁹ brought a new dimension to classification, which has lasted ever since 1899. It was based on the exact relationships of two parts to one another by indicating fixed points. Angle's classification has since been used more than any other system as a means of measuring and observing occlusions. It

¹³ G Carabelli, 1844, quoted by Villain, op cit., fn. 8.

¹⁴ C A Harris, 1855, quoted by Villain, op cit., fn. 8.

¹⁵ J Iszlai, 1881, quoted by Villain, op cit., fn. 8.

¹⁶ J N Farrar, 1888, quoted by Villain, op cit., fn. 8.

¹⁷ A Sternfeld, 1888, quoted by Villain, op. cit., fn. 8.

¹⁸ M Smale and J F Colyer, 1893, quoted by Villain, op cit., fn. 8.

¹⁹ E H Angle, Classification of malocclusion, *Dent Cosmos* 1899; 41: 248-264; 350-357.

later became slightly modified as orthodontists realised that the first maxillary and mandibular molars are not fixed points. Nevertheless it is a valuable tool in clinical analysis of malocclusion. In Angle's opinion the term *irregularities of the teeth* as usually applied to express teeth that are twisted or unevenly arranged does not express the full meaning of these deformities. He felt the term malocclusion would be far more expressive; in studying the subject we must not lose sight of the importance of the dental apparatus as a whole, and the important relations not only of the two arches to each other but of the individual teeth to each other. The shapes of the cusps, crowns, roots, and the very structure are all designed for the purpose of making occlusion the one grand subject, in order that they may serve the purpose for which they were designed – namely the cutting and grinding of food. Examined carefully it will be seen that there can be no *irregularities* of the teeth if they are in perfect occlusion, but that they must all be regular and even, each contributing to the support of the others, and all in perfect harmony. Not only this but the jaws, muscles of mastication, lips and even the facial lines probably will be in best harmony with the peculiar facial type of the individual. It would thus seem that the term *malocclusion* of any tooth or number of teeth would not only better express the true condition but naturally and constantly suggest the permanent importance of occlusion in the study and treatment of these deformities, instead of making it secondary or even losing sight of it entirely, as has been too much the case in the past. Angle was firmly convinced that occlusion is the very basis of science, and that in the treatment of cases, unless occlusion is established, the results will be largely of the nature of failures.

Angle said that *orthodontia* is that science which has for its first object the correction of tooth malocclusion. In every case of malocclusion the importance of a correct diagnosis of the condition and the requirements of treatment cannot be over-estimated. Otherwise any plan of treatment will be very uncertain as to the results. In fact most are apt to lead to failure with all its embarrassments.

In order to diagnose all cases of malocclusion correctly it is first necessary to be familiar with the normal or ideal occlusion of the teeth, secondly the normal facial lines.

Angle's definition of normal occlusion

Angle stated that each dental arch describes a graceful curve; the line of occlusion is the ideal arch form. As the lower arch is smaller than the upper, in occlusion the labial or buccal surfaces of the upper teeth slightly overhang the lowers (i.e. positive incisal and buccal overjets).

To Angle, normal occlusion was based on the fact that the mesio-distal diameter of the lower central incisor is approximately half that of the upper, so that the upper and lower canines, premolars and molars are half a unit out of phase to give cuspal interdigitation. The "key to the occlusion" is the relative position of the first molars.²⁰ Thus Class I occlusion was based on the mesio-buccal cusp of the upper first molar occluding in the buccal groove of the lower (Fig 1).

Figure 1 Normal occlusion



He pointed out that when the teeth are in normal occlusion the line of greatest occlusal contact passes over the mesial and distal inclined planes of the buccal cusps of the upper molars and

²⁰ E H Angle, The importance of the first molars in their relation to orthodontia, Dent Cosmos 1903; 45: 173-178.

bicuspid. It then travels forward crossing the lingual ridge of the cuspids and marginal ridges of the incisors at a point about one-third of the length of their crowns from their cutting edges. This was called by Angle "the line of occlusion" (Fig 2).

Angle's nomenclature of malocclusion

Angle suggested that all teeth out of harmony with the line of occlusion may be said to occupy positions of malocclusion. Although the true positions are limitless each tooth will inhabit one of seven malpositions or their various deviations and combinations.

Figure 2 The line of occlusion



As a definite nomenclature is as necessary in orthodontics as in anatomy Angle suggested the use of the following terms:

1	Buccal/labial occlusion	Outside line of occlusion
2	Lingual	Inside
3	Mesial	Further forward
4	Distal	Further back
5	Torso	Turned on axis
6	Infra	Teeth not sufficiently elevated in their sockets

7	Supra	Teeth excessively elevated in their sockets
---	-------	---

The first four had previously been defined by Black.²¹ Together with their inclinations they form combinations practically limitless in variety. All cases of malocclusion may be as readily arranged in well-defined classes as plants, animals or the elements. The first molars or cuspids are far more reliable as points from which to judge, owing to the fact that they are found to occupy normal positions far more often than any other teeth.

Angle defined three classes of malocclusion:

class I: relative position of the dental arches, mesio-distally normal, with first molars usually in normal occlusion, although one or more may be in lingual or buccal occlusion. The average case is where the malocclusion is principally confined to the incisors of both upper and lower arches;

class II: relative mesio-distal relations of the dental arches is abnormal; all the lower teeth occlude distal to normal, producing very marked inharmony in the incisive region and in the facial lines (i.e. marked retrusion of the lower jaw);

(a) class II (division 1): narrowing of the upper arch, lengthened and protruding upper incisors, accompanied by abnormal function of the lips and some form of nasal obstruction and mouth breathing;

(b) sub-division: similar, with one half in distal occlusion, but with the other half normal;

(c) class II (division 2): less narrowing of the upper arch, lingual inclination of the upper incisors, and more or less bunching of the same; and associated with normal nasal and lip function;

(d) sub-division: similar, with one half in distal occlusion, the other half normal;

class III: The relation of the jaws is abnormal, all the lower teeth occluding mesial to normal the width of one bicuspid, or even more in extreme cases. There is usually a lingual inclination of the lower incisors and cuspids, i.e. there is protrusion of the lower jaw;

sub-division: one half of the jaw is in mesial occlusion, the other is normal.

²¹ G V Black, *Description anatomy of the human teeth*, Philadelphia: S S White Dental Manufacturing Company, 5th edition, 1902.

Angle said that they should cover most cases. However, he pointed out that one further case is possible: one side mesial and the other side distal. But cases having these characteristics are so rarely met that no further reference to them is necessary. He mentioned that it is important that prior to classification one should make allowance for tipping *etc.* as a result of extraction.

So Angle had established a very high standard for the twentieth-century orthodontists to follow.

The legacy of Angle to 21st century orthodontics

Very little further work has been performed on normal occlusion. Friel (1954)²² produced occlusal templates to further define Angle's concepts.

The most significant contribution was made by Andrews (1972)²³ who defined six keys to the occlusion based on a study of 120 cases with naturally occurring ideal occlusion who had not received any orthodontic treatment. They were:

- 1 – Hyper Class I molar relationship
- 2 – Mesio-distal angulation or tip
- 3 – Bucco-lingual inclination or torque
- 4 – No rotations (correct contact point relationships).
- 5 – No spaces
- 6 – A flat curve of spee.

The six keys form the theoretical basis of the straight wire fixed appliance. This eliminates the need for 1st, 2nd and 3rd order bends enabling the use of plane pre-formed arch wires.

- 1st order bends produce in out horizontal plane compensations
- 2nd order bends produce tip in the vertical plane
- 3rd order bends produce torque in the vertical plane.

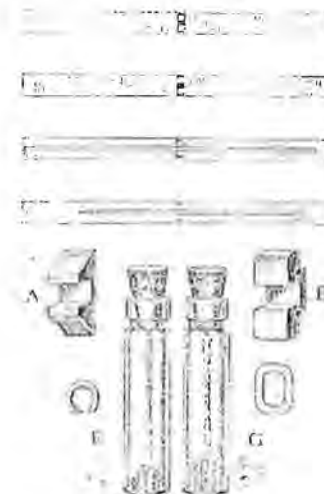
The teeth are placed in an ideal position relative to the plane arch wire, the intervening space being filled in by the

²² S Friel, The development of ideal occlusion of the gum pads and the teeth, *Am J Orthod* 1954; 40: 196.

²³ L F Andrews, The six keys to normal occlusion, *Am J Orthod* 1972; 61:297-309.

bracket. Torque is placed in the face not the base producing a more accurate slot alignment and reducing friction. All subsequent fixed appliance developments have incorporated this pre-torqued design, which has come to predominate the orthodontic market. Ironically, the original edgewise bracket was introduced by Angle in 1928²⁴ as the latest and best (Fig 3).

Figure 3 The edgewise bracket



The development of pre-torqued bracket systems together with other advances such as direct bonding has enhanced their efficiency such that fixed appliance treatments have overtaken those by removable appliances.²⁵

The key to Angle's success was that he was able to accurately define the normal situation and use this as a reference to judge the abnormal. Unlike his predecessors, he was able to define the abnormal more clearly and systematically by using the normal as a reference. This was a principle propounded by John Hunter²⁶ who

²⁴ E H Angle, The latest and best orthodontic mechanism, *Dent. Cosmos*. 1928; 70: 1143-1158.

²⁵ W J S Kerr, The rise and fall of the removable orthodontic appliance, *Dental Historian* 2001; 38:3-12.

²⁶ J Hunter, Introduction to *A practical treatise on the diseases of the teeth*, London: J Johnson, 1778.

stressed the importance of studying the normal anatomy in order to understand the abnormal or pathological.

Appendix Seven editions of Angle's book

The first three editions appeared in pamphlet form, the rest as books. With time the title changed.

- 1887 *Irregularities of the teeth*
- 1890 *A system of appliances for correcting irregularities of the teeth*
- 1892 *The Angle system of regulating and retention of the teeth*
- 1895 *The Angle system of regulation and retention of the teeth with an addition of treatment of fractures of the maxillae*
- 1899 *Angles system of regulation and retention of the teeth and treatment of fractures of the maxillae*
- 1900 *Malocclusion of the teeth and fractures of the maxillae*
- 1907 *Treatment of malocclusion of the teeth.*

James Sim Wallace (1869-1951): Father of preventive dentistry.

G Stuart Taylor*

Introduction

Sim Wallace was born on 29 June 1869 at Shawlands, then part of Eastwood in Renfrewshire, south of Glasgow. He was the second son, having an elder brother William and four sisters. His father, James Wallace Senior (1836-1900), originally from Paisley, gave his occupation as engineer at the time of his marriage in 1859. Ross tells us¹ that at some time he set up as a surgeon-dentist in the Trongate, in Glasgow. He used that title on his son's matriculation form in 1883. Although not formally qualified in dentistry he had been accepted onto the Dental Register by virtue of the fact that he had been in practice prior to passage of the Dentists Act in 1878.

Sim Wallace was educated at Langside Academy before following his elder brother to Glasgow University, where many of his original records still exist in its archives. He first enrolled at the age of fourteen years in the Faculty of Arts, for the Session 1883-84. At some stage thereafter his career path changed toward science and, in 1889, just before his twentieth birthday, he was awarded a BSc in biology. Whilst a student he was awarded the Herbarium Prize by the Regius Professor of Biology, for the best collection of plants found growing in the Clydeside region: some 386 specimens were submitted, all correctly named. In the following year, 1890, before he was twenty-one he graduated in medicine and surgery. Both he and his elder brother were awarded the degree of Master of Surgery rather than Bachelor of Surgery. The University archives reveal James' academic record as patchy. In 1886 he failed his first professional examinations in botany and natural history but managed a pass in 1887. In his fourth professional examination he achieved only 50% in the

*G S Taylor, DDS, FDS. 47 Millig Street, Helensburgh, Argyll and Bute, G84 9PN; email: stuart@gs-taylor.co.uk

¹ R M Ross. The life and times of a registered dentist. James Wallace 1836-1900, *Newsletter History of Dentistry Research Group* 1999; 4: 6-10.

surgery paper but 60% in clinical surgery, 60% in the medicine paper and 50% in the clinical component. A mark of 42% in forensic medicine in June meant a postponement in qualification until the following October when he managed a pass with 54%.

Both his father and elder brother were in dental practice in the Trongate, his brother having obtained his Licence in Dental Surgery from the Faculty of Physicians and Surgeons of Glasgow in 1889. Sim Wallace attended the Dental Hospital in Glasgow but apparently nothing came of this and he was reported to have become a ship's doctor, making several voyages in this capacity.² He was awarded a Doctorate in Medicine in 1883 at Glasgow and then moved to study at the National Dental Hospital of London and the London Dental Hospital; he obtained the LDS of the Royal College of Surgeons of England in 1895.³

Sim Wallace showed early signs of scholarly disposition, having two short publications accepted by dental journals even before dental qualification.^{4, 5} The subject of his MD thesis was the use of general anaesthesia in dentistry. As the address given inside his thesis was still Westfield House, Shawlands, it is reasonable to assume his experience was gained in Glasgow, possibly working in the family dental practice.⁶ Wallace said statements that nitrous oxide anaesthesia produced permanent damage were unsubstantiated and he set out to make a "systematic and ... complete examination and report of a number of cases". To study the effect of nitrous oxide anaesthesia on the kidneys he examined the urine in sixty cases before administration of the anaesthetic and shortly afterwards. He commented upon colour, specific gravity, phosphate and albumin contents and some samples were examined microscopically. Of more than 500 cases in total only 2 patients were associated with vomiting. He concluded:

² Obituary: James Sim Wallace, *Br Dent J* 1951; 91: 81.

³ The National Dental Hospital and the London Dental Hospital were forerunners of University College Hospital Dental School and the Royal Dental Hospital School of Dental Surgery.

⁴ S J Wallace, The misuse of the terms "mesial" and "distal", *Dent Rec* 1891; 11: 502.

⁵ S J Wallace, Teeth growing from persistent pulps, *Br Dent Assoc J* 1892; 13:16-17.

⁶ S J Wallace, *Nitrous oxide anaesthesia*, Unpublished Thesis, Glasgow University, 1883.

It is more important in the case of nitrous oxide anaesthetic to have the stomach performing its normal functions without strains than necessary to have the stomach empty, as it is likely that fainting or syncope will be induced more rapidly with an empty stomach than otherwise.

Research and publications

In 1900 Wallace published his first book, *The Cause and Prevention of Decay in Teeth*, subtitled 'An investigation into the Cause and Prevention of Dental Caries; to which are appended some suggestions on its prevention'.⁷ This book was submitted to Glasgow University in lieu of a thesis and he was awarded a Doctorate of Science degree; said to be the first occasion a DSc had been awarded in Britain for a dental topic. At the time of writing Wallace was thirty-one years old, qualified in medicine for ten years but in dentistry for just five years. The title page described him as being honorary dental surgeon, West End Hospital for Nervous Diseases; honorary dental surgeon, Princess Louise Home and National Society for the Protection of Young Girls; honorary dental surgeon, Kingston Victoria Hospital; and assistant dental surgeon, National Dental Hospital. His name had not yet appeared on the Dental Register, the actual date of registration being 24 April, eight years after having obtained his qualification. At the time of registration his address was 30A Wimpole Street, London W1.

In his book Wallace pointed out that the recent chemico-parasitic theory of the aetiology of caries, as the "direct or exciting cause", had been "universally recognised" in the fifteen years since its publication.⁸ Wallace said he wished to look beyond, to the predisposing causes. His opinions were based on observations carried out on his own patients. He asked those patients whose teeth were irregular or badly affected by decay, what they ate in order to identify harmful foods. Having decided what was suspect he then carried out experiments on the "lodgeability" of different foods. The term was used to describe how different foodstuffs stuck to the teeth after chewing. Initially he sought something

⁷ S J Wallace, *The cause and prevention of decay in teeth*, London: J&A Churchill, 1900.

⁸ W D Miller, *Micro-organisms of the human mouth*, Philadelphia: S S White Publishing Company, 1890.

injurious in the food but later concluded it was due to the elimination of naturally occurring fibrous tissue during preparation by modern cooking or milling methods. The lack of fibrous tissue reduced chewing and as a consequence less removal of food debris from the teeth, thereby allowing acids formed from the abundance of sugars, contained in modern diets to accumulate in the film naturally covering the teeth, thus initiating the first phase of caries. Reduced caries activity found in those people who maintained diets rich in fibrous foods supported this argument. He provided examples of good and bad diets, recommending foods of a self-cleansing or detergent nature. One particular *bête noir* frequently castigated in his writings was rice pudding! Food of this nature was described as "pap". Although a Scot he listed porridge as being detrimental. He pointed out that present day diet was conducive to caries but not conducive to developmental deterioration in tooth structure.

Sim Wallace considered irregularity of the teeth as a possible predisposition to decay. Although conceding that functional activity was not necessary for growth he believed that full development of certain tissues and organs was dependent on a degree of functional activity. To achieve an efficient masticatory organ it was necessary that all the teeth should be accurately placed and for this to occur some controlling influence was necessary to guide the teeth into position. The tongue, together with the cheeks and lips, provided such an influence. Modern diet, rid of its coarse fibrous material, required little or no mastication, thus leading to reduced tongue activity and corresponding tongue underdevelopment. The teeth and alveolar bone were denied the moulding effect of the tongue, the constricting forces of the lips and cheeks were unopposed and the arches were reduced, resulting in a crowded V-shape with high palatal vaults. During breast-feeding the tongue was actively used but when bottle-feeding was adopted milk was more easily expressed, leading to less tongue exercise and tongue and arch underdevelopment. Nasal breathing was often defective but he was not convinced that this was due to enlarged tonsils or defective suckling as a result of bottle-feeding.

Wallace discussed the theory that an apparent increase in crowding could be attributable to so-called sexual selection. He quoted Tomes as saying that the type of face considered generally to be attractive was oval, tapering and with a small mouth, offering little accommodation for well-aligned teeth. Conversely, the opposite or bestial face had powerful jaw development and plenty

of room for the teeth. Tomes suggested that generations of men seeking their mates would subconsciously select those with the more refined physiognomy but such spouses may not have been able to find room for full, well-aligned, dentitions.

In the concluding chapter Sim Wallace discussed prevention. He believed, without doubt, that diet, particularly one containing sufficient fibrous tissue, was the most important factor. Fibre stimulated function, which in turn enhanced tongue growth at the same time, encouraging tooth cleansing. Wallace's book challenged many of the ideas found in contemporary dental textbooks. Its publication must have provided considerable food for thought and it attracted many favourable reviews. His core message, to be repeated throughout his career, was that it was not the nutritional value of food which ensured immunity of the teeth. The importance lay in the food's physical quality: food which would leave the mouth clean after consumption and simultaneously contribute to the normal development of the jaws and teeth.

Two years later a second edition was published.⁹ It had occurred to Wallace that lower animals "might similarly be affected by caries". He bought a monkey. To simulate man's diet he fed the monkey biscuits, bread, milk, chocolate and cheese, all substances containing little fibrous material. However, once the monkey had consumed the diet provided it proceeded to eat its bed of hay, obviously rich in fibre, thus spoiling the experiment. Wallace removed the hay and lined the box with cork. The monkey then chewed the cork and was transferred to another box which again he started to chew. Our ever-resourceful scientist hit upon the idea of rubbing the exposed surfaces of the monkey's box with "foul tasting" quinine, until eventually the frustrated monkey gave up. The original experimental diet continued, occasionally supplemented by treacle and the much-maligned "milk pudding". After four months he examined the teeth and suspected that caries had developed but decided to wait another six months. At that time caries was confirmed. However, a few days later the animal died and Sim Wallace was able to remove the teeth and section them. Caries was definitely present. He explained that the experiment could not continue for a longer period as a fire resulted in the suffocation of the unfortunate, but well fed, monkey!

⁹ S J Wallace, *The cause and prevention of decay in teeth*, 2nd ed, London: J & A Churchill, 1902.

This book set a pattern Wallace was to follow for the next fifty years. He frequently contributed to the three major British dental publications of that period: the *British Dental Journal*, *British Journal of Dental Science* and the *Dental Record*. Every so often he collected papers with a common theme and published them in book form. Wallace's papers were read at meetings and conferences and the subsequent published version often contained accounts of the ensuing discussions. They show that although Wallace received support many of his opinions were challenged. His controversial opinion about the negative value of tooth brushing attracted especial criticism. At one British Dental Association meeting a discussant taunted him with a poem culled, it was said, from a child's encyclopaedia:¹⁰

If I want to be happy
And quick on my toes,
I must bite my food slowly
And breathe through my nose.

I must press back my shoulders
And hold up my head,
And not close my window
When I go to bed.¹¹

I must love what is noble
And do what is kind,
I must strengthen my body
And tidy my mind.

Wallace could also be abrasive when discussing other speaker's papers. He told Sir Arthur Keith, that he did not think his paper had "thrown any light on the subject at all".¹² He asked another eminent lecturer, Sir Frank Colyer, if one of the children

¹⁰ J S Wallace, Remarks on the hygienic and artificial methods of preventing dental caries, *Br Dent J* 1910; 31: 241-258.

¹¹ References to nasal breathing and closed bedroom windows relate to ideas expressed in the paper by J S Wallace, Prevention of malocclusion, *Trans BSSO* 1908; 1: 7-9.

¹² A Keith and G C Campion, *A Contribution to the Growth Mechanism of the Human Face*, *Trans BSSO* 1921; 10: 89-120. Sir Arthur Keith, a very distinguished anatomist and anthropologist; G C Campion, Manchester practitioner and consultant and lecturer to the Manchester Dental Hospital. Campion contributed to the literature on a wide variety of subjects but was particularly interested in growth.

used to illustrate his lecture had been fed on "pap".¹³ It turned out to be one of Colyer's own children and prompted a brisk retort from Sir Frank. His views were, however, reaching a much wider audience than just the dental fraternity. He gave, for example, a paper to a meeting of the National Food Reform Association on 'Feeding at public secondary and private schools' and was a frequent speaker at British Medical Association and Royal Society of Medicine meetings.¹⁴ Papers were also given on such diverse occasions as the 1907 French Stomatological Congress, in French, the Royal Sanitary Institute of Public Health in 1908 and the Sixteenth Congress of Medicine at Budapest in 1909. Wallace was asked to write the chapter on the 'Pathology of dental caries' in Norman Bennett's widely read *The Science and Practice of Dental Surgery*. Strangely it was Dowsett rather than Wallace who provided the chapter on 'Oral hygiene and preventive treatment of dental caries'.¹⁵

In 1904 Wallace produced a book primarily on malocclusion, again based on papers previously published in the *British Dental Journal* and *Dental Record*.¹⁶ He challenged current opinions and went on to develop his earlier idea that the physical quality of many people's diets did not provide adequate stimulus to encourage tongue growth, with the consequent effect of underdevelopment of the jaws. In his book Wallace clearly appreciated many features of malocclusion that came to assume importance in later years. For

¹³ J F Colyer, A note on the growth of the dental arch, *Trans BSSO* 1919; 9: 54-64. Sir Frank Colyer was prominent at the turn of the 20th century. He had interests in several branches of dentistry and in addition wrote one of the earliest texts devoted to orthodontics.

¹⁴ J S Wallace, Reform in feeding at public secondary and private schools, *Br Dent J* 1912; 33:527-532.

¹⁵ N Bennett, *The science and practice of dental surgery*, London: Hodder and Stoughton, 1914. Sir Norman Bennett became consultant dental surgeon to St George's Hospital, dental surgeon, director and lecturer on orthodontics at the Royal Dental Hospital and consultant dental surgeon to the Navy. Bennett was held in high regard as an administrator and chaired many committees of the British Dental Association and associated organisations. He played a prominent part in planning the dental services during the World War I, in particular in the founding of both the navy's and army's dental corps. The drafting and presentation of the Dentists Act 1921 owed much to his skill and tact. Ernest Blair Dowsett was dental surgeon at Guy's Hospital and lecturer in dental surgery.

¹⁶ J S Wallace, *Essay on the irregularities of the teeth with special reference to a theory of causation and the principles of prevention and treatment*, London: The Dental Manufacturing Company, 1904.

example he associated specific malocclusions with different cranio-facial types and overall posture. A coarse diet containing abrasive material prompted tooth attrition mesially and distally, the subsequent shortening of the dental arches tending to relieve crowding; in so doing he anticipated Begg's discoveries by thirty years.¹⁷

Earlier mention was made of the theory that sexual selection may lead to the extinction of females with less than desirable features. In this new book Wallace discussed in greater detail the desirable and undesirable facial features. He said:

The [accompanying] illustrations show that small oral orifices may be associated with ample buccal cavities. All men are not dentists, and most are content to linger on the threshold without investigating internal dimensions.

When discussing orthodontic treatment four objectives were listed: improve appearance and function, prevent caries and significantly leave the teeth at the conclusion of treatment in equilibrium with their soft tissue integument. Such objectives would be acceptable to orthodontists today. When discussing the need for extractions as part of orthodontic treatment it was clear that he accepted their value and he was not a member of the vocal "thou shall not" brigade led by Edward Angle and his followers. At this time orthodontists who practised extractions to correct crowding were heavily criticised by their opponents and were even dubbed as "odonticides".

Wallace's book on malocclusion was unique. Contemporary American books were full of orthodontic technique but contained little on the biological basis of orthodontics. His book received many favourable reviews. Angle wrote¹⁸ in his famous 1908

¹⁷ P R Begg, *Begg orthodontic theory and technique*, St Louis: C V Mosby, 1965. Raymond Begg attended Angle's last course and helped in the development of the Edgewise appliance. On his return to Australia he became aware of faults in Angle's teaching particularly with regards to his non-extraction dogma. He devised his own system based upon the use of light round wires and his anthropological investigations on the teeth and skulls of aborigines.

¹⁸ E H Angle, *Malocclusion of the teeth*, Philadelphia: S S White Dental Manufacturing Company, 1907. Edward Hartley Angle's professional life occupied the closing years of the 19th century and first three decades of the 20th. He had a tremendous influence on the development of the speciality and was in fact the first specialist orthodontic practitioner in the world. Apart from

textbook, "The work is worthy of most careful reading". Lischer, who himself wrote a very successful orthodontic text, also commented approvingly.¹⁹

In 1907 Wallace was invited, by George Northcroft²⁰, to a meeting held to discuss the formation of a society that eventually became the British Society for the Study of Orthodontics (BSSO).²¹ At its Inaugural Meeting, held a few weeks later, Wallace was elected as one of the vice-presidents. It fell to Wallace, in 1908, to deliver the first scientific papers: 'Science and empiricism' and 'Prevention of malocclusion'.²² Amongst the interesting ideas expressed in these papers was that irregularity of the teeth occurred as a result of sleeping with the window open. It was suggested that cold damp air entered the bedroom and the consequent breathing of such air resulted in inflammation of the nasal mucosa, ensuing blockage of the air passages, causing mouth breathing, in turn, leading to dental arch constriction and crowding. He found that only two per cent of his patients who kept their windows closed at night suffered from adenoidal blockage. In those who slept with the window open 50% had obstructed airways due to enlarged adenoids. He further claimed that if the nose was blocked then the child could not "gnaw" properly, reducing function and further contributing to malocclusion. His recipe to avoid such hazards was "to lock the bedroom window". Environmental factors were considered all important in those days. Today we appreciate that heredity is also important and nowadays the advice might well

describing the universally known Angle's Classification of malocclusion he designed three fixed appliance systems. Edgewise with some modification remains the most widely used system today.

¹⁹ B E Lischer, *Principles and methods of orthodontics*, Philadelphia and New York: Lea and Febiger, 1912. Beno Lischer was professor and dean of Washington University (St Louis) and made many contributions to the development of orthodontics. He was the first to use the term cephalometrics. Lischer fell foul of Angle. Not only was he not properly trained (by Angle) but he set up a school in St Louis within 2 miles of that run by Angle.

²⁰ George Northcroft's dental career had an unusual start in that he went to the University of Michigan and obtained a DDS before acquiring a British qualification. Thereafter he played a very active professional life both clinically and in administrative roles. He was instrumental in founding the London Hospital Dental School.

²¹ B C Leighton, The British Society for the Study of Orthodontics, *Br Dent J* 1968; 124: 425-428.

²² S J Wallace, Prevention of malocclusion, *Trans BSSO* 1908; 1: 7-9; Science and empiricism in orthodontia, *Trans BSSO* 1908; 1: 12-23.

be to "lock the bedroom door"! Wallace concluded that significant progress in tooth alignment was occurring, but recognised that much had still to be learned. He pointed out that unless the cause of irregularity was known there was no chance of prevention.

Sim Wallace became the third President of the BSSO in 1910. Figure 1 shows his photograph taken around this time.

Figure 1 J Sim Wallace



His Presidential Address on 'Specialism in relation to orthodontia'²³ touched on an issue which continued to be debated by orthodontists until the 1990s, when specialist registration was introduced.²⁴ He worried that dentistry, already a branch of medicine, was in danger of creating too many small sections. Specialisation, he argued, "confined the practitioner into a narrow rut, distorted their sense of proportion and limited the large and liberal outlook, which should be characteristic of a learned profession". He referred to this as the "curse of specialism". Wallace expressed pleasure that it was not the Society's objective to encourage the formation of orthodontic specialists but to encourage its study. His argument may appear to be semantic but no other speciality society had, at that time, included the phrase 'study of etc', in its title. The successor of the BSSO is known now

²³ S J Wallace, Presidential address. Specialism in relation to the study of orthodontics, *Trans BSSO* 1910; 3: 2-6.

²⁴ M Seward, Specialisation makes progress, *Br Dent J* 1998;184: 311.

as just the British Orthodontic Society²⁵. Wallace went on to call for harmonisation of orthodontic terminology and commented approvingly on the recent change of name of the Society, when the word 'orthodontics' was substituted for 'orthodontia'.²⁶

Wallace was credited, at this time, with devising a measuring instrument called the prosopometer.²⁷ Before the introduction of serial cephalometric radiographs and their superimposition at different ages there was no way of studying longitudinal growth or the changes occurring as a result of treatment. The prosopometer was a crude, but effective, method of taking standardised measurements at different ages and producing a composite picture of any changes. In 1899 Angle had first described his eponymous classification of malocclusion. Although widely accepted Sim Wallace was an early critic. In 1915, in the first volume of the *International Journal of Orthodontics*, he strongly attacked Angle's Classification.²⁸

Sim Wallace was undoubtedly a prolific writer. Usually his books were targeted towards dentists but others appealed to wider medical audiences. In his 1912 '*Occasional papers...*'²⁹ he extended his dietary opinions to consider their effects in more general conditions of disease such as tuberculosis and rickets. Two of his pet theories, adequate fibre in foodstuffs and measures to reduce tonsillar and adenoidal problems, should reduce the chances of the tubercle bacilli gaining entry to the system.

Wallace supported the need for the state's involvement in health care. He cited several examples showing the costly sequel, both in suffering and economic terms, of neglected oral disease. Wallace said it should be the duty of Medical Officers of Health to ascertain the causes of dental disease and to introduce plans for its prevention. He worked very closely with Dr James Wheatley, MOH for Shropshire, in designing both an inspection regime and

²⁵ G S Taylor, The centenary of the formation of the British Society for the Study of Orthodontics, *Dent Hist* 2007; 45: 59-75.

²⁶ G S Taylor, Orthodontics v orthodontia, *J Ortho* 2003; 30:175-177.

²⁷ S J Wallace, A prosopometer and a note on prosometry, *Dent Rec* 1909; 29: 249-430.

²⁸ J S Wallace, A short note on classification, *Int J Ortho* 1915; 1: 126-128.

²⁹ J S Wallace, *Occasional papers on the prevention of some common diseases of childhood*, London: Bailliere Tindall & Cox 1912.

J S Wallace, On the aetiology of rickets, *Dent Record* 1922, 42: 656-659.

oral health campaign in that county.³⁰ Wallace was a member of a committee set up by the Society of Medical Officers of Health to devise a leaflet on Oral Health and a recommended diet. He also authored a book describing the teeth and mouth, both in health and disease, for a lay readership: *The Teeth and Health*.³¹

Vitamins and saliva

His advocacy of a correct diet, correct in consistency rather than constituents, remained at the heart of his writings, but two new findings arose for consideration. The 1920s was a time when the presence of so called "accessory food factors", nowadays known as vitamins, were discovered. Investigations were under way to determine the effect of both deficiency and excess on tooth formation and caries susceptibility. Lady Mellanby, supported by the Medical Research Council, was the leading investigator in this research and an acrimonious relationship soon developed between them.³² Wallace expressed strong criticism of both her methods and conclusions. He agreed that vitamin deficiencies could result in tooth hypoplasia but argued that she failed to demonstrate any increased susceptibility to caries. Wallace insisted that deficiency must be very severe to cause enamel hypoplasia, calling it a "freak diet", and that it was "seldom simulated in human beings or wild animals". He scorned the recommended prophylactic use of vitamins to try to reduce caries, saying that no amount of cod-liver oil, a potent source of fat-soluble vitamins, was going to prevent caries development. Wallace also became more attentive to the role played by saliva, pointing out that salts dissolved in saliva acted as buffers and conferred protection when acid foods were consumed. He also commented on reports claiming that saliva was capable of "re-hardening" superficial layers of enamel previously softened by the acids produced as a result of carbohydrate fermentation. Recognition of this action became important many years later

³⁰ W Wheatley, 'Dental caries and sweets', in C E Hecht (ed) *The gateway to health*, London: St. Catherine Press for the Food Education Society, 1921.

³¹ J S Wallace, *The teeth and health*, London: Faber and Gwyer, 1926.

³² Lady May Mellanby's early research on nutrition led her to study the effect of diet on dental tissues. She attracted grants from the Dental Board of the United Kingdom and the Medical Research Council and produced a large number of papers on this theme. In recognition of her contribution to dentistry she was made an honorary member of the British Dental Association.

when considering the effects of adding fluoride to drinking water and the decision to apply topical fluorides to teeth. He continued to stress the importance of mucin in saliva. It facilitated the collection and transference of food particles for swallowing and being alkaline the mucous coat that formed on teeth conferred protection against acids. This was particularly beneficial in those areas not cleansed by the presence of detergent fibres in the diet.

In 1923 Sim Wallace was awarded the Tomes Prize by the Royal College of Surgeons of England. The title of his essay was 'Prevention of Dental Caries', later published in book form as *Oral Hygiene*; the 1929 second edition was entitled *The Physiology of Oral Hygiene and Recent Research*.³³ In his essay Wallace continued to stress the need for adequate fibre in the diet, both for mechanical cleansing and for the need to stimulate mastication.

He challenged the then conventional physiological teaching, claiming that the glands opening into the mouth and their secretions were primarily adapted for the maintenance of oral hygiene. Just as mucus formed in bronchial tubes to keep them clean so oral mucus was to keep the mouth clean. He was adamant that its purpose was not to lubricate the bolus preparatory to swallowing. Likewise, the opinion that saliva was the first of the digestive juices should be re-examined; he argued that any ptyalin produced was of little importance to digestion. He thought that the quality and quantity of saliva were proportionate to the needs of the food residue to be cleared from the mouth. He also claimed that amoebic phagocyte cells, "so called salivary corpuscles", were found in the saliva acting as scavengers and thus were also part of the oral hygiene mechanism. He continued to emphasise the importance of refined sugars in the cause of caries and reviewed the progress to date of preventive dentistry.

In 1925 the Royal College of Surgeons of England awarded Wallace the Cartwright Prize, which was open to medically qualified dentists. The title of his winning submission was 'Variations in the form of the jaws, with special reference to their etiology and their relation to the occlusion of the dental arches'.

³³ J S Wallace, *Oral hygiene*, London: Bailliere Tindall & Cox, 1923.

J S Wallace, *The physiology of oral hygiene and recent research, with special reference to accessory food factors and the incidence of dental caries*, London: Bailliere Tindall & Cox, 1929.

The essay was published in 1927.³⁴ Apart from the obvious dental readership he thought the book would interest doctors and anthropologists and it received many favourable reviews beyond the dental press. A Hrdlinka, editor of the *American Journal of Physical Anthropology*, gave a very fulsome review in that journal; and even Sir Arthur Keith, who had several times been criticised by Wallace, commented favourably in *Man*.³⁵ Wallace studied the wide variations found in contemporary jaws and also in archaeological specimens; he maintained his particular interest in the growth of the tongue and its relationship to variation in craniofacial development. The work contained many illustrations, some taken from other published sources but many original to him. He showed a series of photographs of the casts of his eldest son, recorded when aged between 3 and 24 years. These records were measured to show when and where growth was occurring. Crowding, open-bite, superior and inferior protrusion were discussed in detail, as were the effects of the early extraction of teeth upon the arches. Wallace now stated that recent evidence had concluded that enlarged adenoids and mouth breathing had little effect upon production of jaw anomalies. Although differing markedly from his earlier beliefs he produced no argument for this change of opinion. He maintained his criticism of Angle's Classification and the work concluded with a description of his own classification, based on etiological factors, of abnormal variations of the jaws and malocclusion of the teeth.

Sim Wallace and academia

Early in his career Wallace had associations with several institutions. They were gradually relinquished, presumably as his practice developed, until finally he just retained his post at the

³⁴ J S Wallace, *Variations in the form of the jaws, with special reference to their etiology and their relation to the occlusion of the dental arches*, London: Bailliere Tindall & Cox, 1927.

³⁵ F Breese, Sim Wallace, *Oral Topics* 1936; 53: 133-141. Frank Breese was a practitioner in South London with an interest in children's dentistry. Ales Hrdlicka, Bohemian by birth, emigrated to the USA as a child. He became a physical anthropologist and was curator of the anthropological collection at the Smithsonian Institution. One interesting aspect of his work was the theory that Native Americans came originally from Asia by crossing the Bering Straits. Sir Arthur Keith. op cit., fn. 12.

National Dental Hospital. This too was eventually resigned when, in 1911, he was appointed dental surgeon and lecturer in Dental Surgery and Pathology to the new dental school attached to the London Hospital. Two other people appointed to the London at that time were George Northcroft, the second president and Harold Chapman, sometime secretary and president of the BSSO. His time at the London was remarkably short, just one year. Fish, in his history of the London dental school, says one source attributed this to "the calls of private practice and a spell of indifferent health"; but he also suggested that there might have been some disagreement over payment.³⁶ In 1923 a fifth London dental school, associated with King's College Hospital, was opened. Sim Wallace became dental surgeon to KCH and lecturer in Preventive Dentistry to the school, said to be the first such post in this discipline, in Britain.³⁷ He continued to hold this post until his retirement. Vernon Hall's history of King's dental school records that Wallace was:

A gentle friendly man who always had time to talk to the students ... but despite his kindly temperament he was capable of expressing himself with power and conviction on some of his themes which he knew to be right and others might express opposition".³⁸

Some other honours

In addition to the Tomes and Cartwright Prizes discussed above Wallace was the recipient of many other honours and awards both at home and abroad. He was elected to honorary membership of the Hungarian, Austrian, Belgian, French, Australian, New Zealand, South African and many American dental societies, including Fellowship of the American College of Dentists. In 1926 he was invited to undertake an extended lecture tour of

³⁶ S F Fish, *The Dental School of the London Hospital Medical College 1911-1991*, London: The London Hospital Dental Club and London Hospital Medical College, 1991. S Francis Fish, professor and head of the department of prosthetics, London Dental Hospital and School.

³⁷ Editorial, *Preventive dentistry*, *Oral Topics* 1922-1923; 2: 1284-1285.

³⁸ V F Hall, *The history of King's College Hospital Dental School (University of London) 1923-1965*, London: Council of King's College Medical School, 1973. Vernon F Hall was a surgeon and then dean of medicine of at Kings College Medical School.

North America. His book on *The Physiology of Oral Hygiene*, published in 1929, contained the actual itinerary for the three-months journey. He lectured at many of the places visited and in one centre, San Francisco, he broadcast a talk. In Britain, in addition to presidency of the BSSO, he was twice elected president of the Dental Officer's Group of the Society of Medical Officers of Health. He was awarded the Neech Prize for the best paper read before that society in 1930. In 1937 he became an honorary member of the British Dental Association and in 1939 a life member of the BSSO.

In 1932 the International Dental Federation offered prizes as an inducement to carry out experiments into dietary influence on the production of caries on dogs. This provoked a counter competition; organised by the International Humanitarian Bureau of Geneva to demonstrate the unnecessary cruelty such experiments would cause. Wallace accepted the challenge and was awarded their prize. His successful essay was published with the somewhat provocative title *Dental decay in man, its best means of prevention, and the uselessness and cruelty of the projected experiments of the international dental federation*.³⁹ In characteristic Sim Wallace fashion he did not mince his words. Much of the work contained ideas already expressed but several new points are of interest. It had by then been realised that shortages of refined carbohydrates during the First World War had led to a dramatic decrease in the incidence of caries in children. He also pointed out that dogs were of reduced value for caries experimentation: one of the most obvious differences was that their enamel bore marked differences to human enamel. Dogs had been used extensively in Lady Mellanby's research work and Wallace could not resist the opportunity to yet again make trenchant criticism of her work. He went on to claim that erroneous laboratory work had resulted in a great deal of unnecessary canine suffering and its incorrect conclusions had wasted money, whilst the incidence of caries had not been stemmed. He seemed to have overlooked any suffering of the poor monkey used in his own experiment some years earlier.

³⁹ J S Wallace, *Dental decay in man, its best means of prevention, and the uselessness and cruelty of the projected experiments of the International Dental Federation*, Geneva: International Humanitarian Bureau, 1934.

Retirement from clinical practice

Wallace's retirement from practice in 1939 did not mean the end of his contributions to dental literature. Papers continued to appear throughout the Second World War. Between January 1946 and June 1949 a series of thirty-eight papers were published in *Dental Items of Interest*. A resume of these papers was published posthumously in 1952. The title of this last volume was *The newer knowledge of hygiene in diet*, a phrase used repeatedly by Wallace from about 1920 when discussing his work.⁴⁰ He dedicated his book to:

Medical Officers of Health and Child welfare workers and to mothers of young children who appreciate the value of good health and facial beauty, as well as the prevention of other common diseases of the alimentary canal.

The book provided an history of the development of preventive dentistry. Wallace did not hesitate to avail himself of the opportunity of detailing his own contribution to the field and to level pungent criticism of those holding contrary views. Nevertheless the fact that his opinions received recognition by an American journal at a time when dentistry, and particularly preventive dentistry, was further advanced in the United States illustrates the high international regard in which he was held and confirms that he was worthy of the sobriquet 'The Father of Preventive Dentistry'.

An apple a day

It is interesting that in the book Wallace emphasised apples as a satisfactory food to be taken at the end of meals both because of their detergent nature and as a stimulant for saliva production. He mentioned in his book that the London County Council recommended "every child [in residential care] to have 2½ozs of raw apple every day, served at the end of the last meal". Can we attribute the slogan "An apple a day keeps the dentist at bay" to Sim Wallace?

⁴⁰ J S Wallace, *The newer knowledge of hygiene in diet*, London: Henry Kimpton, 1952.

Wallace the person

So far Wallace's contributions to dentistry have been described but what of the man? In 1936 Breese penned a portrait of him in *Oral Topics*.⁴¹ He married in 1901 and had two sons who became members of the medical profession. His youngest son, William Henschel Scott Wallace obtained an MD and DPM and became a London MOH. Among his publications was a paper on 'The place of sugar in the natural diet'; was his father's influence present here? The first son, Herbert Kelvin Wallace, eventually went abroad and was last recorded in the *Medical Directory* as medical officer to a goldmine in Nyassaland. The choice of Kelvin as second name for his eldest son is interesting. Was it in honour of Thomson, later Lord, Kelvin, who was Professor of Natural Philosophy at Glasgow at the time Sim Wallace was a student and who is mentioned on several occasions in his writings? The name Henschel, for his second son, is unusual and may have come from that of the conductor and composer who conducted the Scottish Symphony Orchestra in the 1890s. Consultation of *Who's Who* revealed that in the early years of the twentieth century Wallace listed boating, sketching, natural and social science as his recreations. His initial dental practice was in Kingston on Thames and he continued to live in that neighbourhood throughout his life. Sim Wallace died on 13 July 1951 at his home overlooking Bushey Park. Breese assured us that his garden was "well stocked with fruit trees, especially those, which bear the best varieties of dessert apples".

It is fair to say that the work of Sim Wallace is not widely appreciated today. He is not held in the same league as John and Charles Tomes, George Northcroft or Norman Bennett, his immediate contemporaries. However, for the first four decades of the twentieth century he played an important part in the development of the dental profession. His professional interests ranged far and wide and he made many contributions to orthodontic and preventive dentistry. It remains a mystery as to why he interrupted his training in Glasgow to go to sea but then moved to London to complete his dental training. He appears to have severed connections with Glasgow and been happy in the south. However, in 1914 A E Webster, a Canadian who edited the

⁴¹ Breese, op.cit., fn. 34.

Dominion Dental Journal, when discussing a paper by Wallace referred to him as being:

In that unfortunate position of being a Scotchman [sic] in London ... but he is looked upon as being by far the most advanced in the study of the prevention of dental caries".⁴²

Nevertheless, when lecturing to dental students at the College of Dentistry in San Francisco in 1927 he described the Glasgow Dental Hospital as *his* training centre rather than the London institutions.⁴³

⁴² J S Wallace, Observations on the prevention of dental caries, *Dom Dent J* 1914; 26: 87-105.

⁴³ J S Wallace, Dental research, *Oral Topics* 1927; 6: 795-801.

A STORY WITHIN HISTORY: NAPOLEON'S MOUTH

Xavier Riaud*

On 7 August 1815 the Emperor Napoleon Bonaparte and his supporters boarded the *Northumberland*, heading towards the island of Saint Helena, where he was to be exiled.¹ They reached there on 15 October. Napoleon died around 4 am on 5 May 1821. On 15 December 1840 the Emperor's mortal remains were placed in the Church of the Invalides in Paris.

Napoleon's mouth and teeth²

He was born in 1769 with teeth already erupted into the mouth.³ They were to be an important feature of his life. Witnesses maintained that Bonaparte met a lady from Toulon who fell in love with him "*simply because of his teeth*". Constant, Bonaparte's servant, mentioned his master's nice teeth when he returned from Egypt.⁴ Similarly Alexandre Dumas, who thought the same when speaking of Bonaparte in the days following Brumaire 18th (9 November 1799).⁵ "*He had the same pretension for his teeth; indeed, his teeth were nice, but they were not as splendid as his hands.*"

Napoleon's personal hygiene was highly methodical and meticulous. Brushing his teeth was a step that he particularly valued. In this respect, the Emperor possessed a *necessary to teeth*.⁶ Moreover, from 1806 to

* Dr X Riaud, dental surgeon, 145, route de Vannes, 44800 Saint Herblain, France ; e-mail : xavier.riaud@wanadoo.fr

¹ Roy-Henry Bruno, Napoléon repose-t-il aux Invalides? [Was Napoleon laid to rest in the Church of the Invalides?], *Historia* 2000; 638: 42-48.

² Xavier Riaud, *Les dentistes détectives de l'histoire* [The dentists, detectives of history], in L'Harmattan (éd.), Collection Médecine à travers les siècles ["Medicine throughout centuries" collection], Paris, 2006, p. 53-57.

³ Henri Lamendin, *Petites histoires de l'art dentaire d'hier et d'aujourd'hui (Anecdodontes)* [Anecdotes on the dental art of yesterday and today], in L'Harmattan (éd.) Collection éthique médicale [Medical ethic collection], Paris, 2006, p. 11-12.

⁴ Henri Lamendin, Napoléon, des dentistes et l'Histoire [Napoleon, dentists and History] *Le Chirurgien-Dentiste de France* 2000 : 6: 966-971.

⁵ Alexandre Dumas, *Les compagnons de Jéhu* [Jehu's companions], Phœbus (éd.), Paris, 2006, p. 426.

⁶ A box with toothbrush and many instruments for oral hygiene.

1813 he had Jean-Joseph Dubois-Foucou (1747-1830)⁷, a dentist from Paris, at his service to take care of his teeth. According to F. Masson,⁸ one of Napoleon's greatest biographers, the care that the latter was giving to his teeth was such that "all his teeth were beautiful, strong, and well-arranged". He added:

He was carefully picking his teeth with a toothpick made of boxwood, then was brushing them for a long time with a brush soaked in opiate, flossed them with thin coral, and was rinsing his mouth with a mixture of brandy and fresh water. Finally he was clearing his tongue with a silver scraper of silver gilt or tortoiseshell."

In 1806, Chardin, "perfumer of Their Imperial and Royal Majesties", delivered 52 boxes of opiate toothpaste worth 306 francs and 15 dozen⁹ toothpicks made of boxwood and ivory. In October 1808 he delivered 24 dozen of these toothpicks, 6 boxes of thin dental coral worth 36 francs and 28 boxes of opiate of superior quality valued at 168 francs. It seems that during his reign the monarch never had to ask Dubois-Foucou for his service, apart from tooth cleaning.

In 1815, while Napoleon was embarking for Saint Helena, a British officer named Maitland¹⁰ noted: "His eyes are light grey, his teeth are in good condition." Another officer present at that very moment observed: "pale blue eyes, and unpleasant teeth". As for Lady Malcolm, she described Napoleon with "pale or grey eyes, white teeth in good condition and equal, but small". Bunbury maintained: "He has grey eyes, his teeth are unpleasant and dirty." Lord Rosebery declared: "The Emperor's teeth are bad and dirty, and [he] barely shows them." Lastly, Augustin Cabanès (1928) related: "Napoleon ate liquorice which eventually blackened his teeth." He added that "this assertion would need to be confirmed".

During his exile the Emperor suffered from dental abscesses which seemed to come from his right upper wisdom tooth.¹¹ The tooth was extremely loose. In *The memorial of Saint Helena*, a book written by Las

⁷ Société Odontologique de Paris, Les daviers de Napoléon [Napoleon's forceps], <http://www.sop.asso.fr>, 2006, p. 4.

⁸ Henri Lamendin, 6-13/01/2000, pp. 66-71.

⁹ One dozen = 12.

¹⁰ Henri Lamendin, *Anecdodontes*, Aventis (éd.), 2002, pp. 49-50.

¹¹ Betsy Balcombe, *Napoléon à Sainte-Hélène* [Napoleon in Saint Helena], Plon (éd.), Paris, 1898, p. 22-23.

Cases, Las Cases¹² himself, dated the first episode of dental inflammation to 26 October 1816. "I [Las Cases] found him with his face wrapped up with a handkerchief. 'What is the most terrible ache? What is the sharpest pain?' he asked. I answered that it was always the most instantaneous one that was the worse. 'Well, then it must be the toothache!', he replied. Indeed, he had a fierce inflammation; his right cheek was swollen and extremely red. I started to alternately warm a flannel and a cloth that he would apply in turns on his sore cheek and he said that was making him feel better." On 27, "his headaches and toothaches were extremely intense. The inflammation had not diminished at all". On 30:

Today, the Emperor was not feeling better. That night the doctor came; saying he had brought harmless gargles; but he had great difficulty using them. The Emperor's lips, throat and mouth were covered with spots. He said he could barely swallow or speak.

On 31: "He was suffering a lot, especially from the spots that were covering his lips." On 2 November: "The inflammation was even more decisive." On 5: "His mouth was on the way to recovery but his teeth remained extremely sensitive." On 9:

When having his dinner, the Emperor was feeling much better, was very happy and even lively; he was congratulating himself on having gotten over his last illness without taking medicine, without paying tribute to a doctor.

At that time, Baron Sturmer, sent from Austria to Saint Helena, wrote to Metternich: "He is in good health, and threatens to live for a long time." Further, he added: "He has a gumboil." On that occasion, Barry O'Mearahis, Irish doctor, reported symptoms of scurvy.¹³ In 1817, the

¹² Emmanuel De Las Cases, *Mémorial de Sainte-Hélène*, Le Grand Livre du Mois [Memorial of Saint Helena, the Month's Ledger], (éd.), Tome IV, Paris, 1999, p. 64-119 (republishing of the first version of 1822). Las Cases gave meticulous details on Napoleon's toilette. After shaving his beard, and cleaning his face, last of all, then comes the story of his teeth. Las Cases was banned from Saint Helena in December 1816. He also alluded to "scorbutic symptoms" from which Napoleon suffered during his exile in Saint Helena.

¹³ H. Lamendin, 6-13/01/2000, pp. 66-71. One of Napoleon's teeth, extracted by O'Meara is exhibited at Madame Tussaud's Museum in London. It is supposed to be a third upper molar.

Emperor had swollen legs and inflamed gums. In July, he suffered once again from facial inflammation due to his bad teeth. The doctor wanted to extract one of them which was loose. Napoleon refused the operation. In November, O'Meara noted: "He complained about a pain in the right cheek which came from his bad tooth. His gums were spongy and were bleeding from the slightest touch of his hand." A few days later, he wrote: "The Emperor's gums are extremely sore. They are spongy; ... the right part of his jaws is significantly swollen." Despite everything, Napoleon ended up accepting the extraction. The doctor extracted the tooth after making the Emperor sit on the ground. Lieutenant-colonel Gorregner,¹⁴ Sir Hugues Lowe's¹⁵ secretary in Saint Helena related:

He [General Bonaparte] recently lost a [wisdom] tooth. It was his very first surgical operation and under such circumstances, his behaviour was far from brave. In order to be able to extract his bad tooth, Doctor O'Meara was forced to make him be held on the ground. From then on, he complains a lot and keeps to his bedroom where he demands that a fire be lit despite the hot season. So he remains roasting for hours.

It was the very first tooth extracted from Napoleon's mouth. Until then, he had never really suffered from his teeth. According to the Frenchman, "this tooth was barely rotten and could have been filled".¹⁶ On the occasion of this operation Betsy Balcombe¹⁷ apparently exclaimed:

I beg your pardon! You are complaining about the pain caused by an operation of such little importance! You, who assisted at countless battles, and escaped a shower of bullets, you, who got injured so many times! I am ashamed of you. But anyway, give me that tooth.

¹⁴ Société Odontologique de Paris, Les daviens de Napoléon [Napoleon's forceps], <http://www.sop.asso.fr>, 2006, p. 4.

¹⁵ Claude Rousseau, Histoire de l'aménagement opératoire du cabinet dentaire – Le coffret d'instruments de chirurgie dentaire de Napoléon, l'énigme de son testament, Actes de la SFHAD, [History of the surgical fitting-outs of a dental consulting room – Napoleon's set of surgical instruments, the enigma around his testament] <http://www.bium.univ-paris5.fr>, pp. 1-8.

¹⁶ This is taken from Baron Sturmer's account.

¹⁷ Société Odontologique de Paris, fn. 14, p. 4.

Montholon¹⁸ dated this operation on 16 November 1817. To combat scurvy, O'Meara used antiscorbutic plants (furnitory, cochlearia, etc) and opiate toothpaste containing the same plants triturated with canned roses. In a report dated to 9 July 1818 O'Meara¹⁹ said:

The gums [of the Emperor] appeared spongy, scorbutic. Three molars were affected. Given the circumstances, I considered that they must have been caused by the inflammatory affections of the muscles and the membranes of the jaw. Besides, I thought that catarrh had been caused by those affections. I extracted them at appropriate intervals. To destroy the scorbutic aspect that the gums had, I recommended the use of vegetables [and] acids. I was successful. It disappeared, then reappeared again and was cleared up by the same means. The tongue was almost constantly white."

According to Marshal Bertrand, Napoleon suffered from other dental problems after January 1818, but remained vague on the dates. Derobert and Hadengue²⁰ gave more details about Napoleon's oral symptoms during his exile: "Within chronic arsenical intoxication, the ulcerous stomatitis of variable levels always takes the aspect of dental pyorrhoea." The prescription based on mercury and calomel certainly did not help the recovery of Napoleon.

Jean-Joseph Dubois-Foucou (1747-1830)

The final words are on Jean-Joseph Dubois-Foucou²¹). He was successively a dental surgeon under Louis XVI (1754-1793), Napoleon I (1769-1821), Louis XVIII (1755-1824) and Charles X (1757-1836). His

¹⁸ Jacques Bastien & Roland Jeandel, *Napoléon à Sainte Hélène – Etude critique de ses pathologies et des causes de son décès* [Napoleon in Saint Helena, a critical study on his pathologies and the reasons of his death], Le Publieur (éd.), 2005, pp. 26-29, 48, 53.

¹⁹ H Lamendin, 6-13/01/2000, pp. 66-71. Later, O'Meara commercialised 'toothpaste from O'Meara, Napoleon's former doctor in Saint Helena'.

²⁰ L Derobert & A Hadengue, *Intoxications et maladies professionnelles* [Intoxications and professional diseases], Flammarion (éd.), Paris, 1984. Stomatitis is the inflammation of mucous tissues in the mouth. Pyorrhoea is an infectious destruction of the tissues.

²¹ H Lamendin, *Praticiens de l'Art dentaire du X^{IV}^{ème} au XX^{ème} siècle* [Practitioners of the dental art from the 14th to the 20th centuries], L'Harmattan (éd.), Collection Médecine à travers les siècles ["Medicine throughout centuries" collection], Paris, 2006, p. 51.

name was really Dubois but he added 'Foucou', taken from one of his relatives who was an artist. In 1775, he defended his thesis entitled *De dentis vitiose positorum curatione* and became a member of the Royal Academy of Surgery. Dubois-Foucou succeeded to Etienne Bourdet when he became Louis XVI's personal dentist from 1790. He was mentioned in the "Chronological Chart of dentists serving the Court of France". In 1808, he published *Presentation of new methods for the making of teeth, known as composition*. As soon as he entered the Temple (in August 1792) Louis XVI asked him for a sponge for his teeth. In December Louis Capet, as he was then called, asked for citizen Dubois-Foucou's help because of dental inflammation which had been affecting him for a while.²² On 22 December 1792 this was not allowed after a deliberation from the Council, which refused to give a decision on solicitation.

During the time he spent around the Emperor, he earned 6000 francs in annual salaries. He only stopped practising when he died in 1830.

²² Lamendin, *Ibid*, 2006, p. 51.

KENNETH CRANSTON, 1917-2007: AN APPRECIATION

J Stuart Robson*

Introduction

It is important to acknowledge the contributions that dentists make to the world outside dentistry as well as within the profession. Kenneth Cranston (Fig 1) was a rarity in dental history. Ken, as he was known to his friends, died on 8 January 2007 aged 89 years. In his earlier life he decided to spend six months playing first class cricket. Cranston performed so well that in three months he was playing for England and in nine months was captain of his country. I knew Ken Cranston and played both cricket and hockey against him many years ago. It therefore seemed appropriate to research his background. In addition to personal reminiscences much information has been gleaned from the cricketer's 'Bible', *Wisden*¹ and from Frindall's book on Test Cricketers.²

Cranston the sportsman

Kenneth Cranston was born in Aigburth, Liverpool on 20 October 1917. His father Henry Selby Cranston was a dentist in Aigburth. Ken and his elder brother Ronald were educated at Liverpool College, but Ronald died aged 23 years after showing early cricketing talent. Ken was educated at Liverpool College where he excelled at sport, particularly cricket and hockey. Cranston once scored 289 in three hours as a schoolboy playing for Liverpool Pilgrims at Eastbourne.

After leaving school he became an undergraduate at the Dental School of Liverpool University. During this time he continued to

play cricket and scored a century for Lancashire second team against the old adversary, Yorkshire. According to the cricket correspondent of the *Daily Telegraph*, Harry Makepeace, who was then coach at Old Trafford and a man not given to exaggeration, Cranston had the best natural talent he had ever worked with.

Figure 1 Ken Cranston



Selected to play cricket for Liverpool University, he completed an exam on the morning of the match, then hurried to the ground to find that Birmingham University had reduced his side to 82 for 6. He went out at the fall of the next wicket to hit fifty in his first 10 minutes at the crease. He completed a whirlwind 128 before the declaration at 320 for 9.³

Following graduation with a BDS in 1940, along with many other people Cranston's sporting career was interrupted during his potentially best years by the war, when he was 'called up' to serve as a dental officer in the Royal Navy.

Cranston decided in 1947 to take a sabbatical from dentistry in order to play cricket for Lancashire. Following a reorganisation at Old Trafford he was immediately appointed county captain and had a brilliant season. It culminated in Cranston being selected to play for England in the third Test Match against South Africa. He held his place and demolished the South African team at Headingley with

* Dr J Stuart Robson, BDS (Durham), MGD (UK) RCS Eng., Dunelm, Black Dyke Lane, Upper Poppleton, York. YO26 6PT; e.mail: stuartrobson367@btinternet.com

¹ *Wisden Cricketer's Almanac*, John Wisden Ltd., 1948.

² Bill Frindall, *England Test Cricketers*, Collins Willow Ltd.

³ Colin Schindler, *The Wisden Cricketer*, Ken Cranston, Profile, content-usa.cricinfo.com/england/content/player/10862

his fast medium bowling taking four wickets in six balls. This secured his selection as vice captain for the Marylebone Cricket Club (MCC) tour to West Indies that winter under the captaincy of 'Gubby' Allen.

Captain of England

In those days amateurs were considered captaincy material instead of the professional players. Allen was injured and Cranston captained England in the first test match, which was drawn. His personal highlight of the tour was taking 4 wickets for 79 runs in the fourth test at Georgetown, including the wickets of Walcott and Weeks who were becoming world renowned. His tour figures were better bowling and taking 18 wickets at an average of 25. However his middle order batting was a disappointment, scoring a modest total of 209 at an average of 15 runs per innings.⁴

Cranston continued to captain Lancashire in 1948, brilliantly scoring 1,228 runs and taking 83 wickets. He was perhaps unfortunate to be recalled to the England team to play the all-powerful Australians when England lost by 7 wickets. Cranston's recounted memory of the game was discussing oral health matters with the Australian captain, Don Bradman. Bradman had poor teeth, as did many people in the post-war years, and he anxiously sought professional advice from Cranston in the team dressing room.

Having retired from regular first class cricket at the end of 1948 Cranston, as promised, returned to dentistry. He joined his father's practice in Aigburth where he practised until retirement in 1990. During the 1950s he played club cricket for Neston in Cheshire, the MCC and the Free Foresters. Cranston also playing county hockey for Lancashire. He was elected as a member of the Styx Hockey Club, an invitation club composed of mainly county players. During that time, in his holidays, Cranston played occasional county cricket matches for Lancashire. He once scored a memorable 156 runs - his highest first class score - against the county champions Yorkshire at the Scarborough Cricket Festival.

Cranston was always a generous sporting opponent and enjoyed many convivial evenings in sports club pavilions. It was as a mark of the high esteem in which he was regarded that he

⁴ Wisden, 1948.

was elected president of Lancashire County Cricket Club in 1993-94. Again as far as I am aware he was the only dentist to hold that honour.

Ken Cranston married Mary Harrison in 1942: they had a son and a daughter. This marriage was dissolved in 1964. In that same year he married Joanne Legg, with whom he had a son.

On 28 December 2006 Cranston became the oldest living former English Test cricketer, on the death of Norman 'Mandy' Mitchell-Innes. He died eleven days later. Whilst several dentists have experienced playing first class cricket Ken Cranston achieved a rare distinction. He is the only dentist to have captained England and the MCC in that most English of games.

ADA ELIZABETH FLETCHER AND THE IVORY CROSS

Stanley Gelbier*

Introduction

It was in 1990 that John Davis, chairman and founder of J&S Davis (Holdings) Ltd (which owned J & S Davis and Claudius Ash), ex-president and founder of the British Dental Trade Association, chair and founder of the Cordent Dental Trust and past president and founder of the British Dental Health Foundation, took his granddaughter for a walk in Hampstead Garden Suburb, north west London. They entered the grounds of a crematorium and came across a memorial stone commemorating an outstanding lady whose name most of us probably have forgotten - assuming we knew it in the first place. Her name was Ada Elizabeth Fletcher. John Davis encouraged the author to unearth something about her life and her work to improve dental health. She clearly deserves to be remembered.

The Fletcher family

Ada was born on 27 April 1867 and was christened on 27 February 1868 at Old Church, St Pancras in London. She came from a highly respected City of London family. Her father was Professor Banister Fletcher, FRIBA. Banister (1833-1899) was the second son of Thomas Fletcher. As an architect and surveyor he designed and erected many wharves, warehouses and other buildings.¹ In 1860 he was elected an associate of the Institute of British Architects, and in 1876 he became a fellow. On 23 April 1864 Banister married Eliza Jane (sometimes called Bessie), the only daughter of Charles Phillips. Interestingly the *Dictionary of*

* Prof S Gelbier, HonFFPH, MA, PhD, FDSRCS, DHMSA, DDPH, Honorary Senior Research Fellow, Wellcome Trust Centre for the History of Medicine at University College London, 183 Euston Road, London, NW1 2BE; e-mail s.gelbier@ucl.ac.uk

¹ E I Carlyle, rev J Elliott, Oxford Dictionary of National Biography, 2007, www.oxforddnb.com

National Biography only mentions that the Fletchers had two sons; there is no talk of daughters.

By 1870 Banister had moved to London. In the following year he published *Model Houses for the Industrial Classes*. In 1875 Banister became district surveyor for West Newington and part of Lambeth and he was a surveyor to the Board of Trade. His practice as a surveyor was very extensive, and his services were in constant demand as witness and arbitrator. His sons (later Sir) Banister Flight Fletcher (1866-1953) and Herbert Phillips Fletcher (1872-1916) subsequently joined his architectural practice. Not satisfied with his architectural efforts he was Liberal MP for north-west Wiltshire from 1885 to 1886.

In 1890 Banister was appointed professor of architecture and building construction at King's College London. His sons later became lecturers there. Together they published *A History of Architecture on the Comparative Method*.² Banister was very interested in Gothic furniture design which helped to secure support from the Carpenters' Company, of which he became master in 1889. In 1894 he was president of the tenth section of the international congress of hygiene and demography in Budapest, as well as of the engineering and building construction section of the British Association. In addition Fletcher was a member of the Common Council of the City of London, and a deputy lieutenant and JP for the County of London.

Banister died of tuberculosis at his home, *Anglebay* in Woodchurch Road, Hampstead, on 5 July 1899. He was buried at Hampstead. His wife survived him.

The children

The 1871 census records the family as living at 24 Bedford Square, in Finsbury. Banister was then aged 37 years, Bessie was 24 years old. The 4 children listed were Isabel (5), Ada (3), Maud (2) and Thomas (10 months). There is no mention of Banister junior, who was born in 1866: he was probably at boarding school. The family had three domestic servants to help them.

By the time of the 1881 census the family lived in Anglesey Road, Hampstead. Isabel, Ada and Maud were at a boarding

² A 5th edition of *A History of Architecture on the Comparative Method* was published in 1905.

school in Stoke Newington, in north London. One wonders if such a move was to reduce the pressure at home since Banister and Bessie had Harold (7), Edith (5), Percy (3) and Mabel (2) with them. The census recorder has added an intriguing note: "Could not get particulars". One reader of the census remarked³ that he had an image of all the children zooming round the place and the adults looking somewhat harassed.

The 1891 census found the family at 83 Woodchurch Road, Kilburn in Hampstead. By then Banister was professor of architecture and building construction at Kings College London. He was also a justice of the peace and a colonel in the '7' Rifles. The children do not appear to have fled the nest. Isabel, Ada, Maud, Herbert Phillips, Harold and Mabel were in the house on census day. They were joined by Hugh (9), Eric (5) and Ernest (?). There were looked after by a nurse, cook and two maids.

Ada's brother (later Sir) Banister followed his father's profession becoming an architect and architectural historian and eventually president of the Royal Institute of British Architects.⁴

Banister Flight Fletcher (1866–1953)

Banister junior was born in Bloomsbury, London, on 15 February 1866. He was educated at the Norfolk county school and at King's and University Colleges in the University of London. Banister joined his father's practice in 1884 but continued to study architecture at the Royal Academy Schools, the Architectural Association and the École des Beaux-Arts in Paris. He became an associate of the Royal Institute of British Architects in 1889 and a fellow in 1904. Banister became a partner in his father's firm in 1889 and took it over with his brother H Phillips Fletcher in 1899. The firm continued as Banister Fletcher & Sons after brother Phillips died in 1916. For years Banister was surveyor to the Worshipful Company of Carpenters, became its master in 1936 and director of its building crafts training school in St Marylebone.

Banister was best known as the author with his father of *A History of Architecture on the Comparative Method*, published in 1896. His definitive work was the 1921 sixth edition, its text much rewritten by Banister and his first wife. The twentieth edition was

³ Prof Robin Basker, Personal communication, October 2007.

⁴ Lady E Carr, Work in war and peace, *The Ivory Cross Journal (ICJ)* 1932; 14: 2015

published in 1996.

Banister was a lecturer at King's College and later on London University extension courses (1901–38). He was called to the Bar by the Inner Temple in 1908. Banister was a common councillor of the City of London (1907–53), chairman of the schools and library committees and senior sheriff (1918 to 1919). In 1919 he was knighted and received a number of foreign honours. Banister was president of the RIBA (1929–31). He died at his home, 4 Whitehall Court, Westminster, on 17 August 1953.

So Ada came from a large, well connected and industrious family.

Ada Fletcher's early activities

Before 1914 she held positions where good organisation was required. At the outbreak of World War I Fletcher's genius was called on to its fullest capacity and she became an honorary sub-organiser of the Women's Emergency Corps. Fletcher later transferred her attention to the organisation of a fund for providing comforts for the troops in West Africa.

Soldiers' and Sailors' Dental Fund

In October 1914 an army officer friend told Fletcher the army needed a Dental Treatment Fund and suggested she should start one.⁵ The idea strongly appealed to her for she had seen the enormous need whilst at the Women's Emergency Corps. Official statistics showed that many army volunteers were unfit for military service for dental reasons.⁶ Although "diffident to step in where others had feared to tread" Fletcher agreed to take on the task.

At first she professed little or no knowledge of dental care but by the time Fletcher died the dental profession acknowledged her as "the ablest layman".⁷ Through her own dentist she was introduced to the president (for 1915–1917) of the British Dental Association, Professor William Henry Dolamore, FRCS, LRCP, LDS. Fletcher told Lady Carr, a friend, that Dolamore was "exceedingly kind and sympathetic, but frankly confessed [to her]

⁵ Lady Emslie Carr, Noble services of a great Englishwoman: pioneer of the Ivory Cross, *ICJ* 1932; 14: 2014–2015, p. 2015.

⁶ Ibid.

⁷ *The Times and Western Mail*, quoted by *ICJ* 1932; 14: 2015.

he had little or no faith in any such fund".⁸ He knew of two funds which had started and then closed owing to lack of support.

With determination Fletcher surrounded herself with a distinguished group of friends. A small committee was set up and an office was established at 36 Leicester Square, below the Royal Dental Hospital of London and its School of Dental Surgery. The room was obtained by Dolamore free of charge. It probably helped that he was then the dean of the school.

By 1926 the office had moved to 10 Henrietta Street in Cavendish Square. Later it was at 93-4 Wimpole Street. When the latter was demolished, in 1929, the office moved to 67 Welbeck Street.

Many socialites and other important people supported her. For example His Royal Highness (HRH) The Duke of York, KG, became president of her fund, Her Grace The Duchess of Portland was president of its Council, and the Honourable The Marquess of Salisbury, KG, GCVO, CB, was chairman.⁹

On Dolamore's recommendation Sir Thomas Barlow, Bart, was asked to act as honorary treasurer. At first he agreed but Barlow then resigned as the War Office felt that dentures should not be allowed to soldiers as part of their equipment.¹⁰ Sir Herbert Bartlett, Bart, then took on the task.

In addition to Fletcher, who acted as honorary secretary and chief organiser, the staff consisted of Mrs Stanley Lound, as filing clerk and her son Vivian, as typist.

The Duke of Norfolk started off the Soldiers and Sailors Dental Fund with a cheque for £10. It was assumed that his initial contribution would lead to many other donations. However, even though the large amount of dental disease was widely recognised there was great difficulty in raising money for the provision of dental treatment. The fund circulated the Common Council of the City of London but only managed to raise one guinea from it.¹¹

In March 1915 Army orders were issued granting dental treatment. As a result the committee felt its continued work was pointless so proposed closure of the fund. Lady Cowans, a firm supporter and wife of the Quartermaster-General at the War

⁸ Ibid.

⁹ *ICJ*, 1931; 13: 1698.

¹⁰ Anon., Conception of the Soldiers and Sailors' Dental Aid Fund, *ICJ*; 1948; 27: 4578-9.

¹¹ 1e one pound one shilling, a shilling being 5p.

Office, Sir John Cowans, went with Fletcher to the War Office to report the decision. The generals who they met asked the Ivory Cross representatives to re-consider the decision and to continue the work under the War Office. They said if the fund would provide the organisation the War Office was prepared to pay the dentists' fees, provided the latter accepted cases sent by the army and navy authorities. This represented a major advance. The Surgeon-General to the War Office, Sir Alfred Keogh, KCB, was a helpful player.

The naval, military and civil authorities realised the magnificent work Fletcher was doing and her important administrative abilities, which is why she was asked to use her organisation to establish proper treatment for the Army, Navy and then the Ministry of Pensions.¹²

Fletcher saved the country thousands of pounds weekly for administrative costs. She arranged lists of dentists to treat combatants before they proceeded to active service. By June 1917 there were so many applications for care from soldiers, sailors and some civilians that it was necessary to reorganise the work. Later treatment was taken over by the grateful authorities.

The Ivory Cross National Dental Aid Fund

Towards the end of the war it was realised that the work should continue as there was no national health service. People coming out of the forces would require dental care, as would those in the Mercantile Marine, people attending maternity clinics, "gentle people without means and officers with very limited resources".¹³ So in June 1917 a meeting was held at the Mansion House in order to inaugurate the Ivory Cross National Dental Aid Fund. The Lord Mayor of London, (Sir) William Dunn, Bart, was in the chair.

Influential support

Over the years many socialites and other leading names joined her committee and other groups. Thus, in 1931, the fund's

¹² 'Saved thousands', *The Times and Western Mail*, quoted by *ICJ* 1932; 14: 2016.

¹³ Ibid.

honorary officials were still:¹⁴ the Duke of York, president, the Duchess of Portland, president of Council, and the Marquess of Salisbury; chairman of council; plus W Francis Mellersh, LDSRCS, vice chair and honorary consulting dental surgeon to the Fund and Ada Elizabeth Fletcher, honorary secretary and honorary organiser. Today's charities would be delighted to have associated with them the long list of the Fund's 1931 vice presidents (Fig 1). Included are politicians and their wives and eminent churchmen. At a later date they were joined, amongst others, by Fletcher's brothers Banister and Ernest, and the dentist and dental historian J Menzies Campbell.

Figure 1 Vice presidents in 1931

Mrs Stanley Baldwin
Admiral Earl Beattie, First Sea Lord
Col Sir A Brook-Pechell, Bart
Viscount Burnham, CH
Lord Carson of Duncairn
Rt Hon Neville Chamberlain, PC MP
Marquess of Crewe, KG
Baron Ebbisham of Cobham
Dame Margaret Lloyd George
Very Rev Dr JH Hertz, Chief Rabbi
Viscount Brentford
Admiral Earl Jellicoe
Vice-Admiral Sir Roger Keyes, KCB
Surgeon-General Sir A Keogh, KCB
Viscount Leverhulme
Lord Mayor of London
Lady Mayoress
Rt Hon Sir Frederick Milner, Bart, PC
Surgeon-General Sir Wm Norman, CB
Lord Riddell
Viscount Rothermere of Hempstead
St St Clair Thomson, MD FRCS
John Trevor, FAI
The Cardinal Archbishop of Westminster

¹⁴ *ICJ* 1931; 13: 1698.

Fund raising

It is excellent to have grand ideas on philanthropy but little can be achieved without a lot of money. Much income was derived from individual people's donations but more was needed. As a result a number of committees groups and sections were established to support the overall Request Committee (Fig 2).¹⁵

Few ideas were rejected: on a least one occasion the fund received a large dress box full of spectacles and dentures. One fund-raising endeavour was an annual tombola. In addition the fund mounted theatrical and concert charitable events. Many of Fletcher's influential friends were involved with their organisation. Figure 3 shows the leading people who attended the fund's theatre 'matinee' functions in 1932.¹⁶

Figure 2 Groups/sections supporting the fund-raising Request Committee

Baby toothbrush
Balls and dances
Bridge playing
Denture slip appeal
Journal despatching
Journal subscription
Old jewellery, gold and silver
Précis (in Office)
Silver paper and tin foil [for which donors were named]
Unwanted gramophone records
Writing envelopes

Figure 3 Some leading attendees at the fund's theatre 'matinees' in 1932

HM The Queen of Norway
HRH The Princess Royal
HRH Princess Beatrice
HRH Princess Mary
HRH Princess Arthur of Connaught
HRH Duke of York
HRH The Duchess of York
The Lady Patricia Ramsay
The Lady Maud Carnegie.

¹⁵ *ICJ* 1932; 14: 2032.¹⁶ *ICJ* 1932; 14: opposite 2030.

The fund even had an adult toothbrush club, providing brushes at fixed intervals in return for a membership fee.¹⁷ The journal said many supporters and readers "have not realised what a golden opportunity lies before them of ensuring a new toothbrush for their use very 4 months for 2 years" for "a remittance of 10 shillings".¹⁸

Ivory Cross Journal and other activities

Fletcher and her colleagues decided to spread their message via the printed word and commenced publication of a monthly *Ivory Cross Journal* in January 1919.

In addition to ensuring treatment and publishing the journal the fund produced dental health leaflets, sold Ivory Cross toothbrushes and toothpowder and provided a wide variety of press publicity.

Fletcher saw the Ivory Cross go from strength to strength as the fund grew and became a charity. As with many such organisations it eventually became larger than was healthy for a very small group of organising staff. It was suggested that the strain did not help Fletcher's health: she had heart trouble after a bout of influenza and "fifteen years of persistent overwork" and eventually died.

An important person in relation to the journal was Ignatius George Kelly. He began work for the Soldiers and Sailors Dental Aid Fund in February 1915. Even whilst in the Royal Navy and later the Royal Air Force Kelly remained actively interested. After the war he accepted the chair of the journal committee, at a time when he was making great efforts to get his practice as a barrister going. By the time he died Kelly had only twice missed a meeting, never arrived late or went early.

Support from the dental profession

Alfred Templar Barritt, LDSRCS, of 40 Harley Street, was the first dentist to be involved. He was soon followed by a second practitioner, also in London. By September 1922 there were nearly 2,000 dentists signed up throughout the UK. Over the

years Barritt was mainly responsible for maintaining the roll of dentists.

Another Harley Street¹⁹ dentist, W Mellersh, LDSRCS, became consulting dental surgeon and later vice chairman and then chairman of the council.

In 1930 the roll was opened to all practitioners, qualified or not. It was suggested by the fund that this national registration would aid cooperation between the leading but rival dental organisations and avoid the perpetuation of "ancient cleavages". It was referring to the fact that the British Dental Association refused membership to unqualified dentists, which remained so until 1948. Then the BDA united with the Incorporated Dental Society²⁰ and the Public Dental Services Association.²¹

When Fletcher died in 1932 the Ivory Cross recognised that enrolled dentists were doing the work for fees assigned on a charity basis; ie very low.. By then the fund had supported over two million dental treatments. At first the requests were mainly for dentures as teeth had already been extracted. Later treatment was as conservative as possible, trying to avoid extractions. Brushes and tooth powder were provided for adults and infants.

Fletcher was proud that out of every £1 subscribed 18s 6d²² was spent directly on treatment, recognised as "a marvellous achievement for one woman".²³

In 1932 readers of the journal were reminded that the Ivory Cross was no longer concerned only with ex-servicemen.²⁴ It was also for people too poor to afford treatment. Although realising it was not the best time to appeal for "alms" Gilbert Frankau said on behalf of the fund that he hoped everyone "who have suffered dental trouble themselves, and been able to afford a dentist, give a mite for fellow-sufferers who are not so fortunately situated".²⁵ Six years later it was claimed that the Ivory Cross was still the only national dental service in the British Empire.

¹⁹ 9 Harley Street.

²⁰ Open only to unqualified dentists.

²¹ Which was open to all dental practitioners.

²² 92½p.

²³ '2,000,000', *The Times and Western Mail*, quoted by ICJ 1932; 14: 2016.

²⁴ Gilbert Frankau, Miss Ada Elizabeth Fletcher, *The Ivory Cross Journal*, 1932; 14: 2017-2018.

²⁵ Ibid.

¹⁷ ICJ 1931; 13:1706.

¹⁸ 50p.

Cooperation with other charities

By 1934 the fund had received an enormous number of claims from all parts of the country. As "the leading dental charity" it was frequently called on to pay for dentures, a request seldom favourably received elsewhere. At the request of the president, The Duke of York, a conference of charity representatives and social workers was held at the home of Her Grace Lady Portland, at 3 Grosvenor Square. The Ivory Cross was joined by representatives of national charities and provincial centres, including the British Legion, United Services Fund, British Red Cross Society, National Council of Social Service and the Newspapers 'Benevolent Institutions'. All supported the demands for dental aid owing to the inability of local charities to alleviate suffering amongst the poor because of a lack of dental fitness. Over the years others joined in. Figure 4 shows some 1938 linkages.²⁶ Still later others joined in, for example, the British Red Cross Society, Discharged Prisoners' Aid, Friends of the Poor, Guild of Aid for Gentle People, Hospital Almoners' Association and the National Council of Social Service.²⁷

Figure 4 Groups linked with the Ivory Cross in 1938

Actors' Benevolent Fund
British Legion & United Services Fund
The Birmingham Citizen's Society
The Canning Town Women's Settlement
Cardiff League of Social Service
Charity Organisation Society
The Central Association and Borstal Association
City of Edinburgh Council of Social Service
The Friends of the Poor
The City of Glasgow Society of Social Service
The National Association of Prison Visitors
The Newsvendors' Benevolent & Provident Institution
Society of St Vincent de Paul
Sheffield Council of Social Service
The Soldiers', Sailors' & Airmen's Families Association
Wembley Guild for Social Service

²⁶ 1938; 20: Opposite 3305.

²⁷ Anon., National charities co-operated, *Ivory Cross Journal* 1948; 27: 4584.

A keynote objective was how to increase the pot of available money. As a result a central fund was established to help their work. All acknowledged a need to avoid overlap with other groups' efforts and cooperation was assured.

A scheme was proposed for the establishment of a new council (committee). It was to include the existing council members plus ten additional members representing national charities and ten from provincial centres. The centres were: Edinburgh, Glasgow, Birmingham, Bristol, Cardiff, Liverpool, Manchester, Newcastle-on-Tyne, Norwich and Sheffield.

1926 journal and Royal Commission

The April 1926 journal²⁸ discussed the report from the Royal Commission on National Health Insurance. The latter reported:

A complete dental service would be eminently desirable. But it would cost about £4½ million a year.

Any reasonable partial service would cost £2½ million a year. Even this smaller sum is not available within the present financial limits. ...

The report stressed that extended medical benefits and dependants' allowances had a higher priority than teeth. Therefore it concluded that no change should be recommended in the current provisions for dental treatment, which arose from the 1911 National Health Insurance Act Expansion of work

By the late 1930s there was a feeling that much general disease was caused by decay. On 15 December 1937 Lord Horder, KCVO, FRCP, paid tribute to the work of the fund at a dinner held at Claridge's Hotel. He said:²⁹

It is a safe prediction that the Empire rheumatism campaign would find the association of bad teeth with rheumatic disease greater and not less than was supposed. This might even make those directing the campaign to make a substantial subsidy to the Ivory Cross. There was definite and direct evidence that certain parts of

²⁸ Report on National Health Insurance, 1926; 8: 954.

²⁹ 1938; 20: 3312.

the human body were rendered more susceptible to cancer through dental sepsis than they would otherwise be.

The journal soon pointed out:

Dental disease is a pre-disposing cause of Cancer, Tuberculosis, Arthritis, and not infrequently of Mental Disorders. The general public scarcely, as yet, appreciate this, and the Ivory Cross is doing its best to enlighten them.

Also at Claridge's Sir Noel Curtiss-Bennett, KCVO, said:

There is no doubt that a very large sum of money will be spent in encouraging and procuring physical fitness, not only by the Government, but by Local Authorities and Voluntary Bodies. Much of this money will be wasted unless dental fitness forms a very vital and important part of such a campaign. ... it is impossible to have a fit body and fit constitution unless one has a fit mouth and good sound teeth.

He went on: "One of the aims of the Ivory Cross is a scheme for every Boys' and Girls' Club (and Organisations) in this Country to have the services of an Honorary Dental Surgeon."

Within months, in 1938, the Ivory Cross initiated a scheme to enable "necessitous members of juvenile clubs" throughout the country to obtain dental treatment, whenever possible.³⁰ In the following year county committees were established.

The death of Ada Fletcher

Although Fletcher had been ill for some time on 16 August 1932 there was a marked deterioration in her health. She eventually died on Wednesday 12 October 1932 at 16 Westcliff Mansions in Ramsgate, in Kent, aged 65 years.

The funeral service on 17 October took place at St George's Church in London's Hanover Square. The Bishop of Kensington officiated, supported by the Archdeacon of Middlesex. The music was arranged by Fletcher's friend Dr C E Jolley, who was the organist at St George's. The front of the funeral service sheet

³⁰ 1938; 20: 3312.

stated that her last message to all workers for the Ivory Cross National Dental Aid Fund was

"Carry on with the Fund as if I were still with you".

The first hymn was 'Fight the good fight with all your might'.

Cremation then took place at the Golders Green Crematorium in north west London. Ada Fletcher's body was accompanied there by her many friends from the Ivory Cross and elsewhere, as well as by her mother³¹ and brother who had survived her.

There was an immediate outpouring of telegrams and messages of sympathy. The secretary to The Duke of York said the deeply deplored her death and asked him to convey his deep sympathy on the loss. The Duchess of York wrote: "Miss Fletcher's express wish was that the work should be carried on and I ask you to do so as a tribute to her work and wonderful inspiration." The Marquis of Salisbury also expressed his deep regret for the loss which the Ivory Cross has sustained.

Lady Emslie Carr,³² chairman of the fund's Request committee and a great friend, said: ³³ Miss Fletcher had "earned the gratitude of many thousands of those who served during the war for organising an efficient dental service for the troops and the Navy," and her death was "the passing from our midst of a very great Englishwoman". From the beginning she was "endowed with indefatigable energy, wonderful organising genius and personal magnetism ... destined to leave her mark upon the world in which she lived". Lady Carr was first interested in the work of Dental Aid when a joint founder of the Kempstead Hall (Camberwell) Maternity and Infant Welfare Centre. She was distressed to find that the health of many expectant and nursing mothers was seriously affected by lack of dental treatment. Lady Carr worked long and hard with Fletcher to ensure that proper dental provision was made for them, as well as hundreds of other mothers throughout the country. She was instrumental in persuading the late Margaret Lloyd George, wife of the Prime Minister, to arrange a successful meeting at 10 Downing Street.³⁴ On Fletcher's death

³¹ Her mother eventually died on 3 January 1933.

³² Wife of Sir Emslie Carr, chairman, managing director and editor of the *News of the World*.

³³ Lady Emslie Carr, Noble services of a great English-woman: pioneer of the Ivory Cross, *ICJ* 1932; 14:2014-2015.

³⁴ In memorium, 1942; 22: 4034.

Carr ensured the work was continued and enlarged. Lady Carr herself died on Whit Sunday 1942.

Leila Bain, one of the fund's earliest voluntary helpers, wrote of Fletcher:³⁵

No amount of red tape, adverse criticism or official discouragement deterred her from tackling that work, which from a deeply religious conviction, she believed had been set her to do. The usual difficulties attendant upon pioneer work were met by her with an amazing courage, a lively sense of humour and astounding industry.

She said Fletcher carried out:

With conspicuous success schemes which men of wider experience deemed impossible of achievement. Her forceful character had a persuasiveness all its own and she was able to summon around her a small army of voluntary workers.

There was a slight note of caution from Bain:

Her enthusiasm for the voluntary system was such as to lead some to misinterpret her actions as misguided. ... She had a natural patriotism which was continually urging her to better the work she had undertaken, regardless of the fact that her health was seriously and rapidly failing. It is no sentimental exaggeration to say she gave her life for the Country she loved so well and the work she had so dear at heart.

Fletcher had the ability to compel others to active voluntary help for the cause she conceived and cherished.³⁶ A serious aftermath of the war was a population "ravaged by dental neglect brought on by circumstances, ignorance or war-time malnutrition". Fletcher "set herself heart and soul into the great charitable task of alleviating this burden of disease and suffering". She was under no illusion as to the difficulties facing her. But from the smallest of beginnings she created a national organisation, progressing step by step until her achievements won the support of well-known men

³⁵ Leila L Bain, Miss Ada Elizabeth Fletcher, *ICJ* 1932; 2016.

³⁶ Anon., To our Foundress: the Lady of the Ivory Cross, *ICJ* 1932; 14: 2018-2019.

and women in every sphere of social and political life. Famous soldiers and sailors were always ready to lend a helping hand to the Ivory Cross "stimulated by personal respect and regard for our dauntless Foundress as well as by appreciation of our cause". Under the presidency of the Duke of York the Ivory Cross became the foremost of the dental charities.

One person wrote:

The Ivory Cross and the poor people have lost a real friend: I have met her on many occasions at the Ivory Cross offices. Though always overwhelmed with work, she has always received me as though I were the only person who had to be seen, and her charm of manner has always left a very deep impression on me. Her extreme courtesy in her correspondence ... even on the most trifling matters, has been a thing I shall always remember.

Appeals for money continued over the years. The journal stated:³⁷

Once again they [the Council and Committees] plead on behalf of those who are in dire need of dental treatment, but are without the means of paying for this...

It is felt that the all important fact of the great necessity for dental treatment is still not generally realised, but how vital this is is brought home by the practical demonstrations of our Dental Practitioners in giving treatment to the poorer persons, and it is their authority and knowledge which gives reason to hope with every confidence that the Fund may look to their Lay Members to give their general assistance.

The way ahead

On 26 October 1932, W Francis Mellersh, LDSRCS, the fund's dental advisor, was appointed as the new honorary secretary. Lady Carr took over the chair from Mellersh.

Miss E M Chalmers, who had joined the fund in 1929, became acting secretary, so Fletcher's duties were divided between two people.

³⁷ An SOS of national importance, 1931; 13: 1699.

It was Ada's wish that her illness should not interfere with two special fund-raising arrangements so they went ahead. There was a Ball and Cabaret on 2 November and a Matinée at the Hippodrome Theatre on 22 November.

The list of table holders for the ball was a real reflection of British society of the day. £1,100 was raised even before anyone entered the ballroom.

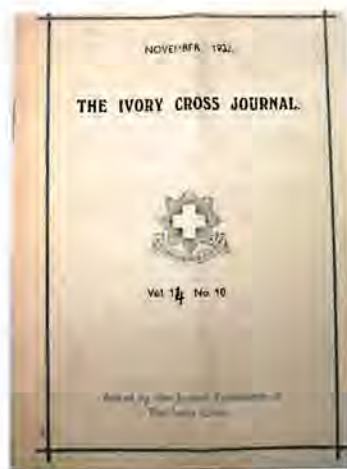
The all star variety entertainment at the Hippodrome was another success. Although not present HM The Queen sent a water colour painting to be auctioned. There were also a precious stone from the Imperial Russian Collection, Havana cigars for smokers, "genuine silk stockings" for the ladies, plus a case of the finest whiskey.

The Matinee included musical tableaux, a children's ballet, a Hungarian band, a young comedian and a ventriloquist. It made £1,991.

In memorium

In November 1932 the front cover of *The Ivory Cross Journal* was enclosed in a black box (Fig 5). It also showed the Fund's badge.

Figure 5 Front cover of the November 1931 journal



As a nice touch this memorial edition included an article by Ada's brother, Sir Banister Fletcher, FSA, on 'The greatness of Wren, The father of modern architecture: a great genius takes a great opportunity'.

In January 1933 the fund's Council agreed to the erection of a bronze and enamel tablet in the Cloisters of the Golders Green Crematorium as a permanent memorial.³⁸ With the help of a member of the office staff Fletcher's plaque was located by the author.³⁹ The bronze part of the memorial has greatly darkened but the badge still shines bright (Fig 6). A visit to the crematorium shows that she is in good company. Many celebrities are remembered by nearby plaques: from the world of music are Larry Adler (harmonica player), Ronnie Scott (jazz musician and club proprietor) and Marc Bolan (musician writer, poet); Wolf Mankowitz is a representative of the acting profession; one of the many comedians is Bernie Winters; and Hughie Green ("You were the star that made opportunity knock") is remembered for his TV 'Opportunity Knocks' programme, viewed long before 'X-Factor' was even thought of.

Figure 6 The Ivory Cross crest at the head of Fletcher's memorial



In October 1933 the words 'Founded by Ada Elizabeth Fletcher, 1914' began to appear on the front of the journal.

In the following year the first prize for the tombola was a 'Standard' motor-car.

³⁸ ICJ 1933; 15: 2048.

³⁹ At Bay O.

Figure 7 The fund's income in 1932

Donations	133
Subs	496
Picture theatres	658
Old dentures and jewellery	1286
Patients' contributions	1252
Collecting boxes	28
Tombola	331
Matinee	1991

In 1938 the fund emphasised that it did not compete with hospitals nor overlap with Approved Societies. All applicants were 'assessed' to contribute money according to their means. The fund aimed at an income of at least £15,000. "This is a National Health work in the truest sense."

Articles in the journal

For much of the time the journal dealt with its appeals for and use of money. It also carried a mixture of other items, not all dentally related. The following are a few articles which appeared in *Dental Historian* in the 1930s:

W W Gabell	1931	Outlines of dental history
H Pring,	1932	Care of diffuse desquamative gingivitis
Pennsylvania		
E Sampson	1931	Progressive practice: a treatise and economics
A J Horniblow	1933	Oral sepsis and its relation to mental dementia
W J Shorman,	1933	Ocular disturbances of dental origin
California		
J Sim Wallace	1933	Research on dental caries and its prevention

There was also a layman's diary. One of the series reported:

Last Tuesday week a friend of mine said he had the pain that maddens, and could I recommend a man to do the dirty work. I sent him along to the only dental surgeon who really matters in my locality. Next day I asked my friend how he got on, and after expressing his satisfaction he said, 'And what do you think I

discovered? In the waiting room there were magazines and periodicals for 1931.' I am enquiring into the accuracy of the statement.

On other occasions there were items such as a list of the ten greatest tunes and home hints, for example cooking chestnuts. It also carried details of some dental articles in journals world-wide and some advertisements (Fig 8):

Figure 8 Some of the dental advertisements which appeared in the journal

Dental Manufacturing Company (DMCo) Ltd
Harmac Bros Dental mechanics
Fentiman and Co, Mechanical work
SS White Co of GB Ltd, for Germical Kryptex
L Porro, The 'Prestonian' daylight lamp
Cottrells
Saccharin Corporation Ltd, Oxford St, Dental alloys,
Novacain etc
Amalgamated Dental Co Ltd, Anatoform crowns

The 1939 war led to a loss of social functions and so dramatically reduced the fund's income. There was no certainty that it would be able to continue treatment for the 679 cases being treated or awaiting treatment.⁴⁰ The journal appealed for Christmas gifts to "Help us carry on". It gave examples of some of the cases on the waiting list. One such patient was:

Mrs H (London), aged 38, urgently requiring dentures.⁴¹ The family consisted of the applicant, her husband (a builder's labourer) and 4 children aged 5 to 13 years. After payment of rent and rates (17s. 4d) and insurance (1s 2d), out of their remaining weekly income of 6s11d per head they had to cover the cost of food, lighting, clothing, boots etc. She was asked to pay £1 15s 0d towards her treatment. There was no let-up in the need. In 1948 Mrs J (Lanarkshire) aged 36 years also required dentures.⁴² Her family consisted of the applicant, husband (carrier) and 3 children aged 2½ to 14½ years.

⁴⁰ ICJ 1939: 21: 3317.

⁴¹ ICJ 1939: 21: 3720.

⁴² ? ICJ 1948 27: 4574

From a weekly income per head of 15s 11d, *after* payment of rent and rates (15s 3d) and insurance (7s 9d) it had to cover the cost of food, lighting, heat, clothing, boots etc. The patient offered 35 shillings towards the cost of the dentures.

During the war there was some interest in the fund from abroad. For example the Australian Dental Association made a generous donation towards its war appeal.

In view of wartime restrictions of materials, especially if transport by sea was involved, the journal became a quarterly rather than monthly publication, a situation which remained until its demise.

Looking forward to reconstruction after the war and the part the Ivory Cross would be required to play, in December 1943 the journal again appealed for more money. By then there were 3,614 people on the fund's books. Its officers met with Sir Arthur Rucker, permanent secretary at the Ministry of Health, to see how help could be given to people applying to the Ivory Cross, especially in view of discussions about an intended new national health service and Lord Teviot's enquiry into dentistry.⁴³ Rucker said help was still a long way off and voluntary efforts were still needed. Teviot (? Interim) had reported⁴⁴ that 90 per cent of male and 86 per cent of female recruits to the army and the ATS needed dental treatment.

And so it ended

The final journal, published in the year the National Health Service was founded, stated⁴⁵ that "the Ivory Cross has achieved the objectives for which it was originally founded". It was with a feeling of justifiable pride in its record of over 77,000 patients treated that it transferred its important work into the hands of the National Health Service. What more can one ask?

However, in spite of many successes the path was not always smooth. In 1948 the journal wondered⁴⁶ if some of the early criticisms of the fund were due to the fact that Fletcher was a woman, which provided an opportunity to people:

⁴³ Refs Teviot reports ? 1944 interim

⁴⁴ 4265 0 1944) Teviot's findings xxxxxx

⁴⁵ ICJ 1948; 27: 4584.

⁴⁶ Anon, Main objects of our work, ICJ 1948; 27:4581.

Anxious to criticize only for the sake of criticism. In England, in spite of equal franchise, there is still a strong feeling against the creative power of woman and the complementary nature of her work.

Right to the end the fund maintained its social connections. In 1948 the officers were:

President of Council	Duchess of Portland
Deputy president	Duchess of Marlborough
Vice chairman Council	Vice admiral Barkly Moteno
Chairman Executive committee	Mrs Norman Reilly
Hon Treasurer	Sir William Emslie Carr ⁴⁷
Chairman Appeals committee	Lady Waleran
Honorary secretary	Frank Coleman MC MRCS FDS
Secretary	Miss E M Chandler.

The vice-presidents included:

Sir Banister Fletcher, past-president RIBA
 Dr Ernest Fletcher MA MB MRCP⁴⁸
 C F Cale-Matthews FDS
 J Menzies Campbell FRSE BDS LDS
 William Guy LLD FRCS FDS
 Prof H F Humphreys OBE MC TD MB MDS FDS
 A E Rowlett FDS
 E Samson FCS FDS.

Acknowledgements

I thank John Davis for drawing my attention to Ada Elizabeth Foster and encouraging me to research both her and the Ivory Cross Fund. Also Professor Robin Basker who kindly traced a great deal of information about Fletcher and her early family life from Census records, Helen Nield of the BDA Information Centre who provided library support and Daniel Davis who supplied additional information.

⁴⁷ Sir Emsley Carr was chairman, managing director and editor of News of the World. As Major W Emsley Carr, in June 1945 he had been elected as treasurer of the fund

⁴⁸ In 1931 Ada's brother Ernest spoke on behalf of Ada, who was ill, to an 'At Home' given by the Duchess of Portland to some of the fund's workers.

TWO MAYFAIR DENTISTS TO ROYALTY: 1775-1852

Peter Beauchamp*

Charles Francois Dumergue (Fig 1) was born in the Anjou area of France in 1739 from where a number of Frenchmen emigrated to England in subsequent years.¹ Dumergue was the son of a middle-class family with strong connections to the Abbey of St Cybard in Angoulême.

Figure 1 Charles I Dumergue 1739-1814
(Artist unknown)



Little is known of his early life although he clearly received an excellent education including an appreciation of art. On his marriage at the Royal Parish (and artists) church of St Germaine L'Auxerrois in Paris in 1763 the wedding document described him

* Mr P C Beauchamp FRSA, 31 Langham Gardens, Gordon Road, London, W13 8PY. He is a direct descendant of the younger of the two Dumergues.

¹ Amongst them was another notable dental practitioner, Nicholas Dubois Chemant, although there is no evidence he was ever in contact with Dumergue.

as 'surgeon'. Other surgeons appearing for him at the wedding were Michel de Bussac, Jean Picquet, a surgeon to the Duke of Orleans and Louis Vatré, surgeon major to the Regiment of Normandy. It seems probable from the lack of other contemporary records mentioning Dumergue in France, that his early grounding in surgery may have been with one of these people, probably the first named, since there is no evidence of a dental school or dental qualification in France at this time.

After their marriage Dumergue and his wife Ann, who had family connections with the French court through relatives in both the art and millinery fields, nevertheless found Parisian life very hard. Charles soon concluded that he was incapable of obtaining means for them to live there in a genteel manner. A possible problem of social acceptance may have been that he was a Protestant, though baptised into the Roman Catholic faith. He may also have felt that French dentistry then led the world, which finally decided him to move to London in 1766.

First living in Bury Street, St James, Dumergue must have sought to improve his English while at the same time looking for a London dental apprenticeship. Ideal mentors would have been George or Thomas Spence who practised in the same parish at that time and both of whom became *Dentists to Their Majesties' Household*. There being no dental school in London such apprenticeship would have had the added possibility of social entrée to the royal milieu with its attendant publicity. As a French native, his knowledge of the language of diplomacy would have been an added advantage if required to stand in for his master on occasional time-consuming journeys to visit royal patients at Kew or Windsor Castle. Such opportunities may well have been augmented by his wife's uncle, Antoine Francois Boucher, the renowned French artist and painter to King Louis XV and Madam Pompadour, who could have provided significant introductions. Dumergue may also have been introduced to the English Queen Charlotte by the famous artist Johann Zoffany, who was an early favourite of hers and who painted her with her children several times. Zoffany later painted portraits of both Dumergue and his daughter Sophia so the families were obviously well acquainted. Dumergue was eventually appointed as Zoffany's executor.

Curiously, the first evidence of Dumergue's work as a dentist comes from a French source where, at the baptism of a relative in Anjou in 1775, Dumergue is described in the church records as "chirurgien dentiste de la Reine d'Angleterre". This ties in well

with the memory of the Prince of Wales, who wrote in one of his letters² in 1802 "that he remembered being treated by Dumergue for upwards of 25 years." By 1802 Queen Charlotte had ten children who quite probably needed a lot of dentistry. It seems unlikely that she would have been unaware of the identity of who was treating them at the time. By 1779, Ann Dumergue's divorce evidence describes Dumergue as "living in a splendid manner and earning an average of £1500 per year".

Family records have it that in 1789 Dumergue's fourteen-year-old nephew Joseph Joly arrived in England in a fishing boat from La Rochelle. As a refugee schoolboy he carried nothing but a red leather portmanteau embossed with the *fleur-de-lis*.³

It is supposed that he had taken refuge from the beginning of the French Revolution at his uncle's invitation. The change to English schoolboy clothing and living in his uncle's new and highly fashionable home at 118 Bond Street, Mayfair must have been a considerable culture shock, even more so when he was sent to school at Mr Robert Roy's international establishment round the corner at 10 Burlington Street. On leaving school it was decided he would be a dental surgeon like his uncle. However, with dentistry still unrecognised in its own right by the Company of Surgeons, he enrolled to undertake spells of apprenticeship with two surgeons, first with William North⁴ for a fee of £50 in 1793 and the following year with Mr Keate at St George's Hospital.⁵ In a 1794 term he was the latter's only pupil. Diligently continuing his studies while also helping in his uncle's practice, he was eventually enrolled as a Member of the Company of Surgeons in January 1797 after the necessary period of 'walking the wards' in several hospitals. They included the London French Women's Hospital and York and Chelsea Hospitals. He is recorded as "having been a significant subscriber to the College" having become a Member on its formation.

Following the appalling bloodbath of the French Revolution the Georgian Government had passed the Aliens Bill which restricted the liberty of foreigners in England. Well advised of the

impending Bill, both uncle and nephew became naturalised Englishmen. The younger man took the opportunity to change his name to that of his uncle as Charles Joseph Joly Dumergue. We do not know the reason for what followed, though there may have been several. Joseph decided to take advantage of his uncle's contacts and became assistant surgeon in the Indian Medical Service, whence he took ship. Unfortunately his health failed him in India and he returned after only one year. There is an unconfirmed story that whilst there he successfully treated the most senior Englishmen in the country. At all events his overseas experience would have established in him an independent outlook whilst confirming that he was going to make London his home.

The sitting room of Dumergue's house at 118 Bond Street became the home for most of the summer of 1795 for the invalid Ann Boulton,⁶ the child of the famous Birmingham industrialist of steam-engine fame. Dumergue's daughter and housekeeper Sarah Nicolson entertained her while the noted surgeons Henry Cline and Grant visited her periodically. Boulton and Dumergue were life-long close friends.

By 1798 Dumergue senior was without question an established Mayfair 'society dentist'. Among his patients were a number who sat for portraits to be entered in the nearby Royal Academy summer exhibitions, occasionally no doubt, at the hint of their painters. Woodforde's amusing book⁷ describes the importance of dentistry in French court circles and how false teeth could not only create articulate speech but improve the smile and even alter the features of the face. He mentions that the poet Wordsworth was asked to remove his false teeth by his portrait painter. Dumergue included a number of the artists among his patients, for as the noted Josef Farrington, R A (1747-1821) found on his visit,⁸ he "refused money from artists".⁹

² S Mason, *The hardware man's daughter*, Chichester: Phillimore, 2005, p. 102.

³ J Woodforde, *The strange story of false teeth*, London: Routledge & Keegan Paul, 1968, pp. 26, 102.

⁴ K Garlick and A Macintyre (Eds), *The diary of Josef Farrington RA*, London: Yale, 1979, III, p. 1018.

⁵ While on the subject of charity there is no record that either of the Dumergues became English Freemasons. However subsequent to 1801 Dumergue senior's signet ring bore wording similar to the Freemason's motto. In 1787 another earlier accredited dentist to the Prince of Wales, the eminent

² A Aspinall, *The later correspondence of George III, 1802-1807*, Cambridge University Press, 1968, p. 313.

³ *Fleur-de-lis* were the royal arms of France.

⁴ Private communication, Royal College of Surgeons of England.

⁵ Private communication, Royal College of Surgeons of England and St George's Hospital Archives.

Towards the end of his working life Charles senior's practice in Bond Street, Mayfair had been prospering greatly. He took on as a mechanical assistant the young Samuel Cartwright (1781-1864), the first of the remarkable dental dynasty. Cartwright's extremely painstaking and successful work, which included carving hippopotamus ivory¹⁰ dentures, augured well for his future.

In spite of the many years England was officially at odds with and sometimes actually engaged in fighting against the French, the two Dumergues were able to make a number of visits on business and family matters across the Channel. On these occasions the Prince of Wales required to be kept in touch with their movements.

Among the interesting visitors who called socially at Whitehorse Street¹¹ were the actresses Mrs Fitzherbert and Sarah Siddons; and Dr Erasmus Darwin (1731-1802), who became the grandfather of Charles Darwin of *Origin of Species* fame. Dumergue had some correspondence with Boulton about a 'Magnetic Society' in which Darwin may have had an interest as a member of the Birmingham Lunar Society.

Some practicalities and opinions of Charles Dumergue's dental work

No publications formally mention his work at this time so reliance must be placed on extracts from correspondence. The Reverend Walter Scott Dumergue states in his family history that "Charles was one of the first to realise the importance of good teeth to health" and that he was "well known in literary and scientific circles for this view".

We do not know to what extent he developed new dental

Chevalier Ruspini, was one of the earliest household members of the Prince of Wales Masonic Lodge, now No 259, which also included a doctor and a surgeon. One of Ruspini's sons, another dentist, founded his own Lodge in 1813 but no other dentists appear in the area's masonic records up to this time.

¹⁰ Some people called it "horn of sea horse".

¹¹ Dumergue had moved to more spacious premises opposite Green Park in 1800.

techniques but his letter dated 24 June 1802 to Matthew Boulton¹² states: "I will thank you for an ounce or two of the best copper shavings. It is to ally with my gold for my plate."

Broken teeth, detached crowns and tooth transplants.

John Sainsbury of Westminster wrote in 1784 to Lord Downshire¹³ that one 'Master Johnson' had just gone through a painful time "with a broken tooth which could not be drawn and Mr Dumergue had had to cut it out but the new one appeared to be quite settled".

Sarah Nicolson,¹⁴ Dumergue's housekeeper, wrote to Matthew Boulton on 28 July 1789 as follows: "Mr Dumergue says it is necessary Miss Boulton should have the remains of the old tooth removed and he will place a live one in the socket."

Charles Dumergue follows up with his own letter¹⁵ on 3 August:

In putting the tin foil round the pivot of the tooth it will keep very fast, it is the method I use. But I desire Miss Boulton to come to town at once because it is the malady in the gum I hope to cure by the extraction of the root. One must be very attentive in not putting too much of the tin foil the tooth would not go high enough (sic).

Ronald Cohen commented on this letter:

It appears Dumergue had crowned a tooth (the Pivot) and it was giving trouble. It also seems that Miss Boulton was developing an infection due to Dumergue's reference to the gum.

Some time after the transplant Matthew Boulton wrote to his son:¹⁶

¹² Birmingham City Archives, Boulton Collection, MS3782/12/47/185.

¹³ E Dexter, *Sir Walter Scott and his wife. The happy marriage and the mystery*. Unpublished MS, National Library of Scotland.

¹⁴ R A Cohen, *Dumergue studies*, Special Collections Department, Birmingham University Library, Letter 199.

¹⁵ Birmingham City Archives, MS3782/12/34/133.

¹⁶ R le N Noble, *The first English Dumergues*, AGIFAD, Resignel, France, 1997, p. 61.

Your sister had a tooth drawn and at the same time another was drawn out of a young girl's head about 14 and after cleaning it and washing it in spirits of wine and camphor it was placed in your sister's jaw where it seems to fix firm and I have no doubt it will prove a good tooth and useful.

On 15 February 1803 Dumergue wrote to Boulton¹⁷ about the latter's teeth:

The pain you feel in the sockets when the teeth meet must be scarified pretty deep and the teeth filed short enough to prevent their touching one another. I think it will be sufficient to give you ease pretty soon.

On 24 August 1804 Sarah Nicolson wrote to Boulton¹⁸ touching on the difficulties of being the Prince of Wales's dentist:

Mr Dumergue begs me to tell you that it is out of his power to write as he went at 11 o'clock to attend the Prince and is just returned at 3 o'clock, the House full and everyone angry and impatient to see him.

During his time in practice after Dumergue retired, Sam Cartwright revealed¹⁹ that his 28 mile coach journeys to Windsor Castle were very time consuming and he charged twenty guineas for each visit.²⁰ There were some at Court who were sympathetic to Dumergue's onerous travel burden, which also included Oatlands, Kew Palace and other royal residences, as we find in another letter from Miss Nicolson to Boulton where she mentions that one of the Princesses had visited Dumergue's dental surgery that day.

Dumergue's dedication to the needs of the Prince had its due rewards, of course, as witness the reference in the Prince's letter²¹ to the Dowager Countess of Elgin, who was Governess to Princess Charlotte, his daughter: "Old Dumergue is the one I

¹⁷ Birmingham City Archives, op cit., MS 3782/12/48/38.

¹⁸ Noble, op cit., fn. 16.

¹⁹ C. Hibbert, *George IV*, Harmondsworth: Penguin, 1976, p. 760.

²⁰ Perhaps he had learnt from Dumergue who was on the less beneficial allowance of £105 per annum.

²¹ A Aspinall, *The correspondence of George, Prince of Wales, 1770-1812*, London: Cassell, 1971, IV, p. 313.

have complete confidence in and the ablest most certainly in his line not only in this country but in any other." However with such a reputation came expectations which may not have put all patients at ease. Lady Polwarth from Bedfordshire, describing her appointment with him,²² called Dumergue "a Great Man, not to say Tyrant". Although she managed to part from him after her appointment "without a quarrel", she had misgivings about her treatment.

Although many dentists of the period advertised their own products in the national and provincial papers there is no evidence that Dumergue ever did so. Even so a postscript in a 1794 letter from Prince Ernest to the Prince of Wales asked for some of "Dumergue's tooth powders".

By 1811 Charles Dumergue was feeling his age more and more and had been taking holidays in Bath and Christchurch. Cartwright was increasingly taking over certain of his patients. So it was no great shock when on 25 June 1814 Dumergue died at his Piccadilly address.²³ In contrast to this sadness, it was just at this time that the newly emergent King Louis XVI of France was being fated by huge crowds throughout Piccadilly in his procession from Grillions Hotel in Albemarle Street to the Pulteney Hotel where the Prince of Wales visited him.

Dumergue's will²⁴ showed his property (including his Bond Street house) was worth less than £50,000 but this did not include bequests to make a total of £83,000.²⁵ The list of assets and money owed him at his death was produced as an estate document²⁶ in a legal case in 1817. It was about one metre square and the debtor list reads like a Who's Who, although all Court debts including those of a number of the royal family were settled very quickly. The royals included many who had not been officially gazetted as his patients but had presumably found it convenient to utilise his time when visiting the palaces.

His daughter continued to live at the Piccadilly address. When she died, Miss Nicolson, her close friend and housekeeper, inherited the house and stables.

C F Dumergue's bank accounts bear witness to his great

²² Notes and Queries, Dental Historian 1994; 27: 16.

²³ Since pulled down and now the site of 96 Piccadilly.

²⁴ National Archives, Prerogative Court of Canterbury, Probate 11/157.

²⁵ Which according to the Retail Price Index would now have the purchasing power of over £3 million.

²⁶ National Archives, Prerogative Court of Canterbury, C13/2135.

generosity to many during his life. In the words of his great friend, Sir Walter Scott,²⁷ who regularly stayed with the Dumergues on his visits to London (and even met his wife-to-be through them):

His house was throughout the whole period of the [French] emigration liberally opened to the exiles of his native country; nor did some of the noblest of some of these unfortunate refugees scruple to make free use of his purse as well as his hospitality.

Queen Charlotte retained Dumergue's services throughout his life. On his death his daughter Sophia gave the Queen a cameo brooch of his bust, set in a pendant encircled with pearls.

Meanwhile, nephew C J J Dumergue had been at pains to build up his own practice, now at a large house in Albemarle Street, opposite the scene of the recent public welcome to the new French monarch.²⁸ C J J Dumergue had now married and had a fast increasing family, eventually to number thirteen children. He, as well as Cartwright, took over many of his uncle's patients. Cartwright had an advantage as many of the older patients were aware that their artificial teeth had been made by Cartwright assisting the older Dumergue. Even so the nephew built up a great reputation while enjoying a continuation of royal patronage from the later Georgian royals (and eventually the future King William IV and Victoria both as Princess and Queen).

Until 1840, his daily work schedule was to begin at 9.30am and continued through to 5pm, with scarce time for lunch. Walter Scott Dumergue (godson of Sir Walter) described how he frequently saw up to six carriages waiting outside his father's door in busy Albemarle Street. C J J Dumergue was very frugal and never kept a carriage until he retired, so he must have hired them to visit the Palaces. He was known as somewhat stern and unforgiving to his sons. He paid school bills for his many children and some grandchildren for 45 years, sending four sons to Haileybury College and on to Cambridge. Latterly assisted by a Mr Rogers, he retired twelve years before he died, handing over

his premises and practice to Mr Featherstone, who had been providing his mechanical assistance. His retirement mansion was in York Place, south of Baker Street, then part of the Portland Estate.

At the end of his career he could look back on a number of famous patients, including Lord Palmerston and other politicians, the Archbishop of Canterbury, Florence :to Nightingale's family²⁹ and, just as his uncle had treated the young Lord Byron, another of the poetry fraternity, Dorothy Wordsworth.³⁰ Before deciding to see Dumergue, Wordsworth had compared his services shrewdly with those of Cartwright and Fox: "But after all I fixed on him, Dumergue, not being satisfied with any other and believing him to be the best in England ... and now I am glad I did so." In the end she had her eight remaining teeth and stumps extracted by Dumergue, "the last and sound tooth being left to steady my new set. He is definitely a delightful operator and if the new set should not answer I shall only have fifty guineas to regret, for I rejoice at having got rid of my old teeth."

It is not known to what extent the Dumergues tried to promote the cause of dentistry among the legislators although bank records show them making considerable payments to John Leader, MP and Sir Samuel Romilly, MP at different times.

At his death in 1852, CJJD's total estate³¹ including thirteen leasehold houses and shops in London's Strand and City, (possibly also some French property) was estimated at £140,000. Expressed in terms of the purchasing power index for 1852 it calculates out to an astonishing £8,550,000.

A professional opinion of CJJD by Thomas Bell, FRS, FRCS, LDS, expressed to Walter Scott Dumergue, was that in his later years he had become regarded as the head of the dental profession and was regularly consulted by many eminent practitioners.

The two Dumergues had between them provided treatment for at least thirteen members of the House of Hanover over three generations. Among CJJD's effects was a silver gilt inkstand presented to him on his retirement by Queen Victoria.

²⁷ J G Lockhart, *The life of Sir Walter Scott*, London: Caxton, 1848, 26/1, p. 94.

²⁸ He had purchased the land for this house in company with another surgeon, George Hollings. CJJD was later to assist two other surgeons over matters of property, namely John Ring and Robert Keate, nephew of his former mentor

²⁹ G. Gill, *The Nightingales: the story of Florence Nightingale and her remarkable family*, London: Hodder and Stoughton, 2004, p. 91.

³⁰ W Wordsworth, E de Selincourt (Eds.) *The letters of Dorothy Wordsworth, 1812-1820*, Oxford: Clarendon, 1937, p. 589.

³¹ National Archives, Prerogative Court of Canterbury, Probate 11/2152

Resting place of the Dumergues

Both Dumergues were buried in the family vault at St Mary's, Paddington Green churchyard, sadly now largely cleared.

In Figure 1 Charles Francois Dumergue is shown as a young man wearing court dress. The unknown artist is now thought unlikely to have been Madame Vigée-le-Brun. The present owner of the portrait and its whereabouts are not known.

REPORTS FROM SOCIETIES

HENRY NOBLE HISTORY OF DENTISTRY RESEARCH GROUP

Audrey Noble

The group continues to attract new members with a total of 57 paid up members in September 2007. Our new twice-yearly publication will be renamed *History of Dentistry Magazine* and not *Dental History: Glasgow* as previously indicated. The former management committee will be known as the 'Executive'.

Dr Rufus Ross and Mrs Audrey Noble met with the Glasgow Dental Hospital management. They have agreed there should be no objection to the group obtaining a small area in the refurbished building, where specific historical items could be on permanent display. There were no offers for a home for the rapidly deteriorating dental surgery cabinet so it was sold at auction.

The meeting held in the Royal College of Physicians & Surgeons on 25 September 2007 was addressed by Professor Robin Basker. He gave an informative and absorbing talk on the work of the GDC over the past 50 years. It was followed by lunch and a vote of thanks by Professor David McGowan. Dr John Craig reported on the well attended Lilian Lindsay Memorial Lecture meeting held at Harrogate on 26 May 2007 as part of the BDA annual conference.

The group has been informed that in future there will be a charge for the use of the accommodation at the Royal College of Physicians and Surgeons for our lecture meetings so we may have to increase our annual subscription.

One of our own members, Dr. Marie Watt, will talk to us on a subject yet to be arranged on 28 April 2008.

LINDSAY SOCIETY CONFERENCE AT STRATFORD-UPON-AVON, 5-7 OCTOBER 2007

Geoffrey Garnett

Many thanks are due to our secretary Dr Stuart Robson for arranging yet another stimulating and enjoyable conference, this time at the Holiday Inn, Stratford on Avon: Shakespeare's country. Thanks also to our chairman Dr John Craig, whose easy and relaxed manner ensured a warm welcome for all the participants.

About thirty people attended an excellent informal dinner on Friday evening. For a very large hotel the food and service were really very good. The mostly foreign staff were highly attentive, friendly and very welcoming. A few drinks after dinner and then an early night for most people, leaving a hard core of five BDA past-

presidents to put dentistry and the world to rights over a few malt whiskeys.

The conference opened formally on Saturday morning with the chairman proposing a short period of silence in memory of the late Martin Cubitt who had died since our last meeting. A more cheerful event followed with the presentation by the chairman of Life Membership of the Society to George Fleming (Fig 1), who had qualified LDS RFPs Glasgow in 1939. He thanked the members and acknowledged the honour being accorded him by the society.

Figure 1 Dr George Fleming being presented with his Life Membership diploma by Dr John Craig



Prof Robin Basker, OBE, commenced the lecture programme with a history of the General Dental Council from 1956 to the present. He provided some background on the Dental Board of the General Medical Council back to 1921. There was much to ponder in his lecture: should dental practitioners be in a majority on the GDC; ought the council to be elected or wholly appointed; should the Dentists Register contain all living dentists' names including those who have retired, or merely those who wish to practise and possess the requisite continuing professional development (CPD) requirements?

An almost similar period was covered in the next lecture by Mr Dick Birkin, Clinical Team Leader of the NHS Business Services Authority (formerly the Dental Practice Board). He gave a brief history of the DPB from 1948 to 2006; a well documented account with a plethora of figures and statistics. His talk was enlightened with occasional lurid tales from the case-book of a Dental Reference Officer.

The chairman of the BDA Benevolent Fund, Air Vice-Marshall (Retd) Ian McIntyre, has been examining the early minute books of the fund. His very entertaining short address illustrated the problems faced by the founding fathers of the fund. Their (albeit authoritarian) altruism was an example to all, especially their acceptance that even dentists and their dependents who had not supported the BDA or the fund should still be eligible for relief. We hope he will continue his research on the minute books as they are clearly a mine of social and dental history.

After a buffet lunch with some excellent soup the members assembled in the hotel foyer before strolling to a purpose built cut which links the hotel with the River Avon. The crew assisted us aboard as though we were all centenarians. As it was a bright autumn afternoon the shutters were furled and we all enjoyed a trip on the river. We saw geese and ducks, a heavily gutted theatre being restored, Holy Trinity Church and rowing boats. Perhaps the most interesting part of the trip was peering into some fine back-gardens and admiring the real-estate which eventually gave way to some up-market caravan sites. Our guide, who spoke for almost 45 minutes, was most eloquent about the floods earlier in the summer. He was positively gleeful about the prospect of more floods to come.

The rest of the afternoon was left to our own devices - mainly shopping. One enterprising member, who shall be nameless, managed to join in with the bell-ringers at Holy Trinity Church. There was a Confirmation Service at 6pm by the Bishop of Coventry and only seven ringers had turned up for the Call to Worship. Our member filled the breach for half an hour's ringing and Will Shakespeare slept on throughout the proceedings.

We had been informed by the ringers that the Shakespeare Hotel was rather an up-market dining place and we were not disappointed. This was the venue for the Society's Dinner: jacket and tie if you please gentlemen. One large long dining table made the event special. The wine list was rather special too, as were the prices. It a severe shock to his system for the member from Yorkshire who was still bemoaning the lack of a cheap Yorkshire plonk the following day.

Sunday morning was very much a seminar conducted by the Gelbiers. Stanley gave a well researched talk about the Ivory Cross Fund and the debt owed to its founder Ada Fletcher. She had solicited support for her campaigns from royalty, the aristocracy and other senior society figures. Sadly his computer would not speak to the projector and so could not deliver the power point slides.

This was not too much of a handicap for him. However Dr Marilyn Gelbier's talk on pulp capping and pulpotomy from 1750 to 2000 was to be supported by no less than 44 slides. Fortunately the Holiday Inn came to the rescue and she was able to distribute photocopies of her presentation to everyone in the room. It was good to see some work being presented on the history of techniques and materials.

We were then entertained with some reminiscences from our new life member. Dr George Fleming was at the Glasgow school from 1935 to 1939 and still retains a strong Scottish accent. However he is now something of a naturalised Yorkshireman. George spoke about his experiences as a local dental committee secretary during and after the big NHS reorganisation of 1974. He had some amusing anecdotes about members, particularly about the visit of one secretary of the BDA, the late Ronald B Allen.

The autumn conference is a most enjoyable occasion and an event to be warmly recommended. This conference at Stratford on Avon was no exception. Thank you Stuart and the committee from all of us.

45TH ANNUAL GENERAL MEETING OF LINDSAY SOCIETY **Stuart Robson**

The 45th AGM was held as part of the society's annual scientific meeting in Stratford Upon Avon under the genial chairmanship of Dr John Craig. The meeting paid tribute to committee member Dr Martin Cubitt who had suddenly died during the summer.

The treasurer Dr Peter Frost presented the annual accounts. He revealed that the society's financial position is healthy. The membership had increased to eighty three.

The editor Professor Stanley Gelbier presented a report on the society's journal, *Dental Historian*. For the first time in recent memory three issues have been published in the year, each edition substantially larger and indeed more sophisticated than in previous years. This expansion increases the costs of production so the Society is grateful to Panadent Ltd and Vita for taking up advertising space which offsets some of the extra costs involved. The editor was warmly congratulated for his expertise and initiative in developing the publication.

The secretary Dr Stuart Robson reported that the year's activities were very successful. This included the Lilian Lindsay Memorial Lecture presented by Professor Stephen Challacombe at the BDA Conference in Harrogate in May 2007. It was entitled 'Hunter, The father of odontology'. The Society is proud to be associated with Prof Challacombe in his position as the first dentally qualified president of the Hunterian Society in its long history. Arrangements for the autumn conference had progressed very well despite some hitches with the IT system.

The following people were elected to the committee for 2007-2008:

Chairman	Dr John Craig
Chairman-elect	Prof Robin Basker, OBE
Secretary (until 2009)	Dr Stuart Robson
Treasurer (until 2010)	Dr Peter Frost
Editor	Prof Stanley Gelbier
Committee members	Dr Mary McFarlane, Air Vice-Marshal Ian McIntyre and Dr Brian Williams
Co-opted members	Mrs Rachel Bairsto (BDA Museum Director)
	Dr Rufus Ross (Chairman Henry Noble Research Group)
Auditors	Dr John Beal and Mr John Vesty.

It was announced that the Lilian Lindsay Memorial Lecture will be held at 11.30 am on Saturday 5 May 2008 in conjunction with the BDA's annual scientific conference in Manchester.