



Oswald Fergus, a pioneer of simulated dental clinical practice

David Mason*

Edward Oswald Fergus was born in Glasgow in 1861 and was an early Glasgow LDS. He qualified as a Licentiate in Dental Surgery of the Faculty of Physicians and Surgeons of Glasgow in 1884. He worked thereafter as an assistant dental surgeon at the Glasgow Dental Hospital and School and in general dental practice at 41 Elmbank Street. A period of postgraduate education in America led to him graduating Doctor of Dental Surgery at the University of Pennsylvania in 1892. He then returned to Glasgow and practised at 27 Blymswood Square.

At the Annual Meeting of the British Dental Association held in Newcastle-on Tyne on the 29-31st March 1894, Fergus described and demonstrated his invention, the Dental 'Phantom' for the use of students and demonstrators(1). The graceful classical style of his presentation is worth recording. It contains considerable detail and yet is so clear and informative about the problems of introducing the dental student to clinical practice at that time. Here it is: -

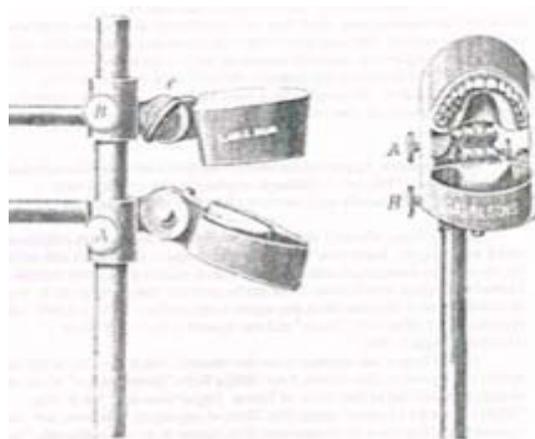
DENTAL "PHANTOM."
FOR THE USE OF STUDENTS AND DEMONSTRATORS
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The law of demand and supply is so simple, and generally understood in a vague way, that I feel it almost superfluous for me to say anything by way of apology for bringing the simple appliance, which I have named a Dental "Phantom" very briefly before your notice.

It is a rule, if I mistake not, in a considerable number of our dental hospitals, that students must undergo a certain period of probation ere they are allowed to practise upon the sentient public; and while it is not my intention to criticise a measure which has much to commend it, what I am about to show you was designed very largely to aid both student and teacher at this trying and initiatory stage in the professional career.

Speaking in the presence of many who are so able to correct me, if I be in error, a very common method of preliminary instruction consists in placing extracted teeth within the jaws of a vice and allowing the beginner to carry out to the best of his ability the steps that lead to the correct preparation and filling of certain cavities. It would only be hypercritical not to acknowledge that, so far as it goes, this elementary scheme is not to be despised, chiefly from the familiarity it gives the student -with the instruments and filling materials he may employ; but, having said this, one has said all, and the drawbacks are sufficiently obvious. For instance, a tooth so placed fairly represents a member of the mandibular series; but its transposition in the vice so as to take the position of one of the maxillary members places the operator at once in a false relation with it, giving him a posture that he will hardly ever likely be required to adapt himself to in the presence of the living subject, and so the seeds of bad habit are sown.

Again, at a very early stage we realise that a compound distal cavity presents difficulties that are not to be met with in a compound mesial one. The student, who has been set as an exercise to fill one of the former class of cavities (distal), if not feeling equal to the task can lighten his burden by stooping so far over his work as to get more direct access to it, or by the more primitive expedient of reversing the tooth, so that distal becomes mesial.



Left hand side: Side view of Dental "Phantom " with regulating screws A, B, C.

Right hand side: Front view, showing model in upper jaw, and band of cofferdam rubber stretched over the upper and lower to serve as cheeks.

Designed likewise to aid those who have the great privilege of teaching or , demonstrating, the "Phantom " lends itself to the illustration of almost any operation, either surgical or mechanical, that comes within the scope of our art. For example, the following steps may be shown upon it: adjusting the rubber-dam; the preparation of any cavity in any situation; filling such cavities with the material most suited to the situation in which it is to be placed; the capping or crowning any root or roots with any of the numerous styles of crowns; the construction upon suitable roots or teeth of various forms of "bridge work"; and lastly, the application of either partial or full dentures of vulcanite, metal, or continuous gum.

The systematic lecturer, who is in the habit of regularly demonstrating typical cases to his students, occasionally finds some difficulty in obtaining the illustrative case when he desires it. I venture to hope that such untoward incidents may be overcome by the use of the present apparatus, as the dental organs may be restored in it almost at the will of the operator possessed of moderate skill, who may thus be able to give his students valuable hints in the steps necessary to overcome difficult and rare cases.

The "Phantom " I submit for your inspection consists mainly of three parts: a metal rod, which is to be attached to the back of a dental chair, and upon which are fitted two brass representative jaws, which have each a moderately deep groove or gutter in their alveolar regions. Into these grooves the teeth are secured by means of plaster of Paris, shellac, sealing wax, or similar substances, and it is during their insertion that attention should be given to proper spacing, which can easily be adjusted to the capacity of the student. The introduction of roots, in place of teeth, allows crowning to be practised in almost any conceivable form, from which bridgework is but a short and easy step.

After Newcastle, Fergus demonstrated his phantom head to the Odontological Society in London (1894) and in Edinburgh, emphasising that it "was to make conditions similar to chairside work, artificial rubber dam cheeks being even demonstrated". In 1894 Fergus offered C. Ash & Sons his 'phantom' under certain conditions, which they accepted. These were "that it be acknowledged as mine; that it will not be improved by any unimportant addition or modification without my consent; and that as I expect no financial benefit, so too I shall not be put to any expense whatever by way of advertisement or diagrams which may appear in any medium". The 'phantom' soon appeared in Ash's Quarterly Circular(1) and was reported in the British Dental Association Journal (1894)(2).

In 1898 Fergus was surprised to see that Messrs C. Ash & Sons had advertised in their Correspondenz Blatt (Berlin, April 1898) a Weiss "dummy patient" which had recently been patented by Herr Weiss of Vienna. Fergus wrote to C. Ash & Sons "While I do not for a moment suspect Herr Weiss of copying my instrument, and while I cannot but be flattered at the resemblance of his dummy to my earlier phantom, I am surprised to see not the slightest reference to my former instrument". He then records that C. Ash & Sons, the sole agents for the Weiss dummy, for the UK and Colonies, have responded to him and they stated "your own 'phantom' has become so widely known that it must be obvious to everyone that you are the originator of the idea, and that all articles to serve the same purpose, must be more or less a copy of your own". This polite exchange of correspondence was published in a letter by Fergus to the Editor of the British Dental Journal, (1898). In that same correspondence, Fergus states "that dental 'phantoms' existed before but the plan of the present one (his) was to make the conditions similar to chair-side work". The Fergus 'phantom' was usable in the laboratory and also could be attached to the back of the adjustable dental chair which had been introduced twenty five years earlier by Morrison (1869) (4)

.Since Fergus introduced his dental 'phantom', simulated clinical dental chairside teaching has developed and is an essential component of dental education and training internationally. As clinical techniques and dental materials have changed, so also have the phantom head design and equipment improved. Many refinements and modifications have been introduced during the one hundred and twelve years which have passed since his first demonstration and yet the underlying principles remain the same.

It is surprising that Fergus has not been more widely recognised. From 1898 to 1920 he lived and practised in Glasgow at 12 Clairmont Gardens. This appears to have been his last practice address. Interestingly, it is recorded that Charles Rennie Mackintosh designed a fireplace for his billiard room there! In 1906 he was elected a Fellow of the Royal Society of Edinburgh. He died in 1946 at Farnham in Surrey. He was clearly a man of many parts, and his life and work epitomised the valuable contributions to our profession of the dedicated general practitioner who was a part time teacher and research worker. He had a special interest in restorative dentistry and his published work reflects this, spanning a period from 1894-1908. In later life he suffered from retinal degeneration, gradually becoming blind and ending his clinical career prematurely. Latterly, he wrote some historical articles and, ever interested in research, he was involved in the creation of Braille books. In his personal life he was

married with two children, and his wife pre-deceased him in around 1920. His notable sporting achievement was in penny-farthing cycling where he was a member of the Scottish international team.

Oswald Fergus came from a well known Scottish medical family. His father, Andrew Fergus, was President of the Faculty of Physicians and Surgeons of Glasgow from 1874-1877 and again from 1883-1886, and he had two brothers, each of whom became President. Andrew Freeland Fergus the older brother, a renowned ophthalmologist, was President from 1918-1921 and John F. Fergus, a younger brother and a distinguished physician, from 1929-1931.

So to the unique record of the achievements of this distinguished family should be added the outstanding contribution of Edward Oswald Fergus - pioneer of simulated clinical dental practice in dental education. For the relatively unrecognised third son, as they say in these parts, he did no' bad!

Acknowledgements

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References

1. Ash's Quart. Circ. 1894, 123-125
2. Br. Dent. Assoc. J. 1894, 528-531
3. Br. Dent. Assoc. J. 1898, 636-637
4. Dtsch. Vjschr. Zahnhl. 1869, 236-238.

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