

The reimplantation of a trephine button of bone / by Herbert L. Burrell.

Contributors

Burrell, Herbert L. 1856-1910.
Royal College of Surgeons of England

Publication/Creation

Boston : Cupples and Hurd, 1888.

Persistent URL

<https://wellcomecollection.org/works/k2b42gu4>

Provider

Royal College of Surgeons

License and attribution

This material has been provided by This material has been provided by The Royal College of Surgeons of England. The original may be consulted at The Royal College of Surgeons of England. where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>





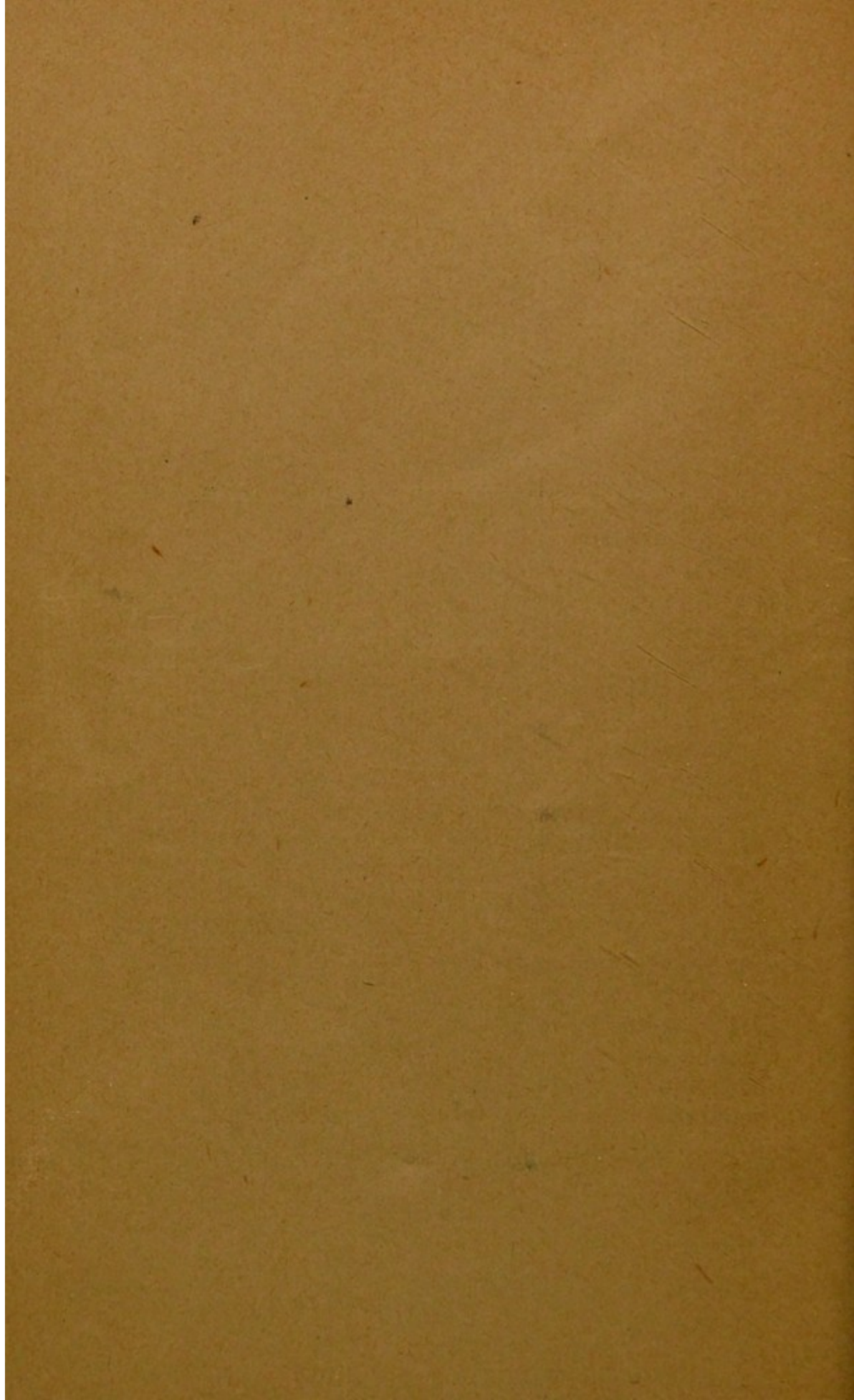
The Reimplantation of a Trephine Button of Bone.

BY HERBERT L. BURRELL, M.D.,

Surgeon to the Carney and Children's Hospitals; Surgeon to Out-Patient Department, Boston City Hospital.

*Reprinted from the Boston Medical and Surgical Journal
of March 29, 1888.*

BOSTON :
CUPPLES AND HURD, PUBLISHERS,
94 BOYLSTON STREET,
1888.



THE REIMPLANTATION OF A TREPHINE BUTTON OF BONE.¹

BY HERBERT L. BURRELL, M.D.

It would seem that the credit of introducing the important step of replacing a trephine button of bone in the skull belongs to William MacEwen,² and its full significance has perhaps not been fully appreciated, for if it is possible to replace bone that has been completely divided from all its attachments, especially from its periosteal covering which has always been considered to be so important for its life and growth and to feel assured that it will live, places upon a definite practical, working basis bone-grafting which may well become one of the great possibilities of surgery.

MacEwen in 1885, stated that he had reimplanted the fragments of divided trephine buttons, in eleven cases, only twice did the replacement fail, and in these two cases the majority of the fragment lived.

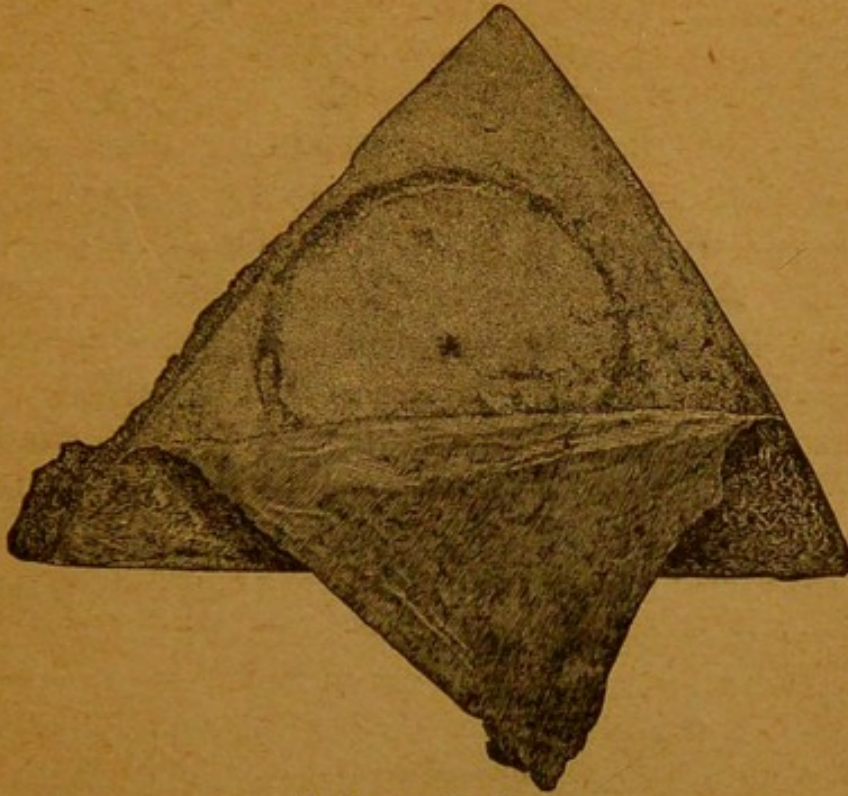
The able paper of MacEwen upon "Osteogenic Factors in the Development and Growth of Bone,"³ which has recently appeared, is evidently the result of mature thought upon the subject of bone-growth, and accepting for the time MacEwen's experiments and many of his conclusions, we are lead to conclude that the periosteum is no longer the principal seat of bone-growth but to deem it simply an investing membrane which supplies a comparatively small

¹ Read before the Surgical Section of the Suffolk District Medical Society, Feb. 1, 1888.

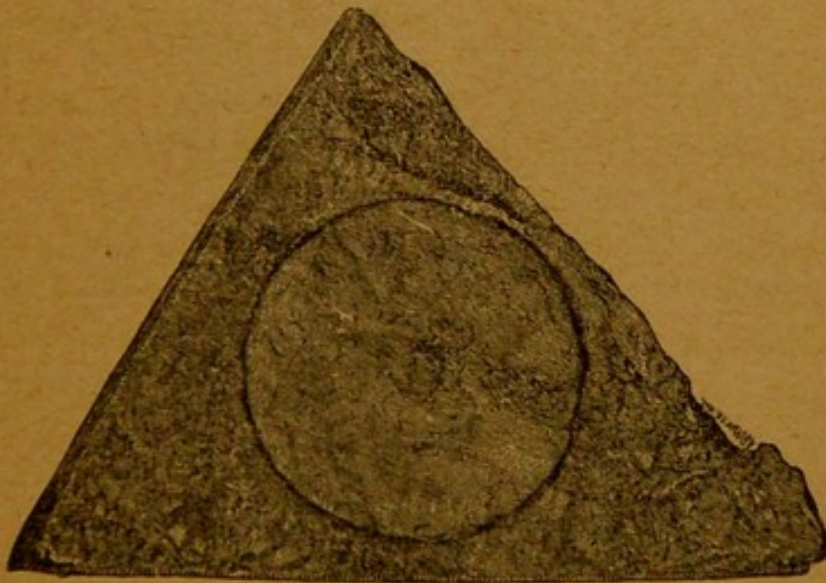
² Lancet, May 16 and 23, 1885.

³ Annals of Surgery, Oct. and Nov., 1887.

amount of nutriment to the bone. The medulla is also shown to have but little to do with the growth of bone, in fact, the osteoblastic cells are believed by MacEwen to be capable of reproducing themselves. These statements at first are somewhat startling but we are beginning to receive accounts of successful efforts at bone-grafting, and this specimen which I have been fortunate enough to secure, has seemed to me of enough importance to place upon record. The trephining was an exploratory one done on a boy aged thirteen, to determine the presence or the absence of a depressed inner tablet of the skull that might have accounted for a group of existing cerebral symptoms. Operation: the child was etherized and the localization lines were drawn by Dr. W. N. Bullard; a large semilunar incision was made with the base downward, including the cicatrix; a second incision was made through the periosteum, and this was completely and freely elevated from the bone, which was then removed with a large trephine; no fracture was detected, and no abnormal appearance of the dura mater was found; an exploratory puncture with a trocar was made into the cerebral substance in the direction of the median portion of the ascending frontal convolution, entering perhaps four inches — no result. The bone which had been carefully preserved in an antiseptic solution was then carefully replaced in the skull, the periosteal flap was secured in position by a fine continuous catgut suture, and the overlying structure were similarly dealt with. Drainage being secured in the scalp by a dozen or more strands of catgut; an antiseptic dressing was applied and the recovery from a surgical standpoint was uneventful. When the dressing was first removed at the end of two weeks, the wound was found completely united; for a short time after this a dressing was kept on the boy's



I. Outer Surface.



II. Inner Surface.

head as a protection against any injury to the recently repaired structures. The child's cerebral symptoms gradually grew worse, and he finally died in the Bos-

ton Lunatic Hospital, in December, at the expiration of nearly eight months after the trephining, and for the specimen I am indebted to Dr. W. N. Bullard. (See cuts.) The trephine button has completely united by bony union throughout its circumference, and is perfectly firm in its position; it rests in a plane a little below that which it formerly occupied, and is a little whiter than the surrounding bone structure; there has been raised from the external surface of the bone the overlaying periosteum (Cut I.) in order that the condition of the reimplanted button might be observed.

The important lesson which this specimen seems to teach, is that hereafter one should regard the removal of a trephine button in the same light as an exploratory incision through the abdominal walls, since in each case it opens up a very important field for exploration, which can be again closed by reuniting the abdominal walls or by replacing the trephine button.



