

# THE BRODIE CLUB

## Minutes of the 861st Meeting

This meeting was held on Tuesday October 16th 1990 in the Faunal Laboratory. Ritchie was Chairman, and Boissoneau was Secretary.

15 Members and 7 guests attended the meeting. The guests included Margaret Bodsworth guest of Bodsworth, Margery Ritchie guest of Bob Ritchie, David Mason and Greg Warchol guests of Savage, Aileen McLaughlin guest of Norma Martin, and Bernice Carrick and Patrick Scanlon guests of Bill Carrick.

The minutes of the 860th meeting were read by Aird and subsequently adopted with minor corrections.

### Announcements

Speakman suggested that Reading's very interesting letter touched upon in the September meeting should be included in the material to be mailed prior to the November meeting -- Approved.

Savage noted that David Sherry has accepted a chair in Psychology at the University of Western Ontario for one year, and hence will be a Corresponding Member for this interval.

Boissoneau proposed to the members that we revive the "old tradition" of devoting the September meeting to Members' Notes and Observations -- Approved.

Norm Martin : Although, owing to the inefficiency of public transit, Norm did not arrive in time for this section of the meeting, his submission will be recorded here for the sake of consistency. He gave us an update on F.O.N. matters, and requested a decision on the matter of the Club being a co-sponsor of a voluminous document produced by the Ontario Environment Network, entitled "Sustainability-As if We Mean it". After considerable discussion, it was decided that since there was insufficient time for us to peruse this document, it would be irresponsible for the Club to be a co-sponsor of it.

### Speaker of the Evening

Savage introduced our Speaker, Dr. Robert Pilliar, of the Faculty of Dentistry at U. of T. Dr. Pilliar graduated in Physics and subsequently obtained a Ph. D. at Leeds University in the field of Metallurgy. For the past twelve years, he has been working at U. of T. on the procedure of bone transplants, as a specialist of its engineering and lately, exclusively on dental implants. As the human mouth is a natural ecosystem, this topic falls neatly within the purview of the Club.

The Speaker began by sketching the early development of bone implants, pointing out that the difficulty with both hip and dental implants was that after a time a separation developed be-

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tween the implants and the bone which encompassed them. The problem was eventually perceived as the implant being so stiff that it bore most of the chewing work load so that the "sedentary" bone tissue wasted away. A slide illustrated the severity of this wastage following experimental limb implants in dogs. The obvious solution to this problem seemed to be to devise a more flexible implant material. As yet however, this solution has not provided an answer to the separation problem. The Speaker provided many excellent slides illustrating the development of this separation of implant and surrounding bone tissue.

The solution to this "shielding" of bone devised by our Speaker and his colleagues was to use a coating of porous material on the surface of the implants. This surface coating permitted the bone tissue to penetrate the surface of the implant, providing a bonding of bone tissue and implant and providing a transfer of load stresses from the implant to the encompassing bone tissue. Again our Speaker provided excellent illustrations of this bonding process.

In the tooth implant process developed by the U. of T. Dental Faculty Centre of which Dr. Pilliar is a member, the entire surface of the implant is coated and thus bonding, rather than screw threading, is used to fix the implant in the jaw bone. Hydroxyl-apatite (H.A.) was the material used for coating the tooth implants. It was found that only a four week period was required to achieve a bonding of the implant to the adjoining bone tissue. The above gum-line portion of the implant is clipped on rather than screwed into the underlying implant. The Centre has provided 52 patients with this type of implant and after 1½ years of "normal" eating, the implants are still well bonded and the bone implant contact has increased vertically.

### Question Period

Bertin enquired if there has been any recent research re more flexible material for implant. The Speaker replied that has been some work in this field undertaken in Italy, but it is too early to know if the materials tested will stand up to a reasonable period of use.

Speakman observed that our Speaker was too modest in not making clear that the theory and development of the H.A. coated implant was his contribution to the Centre's project. He also this since the surface of the implant and teeth are both largely apatite they would both be attacked by the same microbes.

Bendell enquired if rejection was ever a problem with implants. The Speaker replied that there are immune responses to the element Nickel, so that this metal could cause rejection problems.

Savage asked if implant procedure are widely used at present. Answer: The number of implants is increasing and the range of age classes of recipients is broadening. In regard to dental implants, these must be in place for two decades to prove their prac-

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ticality, and in addition they are currently quite expensive.

The Speaker was thanked by Speakman who stressed that this was an outstanding project, really of world-class calibre.

### Members' Notes and Observations

Bruce Falls noted that his "keek" was ignored by a nearby dowitcher but when in frustration he clapped his hands, this long-billed dowitcher obligingly identified itself with a "keek". He also noted that the bird was not interested in doing an encore.

Bodsworth pointed out that on September 16th and 17th a total of approximately ten times as many hawks were observed at Hawk Cliff near Port Stanley than near Port Burwell, and solicited hypotheses to explain this phenomén. After much discussion, it was generally agreed that a flight path from the west end of Lake Ontario to Hawk Point would then provide an almost straight line route to the St. Clair River. Port Burwell is about 25 miles south of this direct flyway.

Speakman showed excellent slides, taken last summer during his exploration of a stretch of the Horton River in the N.W.T. west of Inuvik. He showed slides of a gyrfalcon's nest on a ledge projecting from a riverside scarp and an excellent slide of two young falcons standing on the shoreline. Because they had just enough flying skills to flutter and tumble down from the nest, John could approach to within five or six feet to photograph them. He showed an eyrie of a Golden Eagle high up on a clay river bank. He was able to scale this bank to a point above the nest to photograph the pure white nestling therein.

Savage reported that he and his colleagues returned to their cave (see minutes of the 860th meeting). They charted a vertical profile of the ledges within the cave. Pollen samples collected in different levels of the two feet of organic material on a ledge did not yield a consistent age trend. It is expected that radio-carbon dating of bones will provide better age data.

Bertin noted on a trip to England last summer that animal bones have played a large part in the practice of witchcraft and he suggested that the F 1 Lab might provide material for the advancement of this field.

The meeting was adjourned at 10.33 p.m.