JAMES BELL (Fig. 1) was the second Surgeon-in-Chief of the newly built Royal Victoria Hospital in Montreal. At the time of his death Dr. Bell was said to be one of the most able surgeons in America. He was known and respected internationally. His scientific bibliography of more than 100 papers dealt with a wide variety of subjects. Ironically, however, two of these articles, which clearly defined a form of treatment of appendicitis, were of no avail in altering the course of his terminal illness.

Dr. Bell, who graduated from McGill Medical School in 1877, was awarded the Holmes Gold Medal for his scholastic excellence. He was a surgical resident at the Montreal General Hospital from this time until 1881 when he was appointed as the first Medical Superintendent of that hospital. This salaried position, which carried no admitting privileges, was devoted to forwarding the interests of the hospital and generally managing its business affairs. He remained as Medical Superintendent until 1885.

During this period William Osler, his teacher and one of his friends, influenced him to broaden his interests. His name appears with Osler’s on the roster of members of the Montreal Veterinary Association at that time. He ultimately became President of the Montreal Veterinary Association in 1881, a post held by Dr. Osler several years previously.7

In the spring of 1885 Dr. Roddick, later to become Sir Thomas Roddick, was appointed Assistant Surgeon-General to the militia fighting in the North West Territories against Louis Riel’s forces.4 Dr. Bell who, up to this time, had also been surgeon to the 6th Bat-talion, Fusiliers in Montreal joined Dr. Roddick as the First Assistant-Surgeon and was stationed in Swift Current, North West Territories. Near the end of the Rebellion, he ran his own mobile field hospital unit, posted north of Saskatchewan Crossing.

Either he had a good press agent or was well liked, since, during his absence at the Rebellion, the advertisement shown in Fig. 2 appeared in the Montreal Gazette, Saturday, May 16, 1885, when a consultant post became vacant at the Montreal General Hospital.

It is unknown whether this influenced the Governors or not, but Dr. Bell was successful, becoming a Consultant Surgeon at the Montreal General Hospital in the summer of 1885. He was invited, in 1894, to join four other surgeons on the medical staff of the newly built Royal Victoria Hospital (Drs. Craik, Roddick, Buller and Gardner).4 Follow-
in making these statements I am challenging criticism and unfortunately they can neither be confirmed nor refuted by statistics for the reason that we have no system of vital statistics in this Country.”

He goes on to say “… as for the treatment of appendicitis, this disease should be considered a surgical one from the very onset. There is no medical treatment for appendicitis. It is a local condition which cannot be reached by drugs and whose progress cannot be materially modified, much less stayed, by local application. It is in every case a choice between an operation for radical cure or palliative treatment, which means practically leaving the patient to his fate.” "... I would say, therefore, in every case of considerable severity, remember the danger of perforation and operate. When perforation occurs you will have no choice, and in most recurrent cases, perforation will occur sooner or later. When in doubt, operate, and even in the later stages when it seems almost hopeless do not be deterred from operating.”

Remember, this was in the same summer that McBurney’s famous article appeared, defining the incision that bears his name. Actually this incision could just as easily have been called “Bell’s incision” but, in his humble description that lacks the elaborate and attractive geometry of McBurney’s, he says, “Technique—but little need be said of the technique employed in the operation. The incision was made outside the sheath of the rectus muscle, in the line of the fibres of external oblique, higher or lower according to the apparent site of the appendix, and of sufficient length to enable the operator to complete the operation with the greatest ease.”

Remember, too, that such a clear outspoken statement as to surgical plan was not generally accepted. Many famous surgeons presented conflicting views as to when and on whom operation was required. The European surgeons favoured a conservative approach. Sir Frederick Treves said it was rare to
operate before the first five days of illness and subsequently went on to drain King Edward VII's appendiceal abscess in a room at Buckingham Palace,' thus delaying the King's coronation.

It was a time when the famous surgeon, Fowler, advocated a semi-recumbent position for acute appendicitis (Fowler's position). He subsequently went on to develop acute appendicitis and supposedly died in this posture from the complications of postoperative ileus.

In all fairness it was also a time when the diagnosis was harder to make, because typhoid fever, tuberculous ileitis and dysentery were common differential diagnoses to entertain.

Despite Dr. Bell's clear understanding of acute appendicitis and the best way to treat it, it appears that he probably had not convinced his colleagues.

There is some confusion as to what happened during Dr. Bell's terminal illness. The records of his hospitalization have been lost. Of certainty we know his illness lasted six to eight days and that he died of the consequences of unoperated appendicitis. The full autopsy report is not available but the gross autopsy findings are listed on a filing card in the Institute of Pathology, McGill University. It lists the following: appendicitis, 2 perforations, perforation at base, local retrocecal abscess, pleural effusion left chest.

He apparently took ill with a malaise for a day or so and was in bed at his home, 873 Dorchester Street West. There was no nausea, vomiting or pain. He had lost his appetite. On the third day some of the Faculty were called in to attend, with no conclusive diagnosis forthcoming. Dr. Francis J. Shepherd, Consultant Surgeon at the Montreal General Hospital was in attendance. Dr. Charles Martin, his physician, was out of town. On the third day there must have been enough concern and sufficiently marked abdominal findings to necessitate the patient's admission to the Royal Victoria Hospital for an exploratory laparotomy. He is said to have told his sister-in-law "Oh! they are going to open up my belly!"

Joseph Wray,* who ran the first Canadian ambulance service and a man on whom Dr. Bell had recently operated for appendicitis, was called to transport him to the hospital in a horse-drawn ambulance. Something must have altered the "Attending's" plans because the laparotomy was never performed. In his monograph "The Origin and History of the Montreal General Hospital" Dr. Shepherd has written that Dr. Bell died refusing operation. On the other hand one of the residents, Dr. Gillis, states that Dr. Bell did not refuse operation, and that he had an acute abdomen. Dr. Gillis declares that he assisted at the operation. Another report* records that the patient had a retrocecal gangrenous appendix causing acute toxemia without clear localizing signs.

One probably has to discount the report of the resident, since the appendix was found at autopsy. Dr. Francis Shepherd, who was in attendance, is so succinct in his statements that one wonders if he was covering for a missed diagnosis, since it is so contrary to the words Bell's sister-in-law attributed to him. One wonders if because of the patient's seniority and position that he may have been included in the decision, making it more difficult to follow a clear course. The other possibility is that because of the practice in regard to appendiceal surgery at the time it was hoped the signs would localize and an "interval" type of operation could be performed.

On the eighth day, with his wife, son and sister-in-law in attendance, the patient died with his son's name "Stuart" on his lips.

The sole purpose of this communication is to recount the sad irony of Dr. Bell's terminal illness. Other interpretations are obvious and are left to the reader.

The author is grateful to the late Mrs. R. E. MacDougall, and the late Dr. R. R. Gillis for *Wray Funeral Service, a respected family business in Montreal.
their personal reminiscences. The Montreal Gazette and the Public Archives, Ottawa were very helpful. Dr. S. Salisbury's help is also appreciated.

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A R T I C L E

"When medicine is mentioned in the context of business, there is too often the same sort of interest in the lesser details of the operation than in the more profound aspects of the more important parts of the operation."

BIOLGICAL PROPERTIES OF SURGICAL PROSTHESES

Materials that are used as surgical prostheses provide in recent times the basis for the application of advanced materials technology. The materials used in prosthetic replacements must have a series of appropriate responses to suboptimal forces in bodies as diverse as man and the rabbit. The need for nonreactive materials of particular interest to the biologists and bioengineers is widespread in surgical practice. This is true in carotid surgery and in extensive surgery for gynecological and vascular diseases. The delineation of the relationships between the prosthetic and the host remains an important field of study.

Over the years, these materials have been recognized as important in the development of the surface of tissues. These materials must be presented in a manner that is acceptable to the surfaces of tissues and tissues. It is important to understand that protheses can be used to replace the tissues and tissues of the body, and that they are useful in the development of postoperative therapy. An evaluation of the properties of the materials high in the body is important in relation to the basis; the materials can be used to replace tissues and tissues of the body, and they are useful in the development of postoperative therapy. The role of surgical prostheses is important in the development of thrombosis and in the treatment of vascular disease in patients.

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