

## Norman Bethune: His contributions to medicine and to *CMAJ*

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**T**his month marks the 50th anniversary of Dr. Norman Bethune's death. A new movie about his life, the most expensive Canadian film ever made, will soon be in the theatres. It was to have been released earlier, but there are reports it has been delayed by a script-related battle involving the lead actor, Donald Sutherland, and one of the writers, Ted Allan. Allan served with Bethune during the Spanish Civil War and coauthored the first Bethune biography.<sup>1</sup>

It should surprise no one that anything connected with Norman Bethune sparks heated discussion. The man thrived on controversy and to this day he remains something of an enigma, a man whose place in history is still being debated and defined. The Chinese have an immense respect for him, as shown in this tribute written by Mao Tse-tung: "Comrade Bethune's spirit, his utter devotion to others without any thought of self, was shown in his boundless sense of responsibility in his work and in his boundless warm-heartedness towards all comrades and the people. . . . We must all learn the spirit of absolute selflessness from him."<sup>2</sup>

Opinion on this side of the Pacific is more divided. Some remember him as an enthusiastic and gifted teacher, a benefactor to the poor, a battler against social injustice, and a brilliant surgical innovator whose skills

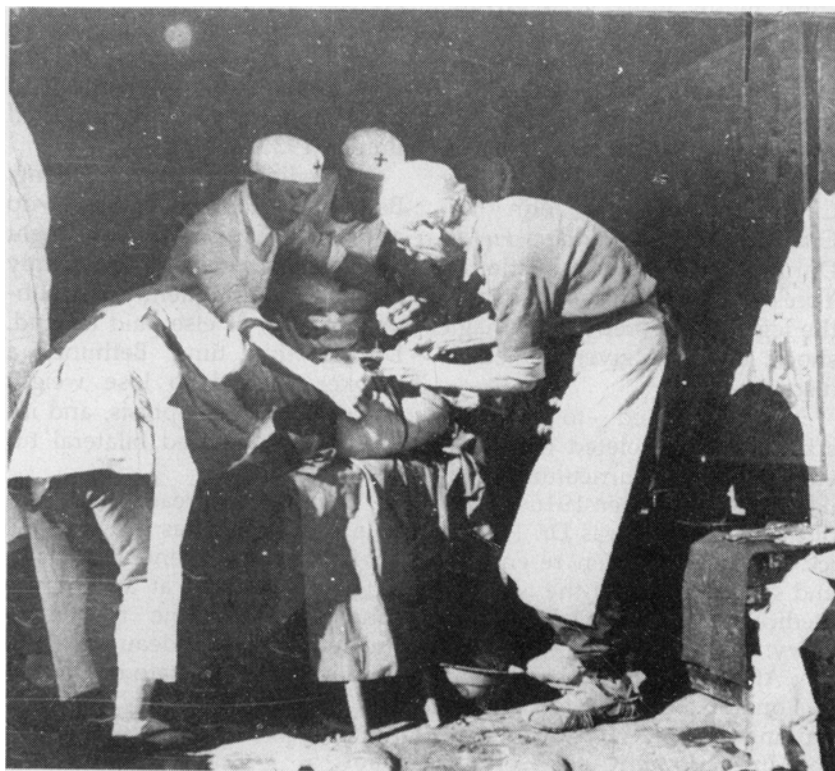
saved numerous lives at home and abroad. Others claim he was a heavy drinker, a womanizer, and possessed "the ultimate surgical personality". Perhaps the cruellest barb is the contention that he was a reckless cutter who held little regard for the risk his operations entailed for the patient. Edward Archibald, the thoracic surgeon who trained Bethune in Montreal, described his operating technique this way: "Quick, but rough, not careful, far from neat, and just a little dangerous!"<sup>3</sup>

After Bethune's death, Archibald wrote: "He was definitely abnormal, but not 'mental' and not a genius or a leader. . . . He was an egocentric. His vision was

keen but narrow. He wore blinders. He trod on many toes, quite often without knowing or caring if he did know. He had a superiority complex and he was entirely amoral. And yet, it is not quite fair to say all that, because I do give him credit for sincerity in his social views."<sup>2</sup>

Henry Norman Bethune was born in 1890 in Gravenhurst, Ont., to a father who was a Presbyterian minister and a mother who served the same faith as a missionary. His paternal grandfather, also named Norman, was a well-known Canadian surgeon and educator.

In 1912 Bethune entered medical school at the University of Toronto, but shortly after com-



In China, Bethune once performed 115 operations in 69 hours

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# Diet and the hypertensive patient.



pleting his second year he quit to enlist in the army as a private. Sent to France as a stretcher-bearer, Bethune witnessed some of the worst slaughters ever suffered by Canadian troops. He participated in the campaigns in Flanders that inspired another Canadian physician, John McCrae, to write *In Flanders Fields*. During the Second Battle of Ypres Bethune was wounded in the leg and suffered hemorrhagic shock, and was given a medical discharge.

He returned to medical school and completed the accelerated wartime curriculum, graduating in December 1916 — one of his classmates was Dr. Frederick Banting. He then re-enlisted and spent the rest of the war as a medical officer in the Royal Navy.

After the war Bethune went to London, England, for surgical training and received his fellowship in the Royal College of Surgeons in 1922. While in the Unit-

ed Kingdom he met and married Frances Campbell Penny, an upper-class Scottish woman. It was a stormy relationship. They divorced in 1927, remarried in 1929, and then divorced a final time in 1933.

Needing to earn a living, Bethune left England and set up a practice in Detroit's red-light district. His patients were mainly the poor and frequently were unable to pay, or else paid in kind. During this time Bethune, a smoker, started to lose weight and develop hemoptysis, and investigation revealed bilateral tuberculosis.

The main treatment available at the time was rest, and the prognosis was generally poor. After a brief stay at an Ontario sanatorium Bethune moved to the renowned Trudeau sanatorium in New York state in December 1926, where he shared a room with several other physicians.

To pass the time he read and

wrote poetry. He also painted a 15-m, 9-panel mural on the side of his cabin. Entitled "A TB's Progress" it was autobiographic in nature, beginning with a depiction of birth and ending with the Angel of Death cradling the victim. Bethune predicted his own date of death — 1932 — but he was off by 7 years.

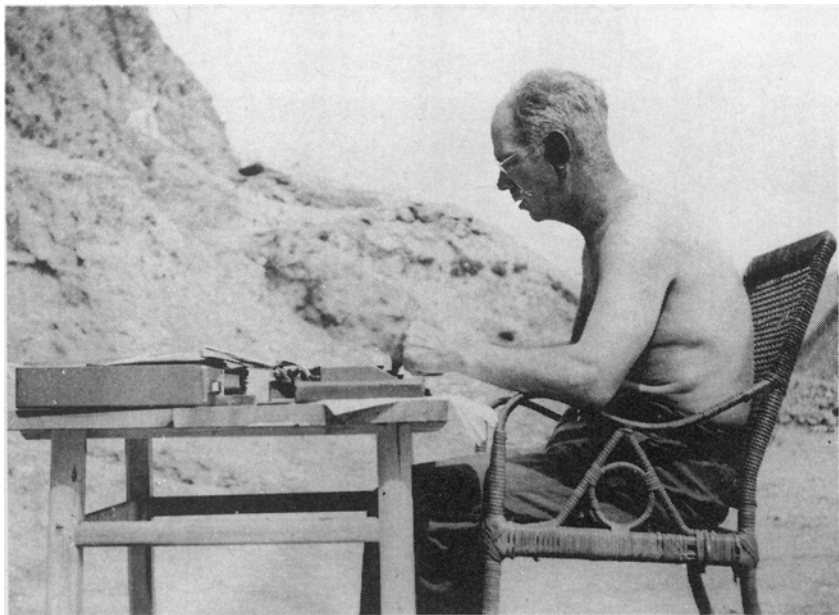
While reading some medical material he came across a paper describing surgical treatment of TB that represented a new approach. He demanded and soon received a pneumothorax on his left side, where the disease was most severe. Two months later, in December 1927, Bethune was discharged with a negative sputum after a full year in the sanatorium. He later had a phrenicectomy on his left side to put "the lung to rest", and later still underwent self-administered pneumothoraxes to keep his lung collapsed.

A new resolve now filled Bethune, who wanted to fight

both TB and the social conditions that spawned it. At age 37 he went to Montreal to train in thoracic surgery with one of North America's leading pulmonary surgeons. Part of his education included research, and over the next few years he published many papers.

In the early 1930s, when he was working and teaching in Montreal, Bethune gained a solid reputation as a thoracic surgeon. At the same time his social conscience continued to develop and in 1935 he, Banting and several other prominent Canadian physicians travelled to the Soviet Union for an international conference on physiology, and witnessed firsthand the Soviet health care system. Bethune was particularly impressed with the Soviets' preventive approach to TB; he had proposed a similar system for Canada.

In 1935 Bethune quietly joined the Communist Party of Canada, then an illegal organization. The next year he outlined a plan for socialized medicine in



"I am treated like a kingly comrade, with every courtesy imaginable"

Quebec to the Medico-Chirurgical Society of Montreal. That speech, *Taking the Private Profit Out of Medicine*, reads in part: "The problem of medical economics is a part of the problem of world economics and is inseparable and indivisible from it. Medi-

cine, as we are practising it, is a luxury trade. We are selling bread at the price of jewels. The poor, which comprise 50% of our population, cannot pay, and starve; we cannot sell, and suffer. The people have no health protection and we have no economic securi-



The hypertensive who continues to smoke.

# Exercise and the hypertensive patient.



ty. . . . Socialized medicine and the abolition or restriction of private practice would appear to be the realistic solution of the problem. Let us take the profit, the private economic profit, out of medicine, and purify our profession of rapacious individualism. Let us make it disgraceful to enrich ourselves at the expense of the miseries of our fellow men. Let us organize ourselves so that we can no longer be exploited as we are now being exploited by our politicians. . . . Let us say to the people not 'How much have you got?' but 'How best can we serve you?' Our slogan should be, 'We are in business for your health.'"<sup>4</sup>

The impassioned speech was not well received. One older surgeon, who mirrored the conservative thinking of the time, remarked that his plan "sounds suspiciously like an attempt to feed at the public trough. . . . The state cannot and should not be responsible for the health of its citizens; on the contrary the citi-

zens are responsible to the state to provide a proper quota of physically and mentally able persons to support said country"<sup>5</sup>

The society later held a special meeting and expelled Bethune, criticizing both his revolutionary ideas and unconventional dress. (While at the Royal Victoria Hospital in Montreal, he once led rounds dressed as a lumberjack. Conversely, it is said he once wore a tuxedo to a Communist Party meeting.)

A few months after the Spanish Civil War erupted in 1936, Bethune left for Spain to join the Loyalist forces opposing Francisco Franco's rebels. With memories of his own war experiences still fresh, Bethune established the Servico Canadiense de Transfusion de Sangre, the world's first mobile blood-transfusion unit. Standard practice was to transfuse wounded soldiers only after they had been brought from the front lines to hospitals in the rear, but Bethune calculated correctly that he could

save lives by taking the blood to the front and transfusing on the spot.

After 8 months in Spain, and following a feud when his previously independent unit was taken over by the Republican government, Bethune returned to Canada to raise funds for the besieged Loyalists. He soon created a stir in Winnipeg, announcing publicly for the first time what others had suspected — he was indeed a Communist.

In 1937, when the Japanese invaded China, Bethune decided to carry his fight against fascism to a new theatre. In January 1938, at age 47, he set sail for Hong Kong. It was in China where he carved his most enduring legends. Travelling by truck and by train, on horse and on foot, he narrowly evaded capture by the Japanese and eventually arrived at the headquarters of the 8th Route Army in Yen-an, where he met Mao. He was given free rein to work as he pleased, and Mao promised to provide

as much support as possible.

The 2 years Bethune spent in China were the busiest of his life. The Chinese had few trained medical workers and fewer surgical supplies or medicines, and the "hospitals" were mostly peasant huts. Bethune organized a medical corps and trained staff, everyone from orderlies to surgeons. He devised mobile hospital units; sometimes he operated in caves. He was always close to the fighting and engaged in marathon surgical sessions as casualties mounted. On one occasion he performed 115 operations in a 69-hour period — without sleep. He also established a mobile transfusion service similar to that in Spain, and produced another first — a medical manual devoted entirely to guerrilla warfare.

A Canadian nurse who accompanied Bethune to China described his paradoxical personality. At times he displayed the behaviour for which he was infamous: "Dr. Bethune was furious.

I had not seen such a temper before. . . . He stomped and kicked everything in sight."<sup>6</sup>

But there were other times when he exhibited great compassion and helped civilians as well as soldiers: "Her baby was five months old with matchstick arms and legs and a huge belly. His everlasting hunger caused him to cry a great deal and he looked like a little old man. Dr. Bethune excavated a can of milk along with a spoon and a cup from the bottom of one of the sacks. Comrade Chu was dispatched for a kettle of boiling water. Between them, the mother and Dr. Bethune spoonfed the baby a whole cup of milk. . . . [The next day] his mother thanked the doctor profusely, saying that he had not slept so well for many nights. Dr. Bethune just grinned ear to ear."<sup>7</sup>

Bethune's letters from China illustrate graphically the many trials he encountered. He provided long descriptive narratives of his medical work that were ac-

companied by pleas for more supplies and money. He praised the spirit of the Chinese, but at the same time admitted to personal hardship. Isolated, experiencing a foreign culture, eating sparsely, and clothed in the threadbare uniform of a common Chinese soldier, he sometimes expressed a longing for the comforts of home: "I dream of coffee, of rare roast beef, of apple pie and ice cream. Books — are books still being written? Is music still being played? Do you dance, drink beer, look at pictures? What do clean white sheets in a soft bed feel like? Do women still love to be loved?"<sup>8</sup>

Given the choice, however, Bethune preferred to toil under adversity in China rather than live in luxury back home. The radical surgeon who was scorned and shunned by the elite of Canadian medical society found solace and a sort of redemption among the Chinese peasants. "It is true I am tired but I don't think

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## Bethune's *CMAJ* papers: "The rich man recovers, the poor man dies"

All 14 of Bethune's published medical papers were produced while he lived in Montreal, and seven appeared in *CMAJ*. Through these writings we catch a glimpse of both the surgical innovator and the social reformer.

The first four papers, published in 1929, reflected his research into pulmonary disease. His earliest one described two instruments he designed to inject Lipiodol, a radio-opaque agent employed in bronchography, into the bronchial tree.<sup>1</sup> He later abandoned them as "having no great advantage over an ordinary 30 c.c. Luer syringe".<sup>2</sup>

His second paper discussed the bacteriologic diagnosis of pulmonary spirochetosis. Bethune provided detailed, step-by-step instructions on his method of collecting a sputum sample and provided some insight into "state-of-the-art" lab techniques and equipment of the day: "To culture these anaerobic organisms inject 1 c.c. of the carefully collected and washed sputum into the groin of the guinea pig. Leave for 10 days. Use the pus from this abscess to make cultures."<sup>3</sup>

In his next paper, Bethune unveiled a machine he designed for TB patients who

had pleurisy and empyema.<sup>4</sup> It had the distinct advantage of being able to aspirate fluid and inject air simultaneously but Bethune later discontinued its use, confessing: "Its whole conception was shortly seen to be basically unsound. Fortunately only one was made."<sup>2</sup>

The fourth gives us a cameo of Bethune the educator. In an approach aimed at general practitioners he outlines, again in a very fastidious manner, his approach to bronchography. His written work seems to contradict the notion that he was a rough surgeon who cared little for the feelings of his patients: "Place [the patient] in a chair and sit down opposite him. Begin by explaining fully what you are about to do and how you are going to do it; his cooperation is essential to success. Allay his apprehensions by an assurance of manner and by insistence on the ease of the operation and its lack of discomfort to himself."<sup>5</sup>

*A Plea for Early Compression in Pulmonary Tuberculosis* is no doubt Bethune's most eloquent piece. Throughout run echoes of Bethune's own experiences with TB and sanatoriums as he reviewed the history of the medical profession's fight with the disease

and concluded that most patients may benefit from a variety of surgical interventions, from thoracoplasty to extrapleural wax filling. He also tackled the related social problems head on: "The treatment of pulmonary tuberculosis involves two problems. The first is that of the infected individual, regarded as a whole, acting and reacting in his social and physical environment, and the second, the reaction of that individual's body, and more particularly his lungs, to the presence of the tubercle bacillus. . . . The first problem then becomes chiefly an economic and social one, and the second, a physiological and immunological one. In the final analysis they are mutually reactive and inseparable. Trudeau well said, 'There is a rich man's tuberculosis and a poor man's tuberculosis. The rich man recovers and the poor man dies.' This succinctly expresses the close embrace of economics and pathology. . . . We as a people can get rid of tuberculosis, when once we make up our minds it is worth while to spend enough money to do so. . . . Lack of time and money kills more cases of pulmonary tuberculosis than lack of resistance to that disease. The poor man dies because he

I have been so happy for a long time. I am content. I am doing what I want to do. . . . I have no money nor the need of it — everything is given me. No wish, no desire is left unfulfilled. I am treated like a kingly comrade, with every kindness, every courtesy imaginable."<sup>9</sup>

In late 1939 Bethune intended to return to North America on a fund-raising tour, but delayed his departure when heavy fighting broke out in his area. While operating without gloves — none were available at the supply-

starved front — he cut his finger and subsequently developed gangrene and septicemia. When he became gravely ill his Chinese comrades tried to carry him to help on a litter, but to no avail. In his last letter, written to his interpreter, he described his condition: "Vomiting on stretcher all the day. High fever, over 40C. I think I have either septicemia from the gangrenous fever or typhus fever. Can't get to sleep. Mentally very bright. Phenacitin [sic] and aspirin, woven's powder [sic], anti-

pyrin [sic], caffeine, all useless."<sup>10</sup>

The next day — Nov. 12, 1939 — Bethune died. He was buried in an American flag, as no Red Ensign or Union Jack was at hand. A tomb was built in his honour in the valley where he died, and Chairman Mao later decreed that all Chinese should study his life and the example he set.

Despite being an instant folk hero in China, Bethune remained a virtual unknown in Canada, a fact frequently remarked upon by visiting Chinese delegations. This



cannot afford to live. Here the economist and the sociologist meet the compressionist on common ground."<sup>6</sup>

Never afraid of the unconventional, Bethune's next paper in *CMAJ* was a case report concerning chronic thoracic empyema in a 60-year-old male, which he treated by placing maggots in the wound site. It healed nicely, with the patient never knowing the nature of his therapy.<sup>7</sup>

In his last published medical work, written 1 year before he left for Spain, Bethune catalogued some of the many surgical instruments he had invented or modified. He submitted it to *CMAJ* only after it had been rejected by the *Journal of Thoracic Surgery*. He described more than a dozen implements, including the "iron intern", a retractor used to lift the scapula during thoracoplasty, thereby relieving an operator of that tedious task. "This instrument was invented because its originator acted for one year as second assistant, with the job of scapula retractor. Of the operating team he was the one who was the most fatigued at the end of an operation."<sup>2</sup>

Seven more Bethune publications appeared in the *Journal of Thoracic Surgery*, the

*American Review of Tuberculosis* and the *Journal of Bacteriology*. All were concerned with different aspects of pulmonary disease and surgery. One whimsical article described a "phrenicectomy necklace" he designed for an actress to hide a surgical scar on her neck. "Strange to say", he finished dryly, "this seems to fill the female breast with the most profound gratitude."<sup>8</sup>

I chatted with a couple of old-time general surgeons who had trained back East aeons ago to see if they were acquainted with any of Bethune's instruments. One couldn't recall anything that had Bethune's name attached to it; the other had vague recollections of a retractor and rib stripper. "We used to go into the chest quite a bit", he explained, "but then they came out with all of these antibiotics. After that we hardly ever went into the chest any more."

Bethune's era has passed. The disease he fought so hard still exists, but TB is no longer the menace it was in his day. Spain and China have changed drastically as well. What would he say about the Chinese Communist government he so ardently supported after this summer's events in Tiananmen Square? Here at

home the socialized medicine he promoted so vigorously is entering its adult years.

I for one am looking forward to the new Bethune movie. No doubt some critics will say it's a good film, and others will pan it. Bethune would have loved the controversy.

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situation changed in the early 1970s when Canada expanded diplomatic and economic ties with China. With the sudden sale of large amounts of wheat, the Canadian government suddenly remembered its prodigal son: memorials were built, schools were named, and his childhood home became a museum. His membership in the Communist Party was frequently overlooked or downplayed.

Paradoxically, because of the changes in China's internal politics that were occurring during

the same period, the Chinese attitude towards Bethune, who was closely linked to Mao, has changed from one of awed veneration to quiet gratitude. Today Bethune is renowned in both China and the western world and has earned the title "the world's best-known surgeon".

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