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CANADA'S LAWS BROUGHT UP TO DATE

The Minister of Justice, Mr. Otto Lang, recently announced amendments to the Criminal Code of Canada, which became effective on July 15.

The proclamation of Bill C-2, the Criminal Law Amendment Act, extends Canada's judicial authority to Canadian and inbound aircraft in flight, applies the breathalyzer test to boat-operators, makes men and women equally responsible for jury duty, abolishes corporal punishment, allows jail sentences under 90 days to be served at night and on weekends, and amends the charge of obstructing or assaulting police sometimes brought against persons guilty of civil disobedience - with the result that the maximum penalty is increased and the minimum reduced.

New rules make possession of a motor vehicle

with altered serial numbers evidence of possession of a stolen vehicle. However, being in possession of tools that could be used for house, vault or safe-breaking no longer necessarily oblige the accused to prove that his intention was not criminal. The latter change was the result of Supreme Court criticism of that part of the existing Act.

JURY RULES

Under new trial rules, men and women become equal in eligibility and responsibility for jury duty; jurors may be discharged if the judge is satisfied that they can no longer carry out their responsibilities, for mental as well as physical reasons; jurors may be prosecuted if they disclose what took place in the jury room; and newspapers may be prosecuted if they print what happened in the court room while the jury is excluded.

WHIPPING WIPED OUT

Major and significant changes in sentencing came into effect on July 15. On the recommendation of many groups and individuals, beginning with the 1956 report of a special joint committee of the Senate and House of Commons, followed by the Canadian Committee on Corrections, the Canadian Bar Association and the Canadian Correction Association, and as laid out in private Members' bills, the use of the cat-o'-nine tails and all other forms of whipping is ended. Another amendment to sentencing will affect cases where the accused pleads guilty or is found guilty but where no positive value to society could be had by sentencing; in such cases a judge may discharge the accused either absolutely or conditionally (e.g., a term of "probation"), the result being that he will never be convicted of that of which he was guilty. In such cases, the trial will have had the desired remedial effect. In cases however, where an individual receives a sentence of less than 90 days, the judge

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can indicate that the sentence will be served intermittently (at night, for instance, or on weekends) so that the prisoner continues to earn a living and supports his family. For the same reasons, professional drivers may be allowed to keep their licences for work, even though they have been suspended.

OBSTRUCTION OF JUSTICE

Maximum prison sentences are increased from two to ten years for obstructing justice by influencing the outcome of trials, and from two to five years in cases of obstructing police officers, assaulting policemen and inflicting bodily harm on them. In the latter three instances, this charge is also made more flexible so that in less serious cases the maximum penalties could be a fine of \$500 or six months in jail or both. This clause could be applied to civil disobedience such as sit-ins etc., and to violence such as arose from the recent "rock" concert in Vancouver.

FALSE DEATH REPORTS

The maximum penalty for ringing a fire-alarm is increased two years, and persons causing investigations by falsely reporting their own or the death of anyone else may be sentenced to five years.

It is now as illegal to make or possess slugs for fraudulently operating coin-operated vending machines, as it is already to use such slugs. Non-residents disturbing the peace by discharging guns and indulging in other forms of disorderly conduct in public areas of apartment buildings are as liable as if they disturbed the peace of the occupants of a house. The breathalyzer law will be applied to boat-operators as well as to drivers on highways.

Another amendment allows remands of up to 30 days for mental observation where circumstances warrant, and up to 60 days where medical evidence indicates the necessity. This change also comes from the Canadian Committee Report on Corrections. The old maximum was 30 days, with supporting medical evidence.

In numerous parts of the Criminal Code dealing with jurisdiction, penalties and the value of property involved in offences, \$50 was the key figure. Before 1933 the amount was \$10; in May 1933 it was increased to \$25 and in 1954 to \$50. In 1970 a bill was introduced in the Senate to increase the amount to \$200 but it died on the House order papers. C-24 raises \$50 to \$200 in the respective sections, in line with the changing value of the dollar.

HIJACKING OFFENCES

Bill C-2 specifies new offences. Aircraft hijackers will receive a maximum sentence of life imprisonment; carriers of explosives or offensive weapons on civil aircraft without permission may receive a maximum sentence of 14 years; those who endanger an aircraft in flight or render it incapable of flight can

be sentenced to life. Furthermore, anyone committing any offence as defined by the Criminal Code aboard an aircraft in flight can be tried in Canada if the plane is Canadian-owned or if the alleged offender is captured in Canada.

These clauses of Bill C-2 will permit Canada to ratify the Convention for the Suppression of Acts of Unlawful Seizure of Aircraft signed at the Hague on December 16, 1970, and the Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aircraft signed at Montreal on September 23, 1971. These instruments also contain provisions for extradition.

ATTEMPTED SUICIDE EXCLUDED

In line with a private Member's bill, attempted suicide is removed from the Criminal Code and recognized as a medical problem. Vagrancy is no longer an offence; the subsection of the vagrancy section dealing with prostitutes is replaced by a section dealing with soliciting in a public place for prostitution and applies to both men and women. The vagrancy section as it existed before is considered too vague to be upheld.

OFF-TRACK BETTING BILL

Before the House of Commons prorogued for the summer, Justice Minister Otto Lang introduced a bill to permit off-track *pari mutuel* (or mutual stake) betting under provincial authority and federal supervision.

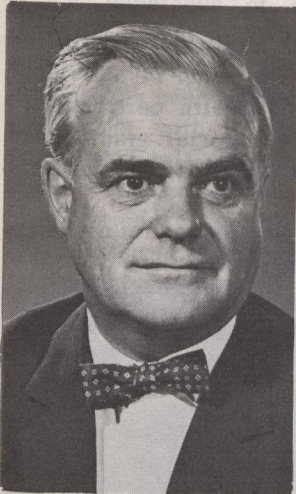
Off-track betting establishments will be permitted to operate only under the authority of a licence issued by the Lieutenant Governor-in-Council of the province in which the betting is to take place or by some other authority in the province designated by the Lieutenant Governor-in-Council for the purpose.

While it may be possible in one province to bet on horse races that are being run in another province, the proposed legislation will not permit betting on races run outside Canada. However, interprovincial wagering might be prohibited either by the terms of the provincial licence or by regulation made by the Governor-in-Council.

Parti mutuel betting off the racetrack is at present supervised by the Federal Government and, while it is intended that off-track betting shall also be supervised by the Federal Government, the provincial governments will be interested in ensuring that off-track betting establishments comply with the terms and conditions of their licences. Consultations with provincial authorities to date have shown that the main interest in off-track betting emanates, for the most part, from Ontario and Quebec.

Representations from interested parties on the proposed legislation Mr. Lang stated, would be welcomed by the Department of Justice.

CANADA'S RELATIONS WITH ZAMBIA



Mr. A.F. Broadbridge

The Secretary of State for External Affairs, Mr. Mitchell Sharp, has announced the appointment of Mr. Arthur Frederick Broadbridge as the first resident Canadian High Commissioner to the Republic of Zambia.

Diplomatic relations between Canada and Zambia were established in 1966 through the non-resident accreditation of the Canadian Ambassador to the Congo (now Zaire).

In 1968 this responsibility was transferred to the High Commissioner in Dar-es-Salaam, Tanzania; in 1971 a Canadian Development Office was established in Lusaka, Zambia. The Canadian Government recently announced that it would establish a resident High Commission in Lusaka this year; the High Commissioner is expected to arrive by December.

In the review *A Foreign Policy for Canadians*, specific reference was made to the desirability of establishing a resident mission to reflect Canada's deep concern with events in Southern Africa. The new mission in Lusaka will enable the Canadian Government to gain greater understanding of the

special problems of the region, as well as to increase Canada's capacity to speak and act effectively on southern African questions. Moreover, in line with the decision to make more economic assistance available to the African states in the area, it is expected that the High Commission in Zambia will be heavily engaged in the Canadian development assistance program.

While announcing the appointment of the resident Canadian High Commissioner to Zambia, the Canadian Government also stated that the Government of Zambia had been informed that the appointment was welcomed of Mr. P.F.J. Lusaka, Permanent Representative of the Government of the Republic of Zambia to the United Nations, New York, as non-resident Zambian High Commissioner to Canada.

Mr. Broadbridge, who joined the Department of External Affairs in 1949, has served in Chicago, Washington, Cairo, and in Berlin, where he was deputy head of the Canadian Military Mission from 1967 to 1970. He has also had assignments in several divisions at departmental headquarters in Ottawa, serving most recently as the deputy director of Pacific Division since 1970.

The Secretary of State for External Affairs made the foregoing diplomatic announcements during the recent visit to Canada of a Zambian economic mission led by Mr. J.W. Mwanakatwe, Minister of Finance, and Mr. A.J. Soko, Minister of Trade and Industry.

PRINCESS ANNE CHIEF OF HUSSARS

Queen Elizabeth recently approved the appointment of Princess Anne as Colonel-in-Chief of the 8th Canadian Hussars (Princess Louise's). This armoured regiment is represented by a regular force component at Canadian Forces Base, Petawawa, Ontario, and a reserve component with headquarters in Sussex, New Brunswick.

This is the second time in the history of the 8th Hussars that the daughter of a reigning monarch has served as its Colonel-in-Chief. In 1884, Queen Victoria's daughter Princess Louise, wife of the Marquis of Lorne, Governor General of Canada, gave the regiment its name and badge.

Princess Anne's father, Prince Philip, is Colonel-in-Chief of the 8th Hussars' allied regiment in the British Army, the Queen's York Irish Hussars.

Although formed officially on January 3, 1866, as the New Brunswick Regiment of Yeomanry Cavalry, the 8th Canadian Hussars traces its history back to Saunders' Horse, formed in 1776 by John Saunders in Virginia, to fight against the rebel American colonists. Its members later moved and settled in the St. John and Kennabecasis River valleys.



Former Governor-General Vanier inspects officers of the 8th Canadian Hussars at Rideau Hall in June 1966.

The name Hussars came into use in 1888, and its current title was adopted in April 1, 1957.

During the First World War, the 8th Hussars provided one squadron for the 6th Canadian Mounted Rifles and reinforced several other units. In the Second World War, the Hussars served in Britain, Italy and Northwest Europe as the 5th Armoured Regiment. It suffered 239 casualties, 53 of which were fatal.

After the war, the Hussars reverted to reserve status, until April 1, 1957, when the regiment was reactivated for service in Egypt with the United Nations Emergency Force. Later, it served with Canada's NATO formation in Germany and with the United Nations force in Cyprus.

SEWAGE PIPELINE?

Environment Canada (the Department of the Environment) is launching a study to see whether municipal sewage can be transported under high pressure, in the same way oil and gas are forced through pipelines.

Announcing the study recently, Mr. Jack Davis, Minister of the Environment, said that it was one of the things his Department was doing to achieve its objective of "promoting and encouraging practices leading to better environmental quality in Canada". "We want to find out if technology already well developed and long in use in the oil and gas industry can be applied to municipal sewers," Mr. Davis said. "Current methods of moving sewage are based on gravity flow and go back to the days of the Roman aqueducts. I hope we can improve on that."

The study is expected to be completed within 18 months at a cost of some \$90,000.

EXPANSIONARY AGRICULTURAL PROGRAM

Agriculture Minister H.A. (Bud) Olson, speaking recently at a public meeting in Assiniboia, Saskatchewan, emphasized that the Federal Government was committed to providing increased leadership in a long-term program of market expansion for Canadian farmers.

He pointed out that the agricultural industry in Canada was on an upswing, adding that the time had come "to intensify the marketing efforts for export expansion which this Federal Government has been working on since 1968".

Mr. Olson outlined several ways in which the Federal Government was prepared to assist in market expansion for Canadian agriculture:

(1) through increased leadership and manpower to help sell more Canadian agricultural and food products abroad;

(2) by the preparation of market research studies and follow-up on these studies with on-the-spot in-

vestigations and contacts to discover what was specifically needed to penetrate new markets and expand existing ones;

(3) by the use of federal facilities to help the agricultural community meet the needs of individual markets, whether by changing health certification, modifying a variety or strain, special grading and inspection, or any of the other variations that markets may require.

Mr. Olson said that there was reason for optimism about the future of Canadian agriculture.

"The farming community is highly proficient in the skills and techniques of farming. The management of resources by farmers has been such that the productivity on Canadian farms has increased as fast as anywhere else in the world," he stated.

EXPORT POTENTIAL

"Market penetration," the Minister went on, "means careful analysis of the income and subtleties of consumer preferences in various countries, both where we now export and where there's a potential for exports."

Canadian agriculture "should not be intimidated by restrictions and uncertainties in agricultural trade", Mr. Olson declared, but rather should seek to exploit the vast opportunities in those developed countries where income was growing and the population pressure on agricultural resources was much greater than it is in Canada.

He continued: "Exports are the source of about one-third of the gross income of Canadian agriculture."

"The agricultural sector can be justifiably proud of its export performance over the past decade, particularly in the last few years. Exports have increased from \$1.2 billion in 1969 to nearly \$2 billion in 1971 - an all-time record.

"The challenge to farmers, agribusiness and federal and provincial governments is how to obtain access to markets to the benefit of Canadian agriculture in terms of expansion, income and growth...."

HOUSING-STARTS IN JUNE

Preliminary data released by Central Mortgage and Housing Corporation show that the level of housing-starts in all areas continued to be high in June. The seasonally-adjusted annual rate was 261,400, resulting in a second quarter rate of 254,500, down only very slightly from the first quarter rate of 262,300.

In actual terms, starts in urban areas increased by 20 per cent to 21,984, from 18,248 in June 1971. On a cumulative basis urban starts rose by 24 per cent from 73,971 in the first six months of 1971 to 92,062 in the corresponding period in 1972. Single family starts were up by 61 per cent, multiple dwellings by 9 per cent.

U OF T ASTRONOMER FILMS SUPERNOVA

A supernova of remarkable brilliance, which recently appeared in the southern sky, heralding the massive explosion of a single star in a nearby galaxy, has been photographed by Derrick Salmon, an astronomer with the University of Toronto's telescope at Las Campanas, Chile. He was one of the first scientists to film the supernova after it had been noticed on patrol photographs taken in May at Mount Palomar, California.



In the above photograph, the supernova is the bright star below the centre of the picture. Above is the galaxy to which it belongs, at an estimated distance from Earth of seven million light years. The star outshines the galaxy, which contains millions of ordinary stars.

In coming weeks, this supernova, caught here at its maximum brilliance, will fade into obscurity. Massive clouds of gas, ejected outwards from the star at thousands of miles a second, will dissipate themselves in space. Meanwhile the star will readjust itself in some way to its new reduced mass, and may end up hundreds of years later as a remote counterpart to the famous Crab Nebula in our own galaxy, which was a supernova in A.D. 1054.

Dr. Donald MacRae, chairman of the University of Toronto Department of Astronomy, remarks that not only is this supernova a particularly energetic one but its galaxy, which is of the dwarf variety known as NGC5253, produced an equally bright supernova only 77 years ago - a remarkably short interval between such events, particularly for such a small galaxy.

Supernovae, explains Dr. MacRae, are exploding stars, presumably in the last stages of their journey to the stellar graveyard. In this cataclysmic process, they suddenly eject a great deal of their material

with unbelievably large velocities up to 3,000 miles a second. It is this outward moving material which makes the star appear more than one million times brighter than it was beforehand. The brightness increases to a maximum in a matter of a few days and then more slowly decreases over a period of a few months, until the star fades into obscurity.

GREEN LIGHT FOR MACKENZIE HIGHWAY

Northern Affairs Minister Jean Chrétien recently announced that the first tenders had been called for construction of the initial phase of the Mackenzie Valley Highway north of Fort Simpson in the Northwest Territories.

The Minister said that this 49-mile stretch of road to Camsell Bend, NWT, was the first stage of the highway to Inuvik promised earlier this year by the Prime Minister.

When he announced the call for tenders, Mr. Chrétien also made public a set of rules that road contractors must adhere to as a protection of the northern environment. One of these is that Indian Affairs and Northern Development land-use inspectors shall oversee the operation.

All contracts governing highway construction require that local native people be hired for all positions for which they are qualified and that, if available, at least 25 per cent of all equipment used be rented from companies established north of the 60th Parallel.

Starting next year, as a training project, the territorial government will construct ten miles of the highway north of Camsell Bend. Instructors, students and equipment from the Adult Vocational Training Centre, Fort Smith, will set up camp on their section of the road next summer and the students will use the skills they acquire to build an actual road. The Federal Department of Indian Affairs and Northern Development is financing the training project.

This winter, as an innovation in highway travel, the Federal Government will test a cable-operated, air-cushioned transporter as a vehicle for ferrying traffic over major river crossings. If the test is successful, the use of these vehicles as ferries could make the highway operable for all but about five days annually. The prototype is the offshore vehicle that underwent trials at Yellowknife last winter.

ENVIRONMENT PROTECTION RULES

Specific concerns in the development of the Mackenzie Highway are:

- (1) that it be developed in accordance with engineering practice, with a minimum of environmental damage and with a view to enhancing the inherent landscape values;
- (2) that the construction will avoid or minimize adverse effects to the surrounding terrain and vegetation;

- (3) that rivers and other water-bodies will be approached and crossed in a way that will minimize environmental disturbance to the water-body, its bed and banks, and to the adjacent land or vegetation;
- (4) that the highway will be built with minimal disruption to river and lake systems, water-quality, and feeding, reproduction and migrating stages of fish and other aquatic organisms;
- (5) that the road will be developed with minimal interference to the lands and vegetation that serve as feeding, reproduction and migrating areas for mammals and wildfowl, and with maximum protection to rare or endangered species and their habitats;
- (6) that adequate provision be made for disposal of sewage, garbage and any gaseous wastes, liquid wastes, solid wastes or other toxic materials;
- (7) that appropriate provision be made for preservation or salvage-excavation of archaeological and historical sites, and that minimal damage to such sites will result from development activities;
- (8) that an effective plan be formulated for implementation of specific environmental safeguards through an educational program for field personnel before and during construction of the highway; and
- (9) that an effective inspection system be established to ensure performance in keeping with the above-stated environmental concerns.

EMPLOYMENT, EARNINGS AND HOURS

On a seasonally-adjusted basis, the estimated industrial composite index of employment for Canada rose slightly in April. All industrial components reported gains except construction and service, which declined. There were advances in all regions except the Atlantic. ("Industrial composite" is the sum of all industries with the exception of agriculture, fishing and trapping, education and related services, health and welfare services, religious organizations, private households and public administration and defence. All statistics are based on returns received from employees having 20 or more employees in any month of the year.)

Not adjusted for seasonal variations, the composite index also rose in April, with gains in all industry divisions and all regions.

The composite average of weekly earnings (unadjusted) also increased, as all regions and all industries except forestry, gained.

Average weekly hours rose for manufacturing and construction and declined in mining, while hourly earnings rose for all three industries.

The preliminary March seasonally-adjusted industrial composite index of employment (1961=100) at 129.9 was 0.6 percent higher than in February. The largest gains, in percentage terms, were in forestry (10.2 per cent), mining (2.5 per cent) and construction (1.8 per cent). There were increases in

the level of employment in all provinces except Newfoundland, Manitoba and Saskatchewan, all of which recorded declines.

Not adjusted for seasonal variations, the composite employment index for Canada rose 1.2 per cent in March. All industry divisions increased except forestry; all provinces rose except Newfoundland and Manitoba.

Average weekly earnings, not adjusted, rose 1.2 per cent to \$146.42. All industry divisions, except forestry and construction, contributed to this increase. The largest gains were in finance, insurance and real estate (\$3.58), service (\$2.88) and transportation, communication and other utilities (\$2.59). Gains were recorded in all provinces, ranging from \$0.96 in Newfoundland to \$4.57 in Prince Edward Island.

In mining, average weekly hours declined to 40.7 from 40.9 in February, while average hourly earnings gained 3 cents to \$4.24. Compared to those of March 1971, hours were down 0.4 hours and earnings were up 24 cents.

Average weekly hours in manufacturing rose 0.4 hours to 40.0 in March (up 0.1 hours over the year). Average hourly earnings increased to \$3.46 in March from \$3.43 in February (a year-over-year gain of 25 cents.)

In construction, average weekly hours dropped to 39.5 hours from 40.3 hours and average hourly earnings were down 1 cent to \$4.99. The March 1971 levels were 39.5 and \$4.69.

NEW RESEARCH GRANTS

University professors will be eligible to receive new research grants from the National Research Council. They are called PRAI grants, for Project Research Applicable in Industry. For many years the Council has been the major agency for building up competence in research in Canadian universities in both basic and applied science and in many disciplines ranging from pure mathematics to mechanical engineering. Although NRC still considers that one of its major responsibilities is to maintain this competence, for the past several years it has also been developing new programs to exploit the spin-off that comes from basic research.

In many cases, the research the Council supports has led to advances with a strong industrial significance and high promise of application to Canadian industry. PRAI grants have been devised to enable university researchers to concentrate on a new concept, process, invention or design and bring it to the stage where it can be taken over by industry.

To be acceptable for support through a PRAI grant, proposals coming from university researchers will have to be of direct interest to particular industrial firms.

ONTARIO PLACE HOSTESSES

Hostesses at Ontario Place, Toronto's summer entertainment complex, are wearing a versatile new "watercolour blue" ensemble this year. Designed by Marilyn Brooks, the outfits can be worn as blouse-and-skirt combination, blouse and pants, or jacket, blouse, skirt or pants, according to the weather and the occasion.

The girls are all college students from many parts of the province, who will be working at Ontario Place until it closes on Thanksgiving Day, October 9.



WESTERN COAL RESERVES APPRAISED

The Federal Government and the Province of Saskatchewan have agreed to carry out a \$912,000 shared-cost program to determine the extent and economic viability of the lignite coal reserves in southern and central Saskatchewan.

Under the terms of the agreement, the Federal Government is contributing \$550,000 over a two-year period and the province is providing the remaining \$362,000. The program is being carried out by the Saskatchewan Research Council.

Lignite, used as a fuel in thermal generating plants, is in great demand by electric utilities in Western Canada, Ontario and Quebec; reliable estimates indicate that the demand in Western Canada alone will increase fivefold by 1980. The Saskatchewan reserves have never been accurately measured, and this has made energy resource-planning difficult.

During the first year of the program, geologists will evaluate the reserves and economic potential of the Ravenscrag and Swan River coal areas of Saskatchewan. A rough outline of the deposits will be determined through drilling, logging and sidewall sampling of test-holes carried out by the Saskatchewan Research Council in co-operation with geologists from the Geological Survey of Canada and the Saskatchewan Department of Mineral Resources.

A more detailed drilling program will be carried out during the second year to outline clearly the boundaries of coal seams selected from those surveyed the previous year. The target-date for the completion of the program is March 31, 1974, and a final report on the location and quantity of probable reserves will be issued by October 31, 1975.

EQUIPMENT SALE TO DUTCH NAVY

The Royal Netherlands Navy has placed an order in excess of \$3 million for the supply of sonar-detection and training apparatus designed and developed in Canada. This equipment is to be used on new frigates soon to be commissioned for the Netherlands Navy.

A major role in the development and production of this kind of sonar equipment was played by Westinghouse Canada Ltd., Hamilton, Ontario, under contracts initiated by the Canadian Maritime Forces. This order, and two previous ones received from the Belgian and West German navies, are the result of several years' export-marketing effort, during which Westinghouse Canada worked closely with the Department of Industry, Trade and Commerce in the pursuit of this business.

Interest in the program has been indicated by at least two other countries and further sales are expected in the near future.

FOOD AID TO BANGLADESH

Canada has allocated an additional \$3 million to purchase and ship more wheat to Bangladesh.

This raises the total of Canadian grants for food aid to Asia's newest nation to \$24.5 million in the 1972-73 fiscal year. Of this, \$19.5 million has been allocated for the purchase and shipment of 210,000 tons of wheat and 4,000 tons of rapeseed oil worth \$2.2 million. The remaining \$2.8 million will be used to ship more food in the near future.

The increase in Canada's contribution to the Bangladesh food-aid program comes in response to an international appeal by UN Secretary-General

Waldheim, launched in May to help meet expected shortages in rice and wheat stocks in Bangladesh in the next four months.

In addition to the \$24.5 million for food aid, Canada has also committed \$27 million in grants to support development assistance projects in agricultural, power and transportation sectors of the Bangladesh economy, which were disrupted by the war.

FIGHT AGAINST PAIN

Pain has always been one of man's greatest enemies. Before the days of alcohol and the earliest forms of anaesthetics, toothache or the acute agony of a broken limb caused suffering and misery for lord and vassal alike. Modern drugs have done much to alleviate pain and all kinds of operations are now possible which were once not feasible due to man's limited capacity to endure pain. But excess of any type of drug can build up an immunity to it and no patient will ultimately improve if constant sedation is necessary.

GATE-CONTROL THEORY

In 1965, Dr. Donald Melzack, Professor in McGill's Department of Psychology in Montreal, with Dr. Patrick Wall, Professor of Anatomy at University College, London, evolved the "gate-control" theory of pain. This theory describes the functioning of a gate-like mechanism in the spinal cord. The functions of this system have not yet been fully established, but there is evidence of a mechanism in the spinal cord that modulates the transmission of information from the body to the brain. When the "gate" is closed down tightly, no message can be transmitted to the brain and pain will not be felt. The gate-mechanism functions in different ways according to the circumstances. For example, if a football player were to receive a kick in the shins during play when concentrating hard on the game, he would feel little pain because his body would not be expecting it. In this situation, the gate-mechanism is closed. However, if a person is expecting a blow from an assailant, he is in a state of apprehension, his gate-mechanism is wide open and his pain will therefore be acute. In some diseases, such as neuralgia, the large fibres required to close the gate are destroyed, causing the gate to be permanently open. Constant pain results. Therapy based on the gate-control theory is now used widely in hospital clinics in the United States. The therapy involves the electrical stimulation of the spinal cord by placing electrodes on the patient's dorsal columns (the back part of the spinal cord). The electrodes are attached to a small receiver inserted under the skin. By turning the knob of a small radio transmitter he carries on his person, the patient can stimulate his own spinal cord and close the gate mechanism whenever he is in pain. It

is believed that stimulation of the dorsal column activates fibres that inhibit pain signals. This type of electrical stimulation has been carried out on a larger number of patients by Dr. Blaine Nashold, a neuro-surgeon at Duke University, who was a resident in neurosurgery at the Montreal Neurological Institute some years ago.

WHERE THERE'S SMOKE...

A Winnipeg woman was fit to be tied when a tobacco company sent her 12-year-old daughter some samples.

The woman, who used to be a heavy smoker but has now "kicked" the habit, sent off a stinging complaint to Health Minister John Munro. She complained of the practice of tobacco firms sending "their deadly wares" to children and the tone of her letter suggested she'd like somebody's head on a plate.

So the Department of National Health and Welfare passed the complaint to officers of the Department of Consumer and Corporate Affairs for investigation and action. They got to the bottom of it. In error, the professional premium-handling organization got the daughter's request for an Ann Murray record mixed up with a pipe-tobacco campaign they were also handling. Instead of getting Miss Murray's *Snowbird*, the child got a plug of pipe tobacco.

The tobacco firm conducted its own investigation and found that not only was the Winnipeg complaint accurate in every detail, but a similar error had been made in 300 other cases where consumers had sought the record and had been sent tobacco. They conceded that some of the 300 may have been children. The tobacco firm also hit the roof because it abhors the practice of sending out samples not distinctly solicited.

Each of the 300 persons who got the pipe tobacco received a letter apologizing for the promotional sample mix up - which occurred through a simple clerical error - plus the record they had asked for.

