

New Cancer Research Projects Are Stirring Lively Interest

The scientific assault on cancer has been long, intense and frustrating. A final breakthrough is not yet in sight. But several new research reports, taking a similar tack, are stirring lively interest. This is the first of two articles on the latest developments and their implications.

By JOHN BARBOUR
NEW YORK (AP)—The effort to enlist the body's own defences against an invading disease is perhaps the most active front today in the battle against cancer. A scattering of research reports has focussed fresh interest on this approach.

One expert calls it "the most promising area of cancer research today." Another, looking at recent experiments, finds there's "a ray of light in a dark room."

If there is some hope that researchers may be working on some promising leads, it must be set against the background of a thousand disappointments of the past.

In the last months there have been some interesting variations on the idea that in the immune processes of living creatures there is a way to defeat cancer, just as viruses and bacteria are defeated.

SOME DISAGREEMENT
 There are a number of current reports—but researchers disagree on their ultimate value.

In Detroit, researchers claim to have created an experimental method for linking human tumour cells to rabbit protein to produce a cancer patient's body into fighting his own cancer. But they say their work is strictly preliminary and needs more laboratory confirmation and refinement.

In Buffalo, N.Y., researchers have exchanged small transplants of tumour between cancer patients in hopes that each would develop usable defences against the tumour of the other. However, they have maintained silence on the final outcome of the experiment.

One patient, Harry T. Griffith of Philadelphia, involved in an experimental transplant died Monday. A spokesman in Buffalo said the transplant was of little or no value in Mr. Griffith's case.

His partner in the experiment, Robert F. Allen of Tucson, Ariz., and two other men who took part in a similar experiment were reported to be progressing, but the hospital said it would be some time before their condition would be evaluated.

HAVE USED RABBITS
 In Los Angeles some researchers have produced rabbits they believe to be tolerant of all human tissue—and have talked about using the rabbits to manufacture anti-cancer serum for human patients. But other scientists have questions to ask about the method.

Although these reports have ridden the crest of the recent news, there have been countless small advances in well-manned laboratories that have gradually accumulated the evidence that supports much of the hope.

All these lines of research converge on the same mechanism that helps you eventually recover from a cold, or permits vaccination against a virus, or prevents a patient from borrowing a kidney from other humans when his own goes bad.

Indeed, this area of cancer research is closely tied to the barrier that prevents individuals from exchanging organs in transplant operations. The body is able to recognize the strangeness of something introduced into it and to mobilize defences against the intruder—except for, perhaps, the cancer cell.

HARD TO PROVE
 It has not been shown, in the eyes of most researchers, that the human tumour cells harbor foreign characteristics that will enable the body to recognize them as enemies. Most believe

the tumour cell is strange—but proving it is another matter. The cancer cell is a normal cell running wild. Perhaps it is enough like a normal cell that it doesn't awaken the body's defence mechanisms.

Or perhaps some cancer cells have a way of subduing the body's defence mechanisms. Often a cancer patient dies of pneumonia or other infection—his body's resistance so lowered that he can't fight back.

Still, there are a few cases where cancers in humans suddenly and mysteriously shrink and disappear.

And there are cases, when the main or primary tumour is removed by surgery or destroyed by radiation, in which seed cancers spread from the main tumour unaccountably.

Or there are situations where seed cancers suddenly appear at other places in the body, long after the primary tumour has been removed. That, in itself, might suggest that the body's defence mechanism held the seed cancers in check for some time.

HAS PLAYED SOME ROLE
 In all these cases, researchers believe, the body's immune mechanism has played a role, recognizing and fighting the cancer as an intruder.

Using immunity against disease is hardly new. By the time most Canadian and United States children are 5, they have been immunized against smallpox, polio and diphtheria.

The procedures are many. The human may be given a live, but weakened, polio virus. He responds by producing antibodies—a disease-fighting agent—against the virus. Even when he encounters more virulent polio viruses, the antibodies are effective against it. Sometimes, instead of live viruses, killed viruses or live but related viruses can be used to produce immunity.

TAKE TWO
GEN NEW CANCER
 The body has a spectrum of disease-fighting agents. Antibodies flow freely in the blood stream, produced by certain cells. Then there are apparently other disease-fighters directly associated with cells. Lymphocytes—a type of white blood cell—carry disease-fighting equipment. The body even has some specialized cells that actually devour some foreign matter that invades.

ARE PROTEIN MATTER
 Antibodies themselves are specially designed bits of protein which can fit onto foreign protein, neutralizing it.

Foreign material that stimulates antibody production is called an antigen.

In the case of viruses, for instance, the body's immune mechanism recognizes "virus particle by antigens in its protective protein coat—and forms antibodies to lock the virus in its coat and prevent it from infecting a cell.

Research has shown that viruses that cause cancer in animals produce certain characteristics on the animal tumour cell membrane that the body can recognize as antigens.

But the proof is difficult, and recent attempts to show the same holds true for human tumours are being anxiously followed.

A NEW TACT
 The proof that antibodies can be stimulated by cancer cells is fairly new. In 1963, researchers found they could make a mouse immune to a chemically-induced tumour by first transplanting a tumour from a related mouse, then surgically removing it. The mouse exposed to the tumour transplant for a period was then resistant to further attempts to transplant that same kind of tumour.

Other researchers have learned to play tricks with antigens in animals—and stimulate antibodies against cancer.

For instance, one virus was known to cause leukemia in the newborn of a certain inbred family of white mice. A few months after inoculation the baby white mice developed leukemia. Adult white mice of the same family could then be given the leukemia by injecting them with leukemic cells from the newborn mice.

The same virus could be used to produce leukemia in a different mouse family—a black mouse. But when leukemic cells from the black mice were injected into adult white mice, the white mice rejected them because their immunity systems recognized the black mouse leukemic cells as foreign, coming from mice that were genetically different.

PRODUCED NOTHING
 Weeks later, the researchers took the same white mice that had rejected the black mouse leukemia cells and injected them with leukemia cells from white mice. Normally, these leukemia cells would have produced leukemia in the white mice—but they didn't.

Receiving the genetically different leukemia cells had stimulated the white mice to produce defences against such cells and those defences were effective against leukemic cells from their own family.

These experiments suggested that tumours might be dealt with by immunological techniques. But the question persists: Can you demonstrate that human tumours also are identified by the body as foreign intruders? Do they also possess antigens that would stimulate the body to produce antibodies against cancer?

Is there something in common between various kinds of tumours that would awaken the body's defences? Or is each tumour different?

The search for the answers is under way.

(Next: Tentative human tests)

U.S. Firm Pushing Rental Of Computer In Vancouver
VANCOUVER (CP)—A Los Angeles firm has set up an office here in an attempt to convince the small businessman to use a giant computer that can compute 200,000 additions a second.

The computer is the Univac 1107, owned by the United States government and set up at the Atomic Research Centre in Richland, Wash.

Computer Services Corp. has the contract to operate the 1107 for the Hanford project—a 600-square-mile atomic energy centre and site of the world's largest nuclear power reactor.

Under terms of the contract, and because there is insufficient U.S. government work to operate the giant computer at full capacity, the Los Angeles company is committed to making the computer available to private industry.

Offices have been opened here and in Seattle in an attempt to convince the smaller businessman to use the computer.

NO LEASING
 The customer does not pur-

chase the computer, but rents it.

Mr. Hickenlooper says his firm is aiming at two markets. "There is the sophisticated computer customer who has data processing facilities but who is not getting access to a \$3,700,000 machine with fast turn-around time."

The annual meeting a few weeks ago revealed a gross turnover of a quarter million dollars during the year, it was learned. A patronage dividend of two and one-half percent was paid to shareholders.

Items carried include such farm equipment as stable equipment, garden tools, chemical sprays and equipment, a complete stock of forage and grain crop seeds, work clothing and footwear, dairy supplies and many other items.

Mr. Smith who is the plant manager, is a graduate of Nova Scotia Agricultural College and of MacDonald College, Ste Anne de Bellevue, Quebec.

BACKGROUND
 Mr. Smith's background, after graduation covers working for Maritime Co-op Services in Southern New Brunswick and P.E.I. on technical services in the company's feed department. He was transferred to Kentville, N.S., when MCA opened the most modern feed mill in the Maritime area. He was transferred to Charlottetown in October 1964 as manager of the organization here.

Mr. Smith works for MCS which has a manager provision arrangement with the local company. Don is a son of Harold Smith, MLA and Mrs. Smith of Pownal.

RETAIL ORGANIZATION Holding Open House
 A farmer-owned retail organization, Agro Co-op Associated Limited will be opened officially this afternoon by Premier Walter Shaw. The location is on Exhibition Drive, and the manager and directors are holding open house through the afternoon and evening.

Coffee and doughnuts, the popular refreshments of the pre-chase or lease equipment and there is no monthly minimum charge. A businessman pays only for the time used by the computer plus card and other charges. It works out to about \$500 an hour.

It's surprising how many problems can be handled by the computer in around five minutes for a cost of about \$45 or \$50," Monte Hickenlooper, marketing manager of the firm, said in an interview Wednesday.

By paying the fee the businessman can draw on the skills of about 100 programmers and analysts running the Richland computer. Many of them are specialists in forest products, mining, manufacturing and other fields.

The branch offices in Vancouver and Seattle use a simple punch card into a smaller computer in the branch office. It is transmitted to the big computer in Richland and usually within a few minutes the answer is tapped out on a printer in the branch office at a speed of 600 lines a minute and 122 units to a line.

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Best of Luck to the Management & Staff of AGRO CO-OP
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MARITIMES LOCAL SERVICES
 Spring 1966 (Effective April 24, 1966)

Charlottetown Departures:	East and Southbound Flights		
Frequency:	Tuesday	Daily	Daily
	Thursday	Except	Except
	Saturday	Sunday	Sunday
Flight No.:	30	34	32
Equipment:	DC-3	DC-3	DC-3
Depart:	1:30 p.m. for	1:00 p.m. for New	8:00 a.m. for
	Magdalen Islands	Glasgow and	Magdalen Islands
		Halifax	

		West and Northbound Flights			
Frequency:	Tuesday	Daily	Daily	Daily	Sunday
	Thursday	Except	Except	Except	Only
	Saturday	Saturday	Sunday	Sunday	
Flight No.:	31	37	25	36	31
Equipment:	DC-3	DC-3	DC-3	DC-3	DC-3
Depart:	3:40 p.m. for	8:15 p.m. for	4:00 p.m. for	10:20 a.m. for	10:45 a.m. for
	Moncton	Summerside and	Summerside and	Summerside and	Summerside and
		Moncton	Moncton	Moncton	Moncton

Canadian Farmers Buy More Along Saskatchewan Border
REGINA (CP)—Bumper grain crops and new federal loan procedures mean more Saskatchewan farm land will be owned by Canadians, provincial agriculture officials forecast.

American land purchases near the U.S. border continued to rise in the 1962-64 period but then fell off in the face of competition from Canadian farmers with new-found money.

Agriculture Minister Doug McEwan said the trend will continue, bringing an end to resentment which farmers harbored against Americans who could beat them at the auction block.

Americans own 2.1 per cent of the land in a surveyed strip 54 miles deep by 320 miles broad along the Saskatchewan border. Provincial government surveys have not covered areas further north.

J. A. Brown, director of agricultural economics and statistics, said the survey showed most American owners in the area "farm from across the line" farther north, more rent the land to Canadians.

From March 31, 1962, to Dec. 31, 1964, Americans bought 46,080 acres in the survey area. This new investment brought American-owned land to a total of 281,120 acres in the strip of 83,114,761 acres.

Mr. McEwan said:

"In the past, many farmers in the southern extreme of our province were hampered because of the lack of cash and procedural difficulties in obtaining loans. The good crops of the last three years and improved loaning procedures by federal agencies have tended to give Saskatchewan farmers just as much opportunity to purchase the land as Americans."

As well as difficulty in obtaining loans and having little cash bargaining power, some Saskatchewan farmers were perhaps over-cautious, Mr. Brown suggests. But this wasn't likely to continue.

One factor which attracted American buyers to the Saskatchewan grain lands was the lower price, Mr. Brown said.

"For example, land selling for \$40 to \$45 an acre in the frontier and Climax areas (of southwestern Saskatchewan) is similar to land selling in Montana for \$90 to \$100 an acre."

Mr. Brown said the survey indicated American buyers were paying as much as three to five times the assessed value of farm land after "considerable investigation."

A frequent response was that land in the area had been undervalued in economic terms and American buyers had recognized it as a good investment.



Mr. Smith shows a product to a customer

Retail Organization Holding Open House

weeks ago revealed a gross turnover of a quarter million dollars during the year, it was learned. A patronage dividend of two and one-half percent was paid to shareholders.

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		Moncton	Moncton	Moncton	Moncton

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U.S. Draft Legislation Is Studied

OTTAWA (CP)—The government is studying United States military draft legislation and the status of Canadian citizens living in the U.S., Prime Minister Pearson has told the Commons.

New Democratic Leader Douglas asked whether Canada intends to clarify the status of Canadians spending one or two years in the U.S. who are considered subject to the draft there.

The prime minister said the question involves an interpretation of the U.S. law.

He said Canada has had a good deal of experience in this field because the U.S. draft laws applied to Canadians in the U.S. during the Second World War.

The subject arose over a Vancouver incident last month when FBI agent Alfie Gunn visited a suburban home to ask questions of Glen Briscoe. His mother said the agent implied the youth would be arrested for alleged evasion of U.S. laws requiring all 18-year-olds to register for selective service.

Solicitor-General Pennell said Monday the FBI man had no authority to enter the home and

16 The Guardian, Charlottetown, Thur., April 28, 1966.

should have asked the RCMP to accompany him.

Mrs. Briscoe said her family lived in the U.S. only a year and that her son is not an American citizen.

MANY TOUR NORTH
 Norwegian youth hostels put up travellers for 442,149 overnight visits in 1965, 57 per cent of them foreigners.

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