

# Human Skill Inadequate For Complex Mechanisms

By JOHN E. BIRD  
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OTTAWA (CP)—Human co-ordination no longer is accurate enough to guide today's complex machinery or precise measuring equipment. It is being displaced by another product of man's ingenuity—automatic control gadgets.

Man has a role to play where his power of reasoning is preferable to the inflexibility and danger of failure of automatic control systems.

An automatic device that could detect a change in the tone of an aircraft engine or a weakness in the controls, weigh the pros and cons of a forced landing and then execute one still has to be invented. Man's ability to think puts him above the machine in an emergency of this kind.

**THE HUMAN FACTOR**

Until recent years measuring instruments were an aid only to manual measurements by man. As a result, the manufacture of machinery, aiming of guns or driving of vehicles was good or bad depending on the skill or the mood of the human controlling the operation.

"On every hand demands of speed, power and precision are causing a change in the relation of man to machine," says J. A. Tanner and C. A. M. Smith of the National Research Council's aircraft and instrument laboratory. "The resulting change undoubtedly will affect our potential productivity and standards of living."

The two scientists quoted three examples where the task of controlling or measuring often is too difficult for the average unaided human.

1. Training periods for pilots and navigators of high-speed jet aircraft are becoming longer and the number of failures greater.
2. Precision of control required in many industrial processes makes manual control uneconomical.
3. Scientists are finding it impossible to cope with the speed

and accuracy demanded by some of today's more complex experiments.

**VARYING TIME LAG**

Experiments have shown there is a time lag of about two-tenths of a second before the hand acts on a message recorded by the eye. The tests also have shown that this time lag never is constant.

Mr. Tanner and Mr. Smith describe this variation in the time lag as "the will-of-the-wisp nature of the human agent" as an operator of automatic machinery.

As a result, the monitoring function of the human in reading and interpreting instruments, and in many cases deciding what corrective action should be taken, is being replaced by automatic devices. Instruments which formerly measured and indicated now are being equipped with power amplification and used to measure, indicate and control.

"These steps have been highly significant in the development of instrumentation," the two scientists say, "for they have not only freed the automatic control system from the limitations of the physical and nervous systems of the human, but they have also relieved the human of many monotonous monitoring tasks."

**SIMPLE EXAMPLE**

A water-level gauge developed by NRC is a simple example of the automatic principle. Prior to its development tests of water surface elevations on scale river models were made by trained technicians.

Readings were taken by means of a point gauge. When the point of the gauge met its reflection in the water a reading could be taken on a micrometer.

"The over-all accuracy of these measurements, made by several human observers, was intolerably low," Mr. Smith says. "Not only was the setting of the point gauges tedious . . . but when the water surface was subject to periodic movement, the human observer be-

came quite inadequate as a measuring means."

A complex automatic measuring instrument was developed to replace the human observer. The exact elevation is transmitted electronically to a self-recording instrument after the point of the gauge touches the surface of the water.

## Aly Khan To Wed Model

NICE, France (AP)—Aly Khan is planning to marry Bettina, well-known Paris fashion model, one of the Moslem prince's lawyers said Saturday.

The informant said the marriage awaits only recognition by a French court of Aly's divorce from actress Rita Hayworth in Las Vegas, Nev. A Paris court is expected to hand down a decision in a few days.

Bettina, whose real name is Simone Bodin, has been visiting at Aly's villa at Golfe Juan on the Riviera.

## CHANGE IN TONE

SARNIA, Ont. (CP)—A surprise item on the program of a high-fidelity record concert at the local library was an old-timer. "The Stars and Stripes Forever" was first played on an historic Edison-Bell cylindrical phonograph, and then, for comparison, the same tune was heard on a hi-fi disk.

# Malaya Plans To Declare Independence Next Aug.

BOMBAY, India (AP)—Malaya will proclaim its independence Aug. 31 next year, Prince Abdul Rahman, chief minister of the rubber and tin-rich British protectorate, said Saturday.

Prince Abdul made the disclosure while en route to London to negotiate long-coveted independence. He did not say whether Malaya would proclaim its freedom within the Commonwealth, like India, or pull out entirely on its own, as Burma did.

The only hint he gave was in his expressed admiration for the way India won freedom from Britain in 1947. Three years later India declared itself a sovereign republic but remained in the Commonwealth.

"The lessons of the Indian independence movement stand us in good stead in wrestling power from the British," the prince said. "Our freedom fight is smooth and methodical, and we are trying to emulate the example of India."

Britain, which has used imperial as well as Malayan troops to wage an increasingly successful war against Communist guerrillas in the steamy Malayan jungles, is not likely to oppose the independence move. Malcolm Macdonald, Britain's retiring commissioner-general for southeast Asia, said last August that if Malaya and Singapore did not get self-government soon, they would "come under the influence of the forces of evil and chaos."

Malaya had its first legislative elections in July. About all some

of the parties had in common was a demand for independence. A multi-racial group won a landslide victory and Prince Abdul was named chief minister.

The prince sails to Karachi, Pakistan, today to board a plane for London. There he will sit down for specific talks on independence with members of Prime Minister Eden's government.

The Malayan federation, set up under a treaty in 1949, consists of nine states with their separate rulers plus the two British settlements of Penang and Malacca, Singapore, strategic military base and commercial centre on a small island off the southern tip of the Malaya peninsula, is a British colony. It is negotiating for internal self-government with the Commonwealth.

**RARE SHEEP**

PENTICTON, B. C. (CP)—Four bighorn sheep of the California type, from Williams Lake, B.C., have been released here to strengthen herds in the area. They are among the rarest of all mountain sheep.

**FRENCH LESSONS**

VICTORIA (CP)—Oral French courses for elementary school pupils in British Columbia will start in September, education minister Williston announced. The plan is being worked out by a committee of department officials and specialists.



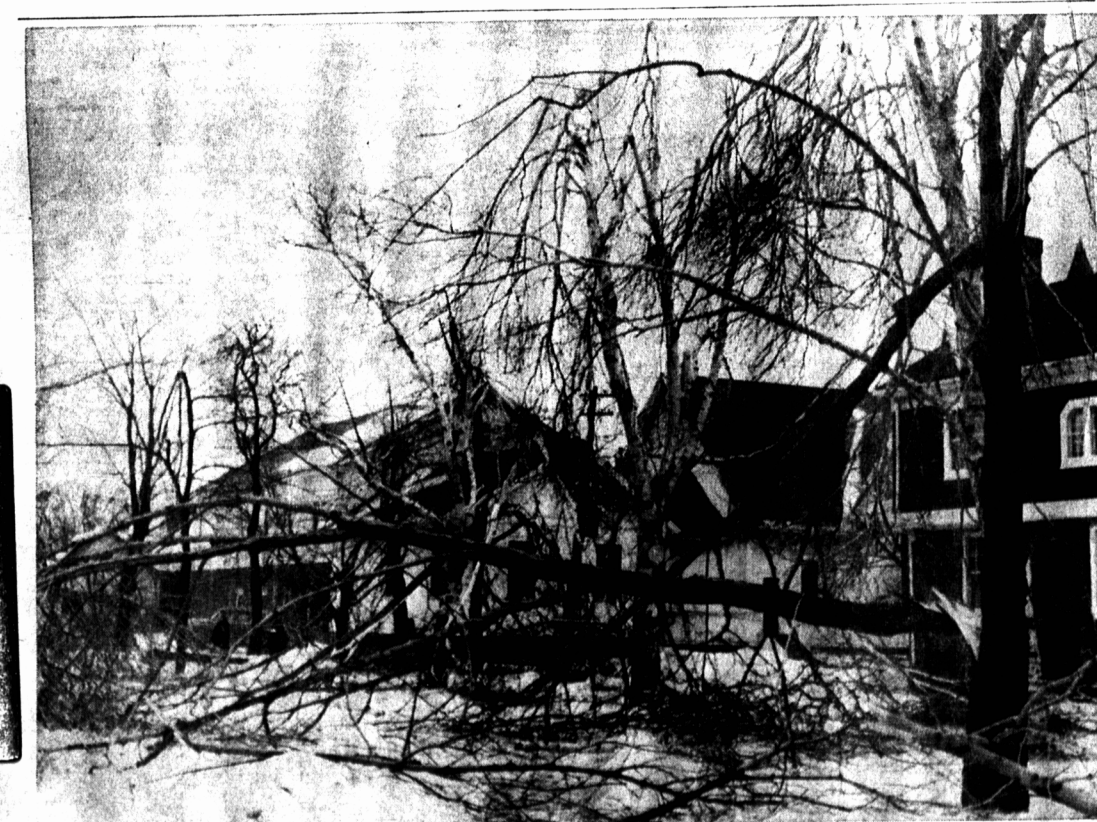
ANGLICAN CHURCH AREA AT ALBERTON

This picture of the Anglican Church area at Alberton indicates other parts of Prince County damaged, although conditions became worse after this picture was taken. Like some of the weight of ice on trees was up to 100 per cent in most places.



GRIM SCENES AT SUMMERSIDE

Fallen telephone poles and power lines, as well as twisted, broken trees tell the grim story of the worst "silver thaw" in memory of Summerside, the type of destruction that was general throughout the town.



ORNAMENTAL TREES ALMOST OBLITERATED

Beautiful, ornamental trees, partially obliterated by the severe ice storm (above) is typical of the mass of broken and smashed limbs and branches that existed throughout the town.

## Nuns Lead 104 Children To Safety During Fire

BUFFALO, N. Y. (AP)—Twenty-one nuns led 104 children to safety Saturday when flames broke out in the main building of the German Roman Catholic orphan home and quickly spread to two wings of the brick structure.

The children were led from the building holding hands while the flames spread downward from a tower rising from the third and top floor of the central administration building.

Sister Joseph Clare, mother superior of the home, who discovered the blaze, suffered a minor eye injury when she collided with a statue of St. Francis as she was searching a smoke-filled hallway for children. She was treated at a hospital and released.

Four firemen also received minor injuries while fighting the blaze. Two of them were hurt when a heat explosion in a third floor corridor blew off part of the roof, showering them with debris. Three were treated at hospitals, and the other at the scene.

Fire Commissioner William A. Daly estimated damage at \$800,000, including \$500,000 to the building and \$300,000 to the contents.

**RESCUED FROM WINDOW**

A 79-year-old seamstress who lived in the orphanage, Mary Larocca, was rescued by firemen from a third-storey window. She was carried to safety down a ladder.

Sister Clare told authorities that she sounded an alarm when she discovered smoke swirling through the corridors on the second and third floors.

She said the children were in the playrooms and dormitories on the first and second floors. Three other nuns who normally live at the orphanage were away at the time.

The children were housed temporarily in a school building about 100 yards behind the main buildings, and in the nearby Buffalo Museum of Science.

The orphanage is located on Dodge and Norway streets in a heavily populated residential area in northeastern Buffalo.

Hundreds of firemen fought the four-alarm fire in freezing temperatures. Flames roared out of control for nearly two hours.

**CAUSE IS UNKNOWN**

The cause was not immediately determined.

The main section of the orphanage consisted of the administration building and two wings and three other buildings linked to the others by brick passageways.

The building housed offices, dormitories, classrooms, playrooms, a pharmacy and other facilities.

Sisters from the third order of St. Francis in Williamsville operated the home.

**TRIPLED BAG**

BLANCHLAND, England (CP)—Out shooting on the Northumberland moors, game owner Bert Austin brought down three grouse with one shot.

## United Clergy Oppose Gambling For Charity

ST. JOHN'S, Nfld. (CP)—The Newfoundland conference of the United Church of Canada has reaffirmed its stand against gambling in a directive issued to ministers and chairmen of church education boards.

The directive, in the form of a resolution passed by the conference, calls money-raising by lotteries and sweepstakes "un-Christian and therefore morally wrong."

The resolution was also forwarded to Attorney-General Curdus with the request that he take "fearless action against those who defy the criminal code with respect to gambling in any form."

It appeals to people not to participate in bingo, lotteries and raffles, and to try to find other means of raising funds for charities.

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