

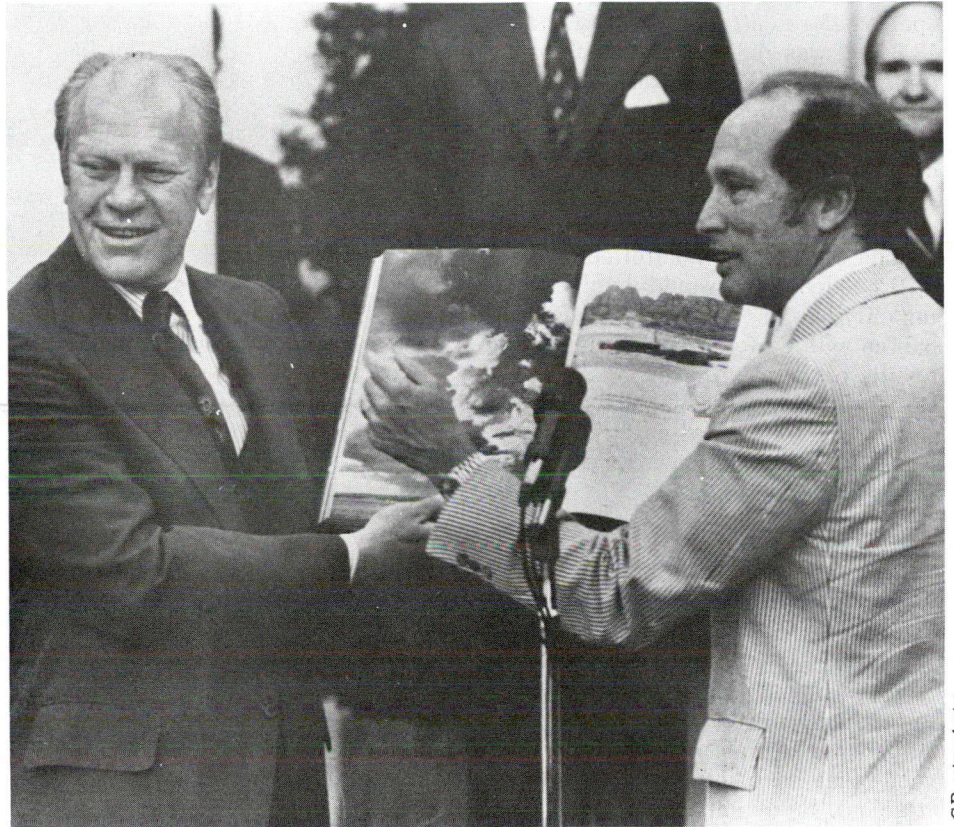
Mr. Trudeau meets President Ford

The Prime Minister and Finance Minister Donald Macdonald met with U.S. President Gerald Ford and State Secretary Henry Kissinger for over four hours in Washington on June 16. Talks centred on the economic summit conference in Puerto Rico, June 27 to 29.

A statement issued by the White House said the two leaders also spoke of bilateral relations in general, issues related to the North American Treaty Organization, nuclear non-proliferation and North-South relations.

"Both leaders agreed that the summit consultations should contribute importantly to advancing the shared objectives of industrialized democracies," the statement continued.

*While in Washington, Mr. Trudeau (right) presented the book *Between Friends/Entre Amis* to Mr. Ford as a Bicentennial gift from Canada, which shows photographs taken along the 5,500-mile frontier between the two countries.*



CP wirephoto

Caffeine keeps premature babies breathing – successful studies in Montreal

It has been estimated that nearly a third of premature babies soon develop spells of apnea, or cessation of breathing. Most of them start breathing again after a few seconds, but a few may suffer an apneic spell lasting as long as 20 or 30 seconds. In such cases, the heart rate may drop from its normal 140 beats a minute to less than 100 and the baby may turn blue.

Dr. Jacob V. Aranda, acting director of Neonatal Research at the Montreal Children's Hospital and Assistant Professor in McGill's departments of Pediatrics and Pharmacology, is concerned with finding the causes of and effective therapy for apnea. The worry is that babies suffering apneic spells may suffer oxygen deprivation and consequent brain damage.

The most common treatment for apnea is simple tactile stimulation. The person monitoring the baby simply flicks the soles of its feet. If this proves ineffective, other types of stimulation may be used. In some cases, the baby may be given additional oxygen to aid breathing.

Some of the causes of apnea are infections, metabolic problems, low calcium and low glucose. When these problems are treated, the apnea will also be cured. However, there are some as yet unidentifiable causes of apnea. One theory attempts to explain apnea by immaturity of the nervous system. The brain co-ordinates the reflexes concerned with expiration and inspiration. But in premature babies these reflexes may not be as well developed, and their responses to chemical drives such as oxygen deprivation or carbon dioxide are not as quick as in adults. This may explain why the use of a central nervous system stimulant such as caffeine has been effective in reducing the frequency of apnea.

Caffeine and a related compound, theophylline, are methylxanthines – the active derivatives of coffee and tea.

Caffeine was last resort

Aranda and his colleagues tried caffeine out of frustration, he says, on a

premature baby who was in intensive care at the Montreal Children's Hospital in August 1974. The baby stopped breathing on an average of every three to five minutes, and every form of therapy they had tried had failed. When the baby responded positively to caffeine within 15 minutes, and had no further apneic spells, he decided to do some formal investigation into the use of caffeine.

To date, Aranda has analyzed figures and data on 18 babies. Their birth weight ranged from 685 grams (about 1.5 pounds) to 1,985 grams (about 4.37 pounds), with a mean birth weight of 1,065 grams (about 2.35 pounds). These babies were very premature, with a mean gestation time of 27.5 weeks, compared with the normal 40 weeks. Though some exhibited apnea at birth, the mean age of onset of apneic spells was 6 days. Caffeine was administered orally at a mean age of 18.2 days, with significant results.

In a few, the apnea was completely abolished. In the others, not only was the apnea considerably decreased, but the baby was more responsive to other therapy such as tactile stimulation.