The Missing Link

Readers wonder sometimes what on earth some of the subjects we choose have to do with
this otherwise.

In this issue, for example, something the nation's
neighboring nation of the Montreal Chil-
dren's Hospital? And where does Imperial
come into it? Why? If you've read this story, you shouldn't have
much trouble answering the question. As the Montreal Children's, both perfumed wax
and perfumed glint—what to help another
childhood ailments—are scented oil-based.
And the sticks, you'll note in the story, is
painted with asphalt, another scented oil derivative.

Spitting out the other sticks' kinks should
be a cinch. The toxic fumes with linguistics
and asphalt expect Dr. Newman McLeod are obvi-
ous. Much of today's new-style packaging is
done with plastic, a scented oil product. And
freight-carreling newspapers are, naturally, fast
made from scented oil.

Actually, the oil business is so all-encom-
passing today that a good car can be made for
our parting just about anything. Except,
perhaps, for a yarn on a hot summer day.

...family those past 20 years ago, a snowboard
off Cape Arago on the Arctic's Mistyly Island.
And given then, that the idea of these they're dis-
covered oil nowadays...

But Parking Reference

It's always a writer's heart to throw away some
of the words he inevitably collects while research-
ing a story. So it won't be lost to poster-
ty, but it's now considered as an extra to
the Hayworth's story on packaging that in
1970 happened to be enough discount hair rolls
in this U.S. to cover Texas to a depth of 70
feet. Oh, if your price, enough to allow a skier,
well-behaved gentleman to walk from New
York to Los Angeles on a bean-can carpet.

Simons Story

In case you play the tune but not this name, the
Tom on pages 2-3 looking like a slightly
stuffed bear to Tom Knudsen, the well-
known newsmaker. Knudsen didn't
waste an eyewash when we asked him to lunch
on a package. He's a bit of a disillusionment.
One of his first steps, he explained, was
playing Anthony Quinn's son in (off-sights, of
course) in 'Streets of San Francisco' when that
actor crossed Knudsen's native New Zealand.

It left Knudsen with a future threat for weekends,
but also with a test for off-week stays there.
With anticlimactic and solid words roaming,
the nations bears, witches, forests and dragonets,
and a 100-year-old goldfish, a lion. While he
spends this test he'd forget this to play, he's
currently enlightening various audiences in Toronto.

What do you think? That of any, the covers, in a
mystical of Don Martin's works and mutual...

In an average week at this time of year the flow
of traffic safety literature across an editor's desk be-
comes a landslide. Some of it is well-written; all of it
is well-meaning. The message is always real and
important. But as drivers of cars methodically go on killing
and maiming themselves and others—1,383 Canadians
dead and 40,893 injured in traffic accidents in June,
July and August last year—it's hard to believe that any-
one is listening.

Maybe we're saved with numbers and cautions and
photographs of cars curled around hydros poles. Maybe
a traffic accident looms too small in this era of the
bomb. Somehow, though, if only because this kind of
carnage is so unnecessary and wasteful, people who
drive have to discover that death in a car, or from a car,
is just as permanent and much more likely than most
other kinds. And somehow, people who talk about
safety have to use terms that will make motorists listen.

Maybe like this.

Safety tip: 'A 10-mile trip takes 15 minutes at 40
miles per hour... and 8.6 minutes at 70 miles per hour.
How much time do you have to save?'

Another way to say this is that once there was a man
and wife and baby doing 70 on a two lane road because
it was seven p.m. and the moon was filling up, and
they met a carload of teenagers creating a hill, same
speed. And one of them swerved a little, and there was
that ugly indescribable crunch of metal on metal, and
just time for the woman to scream. One of them actually
screamed, though. The prettiest teenage girl. Walks with a
permanent limp, but as her parents often say, she's
lucky to be alive...

Safety tip: 'Remember that summer holidays are here
and children are at play. Motorists should exercise extra
caution in residential areas.'

What this really means is that there was this man
driving down a quiet street, not very fast, just a little,
and it really wasn't his fault. The girl, maybe five or six
years old, ran right out in front to grab her dog be-
cause she thought the dog was going to get killed. So
now she is lying on the pavement, not moving, a wavy
thing in white blouse and paddle pushers. The neighbors
are gathering around in hushed little knots and the
ambulance is whining in, but too late. And the man
stands there, sick at the stomach, not really believing it,
and the child's mother is on her knees in the street,
crying but not really believing it. But both of them
will believe it soon enough, and never forget...

We could go on and on with safety tips like these. But
is anybody listening?
By ERIC HAWORTH

It used to be that the only creature willing to make a meal of an empty soup can was a billy-goat. But any day now we may all finish lunch by calmly chewing up the container it came in. Far-fetched? Not at all.
Liberation of consumer goods that are scarce or expensive. The situation is changing with the advent of new technologies and materials.

In the last three years, packaging of consumer goods has switched from metal cans to cheaper, lighter fiber-board containers. Other radical kinds of oil packaging include a one-piece, polypropylene-lined paperboard satisfactorily airtight and rigid enough to prevent the oil from drying out even after long storage. This transparent film package looks like a plump pillow, a blow-molded package with a metal lid that is tough enough to withstand the pressures to which the package is subjected in transit. Again, the ICI package is remarkable for the purity of its materials. In the main, the polyethylene comes from the same source as the plastic cover on the package, and the overall efficiency of the package is far superior to that of the metal can.

Gilding the mundane
Blissers, which look like plastic bubbles and film shrink by heat to fit tightly around an object, have become enormously popular in recent years. Blissers are made from expanded bead polyethylene. Some developers have found that they are not only effective but also efficient in securing materials that are to be stored in cold storage. Blissers are made from expanded bead polyethylene. Some developers have found that they are not only effective but also efficient in securing materials that are to be stored in cold storage.

Spray your fat away
Aerosols have beenboomd for the past 20 years. Some of the early aerosol products were in the form of sprays, but today the market is dominated by the can-in-can type of aerosol. The can-in-can type is used for a variety of products, including deodorants, air fresheners, and insecticides.

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Makers vs buyers
There are continual skirmishes between the manufacturers and the consumers about who should control the market. The manufacturers are mostly interested in making money, while the consumers are more interested in getting the best value for their money. The role of the consumer is becoming more important, and they are demanding more control over the products they buy.

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Liberation of consumer goods that are scarce or expensive. The situation is changing with the advent of new technologies and materials.
Not too long ago, an unmarked police cruiser was chasing a stolen car along Ontario’s Burlington Bay Skyway, where I’m toll supervisor. One behind the other, they zoomed up to the toll plaza on the busiest toll bridge in the country.

“Fifteen cents, please,” said my collector to the first driver, while the plainclothesman behind shouted frantically. The driver paid and roared away. As the cruiser made to chase the culprit, the collector sternly put up his hand.

“Fifteen cents, please,”

“But I’m police. That car’s been stolen!”

“Fifteen cents, please.”

Wistfully watching his quarry disappear over the horizon, the detective shrugged and handed over a bill.

“Smallest I’ve got,” he sighed. “Can you make change?”

My collector had learned well. In the business of exacting tolls, we can show no favoritism. To us, all men are created equal—as long as they pay their toll. ‘Get the cash first, ask questions later,’ I tell my three dozen odd toll collectors and collectors. ‘If someone wants to get through quickly, he’d better have the right change ready.’

Don’t think running a toll bridge is just a matter of routinely collecting tolls. No matter how cheap the toll—and ours, as low as a nickel a crossing, is one of the world’s cheapest—people just don’t like the principle of paying. We once had to call the cops to drag off a well-known lawyer driving a Cadillac. ‘I’ve just lost $1,000 at the races, and I don’t care,’ he kept yelling. ‘But I’ll be damned if you’ll get a toll out of me.’ We got it, eventually. Rare is the man who’s beaten my toll takers.

You’d think people’d be glad to pay to avoid what was once the worst traffic bottleneck in Canada. The Queen Elizabeth Way from Toronto to Buffalo is the country’s most heavily traveled truck and tourist artery. And at one time, the only way Queen E. travelers could get across the canal linking Lake Ontario with the otherwise landlocked Hamilton city harbor was along a narrow, two-lane lift bridge. When ships wanted in or out of the harbor, and that was often in the summer, the bridge had to be lifted—backing the traffic up for miles on either side. It once took me three and one-half hours to cross that bridge on what started out as a pleasant Sunday drive.

Then, about seven years ago, the government finished the $19 million Burlington Bay Skyway. Now I supervise the passing of some nine million vehicles yearly over the four-lane, 8,400-foot-long bridge spanning over the mouth of Hamilton harbor. And for the privilege of using the bridge, motorists leave behind about $900,000 annually at my 11-lane toll plaza south of the skyway. On a busy day, like the 45,000-car Saturday two summers ago, my men can put through a car per lane every six seconds. They could probably do even better, but—well, I’ve got...
a reproduction hanging in my office overlooking the toll plaza. It's called "Running the Toll," and shows a late 1800s road-user in Canada glibly whipping his team of horses through a toll barrier without stopping. Times haven't much changed. Only now, instead of running the toll — although some still try that — they take it out on us toll collectors, almost unconsciously. There's one regular customer who keeps a hungry German shepherd dog in her back seat. My men have to be mighty careful when they reach her hands near the window for the toll. There's another who's always handing us a $100 bill to pay a 15-cent charge. Every time he does that, it holds up an average of 37 cars behind. Then some folks drive right up and simply refuse to pay. Dealing with people like that, it's damn hard keeping the toll second average, let alone better it.

Toll-runners are no problem. We phaze their licences to the nearby provincial police, who give chase and escort them back to pay the toll. It's those conscientious objectors who create the greatest threat to our six-second throughput. About 100 yearly appear at the plaza, grim-faced with civil disobedience. But my men are steeped in toll philosophy and equipped to carry on high-level moral discussions on the rights and wrongs of toll collecting. We listen to the drivers gripe about paying taxes, and licence fees, and gasoline tax — and tolls too. We sympathize, if they ask, if they'd also care to pay $10 and count costs for failing to pay a toll. That brings most of them around.

But amazingly, we get some who actually want to fight it in court. It can't be the money. Cars pay only 15 cents, trucks between 25 and 45 cents. And the rates are even cheaper if you buy books of tokens or tickets. For cars it's 20 tokens for $1 — that's five cents a trip. Trucks, depending on size, pay $4 to $5 for a book of 40 tickets. But deep-seated in every motorist is the notion that somehow toll roads are unconstitutional. Particularly in Ontario, where the Burlington Bay Skyway was the first toll road or bridge wholly within the province since 1936.

But then, this has never been an ordinary stretch of roadway. In 1799, John Graves Simcoe, Lieutenant Governor of Upper Canada, paid the local Indians $100 in goods for the narrow strip of beach over which the skyway now projects. He saw it as a valuable short-cut for the military road from York (Toronto) to Newark (Niagara-on-the-Lake). It wasn't too bad at first. Ships could slip through the gap in the bar of sand separating the harbor from Lake Ontario, and wagons crossed the gap on a swing bridge without too much inconvenience. Then came motorcars. They overwhelmed the free swing bridge and its successors. Muttering motorists backed up for four or five miles whenever the bridge opened to let a vessel through.

It remained for an obscure ship captain named Albert LeBlanc to settle, unswervingly, the years-long argument whether or not the old swing bridge should be replaced. One Sunday afternoon, Capt. LeBlanc was noting the sand carrier W. E. Fitzgerald toward the gap leading to the harbor. The bridge operator, as he'd done to many times before, held up the traffic along the beach road and threw the switch to raise both sections of the old 268 bridge. But the north section wasn't raising that day. Capt. LeBlanc sailed helplessly into it, brought it down on his deck, and sailed back into oblivion. The province was left to finance a new elevated highway, high enough this time to let through the largest freighter.

Took three years to plan and three to build the set of 75 spans which would become, at the time, the longest bridge structure in Canada. (It has since been surpassed in length by, among others, the 10,000-foot Champlain Bridge from Montreal to the south shore of the St. Lawrence.) Engineers built it to last 50 years minimum, and to handle 50,000 cars daily on its four 12-foot-wide lanes. At its highest point, it towers 110 feet above the canal joining the lake to the harbor. And with a 120-foot clearance, Capt. LeBlanc need fear for his deck no more.

Motorists get their five cents' worth on the skyway. They can zoom along at 60 miles per hour, rather than the 30 permitted on the Beach Boulevard, our competition. They glimpse a breathtaking view of the Hamilton skyline — but no stopping for photos, please; it creates hooters and ruins the six-second average. And even the skyway's three-foot-wide sidewalks aren't for pedestrians (they aren't allowed) but for motorists. Without sidewalks trimming the edge of the skyway, timid drivers with lautest hypophobia (fear of heights) veer from the outside and clog up the inside lanes.

If a driver runs out of gas on the skyway, our emergency truck gives him a free gallon. If his car corks out altogether, we'll move him off the bridge and call a towtruck. Maintenance crews march up and down the skyway collecting debris and scooping out blisters in the asphalt roadway. Then they take the elevators that run down the hollow concrete piers on either side of the main span to the beam level. Just below the deck of the bridge. Here's our own miniature railway — two gasoline-powered rail cars to while the crews back and forth on inspection tours along the structure's underside, more than 100 feet above the ground. And our whole plaza area is underlaid with sand pipe through which courses an anti-freeze solution ready to melt the hardest snowflake.

So do we get appreciation? Ha! At one minute past noon on Nov. 9, 1958, when our first customer went through, reporters asked...
The next time your car plows over a pothole, joggles over a rough shoulder or shoulders over cracks in the roadway, take solace in the fact that your industry is not the only one suffering more than you.

For 35 years Dr. McLeod has devoted his life to asphalt, the dark, oil-like residue of crude oil refining that coats more than nine of every 10 miles of Canada's paved roads.

Dr. McLeod has been working tirelessly to improve the quality of asphalt, and his efforts have not gone unnoticed. His contributions to the field of asphalt science have been recognized with numerous awards and honors.

Dr. McLeod's work has had a significant impact on the transportation industry, and his dedication to improving the quality of asphalt has made him a respected figure in the field. His legacy will continue to inspire future generations of transportation professionals to strive for excellence in their work.

In the meantime, his job is to keep the roads safe and efficient, and he continues to work tirelessly to ensure that every mile of asphalt he touches is of the highest quality.
will ‘bleed’ onto the surface, making the road unusually slippery when it rains. Or skip on the asphalt and the road surface will start wearing away and cracking.

When things go wrong, engineers will often blame it on the asphalt. If someone questions the quality of his product, McLeod betrays himself to the roadway to uncover the real villain. He can often spot it instantly. If, for example, V-shaped cracks appear in the wheel path of the roadway, McLeod knows the asphalt mix has probably been laid down over a wet or overly-dusty base course. The dampness or extra layer of dust separates the top layer from the base course. With no direct bond between asphalt surface and the layer underneath, the surface shills with the traffic till it cracks. Or if a road-builder hollers that Imperial’s asphalt is turning his mix not black, but brown, McLeod hardly bothers to go over. ‘You’re not drying the aggregate properly before you mix it with asphalt,’ he explains over the phone. ‘Too much moisture makes the whole mix brown.’

‘I have seen, never found asphalt to be in the wrong,’ McLeod maintains.

If Norman McLeod can’t pinpoint the problem off the cuff, he sends a chunk of the suspect substance off to Imperial’s asphalt research laboratory in Sarnia. The lab, one of the best-equipped of its kind in North America, is directed by Jean LeFebvre, a retired chemical engineer from Montreal who can analyze a fault in a roadway at 50 paces. Not too long ago, Ontario’s Department of Highways discovered their roads going slippery from asphalt ‘bleeding’ to the surface. The department blamed the asphalt made with western Canadian crude. LeFebvre investigated. The real reason: not enough air in the mix to keep the asphalt from flushing to the surface.

McLeod spends much of his time traveling about the country, helping road engineers use asphalt properly. ‘Every engineer who ever reads anything in the Toronto Star on this job, he says, starting glomorously out his Toronto office window as a crack in the driveway leading to Imperial’s parking lot behind the head office building. Somebody, he expects, won’t be careful enough when he laid down the asphalt pavement next to a concrete surface. Water probably trickled between the two surfaces, then weakened the base course below the asphalt pavement.

At the moment Norman McLeod’s mission is to tell engineers about full-depth asphalt construction, a relatively new road-building process he regards as the most exciting development in pavement construction in years. McLeod points out that Canada’s road-building bill is $1.3 billion annually, and climbing. This large program is rapidly depleting accessible good natural gravels used in base courses. ‘Gravel’s getting scarce in many areas, like southwestern Ontario,’ says McLeod. ‘A whole 95-mile section of Ontario’s Macaulay-Carrier Freeway had to be paved with concrete because there wasn’t enough nearby gravel for the usual kind of asphalt pavement. It’s worse when you realize an ordinary asphalt pavement needs a lot more gravel under it than concrete.’

But with this new, full-depth asphalt construction, McLeod explains, builders can make do with much less gravel. For the base course, they can mix a smaller percentage of asphalt with some relatively weak, unstable sand or gravel and come up with a layer of material as strong as high-quality crushed stone three times as thick, or unstable sandy gravel four times as thick. Roads department cut costs by using much less gravel and a little more asphalt. Oil companies make money by selling more asphalt. Everybody’s happy.

‘But highway engineers spending public money tend to be conservative,’ says McLeod. ‘This makes them cautious about accepting any new development.’

McLeod is always exploring new ways to use asphalt on roads more effectively—even if, at times, it means selling a little less asphalt. For example, he recently completed Basic Principles for Design of Seal Coats and Surface Treatments, an exhaustive 150-page study based mainly on his own observations of the road-building techniques used on Australia’s lightly-traveled roads. ‘Some lightly-traveled North American roads are overbuilt,’ says McLeod. ‘It’s unconscionably expensive to give every road a thick asphalt mix surface! In his work, McLeod notes that these secondary roads need only be laid with gravel, primed with liquid asphalt, re-covered with a thin layer of asphalt binder and asphalt chips. Then it’s all rolled down until compacted. A relatively simple process, and it would save highways departments time and money because they’d use less asphalt and aggregate. And Imperial wouldn’t necessarily sell less asphalt. The process could encourage municipalities to pave already-unpaved roads this way. ‘I wrote on it five years ago,’ says McLeod. ‘But as I say, highway engineers are conservative.’

McLeod is used to such slowly-evolving progress. ‘After all,’ he explains, ‘road-building has really come a long way from the time I laid my first road in Regina. In those days, you just laid your road, then stood back and quivered. Now we don’t quiver quite so much any more, but we still stand well back.’

Looking down that long asphalt road,
Dr. McLeod awaits the day when road-building becomes an exact science.
A Little More Than Medicine

Montreal Children’s Hospital isn’t the biggest children’s hospital in Canada, and it certainly isn’t the wealthiest—but it may well be the liveliest.

This is the hospital where visiting hours, tightly scheduled by most children’s hospitals, are virtually unenforced. Fathers often drop in on their way home from work for a few minutes’ talk or tooudle with a sick son or daughter. Mothers pop in whenever they get time away from housework, and many even manage a meal or two with their children. The small patients rarely cry when their parents leave after a visit because they know it won’t be long before someone else—another relative or a friend down the hall—will be coming by. And if someone doesn’t—well, that nice volunteer “play lady” with the warm voice is sure to want to play a game of parcheesi during milk-and-cookie time.

This is the hospital where nurses do their deskwork with a child perched on one knee.

And it’s the hospital where the sign on a ward door reads: Please be careful. Counting toddlers at play.

“Children’s hospitals we go from bed to bed seeing our patients,” the doctors say. “Here, you have to catch some of them on the run—or at least on the crawl. It’s often a mild form of bedlam—and the kids thrive on it.”

Montreal Children’s, squeezed on a busy downtown corner, is a McGill teaching hospital. Slightly more than half its patients are French-speaking, and it was the first hospital in Quebec to sponsor French classes for the staff. Most of those on the wards are now bilingual.

There’s a level of homey chaos about the younger patients’ wards and an air of good humor that sometimes makes it difficult to remember you’re in a hospital.

“Bonjour, ma tante,” a curly-haired boy of six calls cheerfully; his mother is out of the room and may live no longer than six weeks. Another cancer patient, a doll-like girl of seven, shiun glibly as she wins a game of checkers with a volunteer play worker. A four-year-old boy with the balled fingers of the cystic fibrosis patient game out of a plastic vest filled with a mix of propylene glycol and griss. Witty it seems incredible that death is breathing over the shoulder of such vibrant life.

But children do die in Montreal Children’s, as they die in all pediatric hospitals—from accidents, cancer, premature births, intractable heart disease. Whatever can be done to save them is done—and whatever can be done to make less critically ill patients happier is also done.

Almost every floor in the hospital has a large play room. Piano, paint jars and coloring materials are scattered around the rooms of the younger patients. A dark-eyed five-year-old girl glances up from a modeling project, grins impishlly and announces, “I’ve got a boyfriend in this ward but I forgot his name.” A gap-toothed boy of eight stares solemnly over his coloring book and says, “We’re going to have a party with girls. But I like comics best.” And in the teen-age sun room the Beatles challenge the ear from one side of the wall, while three girls discuss the advantages of teased bangs over blunt-cut style (right hair usually wins out).

“Children,” says Ruth McSweeney, a grad- uate nurse and head of the play department, “are about the most alive things on earth when they’re well, and we try to make them feel that way when they’re ill—to make them want to join the rest of the world. That’s why patients who can’t move around, such as those with major leg or body casts, are often moved to the main desk on their floor or even the reception floor, just so they can see people coming and going.”

“And that’s why we have 75 rocking chairs here, all in constant use. Our nurses and volunteers and mothers sit in the chairs to feed the children, or just hold them. It’s not enough to make children physically well—they should come out of a hospital experience unafraid and, if possible, wiser and stronger than when they went in.”

Children flourish in this atmosphere. A bright-eyed Estekon boy of 10, whose arm had been nearly severed by an airplane propeller, swooshes past on his tricycle. Two nine-year-olds—one English, one French—talk together while waiting for warm paraffin wax to relax their arthritic fingers.

Executive director Dr. Robert Ingram remembers when the hospital was known as “the little old hospital on the hill” and had only 150 beds. “The warm personal feeling is hard to keep when you grow to 367-bed size,” Ingram says, “but it’s essentially the way we want the hospital to feel, both to us and to our patients.”

Officials still talk about the time a mother carrying a dead child was engulfed by a group of charitable student nurses who swarmed past her into the hospital elevator. The shoes slid closed, then abruptly flew open again. The nurses were herded out into the hall by a man with a look of outrage on his face. The man, Dr. John L. De Belle, then executive director of the hospital, waved the mothers into the elevator and said to the group, “In this hospital, in every doctors and nurses do, the child and its mother always come first.”

Montreal Children’s Hospital is a teaching hospital, it introduced Canada’s first play department, first teen-age ward, and was the first to use adolescent volunteers. Now it’s pioneering in the use of pediatric home care service; sending doctors, nurses and complementary skills to children in their own homes, thus releasing beds sooner. It also a leader in research: its recently-developed method for diagnosing cystic fibrosis, a disease of infancy and childhood that killed more youngsters than polo in pre-vaccine days, has been adopted by many hospitals.

But its ultimate fame may still be built on the fact that it’s Canada’s loveliest hospital for sick children.
School children tour 'Sick Kids' to know what it's like in hospital. The tours work too well. One girl, spying the play room, sniffed loudly and inquired: 'Can you go to this hospital if you've got a cold?' Four-year-old at left is playing for keeps, sniffing propelled glycol for respiratory condition.
Youngsters thrive on the ordered chaos of Montreal Children's, where corridors are cowboys-and-Indians battlegrounds, and mothers drop in after housework for a short cuddle. At right, serious business: a nine-month-old undergoes open-heart surgery to help correct a congenital defect.
Put that in your pipe & move it

By GORDON WELLEY

The day may come—perhaps even in our lifetime—when a suburban commuter can kiss his wife goodbye and say 'I'm taking the pipeline to town today.' Then he'll lock himself into a capsule and will be whisked off down the river through the city along a subterranean route.

Such lines are in operation now. But Dr. Charles Reisner is investigating an even more novel pipeline. Ideal for India, he claims, is a pipeline for carrying liquid black gold (oil) from the North Sea to London. Glass is a new material with a long list of features, but not so perfect for carrying oil, he says, as a steel pipe. He estimates that the cost of the oil in the 320 miles of pipeline would be about a million dollars, but that the cost of the pipeline itself would be only a small fraction of that. The benefits of such a pipeline are manifold. It could be used for carrying water, sewage, or any other liquid substance suitable for use in a pipeline. It could even be used for carrying electricity, since it is non-conductive.

The pipeline is designed to operate at a pressure of 10,000 pounds per square inch, which is sufficient to carry the oil at a speed of 30 miles per hour. This would allow the oil to be transported from the North Sea to London in about 30 minutes, which is much faster than any other method of transportation. The cost of the pipeline, it is estimated, would be about $500,000,000, which is less than the cost of building a new railroad.

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Sure. And not only pigs, but sick anteaters, Beatle records, chucks, cheese, dogs, dresses, hula hoops, helicopters, isotopes, iron, jewelry, kinkajous, lobsters, lipstick, moo, movies, octo-puses, penguins, perfumes, salmon, snakes, sharks, tractors, vaccines, vegetables, worms, watches and fertilized fish eggs all go air freight.

What? Me fly?!!
life in the sub-Arctic wilderness. In 1940, an anonymous writer for The Canadian Year Book was able to report that 'this region of extraordinary trade pattern; therefore,...' Vancouver Aquarium ships west-coast octopuses to the aquariums of eastern North America and, in return, live eel and octopus. How do you prepare an octopus with 16-foot tentacles for a trip by air? Well, you put it in a big plastic bag, jam lots of ice into the bag, and fill the remaining space with pure oxygen. The oxygen keeps it breathing for several hours. The ice keeps it cold and sluggish enough so that it won't start spinning its toxic ink. If it did, it would die in its own juices.

The furthest shores of the world, a problem for many airlines. A few years ago Air Canada found that some dog owners parked their pets under the same roof as the animals suffocated. Now, Air Canada requires that dog-owners either provide suitable containers for their own, or be at the airport something called a Klood Kennel. A Klood Kennel is a box with a window, a blanket, and a food and water dish. As the name suggests, the Klood Kennels for more than one flight, and all the dogs that still fly the way more, suffers less than 10,000 of them. Considered one of the most comfortable places that others that patronize other airlines, the number of dogs, not so unusual, that must be zooming around our heads, is staggering.

Deep Reef hanging

Fashion, too, is perishable, and so is new Women's shoes, dresses, jewelry, lipsticks, perfume, advertising formats, movies and television film, magazines and newspapers form a big part of the stuff Canadian planes lug through the air every year. And fads—those violent shortwave, fashions like the Beatles whisper, now owe their international character as almost entirely to aircraft. Planes have flown balsa wood, hemp, photographs, records (Beards, again), goofy greeting cards and fiberglass velox poles consistent to consistent and hemispheric to hemispheric. Even when the product isn't perishable, air cargo has advantage over ground and sea. It is perishable; then goes to the manufacturer who only lacks one distant component—say, a piece of Japanese equipment already made; a piece of refrigerated polyester, with an interior of foam polyurethane for wheel buoyancy if and when the vehicle travels in water. A steel rim fits around the wheel and the tire itself is made of polyurethane elastomer. The plastic is bonded to the tires, are lower in price, and quieter than their steel rivals; and seem particularly good for tractors, lift trucks and bulldozers in sub-zero temperatures, where the plastics used don't become as brittle as iron or steel.

PLASTIC IN THE CLOTHES POCKET

The world's first plastic was developed because of a shortage of ivory billiard balls. A U.S. printer, John Wesley Hyatt, made celluloid in 1867 from camphor and cellulose nitrate, and won a prize being offered for finding a cheap ivory substitute. Though some billiard balls are still made from ivory, most are made more cheaply of cellulose-acetate-butyrate, a stronger and more stable version of celluloid, the world's first commercially acceptable plastic.

A SOUND IDEA

Some types of deafness can now be cured by replacing diseased ears with Teflon plastic, a crude oil derivative. From the plastic, surgeons reconstruct those parts of the middle ear which transmit sound waves from the ear drum to the inner ear, and then to the brain. The diseased parts are removed and replaced with the plastic, which forms a new artificial sound-conducting system. Though the technique has to be performed under anaesthesia, the recovery is improved in more than 70 percent of these operations.

BIG WHEEL IN TRANSPORTATION

Plastics may soon compete with steel wheels on some types of vehicles. The Canadian Army is testing a heavy-duty wheel made from three reinforced polymer, with an interior of foam polyurethane for wheel buoyancy if and when the vehicle travels in water. A steel rim fits around the wheel and the tire itself is made of polyurethane elastomer. The plastic is bonded to the tires, are lower in price, and quieter than their steel rivals; and seem particularly good for tractors, lift trucks and bulldozers in sub-zero temperatures, where the plastics used don't become as brittle as iron or steel.

BRING UP THE RESERVES

This is cheaper to the world's proven oil reserves, they speak of only a fraction of the actual oil in the ground. Proven reserves, at present about 340 billion barrels, are those proven by drilling. There are also probable reserves, which include the oil thought to be available, based on our knowledge, recovery methods and reservoirs. They have been estimated at between 1.5 and 3.6 trillion barrels. And there are also ultimate reserves—the amount of oil experts think actually lie within the earth—which include oil from unconventional sources like tar sands and shale. Total estimate: from four to 5.5 trillion barrels.

NEW WAY TO GET TIGHT

Tires designed to last between 35 to 75 percent longer than ordinary tires have broken into the U.S. market, and could arrive in Canada eventually. They're called radial ply tires because their reinforced rayon or polyester fabric cords (that part of the tire beneath the tread outer) run at right angles to the centre line of the tread. In regular tires the cords run in a herringbone pattern. The radial plies will supposedly handle better, give better fuel mileage, cut down skidding on wet pavements, and better resist tread bluing and potting. But they give a harder ride and cost about 25 percent more than regular premium tires.

COMMENT

The organization today can afford to think about its role in a vacuum. This is equally true of governments, business enterprises, private voluntary health or welfare agencies, united funds and charities, or social planning councils. Only in a world where change is possible, can we ever be sure that, all sides, our world is less static today than ever before. Changes in economic position, technology, political belief, and social attitudes will continue. The way we understand, organize or allocate the things we consider valuable, as powerfully and uncontrollably as a cause caught in a raging and turbulent wind, with the awful prospect that some catastrophic Niagara Falls lies just ahead."