

FOCUS

THE Medium Term Strategic Framework of the Asian Development Bank (1995 to 1998) refers to economic liberalization as the "emerging paradigm". Whether or not the choice of these two words was the result of conscious deliberation or reflects even a rudimentary grasp of economic history is open to debate. What is clear to the perceptive reader is the effect of these words. Let there be no mistake: here we are in the presence of irony. The "emerging paradigm" as the Bank so coyly puts it is no less than the triumphant ideology of the New World Order — what SAMS Kibria recently referred to as the "universally acclaimed principles" of free trade (Daily Star, 18 June 1995).

The Transnational State

None of these expressions of support for free trade, implicit or explicit, seem to have noticed the emergence of what Vandana Shiva calls "the new global zamindari system" and Julius Nyerere "the new imperial age", a structure of resource apartheid which is incorporating Bangladesh and the rest of the Third World into forms of suppression which out do all previous forms of colonialism in terms of sheer scale, depth and complexity. And this age is being ushered in on the very "universally acclaimed principles" lauded by so many.

Structures of governance, as we know, tend to coalesce around economic power. One need only look around at recent developments in the global economy to see this happening. Due to these developments, the "slights of relief" at the end of the Cold War" have been rapidly replaced by gasps of apprehension in the Third World. In his last address as Chair-

person to the Group of 77, Luis Fernando Jamarillo contemplated the "hostile international environment" and "the loss of economic and political standing" of developing countries "in the so-called New World Order" (a term, incidentally, which is attributed to George Bush but which his speechwriters plagiarized from a 1992 report produced by Nyerere's South Commission).

The strategy of the rich, Jamarillo observed, is "clearly directed at strengthening

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more and more the economic institutions and agencies that operate outside the United Nations system, which, despite all its serious flaws, remains "the only multilateral mechanism in which developing countries can have some say". In contrast, the

How Free is Free Trade?

by Abdul Hannan

Bretton Woods institutions (World Bank, IMF and WTO) are being made "the centre of gravity for the principal economic decisions that affect the developing countries." These institutions are marked by "their undemocratic character, their lack of transparency, their dogmatic principles, their lack of pluralism in the debate of ideas and their impotence to influence the policies of the industrialized countries" whose dominant sectors they serve, in reality. Jamarillo continues that the WTO joins, the IMF and the World Bank to create a new international trinity with "the specific function to control and dominate the economic relations that commit the developing world," while the industrialized countries broker "their own deals... outside normal channels" in G7 meetings and elsewhere.

Amidst all of this, we in Bangladesh need to learn that the prevalence of "free trade" as related to us by conventional economic wisdom, is a fabrication. The new dominant force is not the market. Rather it is a strong transnational state that dictates economic policy and plans resource allocation. The IMF, World Bank, the regional development banks, US Agency for International Development, European Community, United Nations Development Programme and others are all state or interstate organizations of a transnational character that have a much greater economic influence over our countries than the market.

New Taskmasters

Moreover, the institutions

of the transnational state largely serve our masters, our new taskmasters, the rising transnational corporations (TNCs) in the domain of finance and other services, manufacturing, media and communications — institutions that are totalitarian in internal structure, quite unaccountable, absolutist in character and immense in economic and political power. The emerging transnational state serves TNCs in a flow of accountability that totally reverses fundamental principles of democratic process and the current fashionable emphasis given to popular participation in development.

UNCTAD's World Investment Report of 1993 estimated that TNCs control one third of the world's private sector productive assets.

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while their overseas investments are "a bigger force in the world economy" than trade between nation states in the market place. TNC sales in 1993 were US\$5.5 trillion as compared to US\$4 trillion of total world trade between countries. What is

more, these figures, according to the Third World Network's trade analyst Chakravarthi Raghavan "do not reflect the number of firms that carry out transnational activities and, with little or no [foreign direct investment] exert control over foreign productive assets through a variety of non-equity arrangements — subcontracting, franchising, licensing etc — as well as through strategic alliances". The GATT agreements of the Uruguay Round increased privileges for TNCs to pursue their activities in this direction but there has been no corresponding framework for a code of conduct. This means that these new economic mandarins are not accountable through any system of democratic linkage with the citizens of the world.

Free Trade Agreements

These three words together comprise one of the great misnomers of present day international relations. Apart from not being remotely "free", the "free trade" agreements are only partially related to "trade", not only because they enhance the power of the TNCs and thus reduce "trade" (in any meaningful sense). The agreements go far beyond trade.

One main feature is the demand for liberalization of finance and services, which means allowing international banks to displace domestic rivals so that no country like Bangladesh can carry out the kind of economic planning that enabled the rich countries to develop. It was the conclusion of Adam Smith,

by such changes "unless government take some pains to prevent" them. Of course, today no gods are safe, more so secular ones. Adam Smith is freely ignored by the modern patrons of "free trade" wherever his comments don't suit them, as is the case here.

The rich powers remain opposed to the "free trade" of their own variable definition except when they are convinced that they have an absolute advantage in competition. Current trade agreements, and we can include the GATT Uruguay Round, therefore reflect the hostility of the rich nations to the neo-liberal doctrines that are imposed on the poor like Bangladesh to ensure more efficient plunder. These agreements selectively promote "free trade" in service, entertainment and hi-tech sectors where developed countries have an unassailable technological advantage. Protectionism in the form of labour and environmental safeguards are used to keep out those sectors where the third world has the apparent upper hand — certain manufactures, textiles, apparels and so on. The US International Trade Commission estimates that US companies stand to gain US\$61 billion a year from the Third World now that US protectionist demands have been satisfied by GATT.

The USA's schizophrenic attitude towards "free trade" is illustrated further by its reliance on embargo and sanctions as weapons against Third World enemies from democratic capitalist Guatemala and Chile to Cuba, Vietnam, Nicaragua and other transgressors, including, as

history bitterly relates, posthumous champion of neo-liberalism, that working people would be devastated. Bangladesh. Of the 116 cases of sanctions used between 1945 and the end of 1994, 80 per cent were initiated by the USA. The USA brought the Uruguay Round into being, partly to prevent such unilateral breaches of normal international economic conduct from happening again. But since the signing of the GATT agreement in April

are economically privileged. This latter condition is all the more reprehensible, as from this arises the glib ignorance masquerading as informed opinion which is enough to delude the gullible observer. Rehman Sobhan laments this lack of awareness of global developments which are having catastrophic local consequences in his own country when he describes the psychological "denationalization of Bangladesh".

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1994, "heralding a new era of free trade", the USA has itself threatened to use trade embargoes and sanctions on no less than five occasions.

Time to Wake Up

Much of this takes place outside the day-to-day consciousness of citizens in developing countries, who are either left simply to bear the consequences in terms of deteriorating economic, social and environmental conditions if they are poor, or who are blithely oblivious to these developments if they

Contrary to the word-mongery of today's great white fathers, "free trade" and market reforms are actually undermining the basis of functioning democracy by facilitating domination by unaccountable TNCs and by leaving individual people isolated, "each unto himself", with personal identity unrealized unless it finds expression as an economic actor. Small comfort to the 30 per cent of the world's adult population, that the ILO reported unemployed in 1994. Small comfort to the 400,000 people that have been made redundant by TNCs each year between 1982 and 1992 at a time when TNC power has expanded.

"Economic rationality" and "efficient use of resources" are interpreted as benign only when they explicitly serve the needs of the rich and powerful. Nevertheless, these are principles of the "free trade" that we in Bangladesh are led like sheep to believe come rain or shine. Neither in developed nor developing countries does the real world resemble the dreamy fantasies now fashionable about economic development being a convergence of "free trade" and democracy. It really is time now that we woke up to realize this.

Man's Quest for Space

by M Ismail

HUMANS have always possessed an inquisitive mind. People started wondering about the sky from ancient times, but their dreams only began to come true with the invention of the airplane. And then, they started thinking of reaching more distant objects.

The discovery of space started with the invention of liquid fuel and the rocket. Russians launched the first spaceship into Earth's orbit in 1957. Before that, man had established RADAR (Radio Detection And Ranging) contact with the moon. The first radar contact with a planet was with Venus in 1961. The physical exploration of the moon was done by Luna of Russia in 1959, which included the study of the far side of the moon which is always hidden from earth.

Serious study of the soil of any object outside the earth was possible when American and Russian spaceprobes soft landed on the lunar surface and studied composition of its soil. With the first step on the moon, the century-long dream of conquering space became a reality.

The Planetary Probes

After that, the US Pioneer series of spacecrafts, began their journeys. Six hundred million miles and 21 months later, Pioneer flew within 81,000 miles of Jupiter, sending back 300 photographs, and became the first spacecraft to leave the solar system. Pioneer 11 approached closer to Jupiter in December 1974, passing within 26,860 miles of this giant world before it was finally diverted towards Saturn.

The Interstellar Journey

Voyager 1 and 2 were sent to Saturn and Uranus, and then reached Neptune in 1986 to study eight satellites of the planet. Voyager 2 confirmed at least three rings composed of very fine particles. Voyager 2 will continue its journey outward after planetary survey, and leave the solar system travelling towards the star Sirius. It may become the first probe to actually reach our neighbouring star. That will not only enrich our knowledge but may open a new horizon of adventure to another "solar system".

But then the question arises of the energy required for such a planetary or interstellar journey, years long, by such a tiny probe containing such a small quantity of liquid fuel. Actually, a spacecraft not only uses its own energy carried from Earth, but also collects huge amounts of energy from other sources such as solar energy which is converted into electrical energy required to run its instruments, control system and communication equipments.

The energy is also used for controlling its own temperature as it enters the atmosphere of a planet (or any other object with an atmosphere) and temperatures become tremendously high. Again, when it leaves the surface and makes the journey into thin atmosphere, or travels in vast empty space, it becomes extremely cold.

communication with earth. Before losing contact with earth, it had sent valuable information including the composition of its nucleus which is 80 per cent water-ice. America launched Mariner 10 towards Venus which passed Mercury on March 1974 flying within 400 miles of the dark side of this innermost planet of our solar system.

Touch Down

In 1971 Mars 2 and 3 of Russia landed on Mars which became the first manned probe to land on any planet. Later the US Viking also landed on the soil of Mars, on July 20, 1976, studied its composition in its onboard laboratory which revealed its composition as silicon, iron and traces of other metals.

With the invention of the Space Shuttle, a new technique was acquired by man for discovering space at much less cost. It is a reusable orbital manned spacecraft, designed to travel from the earth to an orbital trajectory and then return to earth. The first space shuttle Columbia was launched on April 12, 1981 by the United States of America. Magellan became the first spacecraft to be launched by US Space Shuttle Atlantis, reaching Venus and orbiting the planet in an elliptical orbit which took it within 182 miles of the cloud shrouded planet.

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The most important requirement of energy, however, for such a probe is the kinetic energy required to accelerate and continue its journey, and to change the direction for correcting its course of journey. This force comes from the energy of the gravitational force of a planet, or its natural satellite, for its onward journey to the next or ultimate destination. These calculations are, of course, minutely detailed and complicated, and dependent on many factors such as the force of gravitation, the angle of applied force, the distance between the probe and the planet (or its moon), the presence of other objects, etc. The planning for launch-

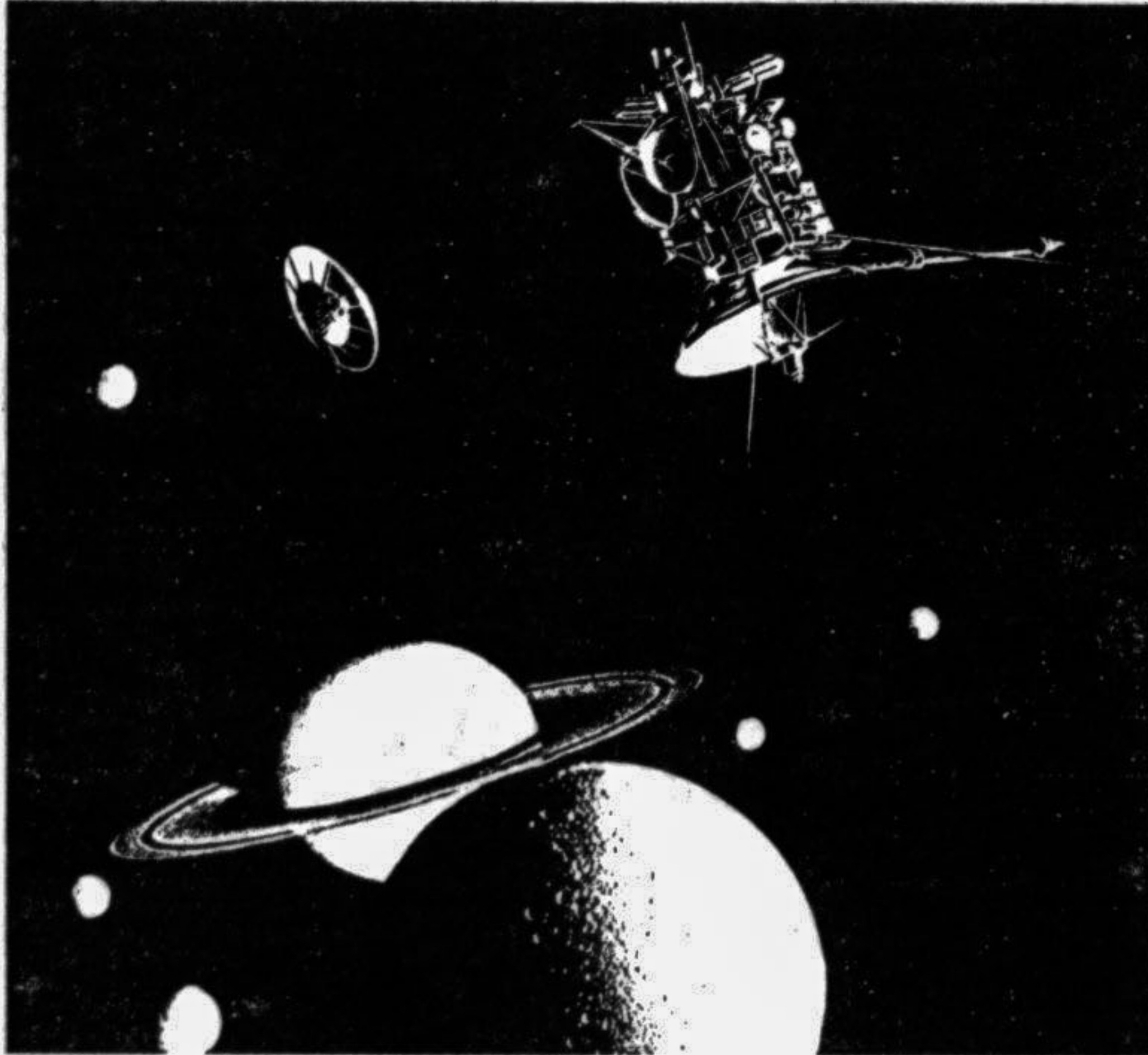
and with a very cool surface temperature of 300 degrees Fahrenheit below freezing point. Its atmosphere is mostly composed of ammonia, phosphine, hydrogen and helium, and the surface contains liquid metallic hydrogen and helium. Its one year is equal to 29.46 Earth years. Its ring system begins about 7,000 miles above the visible disc of Saturn, and extends up to 35,000 miles into space.

The voyage to Saturn will start on October 7, 1997. The spacecraft is named Cassini, and will carry another craft named Huygens, after the Dutch astronomer Christiaan Huygens, who discovered Saturn's rings in 1655. The French astronomer Jean Dominique Cassini first identified two of

covered by lakes and oceans of liquid nitrogen, where methane icebergs float and the surface is tremendously cold.

The mission is jointly funded by National Aeronautics and Space Administration (NASA) of the United States and the thirteen European members of the European Space Agency (ESA). NASA will provide Cassini while ESA is responsible for Huygens. It will be the first European extra-terrestrial landing.

Cassini will be a NASA-built Mariner MK II-type spacecraft which, holding the Huygens probe, will sit atop a Titan 4 rocket with a Centaur upper stage. In 1997 the whole combination will blast off with an acceleration of



The Aerospace-designed Huygens probe to explore Titan, a major satellite of the planet Saturn, will be carried aboard the space vehicle, Cassini.

ching a probe is done years in advance to overcome all foreseeable obstacles and make all complicated calculations, where the smallest mistake may cause drifting of its journey by millions of miles from the target, and ultimately the loss of control and communication.

Huygens and Cassini

Another expedition of spacecraft is expected to be launched for the ringed planet Saturn and its biggest moon. Saturn is the last of the planets visible to the unaided eye. It is almost 900 million miles away from our earth with a diameter of 74,600 miles at the equator, almost a hundred times heavier than our earth, more than double the gravitational force

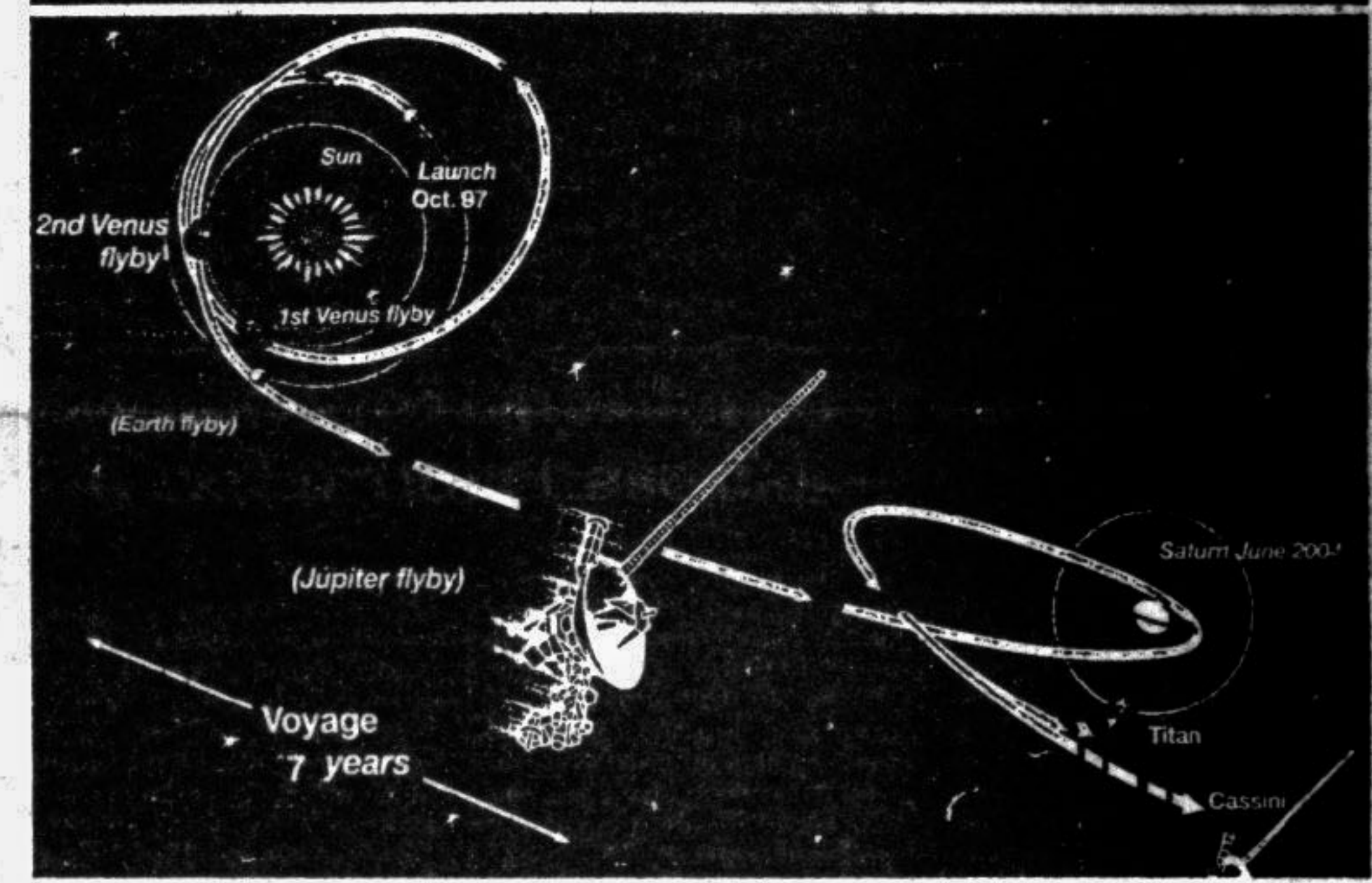
Saturn's moons between 1671 and 1685. The most important part of the voyage is the landing of Huygens on Titan, one of Saturn's 22 moons (the last 4 moons have been discovered very recently by the just repaired Hubble Telescope stationed in space, and are yet to be confirmed by international authority).

One of the principal reasons for selecting Titan for this mission is its resemblance to the primitive prebiological condition of Earth. Titan's diameter is 5,150 kilometer and its atmosphere is 50 per cent denser than that of Earth, and composed of mainly nitrogen with lesser amounts of ethane, methane, hydrogen and argon. The surface of Titan is

43,000 kilometre per hour, to overcome Earth's gravitational pull. As described before, it will not directly head towards the planet Saturn in the initial stage, but will be directed to the opposite route, Venus, to gain kinetic energy sufficient to carry it toward the mystic ringed planet. It will pass by close to Venus twice to gather energy before nearing Earth once again in August 1999, and then will travel towards Jupiter in order to gain further energy to reach its final destination — Saturn. It will enter an orbit around Saturn on June 25, 2004 and remain in orbit transmitting back information for five months before releasing Huygens as it passes close to Titan.

While Cassini continues to

CASSINI/HUYGENS MISSION



circle Saturn. Huygens will orbit Titan for three weeks before it decelerates and begins its descent through the atmosphere. At this stage it will travel at a speed of March 20 (March is the unit of speed equal to the speed of sound in Earth's atmosphere, which is 760 miles per hour.) At this speed, the surface temperature of the shield will reach 2000 degrees Celsius, but the silicaceous AQ 60 material of the shield will protect the delicate instruments of the probe from damage. At a height of 170 km above the surface and at a speed of 1.5 Mach, three parachutes will be deployed in sequence.

The first, a very small one, will act to open the cover and will extract the second 25 feet diameter parachute made from special fabric designed to withstand supersonic speed and to work as a break. It will slow down Huygens from a speed of nearly 1000 feet per second to 300 feet per second. At this stage the whole heat shield will be discarded and within 30 seconds all the instruments of the craft will start working to probe the atmosphere and the surface below. The instruments will include video cameras, spectrometers, Pyrolysis instruments for gas analysis, hydrostatic and electrostatic probes. At an altitude of 130 km, the huge cover will be discarded and a smaller third parachute will deploy to slow the rate of descent to 15 feet per second at which speed it is expected to make a successful soft landing on hopefully solid ground rather than liquid nitrogen.

Huygens will continue to send information back after landing for no longer than three minutes. By that time Cassini will also have disappeared from the sight of Huygens in the orbit of Saturn and when it reappears again in the sky of Titan, Huygens will have frozen solid with its batteries exhausted. Before dying, Huygens, during its two hour descent, will analyse the at-

mosphere, transmit visual images and make spectral radiometric measurements in several wavelengths from the ultraviolet to the infrared.

One could ask "What is the use of such an experiment?" Apart from the continuing realisation of the dream of human beings to enrich their horizon of knowledge, it will benefit mankind just as satellite commu-

nication has made the world smaller.

In the same way, perhaps one day at least the solar system, if not the galaxy, may see a smaller place. Let us not forget that one could also have asked the same question to the Wright brothers when they were flying their peculiar shaped kites at the beginning of this century.

Grounding Quails to Boost Output

by Pamphil Kweyuh

A quail breeding programme has been launched in Kenya to turn the quail into a flightless bird, to avert its extinction and to ensure that it continues to be a source of meat and income for villagers.

The bird has become endangered in Western Province by the spread of tea and sugar plantations and by pesticide spraying.

For centuries, quail have been trapped for food by Kenya's Luo and Luhya peoples. Now the Quail Research Centre is attempting to domesticate it.

"Our overall target is to improve the quality of the quail and its products and to ensure that the bird becomes tame-abandoning its flying trait altogether," says Centre founder Dr Thomas Mulusa.

Females are being cross-bred with tame Togolese cockerels, and the resultant offspring are bigger than conventional quails, and produce larger eggs.

A small production line has been set up, with the capacity to produce 240 hybrid chicks every 16-18 days.

Esther Kadunganyi trapped quails for 30 years but says her catch was falling steadily. Now she farms about 500 birds. "I never buy meat," she says. "All I do is kill four-to-six birds and my family is well-fed." Mulusa also hopes to turn his attention to guinea fowl but, as with quail, needs authorisation from the Kenya Wildlife Service because the species are classified as "wildlife." /PANOS

