

FOCUS

Fusion-Research Effort Draws Fire

by William J. Broad

Critics fear that proposed ignition systems are getting quite small, raising the prospect of pure-hydrogen bombs that could be easily transported to distant targets. Arms controllers worry that the fuel for hydrogen fusion is relatively easy to obtain and that a pure-hydrogen bomb, if perfected, could in theory be cheap to build.

which runs the research programme, strongly denies the institute's accusation. The department said that its fusion research would produce no new weapons and instead was meant to help keep the nation's existing nuclear stockpile in good working order, as well as to help harness nuclear fusion for peaceful energy production.

Dr. Ray E. Kidder, a former nuclear bomb designer at the Lawrence Livermore National Laboratory, who reviewed the institute's report for technical accuracy, praised the group's work as rigorous and thorough, and said the issue of a possible treaty violation was important. "This question needs to be taken seriously and discussed in an open forum, and some decisions made about it," Dr. Kidder said in an interview yesterday. He added that he and two colleagues had prepared a proposal for limiting pure-fusion research and that the proposal would appear in a coming issue of *Physics Today*, a professional journal.

One of his colleagues, Dr. Frank von Hippel, is a former advisor to the Clinton White House who now works at Princeton University. He has warned that pure-fusion research could result in devices "compact enough to be used as weapons," a prospect taken increasingly seriously. Dr. Hans

\$2.2 billion complex, about the size of the Rose Bowl, is to be completed in 2002, the world's first machine to generate tiny thermonuclear explosions, igniting hydrogen without the usual atomic match.

The laser would fire a titanic bolt of energy onto a tiny pellet of hydrogen fuel, heating it hotter than the surface of the sun and causing hydrogen atoms to fuse into helium in a burst of pure fusion energy. Weapons scientists have also been pursuing a number of smaller projects that strive at miniaturizing the machinery needed for such feats. Weapons scientists and the Energy Department are lobbying to continue such work, saying it is permitted under the Comprehensive Test Ban Treaty.

But critics fear that proposed ignition systems are getting quite small, raising the prospect of pure-hydrogen bombs that could be easily transported to distant targets. Arms controllers worry that the fuel for hydrogen fusion is relatively easy to obtain and that a pure-hydrogen bomb, if perfected, could in theory be cheap to build. The main fuel for nuclear fusion is deuterium, an isotope of hydrogen that is ubiquitous in sea water. By contrast, atomic bombs are fueled by uranium and plutonium,

which are scarce and costly to acquire.

Questions about the fusion work's legality arise because the test ban treaty bars "any nuclear weapon test explosion or any other nuclear explosion." Despite the treaty, the nation's nuclear weapons laboratories and allies in Washington argue that the comprehensive test ban has a loophole that allows pure-fusion research, including explosive tests. But the institute, in its report, strongly disagrees. "There is no technical basis on which laboratory thermonuclear explosions can be excluded from this ban," the report says, adding that work to achieve that goal is illegal.

The report's authors are Arjun Makhijani and Hisham Zeriffi, both physicists. Dr. Makhijani, the institute's president, holds a Ph.D. in nuclear physics from the University of California at Berkeley. "This debate is similar to the one before the hydrogen bomb," he said in an interview. "Once pure-fusion weapons are demonstrated, they will be very difficult to stop. So the time to act is now." Robin Staffin, who oversees fusion-energy research for the Energy Department, dismissed such worries, saying international opinion and prior arms control agreements both held that fusion experiments were not "nuclear explo-

Under the Limelight

Pallab Bhattacharya writes from New Delhi
In his films Bengal has thoughtfully dealt with subjects that have touched the common man's life. In "Ankur", for example, Bengal has portrayed the effects of feudalism with Shabana Azmi, making her debut, creating waves with her brilliant performance as a harjiyan woman exploited by a Zamindar.

HYAM Bengal hates travelling back in time when it comes to looking at his own career.

But the doyen of India's "new wave cinema" could not but be nostalgic when some of his close friends and admirers got together in Bombay on July 15 to celebrate the director's completion of 25 years in filmmaking.

It was a big event in the history of Indian "Parallel Cinema" which has been enriched by the contributions of Bengal. There was that customary grace when a smiling Bengal accepted the greetings of eminent playwright-actor Girish Karnad and actor-director Amol Palekar.

Bengal said he hated nostalgia but was happy to reminisce about his works in the company of friends.

Rolling back in time, the director recalled how he struggled for 12 years to find a producer for his first film "Ankur" in 1973 and how he turned to actress Shabana Azmi to do the lead role after Waheeda Rahman rejected it.

"I had opted for Waheeda Rahman and when she turned down the offer it shattered me. It was Shabana's mother who persuaded her to do the role as the actress was initially reluctant," said Bengal. "Ankur" was made with what present-day producers would unanimously endorse as a "shoe-string" budget — Rupees five lakh.

The last 25 years, which saw Bengal directing 12 films, had been a "challenging and fulfilling" time, the director said. Beginning with *Ankur* in 1973, he went on to direct "Nishant," "Manthan," "Bhumika," "Mandi," "Junoon," "Kalyug," "Trikaal," "Suraj Ka Saatvan Ghoda," "Suman," "Mammo," "Sardari Begum" and, most recently, "The Making of the Mahatma," the last one a film on Mahatma Gandhi.

Bengal's success lies in combining the qualities of art cinema with elements of popular genres. He has dealt consistently with themes in a sophisticated, yet easily accessible style.

Marked by a visual richness and a simple story line, Bengal's films have earned him international critical acclaim and moderate commercial success.

In his films Bengal has thoughtfully dealt with subjects that have touched the common man's life. In "Ankur", for example, Bengal has portrayed the effects of feudalism with Shabana Azmi, making her debut, creating waves with her brilliant performance as a harjiyan woman exploited by a Zamindar.

Indian cinema, parallel as well as mainstream commercial, are indebted to Bengal for bringing to the immense acting talent of Shabana Azmi, Smita Patil, Naseeruddin Shah and Anish Puri.

And naturally none could grudge Bengal, not normally given to expression of emotions in public, when he said allowing pride in his voice: "they

LETTER FROM AMERICA

The Hundred 'Best' English Novels of the Twentieth Century

Dr. Fakhruddin Ahmed writes from Princeton

There is no one from the Subcontinent, Australia (what about Nobelist Patrick White?) and South Africa (what about Doris Lessing and Nobelist Nadine Gordimer?) — all of which have thriving literary traditions in English.

As the millennium draws to a close, there is this insatiable desire to take stock. Newspapers and magazines have already come out with the list of the best statesmen, entertainers and films of the century. The latest is the list of the best one hundred novels written in English. Irishman James Joyce's "Ulysses" — in which an immensely long account of a single day in the lives of a group of Dubliners becomes a metaphor for the human condition — topped the list. "Ulysses" was banned in the United States between 1920 and 1933 as "obscene".

The list was drawn up by the editorial board of Modern Library, a division of Random House publishers. It was released on July 24, at a workshop for young publishers known as Radcliffe Publishing Course at Radcliffe College of Harvard University. The board members are mostly literary slouches — British novelist and critic A. S. Byatt, novelists William Styron (a winner) and Gore Vidal, historians Daniel Boorstin, Shelby Foote, Vartan Gregorian and Arthur Schlesinger Jr., biographer Edmund Morris, art critic John Richardson and board chairman Christopher Cerf.

The Great Gatsby, F. Scott Fitzgerald's magical tale of romance, mystery and violence among rich, long island (New York) socialites in the 1920s is second, followed by James Joyce's "A Portrait of the Artist as a Young Man", his autobiographical account of a young man's intellectual awakening. "Lolita" Vladimir Nabokov's tale of the ageing Humbert Humbert's doomed passion for the nymphlet Dolores Haze, and the "Brave New World", Aldous Huxley's satirical horror tale of a civilization where humans are made to order.

The list is primarily British (39 in all) and American (58 in all). Most listed have been cited more than once. The list includes Samuel Butler's autobiographical attack on Victorian morality, "The Way of Zen" (No. 12), and Max Beerbohm's comic tale of a *femme fatale* at Oxford University, "Zuleika Dobson" (59). There is no one from the Subcontinent, Australia (what about Nobelist Patrick White?) and South Africa (what about Doris Lessing and Nobelist Nadine Gordimer?) — all of which have thriving literary traditions in English. (V. S. Naipaul was born in the West Indies, miles into the Gulf of Mexico, and through American ingenuity connected to Florida through a series of islands and

bridges. Cuba is 90 miles from Key West. When President Kennedy stated during the 1962 Cuban missile crisis that the US could not tolerate missiles 90 miles from its mainland, Key West, where President Harry Truman spent a lot of his time is what he meant. It is also Hemingway's island.)

Ernest Hemingway (numbers 45, 74) wrote several of his novels from Key West and Cuba. Five years ago, the writer visited Hemingway's house, now a national monument, in Key West. The two-story, fairly "lavish house has a museum that exhibits his memorabilia. What struck me was that he had a smaller second house, which could only be reached by a monkey bridge from the second floor of the main house, where he would retire to write, until it was time to go fishing, which was his passion.

"The Old Man and the Sea" (1952), a tale of human struggle against nature — about an old Cuban fisherman who hooks a giant marlin only to lose it to the sharks — arose from his obsession with fishing. Although the book was mentioned in his Nobel Prize (1954) citation, I find it to be more of a captivating narrative than epic literature. Most of Hemingway's classic novels were written in Paris — including "A Farewell to Arms" (number 74, based on his World War I combat experience), and "For Whom the Bell Tolls" (based on his support for the nationalists during Spanish Civil War) — where he was the foreign correspondent of the Toronto Star. Fishing, hunting and attraction to war consumed his life. Hemingway's virile writing masked "an aesthetic sensibility of great delicacy." Ousted from Cuba by Fidel Castro in 1960, "Papa" Hemingway settled back in the US, suffering from depression, and upset with shock therapy (Lithium treatment was unknown then) Hemingway shot himself to death in 1961.

It was not surprising to see the two "imperialist's lackeys" — V. S. Naipaul (numbers 72 and 83) and Salman Rushdie (number 90) — make the list. Naipaul has made a career ridiculing his heritage, Indian culture, and Rushdie his religion, Islam. If one concedes the writer his bias, Naipaul is readable. On the other hand, I found it impossible to read

Rushdie's infamous "Satanic Verses." I blasted him in the pages of TIME magazine in 1989, welcomed him into Islamic fold through the New York Times in 1991 when he said (delightfully) he "reconverted" to Islam (to please the Iranians), and blasted him again last year in the NY Times when he became a heretic again. In his writing, Rushdie comes across as a mean person.

Occasionally, Naipaul and Rushdie stray into each other's terrain. Recently, Rushdie criticized the Hindu religion, and in his book "Among the Believers", Naipaul had the audacity to say that the five daily prayers in Islam were "unnecessary." It is worth remembering that neither Rushdie nor Naipaul ever criticizes the West in any meaningful way. They remember the fate of the 1970 Literature Nobel Prize winner Aleksandr Solzhenitsyn. After being rescued from communist USSR by the West in 1974, he criticized western decadence and emphasis on democracy and individual rights, and was quickly forgotten. (Bearing Solzhenitsyn is now back in Russia.)

Many of the novels in the list have been made into successful movies. This gives credence to the American joke: "Would you like to read the 'best seller'?" "No dear, I shall wait for the movie!"

Here is the list of the hundred best English language novels of the century.

1. Ulysses (James Joyce, 1922).
2. The Great Gatsby (F. Scott Fitzgerald, 1925).
3. A Portrait of the Artist as a Young Man (James Joyce, 1916).
4. Lolita (Vladimir Nabokov, 1955).
5. Brave New World (Aldous Huxley, 1932).
6. The Sound and the Fury (William Faulkner, 1929).
7. Catch-22 (Joseph Heller, 1961).
8. Darkness at Noon (Arthur Koestler, 1941).
9. Sons and Lovers (D. H. Lawrence, 1913).
10. The Grapes of Wrath (John Steinbeck, 1939).
11. Under the Volcano (Malcolm Lowry, 1947).
12. The Way of All Flesh (Samuel Butler, 1903).
13. 1984 (George Orwell, 1949).
14. I, Claudius (Robert Graves, 1934).
15. Light in August (William Faulkner, 1932).
16. The Road (Jack Kerouac, 1957).
17. The Maltese Falcon (Dashiell Hammett, 1930).
18. The Heart of a Lonely Hunter (Carson McCullers, 1940).
19. Invisible Man (Ralph Ellison, 1952).
20. Native Son (Richard Wright, 1936).
21. Henderson the Rain King (Saul Bellow, 1959).
22. Appointment in Samara (John O'Hara, 1934).
23. U.S.A. (trilogy, John Dos Passos, 1936).
24. Winesburg, Ohio (Sherwood Anderson, 1919).
25. A Passage to India (E. M. Forster, 1924).
26. The Catcher in the Rye (J. D. Salinger, 1951).
27. The Wings of the Dove (Henry James, 1902).
28. Tender is the Night (F. Scott Fitzgerald, 1934).
29. Studs Lonigan (trilogy, James T. Farrell, 1935).
30. The Good Soldier (Ford Madox Ford, 1915).
31. Animal Farm (George Orwell, 1945).
32. The Golden Bowl (Henry James, 1904).
33. Sister Carrie (Theodore Dreiser, 1900).
34. A Handful of Dust (Evelyn Waugh, 1934).
35. As I Lay Dying (William Faulkner, 1930).
36. All the King's Men (Robert Penn Warren, 1946).
37. The Bridge of San Luis Rey (Thornton Wilder, 1927).
38. Howards End (E. M. Forster, 1910).
39. Merchant-Ivory Film, 1992).
40. The Heart of the Matter (Graham Greene, 1948).
41. The Lord of the Flies (William Golding, 1954).
42. Deliverance (James Dickey, 1970).
43. A Dance to the Music of Time (series, Anthony Powell, 1957).
44. Point Counter Point (Aldous Huxley, 1928).
45. The Sun Also Rises (Ernest Hemingway, 1926).
46. The Secret Agent (Joseph Conrad, 1907).
47. Nostromo (Joseph Conrad, 1904).
48. The Rainbow (D. H. Lawrence, 1915).
49. Women in Love (D. H. Lawrence, 1920).
50. Tropic of Cancer (Henry Miller, 1934).
51. The Naked and the Dead (Norman Mailer, 1948).
52. Portnoy's Complaint (Philip Roth, 1969).
53. Pale Fire (Vladimir Nabokov, 1962).
54. Light in August (William Faulkner, 1932).
55. On the Road (Jack Kerouac, 1957).
56. The Maltese Falcon (Dashiell Hammett, 1930).
57. Parade's End (Ford Madox Ford, 1928).
58. The Age of Innocence (Edith Wharton, 1920).
59. Zuleika Dobson (Max Beerbohm, 1911).
60. The Moviegoer (Walker Percy, 1961).
61. Death Comes for the Archbishop (Willia Cather, 1927).
62. From Here to Eternity (James Jones, 1951).
63. The Catcher in the Rye (J. D. Salinger, 1951).
64. A Clockwork Orange (Anthony Burgess, 1962).
65. Stanley Kubrick film, 1971).
66. Of Human Bondage (W. Somerset Maugham, 1915).
67. Heart of Darkness (Joseph Conrad, 1902).
68. The House of Mirth (Edith Wharton, 1905).
69. The Alexandria Quartet (Lawrence Durrell, 1960).
70. A High Wind in Jamaica (Richard Hughes, 1929).
71. A House for Mr. Biswas (V. S. Naipaul, 1961).
72. The Day of the Locust (Nathanael West, 1939).
73. A Farewell to Arms (Ernest Hemingway, 1929).
74. Scoop (Evelyn Waugh, 1938).
75. The Prime of Miss Jean Brodie (Muriel Spark, 1961).
76. Finnegans Wake (James Joyce, 1939).
77. Kim (Rudyard Kipling, 1901).
78. A Room With a View (E. M. Forster, 1908).
79. Merchant-Ivory Film, 1980).
80. Brideshead Revisited (Evelyn Waugh, BBC television series).
81. The Adventures of Augie March (Saul Bellow, 1971).
82. Angle of Repose (Wallace Stegner, 1971).
83. A Bend in the River (V. S. Naipaul, 1979).
84. The Death of the Heart (Elizabeth Bowen, 1938).
85. Lord Jim (Joseph Conrad, 1900).
86. Ragin' (O. L. Datorow, 1978).
87. The Old Wives' Tale (Arnold Bennett, 1908).
88. The Call of the Wild (Jack London, 1903).
89. Loving (Henry Green, 1945).
90. Midnight's Children (Salman Rushdie, 1981).
91. Tobacco Road (Erskine Caldwell, 1932).
92. Ironweed (William Kennedy, 1983).
93. The Magus (John Fowles, 1966).
94. Wide Sargasso Sea (Jean Rhys, 1966).
95. Under the Net (Iris Murdoch, 1954).
96. Sophie's Choice (William Styron, 1979).
97. Merril Streep (Kline), 97.
98. The Sheltering Sky (Paul Bowles, 1949).
99. The Postman Always Rings Twice (James M. Cain, 1934).
100. The Ginger Man (J. P. Donleavy, 1955).
101. The Magnificent Ambersons (Booth Tarkington, 1918).

Rangoon Tense as Pro-democracy Movement Anniversary Approaches

Saty Sivaraman writes from Bangkok

As the tenth anniversary of Burma's pro-democracy movement approaches, the capital city Rangoon is tense once again in anticipation of possible trouble. Governments throughout the region are closely monitoring political developments in Burma to watch out for signs of escalating confrontation between the country's shaky military junta and opposition forces led by Nobel Peace Prize winner Aung San Suu Kyi.

It was a decade ago on August 8, 1988, that Burmese students led thousands of people onto the streets of Rangoon, Mandalay and other major cities in demonstrations against the then military government headed by the longtime dictator, General Ne Win. The movement led to the resignation of Ne Win but only to be replaced by a State Law and Order Council (SLORC) composed of his handpicked military men.

Burmese pro-democracy groups are looking up to the Indian government to lend moral and political support in case any movement erupts. Some prominent Indian leaders, including Defence Minister George Fernandes, are known for their sympathy to the Burmese pro-democracy cause and Burmese activists feel that the current Indian government could play a positive role in aiding them.

Arising expectations of a fresh round of nationwide agitation in Burma is a recent ultimatum to the military government by dissident leader Suu Kyi to convene a meeting of Parliament members. Suu Kyi's National League for Democracy (NLD) won the general elections in 1990 by a landslide majority but the results were never accepted by the military, which has been on top ever since.

During the eighth anniversary celebration of the 1990 election victory late June, Suu Kyi demanded that Parliament be convened by August 21 to facilitate a session of elected members. The fresh ultimatum has been seen as a long awaited signal to the public from Suu Kyi, who has so far advocated patience and dialogue with the military junta, to start an agitation.

The military has responded to Suu Kyi's call by threatening to take legal action against her. Pro-democracy activists have alleged that the military plans to arrest Suu Kyi and has even prepared a special cell for her in Rangoon's infamous Insein prison where hundreds of political prisoners are kept.

Reports from Rangoon say there are more troops out on the streets and several members of the NLD have already been arrested by the authorities prior to the August 8 anniversary.

"If the military attempts to arrest Suu Kyi again or harm her in any way, the action will certainly trigger off a mass protest from the public," said a Rangoon-based political analyst. According to him, frustrations among various sections of Burmese society have reached a peak and the mood is similar to that prior to the 1988 movement when people, fed up with unemployment, rising prices and lack of basic freedoms, took their battle against the military to the streets.

"We are quite confident that there will be another uprising soon in Burma because the feeling among many activists is that it is a do-or-die situation now," Moe Thee Zin, a leader of the All Burma Students Democratic Front (ABSDF) who is currently in exile in Thailand, told IANS.

On the economic front in Burma — already a basketcase — the situation has deteriorated in recent months. The country, which ventured on the path of economic liberalisation in the early nineties, has been hit hard by the Asian economic crisis which has dried up the trickle of foreign investment going in previously, hurt exports and devastated the local currency.

The economy has already been in bad shape for the past few years due to dwindling foreign exchange reserves, high inflation, chronic budget deficits and poor agricultural performance.

The huge deficits — estimated to reach nearly 81 per cent of GDP during 1997 — has prompted the government to print more and more banknotes to fill the gap, leading to serious devaluation of the currency. The Burmese kyat, officially valued at six to the US dollar, has now crossed 300 to the dollar in the black market. The crisis has forced up prices across the board in Burma and the costs of basic items such as beans, pulses and onions have soared by about 100 per cent in Rangoon's markets in the last month. The devaluation of the currency has also resulted in a surge in prices of numerous imported goods.

While many of the social and economic factors conducive to public unrest have been there for the past couple of years, a political wildcard that has come into play is the possible death of the ageing former dictator Ne Win. Rumours of his death have been circulating in Rangoon and Bangkok.

Ne Win, who ruled Burma for 36 years, is still believed to be a key factor in preserving the unity of the military. With his demise, observers expect a definite split in the Burmese armed forces between reformers and status quoists — a development that has been long awaited by Burma's pro-democracy forces.

— India Abroad News Service

Largest UNFPA Programme in India

NEW DELHI: India has been allocated \$100 million for the fifth cycle (1997-2001) of the population and development programme funded by the United Nations Population Fund, the largest UNFPA programme ever.

The programme will complement the Indian government's efforts to operationalise the Reproductive and Child Health (RCH) programme enunciated at the International Conference on Population and Development (ICPD), held in Cairo, 1994, replacing the targeted family welfare programme of the past.

Apart from the district and national levels of operations, district/town level projects have also been formulated in the states of Rajasthan, Maharashtra, Kerala, Gujarat, Madhya Pradesh and Orissa.

These projects will go beyond reproductive health to cover need-based education, gender and community development issues, with special focus on HIV/AIDS, and have been developed through a decentralised participatory planning process.

Between 1974-1995, UNFPA funds to the tune of \$220 million have been spent on four country programme cycles in India.

Court on March 16 this year. But since the ban has not been applied with retrospect, the DCGI has claimed helplessness in taking punitive action.

This, despite the fact that he has enough documentary evidence of the involvement of private practitioners, NGOs and even government hospital doctors in these malpractices, which released a booklet titled "Quinacrine: a sordid story of chemical sterilisation of women" on World Population Day last year.

Women subjected to illegal trials throughout the country, continue to suffer the pain, menstrual abnormalities and complications caused by the procedure, and unwanted pregnancies due to its failure, without the follow-up that is expected of 'clinical trials'.

WFS/News Network

Unethical Population Control Practices

On the occasion of World Population Day on July 11, the Government of India was urged to put an immediate stop to aggressive population control policies and practices, the brunt of which is borne by women, often in total violation of ethical and medical guidelines.

In an open letter to Dalit Ezhimalai, the Minister for Health and Family Welfare, Saheli, a women's group working on issues related to women's health for the last 17 years, drew attention to the fact that illegal trials and propagation of quinacrine pellets for chemical sterilisation of women are still current in India. This is despite the ban imposed on its import, manufacture, distribution and sale for chemical sterilisation by the Drugs Controller General of India (DCGI), a ban which was upheld by the Supreme