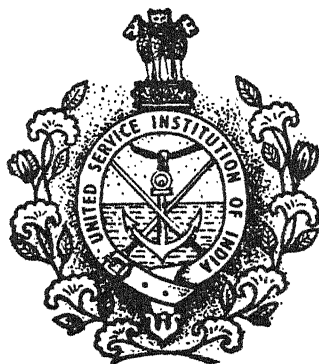


U.S.I. JOURNAL

INDIA'S OLDEST JOURNAL ON DEFENCE AFFAIRS

(Established : 1870)



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PVSM, AVSM, ADC
- U.S. National Security in the Post - *Frank G. Wisner*
Cold War Period
- India's Defence Forces : Building the - *Gen V N Sharma,*
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- Technology - Stepping Towards - *Lt S K Singh*
Destruction
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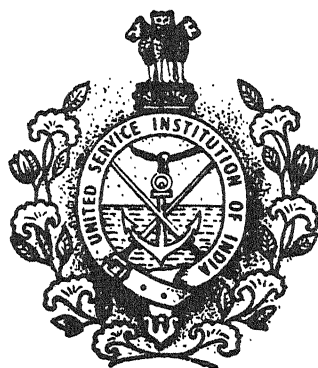
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**UNITED
SERVICE
INSTITUTION
OF INDIA**

for

*the furtherance of
interest and know-
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science, and literature
of National Security
in general and of the
Defence Services
in particular*

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NOTE

"The views expressed in the Journal are in no sense official and the opinions of contributors and the Editor in their published articles are not necessarily those of the Council of Institution".

EDITORIAL

Towards New Horizons

The President's Report (1994) to the USI Council, published as the lead article in this issue, clearly identifies the areas of achievement and also issues which need to be progressed with greater effort and objectivity. One of these is the establishment of the USI Research Centre for Strategic Studies without further delay so that the Centre could be in effective operation when the USI moves into its new lodgings by the end of 1995.

This issue of the Journal contains several other articles of major interest. In one of them, Ambassador Frank Wisner talks about the US National Security in the Post-Cold War period, and describing the U.S. design for grand strategy, suggests a strong defence partnership between the great powers - the United States, Europe, Russia, China, Japan and India for maintenance of peace and stability in the changing global security environment.

In another article, General VN Sharma describes with critical insight the role of the armed forces in nation building, and covers a vast canvas from the British times to the present day with the thesis that the Indian armed forces have played an important role in India's struggle for independence, and after independence, in maintaining freedom and territorial integrity of the nation as well as in the vital field of national integration.

We also have an essay of absorbing interest, written with profound scholarship by Professor Matin Zuberi, on important nuclear decisions and discords, which covers the nuclear weapons acquisition and proliferation policies of the five nuclear weapon States from the 1930s to the present day.

In 1995, we, in the USI, look forward to celebrating our 125th anniversary, a prominent landmark in the long history of the Institution, and wish all our readers, a very happy New Year.

President's Report for the Year 1994

LT GENERAL SURINDER NATH PVSM, AVSM, ADC,
VICE CHIEF OF THE ARMY STAFF AND PRESIDENT USI COUNCIL

Gentlemen, it gives me great pleasure to welcome you to our Council Meeting for 1994. I thank you for the trouble you have taken to be here this morning. I am sure we will have some useful discussions on this morning's agenda.

The Council Meeting has been scheduled to coincide with the National Security Lecture being delivered by General VN Sharma on "THREATS TO NATIONAL SECURITY DUE TO INTERNAL PROBLEMS", at the Auditorium, Nehru Memorial Museum and Library at the Teen Murti House this evening and tomorrow. I hope all of you will be able to attend the talk on both the evenings.

USI NEW BUILDING PROJECT

It is with great satisfaction that I am able to report that the construction of our new building is proceeding apace and the progress has been very satisfactory. So far the work is, I am told, proceeding ahead of schedule. The actual details will be given to you later in the morning by the Managing Director of the AWHO and by the Chairman of our Building Sub-Committee. If the present rate of progress is maintained then the USI will be able to celebrate its 125th Anniversary at the end of the next year in its own new building. I will urge the AWHO to ensure that the project is completed in time for our 125th Anniversary celebrations. I hope all the Council members will avail the opportunity to visit the site of our new building tomorrow morning after we have dealt with any points remaining on the Agenda.

I must also bring to your notice a small matter that caused us some concern over the dimensions of the land given to us. On siting the main building on the ground at the start of the construction, it was found that the frontage of the land allotted to us along the road was insufficient and fell short by about 10 yards. This problem was however, satisfactorily resolved by the former QMG who interceded with the Government on our behalf to obtain a further allotment of 3 acres of land from the Ministry of Defence. I would like to place on record the appreciation of the Council for the help rendered to us

by Lt Gen Sher Amir Singh, the former QMG in settling this problem satisfactorily in our favour. As a result there was no need to reduce the width of our building.

FINANCES

The audited Balance Sheets for 1993-94 alongwith the Auditor's Report, the Revised Budget for 1994-95 and the Budget Forecast for 1995-96 have all been with you for sometime and I hope you have had time to examine them. You would have noted that no serious irregularities or objections have been raised in the auditors reports. However any member wanting any further clarification may obtain it from the Auditor during his briefing on the state of the accounts.

The Finances of the USI are in healthy state as the figures (in Rs.) for the past three years will indicate:-

		<u>Income</u> (Including Interest)	<u>Expenditure</u>	<u>Surplus</u>
(a)	1991-92	16,78,916.57	8,94,963.35	7,83,953.20
(b)	1992-93	22,49,392.05	10,61,597.47	11,87,794.58
(c)	1993-94	23,10,525.22	10,52,367.27	12,58,157.95

The following amounts of interest actually accrued on account of USI investments have not been included in the income, stated earlier, as they were transferred to various funds as reflected in the Balance Sheet:-

(a)	1991-92	Rs. 9,30,018.11
(b)	1992-93	Rs.10,48,194.16
(c)	1993-94	Rs.11,72,634.05

The five year perspective, worked out by Gen SL Menezes, gives the position that will obtain when we move to our new building.

USI BUILDING FUND

The balance in the USI Building Fund stood at Rs. 2.69 crore as on 31 Mar 94. After 31 Mar 94 to date, Rs. 1.50 crores has been paid out to the AWHO. This brings the total amount so far paid to the AWHO to Rs. 3.10 crores.

You will be happy to hear that a sum of Rs. 75 lakhs was received on 1 Nov 94 from the Hon'ble Prime Minister's National Defence Fund. This amount has also been paid to the AWHO and is included in the total. I have stated the balance of Rs. 55 lakhs has been promised by 1 Feb 95.

I would like to place on record on your behalf the deep appreciation of the Council and its grateful thanks to the Hon'ble Prime Minister for this support and generous grant for the USI Building Project.

MEMBERSHIP

Upto 15 Nov 94 the total number of Life Members stood at 3350 as against 3255 last year. The total number of annual members were 1107 as against 960 last year. The number of Subscriber Members stood at 762 as against 759 last year.

We have so far enrolled the full quota of 20 Associate Members. Quite a number of applicants could not be accepted due to the limited quota of 20 associate members. I feel we ought to increase the quota for associate members considerably and this proposal is on our agenda.

THE USI JOURNAL

You will be happy to know that the quality of our book reviews continue to attract a large number of books from both Indian and Foreign publishers. Till 15 Nov we have received 285 books from foreign publishers alone thus saving the USI Rs. 2,07,840 in foreign exchange. But I am sorry to say that the position of advertisements continues to remain poor inspite of the appeal my predecessors had made to our Council members for help in obtaining advertisements.

CORRESPONDENCE COURSES

A total of 1818 officers took our correspondence courses in 1993-94 as against 1210 who took these courses last year. You will be glad to hear that in the results of the Army DSC Entrance Examination just announced, 18 out of the 20 competitive vacancies were secured by officers who took our correspondence course. The result of the Air Force examination has been almost equally good with an overall success rate of 79%.

GOLD MEDAL ESSAY COMPETITION

This year we have had a satisfactory number of entries for both the

categories of our Gold Medal Essay Competition. The results evaluated by three Senior DS at the NDC will be placed before you for your decision on the selection of prize-winners.

It is with deep regret that I wish to place on record, on behalf of the Council, our great sorrow at the untimely demise of Lt Col Rajiv Kumar, 51 Armd Regt, who had won the first prize in the USI Gold Medal Essay Competition 1993 and in 1990.

MACGREGOR MEDAL

It is with a sense of great disappointment and regret that I have to report that another year has gone by without any recommendation being received from the Joint Planning Committee or any of the Services for the award of the MacGregor Medal. I cannot but agree with what one of my predecessors Admiral Suren Govil, had said, I quote-

"I cannot believe that our people are not undertaking adventure and reconnaissance activity worthy of this award. It seems to me most strange that though our officers have gone to the South Pole and have sailed round the World, none of these persons were recommended for the award of the "MacGregor Medal".

I also agree with his conclusion that such cases should be re-examined by the JPC and considered for a delayed award since no cases have been received for several years. It appears to me that the weakness lies more in the presentation of the reports rather than in the activities carried out.

The Director had brought this to the notice of the DGMO in his capacity as Chairman, JPC. The JPC have suggested that the rules for the award of the MacGregor Medal should revert to the original conditions and be limited to Military Reconnaissance.

SEMINARS AND LECTURES

There have been a number of very high profile lectures delivered by eminent persons during this year. I would like to particularly draw your attention to the following talks:-

- | | |
|-----------------------------|---------------------------------------|
| (a) His Excellency E Doweik | Ambassador of Israel in India |
| (b) Dr Yossi Beilin | Hon'ble Dy Foreign Minister of Israel |

- | | | |
|-----|------------------------------------|--|
| (c) | His Excellency
Khaled-El-Sheikh | Ambassador of Palestine
in India |
| (d) | Mr Senator Gary Hart | Former Member of the US
Senate and US Presidential
Candidate |
| (e) | His Excellency
Frank G Wisner | US Ambassador in India |
| (f) | Mr GC Saxena | Former Governor J&K |

Our annual Seminar on Defence R&D that was to be held in Pune is now being organised by the Chairman of the Executive Committee and his colleagues. He will be giving the status of the Seminar later this morning. I have also been approached by Prof ML Sondhi for holding a joint Seminar with the JNU on "Non Military Threats to India's Security". We are working out the details for such a Seminar.

RESEARCH CENTRE

I am afraid we seem to have got unnecessarily bogged down in procedural matters. The case has been placed before you on the agenda and my recommendation to you is that we go ahead on the lines stated in the USI Paper which had, as you know, the approval of a previous USI Council and that of the Chiefs of Staff Committee. Any changes can always be made after we have gained some experience on the working of the Research Centre.

CONCLUSION

Though the USI has continued to make a steady and satisfactory progress in most fields there appears to have been a certain amount of disappointing stagnation in some areas. These are namely-

- (a) no recommendations being received from the JPC for the award of the MacGregor Medal for several years;
- (b) no progress having been made in starting the Strategic Research Centre, even though the USI Paper was approved by a previous Council and Chiefs of Staff Committee;
- (c) inadequate number of advertisements being received for the USI Journal to make it financially self-sufficient inspite of appeals to members for help.

I have no doubts that with your help, all these matters can easily be satisfactorily resolved by the time the USI moves to its new building. I also hope that this happens well in time for the USI to celebrate its 125th Anniversary in an appropriate manner in its own building.

U.S. National Security in the Post-Cold War Period

FRANK G. WISNER

It is indeed a great pleasure for me today to speak with you about America's concept of national security in the post-Cold War period. I am mindful as I stand here that I am addressing the leaders of India's defence community. Many of you have served in the Indian Armed Forces, one of the most distinguished military institutions in the world. Your valour, sense of duty, and loyalty to democratic principles have set an example for other nations to emulate.

I am also aware that the United Service Institution is a premier forum for discussion of national security affairs in India, so I was particularly pleased to be able to accept your invitation to join you here today.

THE CHANGING ENVIRONMENT FOR NATIONAL DEFENCE

I propose to begin my examination of our current defence posture with a look at its evolution. Over the past half-century, America's national security structure was shaped principally by the Soviet challenge. This threat created a well-defined set of strategic imperatives. Now that the Cold War is over, the United States confronts a far more complicated security environment that forces us to reassess the purpose of our nation's defence establishment.

The dangers that confront us are clear; democracy is not yet firmly rooted in the former Soviet states; proliferation of weapons of mass destruction continues; regional, ethnic, and religious crises threaten global stability.

One thing is clear however. The United States cannot be the world's policeman. Nevertheless, as the world's economic and military power, we can - and we should - exercise global leadership.

With India, we share a commitment to global peace and stability. In order to achieve these goals, our security strategy must draw upon more than traditional military preparedness and the alliance architecture of the Cold War. We must support global political stability, advance democracy, and promote economic growth. We know that countries with democratically elected govern-

Text of the talk given by the Hon'ble Frank G. Wisner, Ambassador of the United States of America in India, to the members of the United Service Institution of India, at New Delhi, on November 10, 1994.

ments seldom wage war against each other; their peoples do not permit it. For this reason, the promotion of responsible and responsive government around the world will remain a key element of our overall national security strategy.

We will continue to stress preventive diplomacy and negotiations to defuse conflicts before they become crises. The United States regards the use of force as an instrument of last resort, to be used only when our most vital interests are challenged or there is a broad international consensus in support of the use of force.

Thus, the security of the United States in this new era depends on the durability and resilience of our relationships with other like-minded nations — including India. To ensure an international consensus and provide political legitimacy for actions necessary to preserve peace, the United States must play a key role in defusing crises and supporting peacekeeping operations.

We recognize that the United Nations is, as its name suggests, a collection of sovereign states, not an autonomous institution with the ability to ensure peace on its own. It depends on the will and capability of its members.

CRITERIA FOR USE OF FORCE

It is the expressed intention of the United States to work within the boundaries of international consensus. When, as a last resort, we finally commit our military forces, we will do so because essential national interests are at stake, and because the costs of deploying our resources are commensurate with our ability to ensure peace. While we will act unilaterally when necessary, we prefer to act in alliances when our important interests are shared with others, and multilaterally when these concerns are held by the international community. But in all cases, our response will depend on what best serves our long-term national interests and security requirements, mindful of the need to sustain domestic political support for our actions.

We will face, as we do today, many situations that demand our attention and invite our involvement. The constraints imposed by scarce resources and the need to sustain consensus in a democratic society suggest that we must carefully choose how and to what extent we will engage ourselves. In every case, we will consider several critical questions before committing our forces:

- * Have we explored every non-military means that offer a reasonable chance of success?
- * If a military response is called for, what type is appropriate?

- * Is the use of military force calibrated with our political objectives?
- * Does the course of action we propose enjoy the support of the American people?
- * Are there measurable parameters by which to judge the extent of success or failure, and do we have an exit strategy?
- * And lastly, after a careful cost/benefit analysis, can we conclude that our involvement will lead to a measurable improvement in a given situation?

Let me stress that our security requirements extend beyond our physical defence to include our economic well-being. In addition, terrorism and narcotics trafficking pose clear dangers to our well-being, and other issues, such as refugee flows, also have important security implications.

The United States must, therefore, be able to ensure its security through the deployment of forces capable of confronting a range of needs; defusing regional hostilities, providing a credible overseas presence, countering weapons of mass destruction, contributing to multilateral peace operations, as well as supporting counter-terrorism and counter - narcotics operations.

In addition to fielding a regular standing force in the United States capable of projection across oceans, America will also continue to maintain a flexible military presence overseas. This will include permanently stationed forces, deployments and combined exercises, port calls and other military visits, as well as military-to-military contacts.

DETERMINING FORCE STRUCTURE AND SIZE: THE BOTTOM-UP REVIEW

To understand more clearly the process by which we relate our national security goals to our force structure and strategy, I commend to you the Report on the Bottom-up Review which the United States Department of Defence prepared in 1993. It is a document which describes in great detail the formula for determining force structure and size in the post-Cold War era in which the U.S. faces no immediate first-order direct military threats.

In drafting the Bottom-up Review, the Defence Department defined capabilities and constructed models. The models selected were sufficient to deal with simultaneous medium-sized regional conflicts in the Persian Gulf and the Korean Peninsula. Obviously, we hope that we will never have to wage two wars at the same time.

The ability to do so, however, prevents political blackmail against us or our allies if our forces are already engaged on another front. It also leaves us room, with the additional forces, to assume other responsibilities such as peace-enforcement or peacekeeping.

The Bottom-up Review provides us with a firm basis for our budgetary requests from Congress, and frees resources for other uses. It ensures America's ability to lend its weight to a balance of power among great nations and to contribute effectively to global peace.

The discerning reader of the Bottom-up Review will note some changes in our traditional defence posture. We are now giving equivalent weight to the security forces in the Pacific and in Europe — 100,000 men in each theater. This represents a relative shift to the Pacific and reflects our perceptions of national interest and threat potential. Continuing tensions on the Korean peninsula underscore the wisdom of our choice. We learned from direct experience that America's defence in the Pacific can best be assured if we maintain and reinforce our defence along the littoral of the Western Pacific. The same logic of forward deployment and reinforcement applies to Europe and the Gulf where the United States has faced specific threats in recent years.

To better understand U.S. defence thinking in a world in which crises are not main-force wars, bear in mind that in virtually all circumstances we will rely first on diplomacy, acting in concert with states of the affected region where possible, and supporting the United Nations with logistical and intelligence support. Only in the most extreme circumstances will the United States resort to military force.

Defence Secretary Perry made this clear when asked earlier this year under what circumstances the United States was prepared to use force. He responded by noting three very different situations: first, when our most vital interests, including our survival, are at stake; second, when important national interests are threatened; and third, in humanitarian situations. In all three, Mr. Perry stated emphatically, "the use of military force is a last resort. It is the last alternative. It is not the first alternative, and all other alternatives have to be considered first."

THE FUTURE SHAPE OF DEFENCE FORCES

The United States continues to examine its defence requirements in light of changed world circumstances. These developments have allowed us to reduce the size of our defence establishment by nearly 40 percent over the past decade. Further contraction is likely in the face of the requirement to maintain

the qualitative edge of our armed forces — their training and tempo of operations. Acquisition of new equipment is proceeding at a slower pace; this trend will continue. Extending the life of existing equipment systems is the order of the day.

We will give priority to the maintenance of a professional, mobile fighting force, emphasizing command, control, and intelligence, even at the expense of introducing new fighters, replacing carriers and submarines.

Our Army will be reduced to ten divisions — its smallest size since the 1930's. Our Navy will be downsized to 230 ships, and we will maintain an aircraft carrier force of 11 and one-half vessels. Our submarine force will shrink. The Air Force will contain 20 wings. The United States Marines, our rapidly deployable intervention force, will stand at 170,000 men.

The United States will maintain a nuclear capability; given the existence of substantial nuclear arsenals elsewhere, it is prudent to do so. This capability is of special significance to Japan and Korea, which face special threats, and also to Europe. But our strategic defence system has been reduced and reoriented to give priority to theater missile defences. Intermediate range missiles, an especially destabilizing weapons system, have been removed from Central Europe by treaty. We have brought home tactical nuclear weapons from our ships and will not retain the technical capability to arm them. The United States has ended nuclear testing and the production of fissile materials.

We are seeking an extension of the Nuclear Non-Proliferation Treaty. With India and other like-minded nations, we are working toward a ban on fissile material production and a Comprehensive Test Ban Treaty.

The United States will reduce its nuclear weapons and will meet its commitments under the START treaty. When presidents Clinton and Yeltsin last met in Washington, they confirmed their intention to seek early ratification of the START II treaty. They also agreed that once START II is ratified, the United States and Russia will proceed to deactivate all strategic nuclear delivery systems to be reduced under that treaty by removing their nuclear warheads or taking other steps to remove them from combat status. By the year 2003, about 3,500 strategic nuclear weapons will remain.

THE DYNAMICS OF FORCE STRUCTURES

In examining military capabilities and strategies, it is essential to anticipate the dynamics of force structures or postures. One can argue that in pre-1914 Europe, the very act of mobilizing reserves was tantamount to declaration

of war. On the Korean peninsula, the deployment near the Demilitarized Zone of the bulk of the North Korean army — a scant 50 miles from the capital of the Republic of Korea — produces a situation where warning time is greatly reduced.

Acquisition of certain weapons can also have unintended consequences. Increases in military capability do not always result in enhanced security. Let us for a moment use the concept “defence capability” in the strict sense, that is, the ability to prevent attacks upon and occupation of one’s territory by an enemy force.

I would suggest to you that in the period following the War of 1812 — when the United States and Great Britain reconciled their differences — until the end of the Second World War was a period of unparalleled security for the United States. With but modest conventional forces, our military was able to defend our national territory from all threats. Even the Japanese attack on Pearl Harbor, while a brilliant tactical success, did not result in the occupation of the Hawaiian Island, let alone the mainland. And as any student of military history will quickly note, that attack produced a strategic defeat.

The end of the Second World War marked a watershed with the advent of nuclear weapons. For both the U.S. and the former Soviet Union, that watershed was characterized by an enormous increase in raw destructive power, but a loss in defensive capability. Both of us acquired the capability to inflict enormous casualties on the other, but each lost the ability to protect its own population.

Some nuclear war scenarios resulted in what was euphemistically called a “technical win,” in which one side was left with a million survivors and the other with only half as many. Clearly, the United States and the Soviet Union would have been more secure without nuclear weapons. Both countries struggled for decades to come to grips with the tiger on which we were mounted.

Technological advances produced new delivery systems to exploit the nuclear bomb. Enhancements to security were short-lived as each side matched the other. In an atmosphere of secrecy, worst-case analyses had to be taken seriously and the arms race was fueled. The advent of ballistic missiles made one side or the other momentarily more powerful, but at the serious cost of reducing warning time in crises. The development of multiple warheads created unprecedented strategic instability. A nation that feels it must contemplate a “use it or lose it” doctrine is not secure. The United States and the nations of the former Soviet Union are still struggling to undo this part of the historical legacy of the Cold War. This is not an experience we wish for others.

THE NEED FOR STRONG DEFENCE PARTNERSHIPS

In closing, let me simply add the following. No single country can bear the burden of bringing stability to this dangerous and confusing world — not the United States, not anyone else. We only can operate in an international collective. We need strong partners. This is why we recognize India's need to maintain strong defence forces. This is why we believe it is in our mutual interest to increase our capacity to operate together. Global security will depend on the cooperation of the great powers — the United States, Europe, Russia, China, Japan and India — working together to give the United Nations and the international system a clear sense of purpose and direction.

Let me underscore again the view that, in all this, there is no greater purpose than the maintenance of peace and stability, the expansion of prosperity and democracy, the protection of human rights and the extension of the rule of law. The means we choose to achieve these goals are primarily political: the energetic practice of diplomacy; working through the United Nations and regional bodies; humanitarian intervention when required; bolstering political solutions with peace operations; and only as a last resort, military force.

USI GOLD MEDAL ESSAY COMPETITION-1994 : RESULTS

On the recommendations of the Evaluation Committee, the USI Council during its meeting on 23 December 1994, selected the following officers for the award of prizes in the USI Gold Medal Essay Competition - 1994:

Group 'A' - "INDIA'S ROLE IN THE FUTURE OF SAARC"

- | | | | |
|-----|--|--------------|-------------------------------|
| (a) | Lt Col KS Ramanathan
SIGNALS (Retd) | First Prize | Gold Medal and
Rs. 2,000/- |
| (b) | Maj SP Yadav
29 AD Regt | Second Prize | Rs. 1,000/- |

Group 'B' - "HUMAN RIGHTS AND THE ARMED FORCES IN LOW INTENSITY CONFLICT OPERATIONS"

- | | | | |
|-----|------------------------------------|--------------|-------------------------------|
| (a) | Maj Harcharan Singh
3 MADRAS | First Prize | Gold Medal and
Rs. 2,000/- |
| (b) | Capt D J S Chahal
75 Armed Regt | Second Prize | Rs. 1,000/- |

India's Defence Forces : Building the Sinews of a Nation

GENERAL V N SHARMA, PVSM, AVSM (RETD)

Part - I

INTRODUCTION

India's defence forces are today the envy of many countries. Many lesser developed nations, struggling for development and political order, fret over the control and utilisation and even the need for their military; many nascent democracies have to give way to military dictatorship to retain some semblance of order. The erstwhile colonial powers who controlled much of Africa and Asia for the advantage of trade and resources, left these countries in turmoil and at the mercy of self-serving politicians or armed groups. With its bewildering mix of caste, creed and ethnic groups, India is an example of a thriving democratic order with a strong, efficient and totally non-political military force. A military which provides the external and internal shield to encourage and protect India's political development along the democratic path laid down by the Constitution.

India's defence forces have grown more cohesive with internally strong organisations and institutions with each passing decade since independence in August 1947, despite the passing of stalwart political leadership which wrested independence from colonial Britain. The country, meanwhile, has faced wars on its borders and internal upheaval caused as much by the exploding population, criminal politics and the diminishing value system, as externally sponsored terrorism and insurgency. Through all this, the defence services have stood firm; an example of national integration and perhaps one of the few government services still following a duty-honour code. Yet, the defence services have faced numerous problems and internal crisis during their growth. From pre-independence accusations by their countrymen of upholding the 'British Raj' to post-independence severe curtailment of defence funding despite serious external and internal threats, and political interference in the military command structure, the defence services have managed to still retain their coherence and stability. They have never questioned the necessity for civil political overall authority but have refrained from supporting any constitutionally incorrect political directions or lending their weight to any particular

political party. The defence forces have remained aloof from politics and largely resisted political interference in the military's internal organisations, command techniques and system of functioning. Thus has the nation been able to develop its own unique democratic political ambience and attempted to rectify its political errors through a maturing public opinion, based on a free media and exercising public will through the election process. Wherever units and formations of the armed forces have been located, oasis of efficiency and development have been created; civil jobs, infrastructure and business has increased manifold in support of services needs, and remote border regions opened up and developed by military presence.

The military contribution to the cohesion, development and internal strength of India needs thorough study and evaluation. This would assist generation of mature opinion for the national drive towards development and economic stability so that leadership is well informed on the functions of the military services towards this end, besides providing national security without which no development is feasible. It is also necessary to consider certain weaknesses in the present military higher command, the organisation for control over the three defence services, their funding and the tasks they are expected to fulfil in coming years. This paper attempts to examine some of these aspects so that the armed forces effectively adjust to changing times and continue to fulfil their important role in nation building in future years.

THE STRUGGLE FOR INDEPENDENCE - PRE 1947

On the eve of India's independence in 1947, the defence forces were largely seen by the public as an occupation 'British - Indian' force. The Indian defence services, especially the large numbers of the army, had been employed by the British in both world wars where Indian soldiery had proved its fighting mettle and loyalty to the crown. Meanwhile the public of India had again and again witnessed the use of the Army, in support of the police, to efficiently control civil upheaval and strife caused by the independence movement against the British-Indian colonial state. When called out on such internal security duties, Indian soldiers effectively ensured public law and order in subservience to British designs; the Indian army was held in public fear and awe. The Indian military, comprising officers and enlisted men of the three services were comparatively advantaged men from families who were largely loyal to the concept of British colonial dominance in India as were most officials of the civil services and many politicians, largely with an anglicised educational background. The system of British political and military control in India had as its bedrock the unquestioned loyalty of the Indian military as also the civil services. These officers were encouraged to keep aloof from all politics and to consider the political upheaval in India as merely a law and order problem.

Britain could have easily extended its rule in India for many more years had this unquestioned loyalty of the Indian military continued beyond the second world war of 1939-45.

British rule had earlier experienced the effects of army insurrection in 1857. But for the fact that the Mutiny was a disjointed army revolt and lacked central political and military leadership, Britain would have lost its 'jewel in the crown' then itself. The lessons of the Mutiny led to a series of British administrative measures that ensured a loyal military and a subservient civil service over the next few decades. The martial class concept was introduced for military recruitment; politically conscious Indian classes, groups and tribes being progressively debarred from military service entirely or their percentage of recruitment being drastically cut thus reducing them to penury. A special relationship was allowed to develop between British officers, as representatives of government, and the Indian soldiery by governmental largesse, promotions, land jagirs and outlets for education and employment of families of servicemen, to the exclusion of others considered less loyal. Moreover, even regional development in the provinces was concentrated in areas of the favoured martial class and tribe, such as the erstwhile provinces of Punjab and Rajasthan, whereas adversely targeted areas of Eastern UP, Bihar, Assam and Orissa and also South India, were starved of development funds. The British raised and nurtured loyal troops, civil servants and landed gentry while people, tribes and classes in opposition to British rule were denied advancement of business, educational background and job opportunities. Thus the British Raj ruled India, using effectively a small but strong army under absolute British control, with the main military role of aiding the civil authority in law and order duties and suppressing any uprising by the public.

Such a political and military milieu, from the late nineteenth century right upto the Second World War in 1939, provided little chance of any freedom or independence to the suppressed Indian peoples despite efforts of their political leaders in nascent revolt against the British Raj. Violent incidents and clandestine propaganda by Indian terrorist groups, led by determined youthful and charismatic men and women, made little impression on the Indian soldier. These soldiers were not mercenaries but proud and honourable men determined to do their duty and be faithful to their oath and "salt", in service of a benevolent crown which provided them with high class military leadership and reasonable opportunities for advancement. Since revolution and revolt offered little chance of success, the Indian independence movement grew slowly under the Indian National Congress leadership towards the goal of a legal transfer of political power to Indians by the British authority, in subtle appeal to the liberal and democratic British way of life in the United Kingdom. Mahatma Gandhi's non-violent political movement gave a clear indication to

British rulers of the difficulty of governing India, under a democratic order, without the willing cooperation of the mass of the public. Leaders such as Motilal Nehru successfully obtained British agreement for partial Indianisation of the officer corps of the defence services; more as a measure for learning of the military art by Indian youth for defence of a future independent state, rather than to create dissention in the ranks of the defence services or to foment revolt. This policy of Indianisation resulted in the military training of selected Indian youth and their induction as officers supposedly equal to the British, into the Indian army and later into the much smaller navy and air force. Indians now got the opportunity to lead Indian soldiers, learn the military art, and rapidly grow to compete with their British peers, not only in technical and leadership capability but in questioning British political viewpoints and in standing up for Indian democratic rights. Daily living together in officer's messes created heated arguments between British and Indian officers, the latter demanding and receiving the right to Indian culture and standing up for India, to the extent that discussion of politics was banned in messes. So the Indian military officer slowly impressed upon his British superiors and colleagues that the Indian defence forces and all troops agreed with Indian political leaders that the liberalism and democracy of the British system must be extended to subjugated India.

The Second World War had brought vast expansion of the Indian defence forces, opening recruitment to "non-martial" classes due to the unavailability of sufficient manpower with the favoured classes for recruitment. This brought into the services, especially the army, a large number of efficient officers and men of less privileged classes who were also sympathetic to the political movement for independence; the officers were largely positioned in special "Indianised" army units. British commanders soon found that they were unable to enforce acceptance of the colonial government's political actions or views with the majority of Indian officers and their troops especially in the Indianised army units. Yet the loyalty of these officers and units remained unquestioned and their military efficiency was easily comparable to that of British units and officers. British complacency in their capacity to govern India was shaken when during the war in Burma, a small number of Indian officers and men joined the "Indian National Army" (INA) raised from amongst prisoners of war taken by the Japanese, with the aim of helping Japanese forces to liberate India from British rule. It is perhaps true that most of the Indian prisoners who joined the INA did so to escape the horrors and torture inflicted on prisoners by the Japanese; but there was also a setback to British confidence in the Indian soldiers' loyalty to the crown. Senior British military and civil officials looked askance at what they considered as cracks appearing in the British sword-arm of colonial rule in India, the Indian defence forces. Yet the large majority of Indian officers and soldiers continued to remain loyal throughout

the war and convincingly proved their fighting mettle, their discipline and aloofness from politics; no matter the forcefulness of their political views. Nevertheless, for the first time since 1857, the British rule in India faced the prospect of disintegration in the face of a massive non-violent public desire for independence, garnered by Congress leadership who promised public cooperation in the war provided dominion status, and later independence, was granted to India after the war. The British, who had reneged from so many political promises in the past, slowly realised that no Churchillian concept of "not presiding over the disintegration of the British Empire" could withhold Indian independence when the loyal Indian defence forces would hold their British leaders to their political promises, once the war was over. The post-war naval mutiny in Mazgaon Docks at Bombay and the army ordnance depot mutiny at Jubblepur, though caused by local grievances with no political fall-out, hastened British decision to grant dominion status. Moreover the Second World War had greatly drained British capacity to continue political and military hegemony over their distant empire in the face of growing political problems and local change of heart. All this led to independence for India, albeit with a division of territory for a new Pakistan.

Indian political leaders and bureaucrats continue to play down any role of India's defence forces in India's struggle for independence. Accolades are fully due to the brilliance of Mahatma Gandhi's concepts and struggle based on non-violence against an overwhelming colonial military power; to the political leadership of Nehru and Sardar Patel, amongst others, which worked ceaselessly for a legal transfer of political power, and to the many freedom fighters who sacrificed much in support of the struggle for independence. But it is totally incorrect to suggest that the defence forces did not play any part in this struggle. Recognition to the military is certainly due for learning the military art from the British exceptionally well, for being steadfast in their oath to the flag and showing their commitment to faithfully serve an independent India and support the Indian political leadership. Only a legal transfer of power could change the oath of honourable military men from the crown to the Indian Tricolour and the Constitution of India. The swell of opinion amongst the Indian officer class and troops in favour of independence was a major set-back for any British design to continue colonial rule for fear of losing the loyalty of an excellent fighting force without which colonial rule was not feasible. The civilian political mind has little concept of 'oath'; this is basically a military tradition. Changing an oath arbitrarily for personal advantage is more in the line of mercenary fighters, not of honourable soldiers. Since days of the great Mahabharat War, in pre-historic India, soldiers grounded in our ancient culture, have largely fought to the best of their ability, even for causes they did not believe in, but because of their duty and oath. This is totally opposite to the old western mercenary culture of owing allegiance to leaders of a clan

who had to provide suitable payment or a cause to fight for, backed with promises of loot, wealth and rapine, to encourage soldiers to fight well. History has shown many examples of disintegration of armies which changed oath to take personal advantage of a changed political milieu. The Russian Tsar's armies in the 1917 communist revolution, Hitler's forces in Germany and Mussolini's in Italy towards the end of the Second World War are cases in point. The resilience and stability of armies loyal to an individual or a political party, rather than to the concept of oath to a State, are also suspect. The Indian defence forces have basically remained steadfast to their oath even during grave political upheaval based on caste and creed in independent India even though recruits are drawn from all such ethnic groups. Good officer leadership is vital; senior officers are trained to defend the Constitution and rule of law in India, despite any political machinations or orders to benefit political parties in power rather than the State. Occasional lapses in leadership do take place resulting in minor aberrations amongst troops which can be quickly controlled. However, the defence forces contribution to the decline of British will to continue their Raj in India must be accepted as substantial. Thus was the foundation laid of a militarily strong independent India, a basic requirement for a strong democratic nation able to confidently defend its security and development from external antagonistic forces and internal divisive groups.

THE EARLY YEARS - THE THROES OF DEMOCRACY AND INDEPENDENCE

Most new nations are born in revolt and bloodshed. India and Pakistan were spared revolt due to the legal transfer of political power by Britain. Bloodshed was traumatic due to ethnic and religious riots between Muslims on the one hand, against Hindus and Sikhs on the other. The riots spread across North India, concentrated in Punjab and Bengal where the artificial boundaries of the Radcliffe Award were enforced, dividing villages, agricultural fields, families and friends to create the new nation of Pakistan. This was a new nation for Muslims to live in, away from the "domination and intrigue of Hindus", but really created by the short sighted and self-seeking policy of a few politicians in both Britain and India. The British ensured a constant internal battle in the Indian sub-continent by accepting partition; it was they, as colonial rulers, who had assiduously created and developed the Hindu-Muslim divide over decades to enable easier foreign rule. Indians were forced to accept a minimum form of independence only at the cost of division of the country to appease Mr Jinnah's and the British viewpoint. Few political leaders foresaw the mayhem that would result amongst the innocent public fired by Muslim Leagues' "direct action" call to defend the Muslim religion and custom against their very neighbours and drive out or kill all Hindus and Sikhs from territories earmarked for Pakistan. The Hindus and Sikhs retaliated in areas of their majority as provocations grew; millions died or were maimed.

The administration was taken totally by surprise by the vehemence of ethnic torture and slaughter the like of which makes even the Bosnian imbroglio pale into insignificance. In 1947 the police was insufficient and neither trained nor equipped to control the furious civil rioting; only the army could somewhat control the public. It is to the credit of the newly divided Indian and Pakistani armies, still led by British and Indian officers, that some civil order was enforced after weeks of mounting deaths of innocent men, women and children. Credit goes to Muslim, Hindu and other ethnic troops and officers that they were strictly fair in dealing with equal sternness against any caste or creed which broke the law, even to the extent of firing on their own countrymen to disperse rampaging mobs on either side of the new international borders. This even after British officers left the country and ethnic military leaders at all levels were in command. To this day it can be said, with some sense of satisfaction in the military code of conduct, that the defence services retain the traditions of duty being above caste and creed. This is particularly complimentary in the Indian sub-continent which has a mix of ethnic groups, castes and creeds, in a massive population the like of which is not seen in any other nation of the world.

The Kashmir war between India and Pakistan started in late October 1947 once Maharaja Hari Singh of Kashmir signed the Instrument of Accession to India in accordance with the legal requirements of the Articles of Partition between India and Pakistan. The thousands of raiders and mujahedeen led by Pakistani officers sent by Pakistan to capture the Kashmir Valley and force Kashmir to join Pakistan, were thereafter stopped at the very gates of the capital city of Srinagar by the swift induction of the Indian Army supported by the Indian Air Force. It was two years of fighting later, when the Pakistani regular army faced the Indian army after the latter had cleared the vale of Kashmir and Ladakh, that a ceasefire was declared at the behest of Jawahar Lal Nehru the Indian Prime Minister. It was this feat of military arms and the sheer bravery of Indian military men, fighting for the first time under the Indian Tricolour that saved India's vital interests. This at a time when the Indian military was alarmingly stretched between hundreds of conflicting tasks and disorganised due to the large numbers of officers, men and equipment which had been divided to form the Pakistan defence services. There was also the loss of British officers who left key staff and command appointments vacant as they left for home - to be filled hurriedly by inexperienced junior Indian officers. Yet the strain of two years of fighting in the Kashmir mountains and sustaining large scale internal security operations to control civilian mobs in North India was effectively and efficiently handled. This included the movement of thousands of men, equipment and tons of stores daily to Kashmir by a tenuous air-supply link and a single dirt road, across some of the mightiest mountain heights in the world.

It was the defence services example of effective internal security actions and military prowess in the Kashmir war which endeared them to the people of newly independent India. The public at last saw the defence forces in effective action with moral conduct, true to their allegiance and in harmony with the national interests of a newly independent country; these were not the minions of an occupying colonial power. There were thousands of military casualties and many deaths were mourned by military families across the land. These sacrifices were readily accepted by the defence services for their duty. The inexperienced political leadership also changed their views about the doubtful loyalty of an ex-colonial army which, till recently, was hated more than honoured. The Indian intelligentsia could see that Mahatma Gandhi's words about the military in the *Harijan* in April 1946 were not justified or relevant, ".... Up till now they have only been employed in indiscriminate firing upon us. Today they must plough the land, dig wells, clean latrines and do every other construction work that they can, and thus turn the peoples' hatred of them into love". The only political leader who had clear vision of the military role in a newly independent democracy was Sardar Vallabhai Patel. His towering personality and effective organisational capacity not only shaped the civil administrative and foreign services but used the army in effectively making the nation a single strong entity by swift military 'police' actions in certain princely states such as Hyderabad and Junagadh. These Hindu states were well within the borders of India; by military action their Muslim rulers were prevented from declaring their own independence under sovereignty of Pakistan and thus making a nonsense of any Indian attempt at forging a nation. One can see the grand British design of leaving in 1947, but first dividing India into two and then encouraging the numerous princely states and tribal areas towards their personal independent fiefdoms thus not allowing partitioned India to ever be a strong nation but to remain a British economic and trade colony in all but name; ungovernable and incapable of political or economic stability. National military strategy was never a strong point of the majority of Indian political leaders who were raised and nurtured in achieving Swaraj by non-violent means. It was the single-minded effort of the military, especially the Army, led by young commanders totally inexperienced in high command or the ways of governance, and certainly guided, encouraged and supported by a few brilliant political stalwarts and civil servants, that achieved the internal political unity of India and secured its borders.

Under the firm and charismatic leadership of the first Indian Chief, General (later Field Marshal) KM Cariappa who took office in January 1948, the Army set the pace in integration of all castes and creeds joining the military forces. Army recruitment, which was still inclined towards the martial class system for fighting units, was broad based and the first all-class composite Brigade of the Guards was raised, later followed by the Parachute Brigade.

These regiments formalised what had already been proved in war - that all classes and creeds could serve effectively in fighting units, living together in comradeship, eating from the same kitchens, speaking the same language and observing each others' religious festivals. This was a major step towards national integration of India's diverse castes, creeds and languages but was achieved despite opposition from many amongst the officer cadre of the army. The arguments still continue in favour of single class units as they are easier led in battle and easy to motivate. But the continuing internal dissention between various classes, castes and creeds in India, fueled by self-seeking political parties and politicians, clearly points towards persisting with the army's integration drive. This would demand much higher leadership qualities amongst unit commanders and front line officers. The problem does not exist in the navy and air force or in the supporting arms and services of the army - but affects the "teeth arms", the frontline fighting infantry and armoured corps. Nevertheless, today the defence services are an example to the nation of how integration can be achieved. It is not military law or discipline alone which has achieved this but staunch leadership, comradeship and example by superiors to their subordinates. Our political parties must be totally debarred from caste and creed based political motivation if the internal security situation in India is to be improved, and the army's task of integration made easier.

THE IGNOMINY OF THE 1962 WAR WITH CHINA

In the 1950s Pandit Nehru and his government certainly provided India with stability for many years after the upheaval of partition. This gave India a firm democratic base, tolerance of opposing view points and steady development with massive investment in infrastructure and production through public sector institutions. The prime minister's personal integrity, idealism and international authority as a liberal socialist remained beyond doubt. But his views on irrelevance of the military establishment in a post-colonial era led to progressive deterioration of national defence capability. Scarce financial resources were diverted to development leaving the defence forces with inadequate funding except to keep a little ahead of Pakistan. Professional military advice was discounted with government insistence on there being no military threat other than a marginal one from Pakistan in Kashmir. With the Karachi Agreement of 1949 on a ceasefire line in Kashmir, the military problem appeared to have been politically solved. In 1954, the Panchsheel principles of co-existence were signed with China and their suzerainty over Tibet accepted after India withdrew its token military presence from Tibet. It was the "end of colonialism", no major conflict was probable with China and the lack of agreement on the alignment of the vast non-existent 5000 km northern mountain border with Tibet was expected to remain a matter of diplomatic talks. Insistence by the then army chief Gen KS Thimmaya on fresh raisings for the

army to defend the undemarcated northern borders was dismissed as provocative. To ensure committed 'yes men' in the army, the defence minister Krishna Menon commenced interfering in the command and promotion avenues of the defence forces. The bureaucracy achieved increasing power over the military "to keep the army subservient and prevent a coup". When by 1960-62 the Chinese design of acquiring their claimed territories by force became obvious, the political leadership refused to accept the possibility of war. The Indian political and bureaucratic system, of enforcing their judgement and orders at all levels of military command over the heads of the army chief and the chain of command, was unable to cope. The rest is history and the army's total failure in the 1962 Indo-China border war was an ignominious national defeat. This gave the army many lessons in the organisation for higher direction of war, despite the Lt Gen Henderson Brooks Report on the disaster still being kept under government wraps, perhaps to save many a political reputation. The causes of this reverse were many and have been debated at length. Modern conflict cannot be successfully sustained without wisdom, forethought and cohesion in higher level decision-making besides years of preparation to meet evaluated possible threats. The training and equipping of troops, the development of modern infrastructure for conduct of war and the evolving of clear concepts for coordinated use of all powers of state, including political, diplomatic and economic besides the military, are necessary for success in military operations. Nor can the state depend entirely on a politically motivated intelligence organisation to give facts on which any military assessment must be based. This one military and political reverse ended the brilliant career of defence minister Menon, curtailed the idealism and political stature of Nehru who died disillusioned two years later, and resulted in the resignation of Gen Thapar, the then army chief. The careers of a few politically well regarded senior military officers were also brought to an end. Perhaps our 1962 military reverse was advantageous to the nation as it resulted in some improvement in the system of higher direction of war and the accountability of political decision. The political and bureaucratic penchant for interference in military generalship, operational decision making and the selection system for higher ranks was curtailed; and merit-based promotions to senior command rank by military selection boards was reinforced. There still remains the need for a better system of political policy making for national strategy for the future, especially in matters military; and a more efficient and effective organisation is necessary in the Ministry of Defence.

One of the reasons for a rather involved and contrived bureaucratic dominance in the ministry of defence has been the fear of a military coup. By the latter part of the 1950s Pakistan had already got a military government. Other nations in South and South East Asia and Africa generally veered to military authority exercising political power after erstwhile colonial states

achieved independence. In many of these nations the military felt responsible for ensuring an efficient government and were not prepared to permit vacillating, self-seeking and corrupt civil politicians to try and function what was seen as a non-effective administration, detrimental to national and public well-being. In India, the fact that the defence forces had no intention or desire of interfering with the political system was a matter of not only charismatic political leadership but effective military leadership after independence, which was initially not saddled with any political interference in conduct of military affairs or internal military administration. I was once asked by a BBC correspondent as to why the Pakistani and Indian armies had selected entirely different paths after independence despite both having been formed out of the original British-Indian Army and its entirely democratic and non-political ethos. My reply was that India was initially lucky in being led by staunch, honourable and effective politicians such as Nehru and Sardar Patel, with the national conscience and spirit of correct conduct of Mahatma Gandhi being an example to the whole nation. With effective military leadership allowed to grow in its desire for professional excellence and responsibility, the Indian army grew rapidly in democratic conduct with no desire for interference in a political system which functioned reasonably well, with good response from the people and international stature. On the other hand, in Pakistan there was political chaos after the early death of Jinnah, with corrupt self-seeking politicians vying for power with little following from the people. The Pakistani army was under Ayub Khan, who was known to be an honourable and upright officer; they decided to intervene by a bloodless coup to run the country efficiently, for the sake of national honour and well being. Initially they succeeded admirably but over the years a military dictatorship is wont to deteriorate into self-seeking and autocratic leadership, nor can such leadership run an effective military system due to their involvement in national politics. Further, such a leadership cannot be changed by peaceful means by the people. Pakistan appears to have learnt this lesson well and the ongoing attempts at re-introducing a civil democratic order appear to be succeeding but will require time and superior leadership. Pakistan, however, is far behind India in political development due to the long years of military rule; they will require many years of democratic civil rule and building up of democratic institutions before they grow to political maturity, to be able to settle outstanding problems with India, or their own internal problems.

In India the 1957-63 political interference in military matters by an autocratic defence minister, backed by a strong and charismatic prime minister, created serious aberrations in the defence services. The attempts at selecting senior military officers more for their pliability and personal loyalty to individual politicians and powerful bureaucrats than for independence of thought and effectiveness, created a division of pro and anti-establishment groups in

the officer corps right down to angry junior officers with little respect for 'kow-towing' generals. Perhaps India was saved from serious internal military dissention by the successful Chinese attack across the high-mountainous North-eastern border in October 1962. The adverse military situation was totally mis-handled by the defence minister, prime minister and senior bureaucrats, misled by a politically biased intelligence service, all considering themselves far superior to generals and leaning heavily on military favourites placed in high command. Senior generals failed to stand up against the faltering and ineffective orders to an army totally unprepared for a war which our political leaders insisted would never take place. The Chinese achieved complete surprise with overwhelming military power and the army's hastily organised, untrained and ill equipped 4 Corps was routed. Our defeat shocked the nation, the world and even the Chinese themselves who would certainly have expected a better showing by the highly reputed Indian army. Despite army pleas the political leadership did not permit use of the air force in support of the army for fear of larger Chinese reaction and possible loss of Eastern India, not realising China's severe logistics constraints for support of any major thrust into India across long tenuous communication lines through Tibet. Such was the decadence of the Indian government and higher military hierarchy; largely due to poor intelligence, civilian interference and arrogant brushing aside of sane military advice. The reverse led to the appointment of highly competent generals to high command, generals like Muchu Chaudhuri and Sam Manekshaw who had earlier been side-lined as too outspoken against the government's poor handling of and interference with the military. India recovered rapidly and all branches of the state were galvanised into coordinated action. Competent military leadership demanded and received the required support in funds, infrastructure and material; the Chinese withdrew to their original positions in the face of not only logistic difficulties but the prospect of long determined war-fighting by India. Generals also learnt the art of processing military assessments with a democratic government led by political heavy-weights, and the direct association between top military brass with the prime minister and defence minister in regard to security problems vastly improved. It is a credit to India's democracy and the ethos of the defence services, particularly the large army, that the 1962 crisis coalesced the nation and the political leadership began to understand how to relate directly to the military hierarchy rather than leaving it to bureaucrats.

THE INDO-PAKISTAN WARS

In the 1965 and 1971 Indo-Pakistan wars the politico-military machine functioned in India with increasing effectiveness and mutual regard. This was basically because the operational views of highly competent army chiefs were invariably accepted and given full weightage despite political predilections. In

1965, Pakistan made a major thrust into the Chamb region of Jammu and Kashmir (J&K) in support of massive infiltration of armed tribal mujahedeen irregular troops into the Kashmir valley, leaving India with little possibility of effective military response within the boundaries of disputed J&K territory. General JN Chaudhuri, the then army chief, insisted on the basic strategy of an Indian counter-offensive across the Indo-Pakistan undisputed international borders, well away from the J&K line of control. Such military offensive action was likely to enlarge the conflict and place India politically and diplomatically at a disadvantage in the UN and with the USA. After direct discussions with prime minister Shastri, Gen Chaudhuri got the prime minister's full support, despite strong disagreement in the bureaucracy and the Cabinet. Shastri could only overcome the Cabinet's opposition by threatening resignation if the army chief was not supported; knowing that such action by him would have spelled doom for the political fortunes of the congress party. Gen Chaudhuri's strategy was brilliant but fraught with danger. On India's Western border our army was weaker than Pakistan's which had even fielded an additional armoured division; while Indian military strength had been depleted by extension to Ladakh and Northeastern India after the 1962 war with China. Ayub Khan of Pakistan had selected his time well for a concerted military capture of Kashmir. But Chaudhuri moved his weak offensive forces into Pakistani Punjab in a 'hedge-hog' strategy of advancing only upto Pakistan's main defence line of the Ichogil Canal and then establishing a firm defence against all Pakistani counter-attack. This resulted in Pakistani military failure. Their offensive in J&K came to a halt as troops had to be switched to provide reinforcements required for their defence of Lahore. The people of Kashmir valley fully assisted the Indian Army in destroying the Mujahideen tribal invasion. Thus India succeeded in its national and military strategy by effective higher command and successful military operations.

In the lead upto the 1971 war, Prime Minister Indira Gandhi ordered military action against East Pakistan urgently in the early spring as she desired to counter the influx of over ten million East Pakistani refugees entering India to escape the depredations of the Pakistani army against their own countrymen in East Bengal. This was adversely affecting India's economy, law and order; and the prime minister had full support of her Cabinet in this decision. General Sam Manekshaw, the then army chief, tactfully refused these orders. He preferred the strategy of a major offensive against East Pakistan in the winter of 1971 when high mountain passes across the great Himalayan borders with China would be closed to possible Chinese military support of Pakistan; the Indian defence forces would have time to gain authentic intelligence, prepare the military fully for an all-out war and fully coordinate inter-service plans, while the nation could be politically geared up for maximum support of military operations. Sam had his way after much discussion. The PM used her

considerable talents and acumen to gird up the nation, wrest international diplomatic and political initiative from Pakistan, obtain unstinted support of the Soviet Union to restrain China and hold India's hand at the UN; while attempting to befriend Nixon's USA to urge Pakistan to restrain its military anti-people action in their Eastern wing. With careful and detailed inter-service coordination, the defence forces went on to successfully defend India's Western borders against Pakistani military attack and to simultaneously conduct a swift military invasion of East Pakistan supported by the people of that area. The army captured Dhaka in less than two weeks across some of the most difficult riverine terrain in the world. India thus not only won the greatest victory in all its history and helped create the new nation of Bangladesh but also received support from the international media; the dictatorial General Yahya Khan government in Pakistan fell and India was even able to face the US threat of their nuclear armed Seventh Fleet in the Bay of Bengal. With the Indo-Pak Shimla Agreement in 1972, this victory created peace in the Indian sub-continent which has now lasted 23 years.

The 1971 war gave clear lessons on the importance of coordinated action by all departments of government in support of the military plan; that the higher direction of war must rest with the prime minister and the military chief in close direct consultation and coordination to the exclusion of other political or military views which must be heard but not allowed to veer the course of the nation's actions to achieve its goals. Responsibility for success and for failure of national plans must also rest at the highest level of the prime minister. The need for merit-based selection of highly competent military chiefs is obvious if the nation is to succeed in military conflict to attain its political aims and the nation must expect its military chiefs to stand up to any political machinations or plans that are militarily detrimental to the nation. This can particularly be organised in India where the defence services have no political ambitions and can be trusted to uphold national interests. But there is urgent need to reorganise the system of high command, and integration of the defence services with the defence ministry to curtail bureaucratic dominance which has again reasserted itself since the country has had peace on its borders for many years. We will discuss later the changes necessary to curtail bureaucratic "authority with no accountability".

Pakistan's military government and military organisations were no match for the coordinated Indian war effort combining political, diplomatic and military means of the state, with full backing of the people. It was obvious to all that a well-run democratic system was no doubt slower but superior to an autocratic military regime even in the conduct of war; this was also proved in both the world wars. The fact that the defence services of India remained totally non-political in their actions, even though many military men held strong political

views, has allowed India's democratic polity to develop strong institutions and public opinion. The lesson is that young democracies and their inexperienced leaders must face politically the consequences of their mistakes; this takes many years and any military impatience with a growing system must not be allowed to curtail that growth. Pakistan is only now learning this lesson after defeat in three wars and a major set-back in the break up of their country in 1971.

RE-ORGANISING THE DEFENCE MINISTRY

Military coups are generally organised by disaffected middle-piece officers and credit must be given to India's military training and leadership for keeping the army staunchly democratic with their desire to uphold the Constitution. The defence forces in India are thus a bedrock of stability in the growth of the nation with its highly volatile politics. India could not possibly remain a united political entity without its loyal national armed forces. This is known to every politician and every citizen in the country. Privately expressed bureaucratic opinion is that it is the bureaucracy that keeps the "army in place" and prevents a military coup because it checks and counter-checks every military decision and paper, carefully delays all decisions which have no previous precedence, and ensures that military brass has minimum access to the politician. It is arranged that all military opinion is first vetted and reworded by the bureaucracy in the defence ministry before any case is placed before the responsible politician, the minister for defence or the Cabinet. This view totally misrepresents the truth, but is used to continue bureaucratic dominance in the governmental system. It is also stated that the Indian army is a heterogeneous organisation incapable of a coup due to its diverse castes and creeds with their separate aspirations as compared to the Pakistani army which basically comprises the Punjabi Muslim ethnic group and leadership.

This view is not sustainable as the Indian military forges close comradeship amongst men and officers; in fact, a well led and motivated heterogeneous mix is much more formidable and powerful than a pure ethnic group as has been proved by the Indian defence forces again and again. The defence forces themselves must be given the credit for total obedience to the constitution and political authority. I would suggest that the bureaucracy has little knowledge or control over what goes on in military groups, amongst middle-piece officers and troops as also non-commissioned officers. These could largely be the disgruntled group because of limited advancement prospects in the military hierarchy resulting in supersession for promotion. About 50 per cent of the officer corps in India are superseded and retire comparatively young at 48-52 years age as Major/ Lieutenant Colonel or equivalent, and an army soldier retires within 15 to 20 years of service before he reaches the age of 40 years.

These are competent men in direct command of troops but with no 'room at the top' for promotion to higher ranks because of the pyramidal structure of ranks in the defence services and the need for a young age profile for war. Coups generally arise from amongst such groups of officers and men, not those who reach high rank and, with age, seek a peaceful retired life. Senior defence service officers must not only provide leadership in the field but also ensure for subordinates reasonable conditions of service and emoluments; it is essential for government to organise work outlets for a reasonable percentage of soldiers after they leave the service. This is one of the areas where the bureaucracy and government fail the armed forces when many cases for re-organisation of military manpower for better work outlets and emoluments projected by the services are turned down, with no alternative suggestions for equity in military employment and retirement, as compared to any other civil government service where personnel retire at 56-58 years age. It is left to the military leadership at all levels to allay the hardships of their middle-piece officers and men with humour, camaraderie, sympathy and example, while continuing to fight their cause through the bureaucratic channels of government. But the country must alleviate the growing resentment of thousands of retired soldiers who do not think they have been given a fair deal after giving their best years in difficult but honourable service to the nation.

We speak of 'social nets' for retrenched workers in the new economic policy but not of 'retrenched' soldiers, just because they do not indulge in organised lobbying or revolt. One answer is 'lateral induction' of a suitable percentage of military personnel from military to civil or police service after acceptable service levels of 5 to 10 years. This would not only keep the defence services in a young age profile but induct highly disciplined and well trained personnel, with administrative acumen and leadership traits, into civil, public sector and police services besides reducing the trauma of early retirement amongst the military. This would also have the advantage of reducing the overall numbers of government's annual recruitment of young men for all civil services and public sector undertakings. The expenditure thus saved could be directed to village industry and infrastructure development to create new private job openings at village level to absorb the growing population of educated and frustrated youth who swell the ranks of the unemployed. As the country's economic strength improves and schemes for job-creation fructify, a larger percentage of retiring military service pensioners will be able to find private employment in the market in view of their training and experience. It is necessary for government to constantly review problems of military personnel and not forget about such matters just because the military is disciplined and fully supports the democratic order in our polity.

This indicates another weakness in the bureaucratically controlled and

unresponsive Ministry of Defence and defence finance. They refuse to be held accountable for any deficiencies in the military system, but nevertheless control processing of all pecuniary demands, indulge in bureaucratic power-wielding by delaying or withholding cases and above all attempt to play off one defence service against the others, in order to retain the important aspect of coordination of the three services in the hands of the defence secretary. The major weakness of the present system is that bureaucrats have no command, leadership or technical knowledge, experience or responsibility in military affairs. Overall coordination of the three services in operations is even now done by the Chiefs of Staff Committee (COSC), hamstrung by lack of an institutionalised military leadership and secretariat, and requiring good personal relations amongst the three chiefs to function effectively. The COSC has to largely lean on the army's military operations directorate for papers and operational drafts for combined operations. The inter-service directorate general of defence planning staff is presently only capable of drawing up general inter-service discussion papers for development, defence plans and financial or structural demands for consideration in Ministry of Defence after clearance by the COSC. All this points to the need for urgent re-structuring of the Ministry of Defence, the method of coordinating the three defence services for operations, structure and financial outlays and methods of accountability in defence related matters. There is also the need for urgent problems, and limitations of rules governing military personnel, to be placed before parliamentary committees for discussion and redress if such redress is not available to the nation's military through bureaucratic channels.

THE NEED FOR A HIGHER COMMAND ORGANISATION

In organising a more effective higher command organisation for Indian defence forces, we do not have to blindly follow the experience of the USA and UK. The UK in any case, has too small a military to act independently and must be subservient to US military interests, especially in Europe where UK forces serve under the Supreme HQ Allied Forces, Europe, mostly under US leadership. The US and UK are basically maritime powers which project their military and economic power across the seas and fight their battles in other countries' territory. For them the US chairman joint chiefs of staff (JCS) or the British chief of defence staff (CDS) is an operational commander reporting directly to the secretary of defence or defence minister and, as necessary, to the head of government ie, the President or the prime minister. As the military head, he not only coordinates the chiefs of staff committee of the defence services but also acts as the main defence adviser to the political leadership. He has his own secretariat comprising a combined inter-service military staff and some bureaucrats. He is in personal operational command of all defence services, through field commanders-in-chief (Cs-in-C) responsible

for selected inter-service theatres of operations. The service chiefs of staff are basically only responsible for administration, training and the budgets of their respective service, though in UK the army chief is in direct command of the purely army counter-insurgency operations in Northern Ireland, in support of the chief constable of police. The US system has developed to meet the military needs of worldwide US military interests and deployment. US Theatre Cs-in-C have direct approach to the secretary of defence and President if considered necessary and are consulted before operational plans are finalised; they directly command all troops of the defence services placed under them to meet their military objectives. The US and British organisations for higher command face many internal problems and the rivalry for funds and important inter-service appointments is far more intensive than in India. Moreover, in the US system the efficacy of direct operational control and responsibility by Chairman JCS and even the President, is suspect in view of serious operational failures in Iran, Somalia and Central American states.

It will be seen that this sort of organisation is neither necessary nor suitable for India in our present state of development. Perhaps we may have to evolve a similar organisation if we become a world power with interests well beyond our land borders and the northern Indian Ocean. That day is distant. We must also await the development of our political leadership in maturity, experience and knowledge of international strategy, with appropriate institutions with the capacity to define India's future politico-military goals. Only then will politicians be able to provide any leadership or guidance to the military; or even to understand how a military force must be controlled and utilised in political strategy on the international plane. The basic reason for bureaucratic power in government decision making is not any particular knowledge of military affairs but that the politician is not only innocent of such capability but awaits a bureaucratic view of all questions before accepting views of military leadership or any responsibility for military decisions. So unless a military case has full bureaucratic backing from ministries of defence and finance and from the cabinet secretary, a political decision is hardly feasible. It is only in military emergency, such as occurred during the wars of 1965, 1971, the IPKF operations in Sri Lanka 1987-90, the Maldives operation in autumn 1988 and the growing confrontation with Pakistan in Spring 1990, that the top political leadership i.e. the prime minister came into intimate contact and discussion with the concerned service chief, mostly the army chief, to evolve plans and to politically accept execution of military action. Presently, this comprises verbal acceptance of suggested plans with some modifications; written instructions are only issued by the COSC to concerned service commanders signed by the three chiefs. Ministry of Defence gives no written orders to the service chiefs to spell out political aims or military goals and has not done so since that fateful "throw out the Chinese" order, signed by a joint

secretary to the army chief in 1962.

In India, for the foreseeable future, the navy and air force can basically play only a supportive role to the army for military conflict in the sub-continent. The army is not only much larger in size but very well organised, with institutionalised systems developed through decades of experience, to meet the needs of a vast, live land border; it is also effectively geared for and fully involved in counter-insurgency and anti-terrorism operations, together with aid to civil authorities in law and order duties as also for national disaster management since 1947. There is no present organisational difficulty in the navy and air force providing support whenever required by the army and also conducting their own operations as required. But careful coordination is necessary at the level of COSC for combined operations such as was done for the IPKF operations in Sri Lanka and the Maldives operations, both across the seas; this requires mutual understanding amongst the three service chiefs. There are insufficient resources with the air force and navy to place their units "under command" of a combined forces military commander and it is practical for them to retain command over their own assets and allot these in support to a military commander for particular tasks; only the army is able to allot such forces as has been done in the Andaman and Nicobar islands under the naval fortress commander. Hence, the argument for a 'CDS' and 'theatre commanders' in India to operationally control inter-service forces placed under their command, is not really feasible and not presently required.

What is definitely required is close coordination at the COSC level and an inter-service secretariat to make this organisation effective as also to develop combined operations expertise. Operational action is based on army plans with appropriate naval and air support, the command channel being through the army GOC-in-C at army command level to the army force commander. Once the COSC has given combined written operational orders, signed by the three chiefs, coordination down the chain is effective and army, naval and air forces can also conduct separate operations but in concert with main plans. In this manner central use of maximum required air and naval forces is possible with full flexibility. Coordination at the COSC level is presently based on good personal relationships between the three chiefs, and clear government verbal directions from the PM on the military goal. But should there be serious differences of opinion between the Chiefs, coordination is left to the PM, who is assisted by the defence minister, the cabinet secretary and the Prime Minister's Office (PMO); this sometimes leads to conflicting advice. Hence there is a need for a permanent Chairman of the COSC, who need personally have no operational command but can lend the weight of his military experience to coordinate the views of the three chiefs and guide decision making by the political head of the government. He must retain direct contact between the

military, the prime minister and minister of defence. During war or emergency such an appointment would also release the service chiefs, especially the army chief, from "holding the hand" of political leadership, explaining day-to-day progress in operations and attending a large number of government conferences. The chiefs can then concentrate on effective operational command of all troops in action as also the intelligence, administrative, munitions and training back up to field commanders, and appropriate employment of central reserves. It is necessary to have operational command of a defence service in the hands of the service chief, if operational success is desired. Presently an army chief has little time to deal directly with government himself during operations and generally deposes his vice chief and/or DGMO (director general military operations) for day to day routine contact and briefing of Government. The chief personally attends whenever important government decisions are required. Should India face a war on two fronts, which is a growing probability, there is no alternative to a system with a permanent Chairman of COSC. Moreover, the present system of bureaucratic control by daily meetings of the "secretary's committee" under a minister or a cabinet secretary, which takes no decisions and accepts no responsibility or accountability is not the way to run an emergent military situation. These meetings should solely be used to coordinate and provide the needs of the services in action by respective departments of government and to project views on political guidance required. We can consider a few cases.

The IPKF in Sri Lanka. An example of bureaucratic attempts at control are the long secretary's committee conferences held daily and later bi-monthly by the Minister for External Affairs from 1987 to 1990 on IPKF operations in Sri Lanka with directors of intelligence agencies, R & AW and IB, selected secretaries, our High Commissioner in Colombo and the COAS or his representative present. Everyone was able to bring up strongly held viewpoints but with no government directions given and no minutes recorded. I found it expedient to instruct the VCOAS to attend these discussions while the army got on with our tasks with direct contact and effective support of not only the COSC, the navy and air force but Mani Dixit our then High Commissioner in Colombo. There was little support from bureaucrats of ministries other than defence. There was even the refusal of an urgent army request for civil administration to take over and administer towns such as Jaffna so that civil administrative expertise could be used for restoration of water-supply, electricity, policing, crime control, schools and education and the business and banking system. But no civilian official could be persuaded to go to Jaffna even with a double salary offer and assurance of personal safety by the Army. The Ministry of Home Affairs was not interested. So the army had to appoint a Brigadier "Town Commander" to run the show - which an infantry officer, RIS Kahlon, proceeded to do with superior results. He got the full support of

the people of Jaffna despite threats of dire action by the underground LTTE; he was no doubt, fully assisted by the local army formation and engineers, the High Commissioner at Colombo and the Indian police contingent of CRPF, especially two companies of the mahila (womens) battalion who cheerfully took on traffic and crime control.

Another example of the incapacity of a foreign minister, with the help of a secretary's committee, attempting to politically direct military peace-keeping in another country is the conduct in late 1988 of three successful elections in North East Sri Lanka, where the IPKF's assistance to the Sri Lankan Government was the crucial factor of success in a terrorist infested area. Despite the army's assurance of support by the Tamil people of North and East Sri Lanka for democratic elections, and army confidence in their capacity to restrain the terrorist LTTE threat of interfering by killing civilians attempting to vote, the secretary's committee refused to agree to elections at all. This was based on the intelligence inputs by R&AW that the people would be afraid of the LTTE threats and would not respond to such an election. Nevertheless, if the army was to slowly pull out of Sri Lanka in 1989 to face the growing Pakistan threat in J&K and Punjab, it was necessary to conduct peaceful elections to Northern and Eastern Sri Lanka in accordance with the Rajiv Gandhi - Jayewardene Indo-Sri Lanka accord; it was also a task of the IPKF to restore peace to allow such elections before the force could be withdrawn on having successfully completed its tasks. It was left for the Army Chief to directly get approval for conduct of elections from Prime Minister Rajiv Gandhi, despite attendant political risks. The result was the electorate voting by over 70 per cent attendance with not a single case of LTTE interference despite their threats; this greatly assisted in the election of Mr Premadasa as President, the election of Perumal's anti-LTTE Tamil government in the North Eastern province of Sri Lanka and the people's will being clearly expressed for democracy, against terrorism.

The Army could substantially assist in this process only after we insisted on removal of all R&AW agents from NE Sri Lanka, who were perhaps playing a dubious role, to allow the election process to go through. Full credit is due to Lt Gen Kalkat the GOC IPKF and his commanders in ensuring success in difficult and politically delicate operations for achieving full security; and thus bringing the Tamil people's will to fruition during these elections. These elections were covered fully by BBC TV, Malaysia TV and Sri Lanka TV and press but not by the Indian press or TV. Due to their own antagonism towards Rajiv Gandhi's government and its "interference" in Sri Lanka our press only worked towards the negation of military operations and IPKF involvement in Sri Lanka besides decrying Rajiv's accord with Jayewardene, the then President of Sri Lanka. The Indian public was led to believe that the IPKF operations in Sri Lanka was a fiasco. The truth is the

opposite, since it is entirely because of the operations of IPKF that the Sri Lankan government and Parliament accepted the Tamils of the North and East as equal citizens, recognised Tamil as an equal language of state to Sinhalese and accepted an elected Tamil government of a combined NE province in Sri Lanka. They even accepted the concept of comparative autonomy of provincial states similar to the Indian system rather than the Sri Lankan system of rule directly from Colombo through provincial governors. These Tamil demands were fully justified and used by the terrorist LTTE to try and gain political control of the Tamil population. The successful elections took the wind out of the sails of the terrorist LTTE. This is basically the result of the success of the defence services of India who comprised the IPKF and who brought to their operations in a foreign land all the democratic systems and ways of functioning to achieve gratifying results despite the attempts of political, bureaucratic and intelligence groups in India, working in concert with some of our press heavyweights, to create a media failure of our military peace-keeping. The facts will perhaps come out more forcefully once history of this period comes to be written, should we acquire the political will to allow such a history. The Sri Lanka leadership is also beginning to see the steady role played by the IPKF in retaining the Sri Lankan democratic order over these turbulent years of 1987-1990, and also in bringing a large majority of the Tamil population to the democratic way of elections despite the depredations of the terrorist LTTE who only aimed at splitting Sri Lanka to acquire a separate Tamil state, perhaps with the backing of international intelligence organisations.

It can be seen that secretaries' committee meetings for over - seeing military operations in foreign lands cannot control such operations but should only provide coordination and support of various ministries. They must come to recorded decisions and be accountable for such decisions. These meetings should be attended by senior military staff officers of the concerned defence services rather than the army chief who is in any case generally not available during ongoing operations. Daily briefings of the Cabinet and the PM should be done by the Chairman COSC, the concerned service vice chief and senior staff officers who would also convey government orders and guidance to the concerned service chiefs in the COSC. For all important decision making by the PM and Cabinet, the concerned service chiefs must be present along with the Chairman COSC. Needless to add that service chiefs should always have the right of direct approach to the PM and/or the defence minister in case they wish to convey their particular service viewpoint for decision making when there is lack of consensus in the COSC. All government decision making and execution of tasks is primarily based on individual interaction; any organisation created would only be as good as its participants and the quality of political and military leadership present. But the principle of reduction of bureaucratic control and authority, which has no attendant accountability, must be upheld.

A modified CDS system is essential in India to permit direct military interaction with the political leadership and thus introduce more knowledge, speed and effectiveness in decision-making, in regard to the military, especially to cater for military operations, training, intelligence acquisition and forward planning. The defence secretary, defence finance and organisations for defence production and budgeting should work in concert for budgetary planning and allotment. Such an organisation must also be open to modification to meet the changing needs and goals of the nation as it matures and increases its horizon of economic and military power which requires futuristic planning and vision. But the basic principle of direct institutionalised contact between the political leader, the PM, and the defence services must be maintained without over-riding bureaucratic control through office practices and the filing system. The main role of a permanent chairman of the COSC would be to coordinate views of the three service chiefs and provide a single point military contact for the PM and defence minister as also to bring military problems to their notice by putting up papers for cabinet discussion. The chairman COSC would be the first amongst equals and not be responsible for his particular service cases or answerable to his own service. He would not have an operational command role as this would more efficiently be managed by respective service chiefs and their staff. Such a system must be designed for effective conduct and higher command of military operations during conflict, peace-keeping or clandestine tasks; the system must also function effectively during peace to ensure appropriate military capability and preparedness at all times which in itself is a basic tenet of peace. *(To be concluded)*

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Technology - Stepping Towards Destruction

LT S K SINGH

THE FUTURE BATTLE FIELD SCENARIO

Appearance of new weapon system dictates new tactics and these give new dimensions to the battlefield. Among other things, armed forces must be matched to the likely battlefield scenario also. The future is inestimable in so far as there is no formula to assess the complexion of battlefield at a future date. At the outset of World War II, Japanese least expected the use of nuclear bomb. Today, the race for acquisition of the latest weapon systems in the continent is assuming acute proportion. Soon much of the new weapons and equipment which may not be in use even in Europe will be seen here. Pakistan's quest to acquire AWACS and Abrams tanks is an evident case. All these will totally transform the battlefield scenario.

IMPACT OF NEW TECHNOLOGY ON THE ROLE & CAPABILITY OF ARMED FORCES

Future wars will be intense and so expensive that not even the economically most advanced countries will have the ability to sustain a long drawn war. Considering the economic base of countries of South Asia, it is fair to assume that they will not be able to endure it for more than a couple of weeks. In our context, war will be decided in a matter of few days. New technology weapon systems will totally transform the battlefield scenario. Role and capability of armed forces in a future war scenario can be in brief envisioned as follows:-

- (a) Opponents will keep the other's forces under surveillance through remote sensors even during peace time.
- (b) The movement of forces will be monitored and if required subjected to attack even before they could shake out in the combat zone.
- (c) Nuclear and chemical weapons will give new dimensions to the battlefield. While one may be restrained in the use of the former, the latter will be extensively employed. Reported use of these in Iran-Iraq War and Afghanistan is a case in point.

(d) If Falklands and West Asia conflicts are any indication, it can be said that missiles will play a pivotal role. Guided weapons, i.e. missiles and munition like assault breaker capable of seeking its own target will abound the battlefield. Even the top attack terminally guided mortar and artillery bombs are making their appearance. Micro electronics will make their guided munition smarter and infact ultra smart. The battle field will, therefore, be saturated with missiles of all kinds making mechanised warfare difficult.

(e) The destructive power of weapons will get a phenominal jump. The void between conventional and nuclear weapons will be filled by fuel air explosives. Units and formations will be eliminated in a matter of hours. Casualties will be unprecedented calling for reinforcement in terms of formations and units and not merely the absolute number of soldiers.

(f) Electromagnetic spectrum will become an inseperable part of warfare and will play a decisive role.

(g) War will become too complex to be left to the soldiers alone. It will need united effort of the entire nation.

NEED FOR DOCTRINAL CHANGES

A campaign or an operation will invariably be a series of both offensive and defensive actions at different levels. Before discussing operational doctrine, it is worth recapitulating some of the universally accepted operational principles or imperatives which are:-

(a) Move fast, strike hard and maintain high tempo of combat operations.

(b) Concentrate combat power against enemy vulnerabilities. Designate, sustain or shift the main effort as required.

(c) Use deception, surprise and operational security.

(d) Preservation of the combat effectiveness of own forces.

(e) Combined arms concept and effective coordination with other services to ensure unity of effort.

(f) Simultaneous engagement of the enemy to the entire depth of his deployment and objective in the rear.

(g) Intuition.

DOCTRINAL CHANGE FOR DEFENSIVE OPERATIONS

That an attack should be repulsed by fire power rather than troops is an universally accepted concept. As the initiative in defensive operations will invariably be with the attacker, the basic problem faced by the defender is to neutralise the enemy's superiority. The doctrinal changes advocated are as follows:-

- (a) In a defensive operation, an attempt should be made to ensure that maximum resources are in a position to execute manoeuvre.
- (b) Misconception that positional defence implies permanency needs to be corrected. Defences are permanent only for a specific period.
- (c) Lesser reliance on defensive fortification or obstacle system.
- (d) Emphasis on mobile defence with manoeuvre and fire-power being the key elements.
- (e) All troops in defence should be prepared to deal with the attacker offensively in the real sense.
- (f) Building up adequate capability of mobile obstacle laying task force and ensuring their employment in close cooperation with anti-tank task forces to deal with the mechanised forces of the attacker.

DOCTRINAL CHANGE FOR OFFENSIVE OPERATIONS

Offensive operations aim at destruction of the enemy forces and capture of terrain or strategically important objectives. Such operations draw their strength from freedom of manoeuvre, superiority of numbers in troops and weapons, and the art of their application and gaining surprise. The major weakness in the fortified defensive posture of Pakistan lies in the lack of adequate resources to occupy depth positions and non-availability of adequate reserves at all levels. Similarly, China's weakness vis-a-vis India are the number of choke points and vulnerable supply dumps in their logistics and transportation system which own air can interdict. Some of the doctrinal changes in an offensive operation are as follows:-

- (a) Planning of offensive operations should be based on achieving the encirclement of the enemy forces and their subsequent destruction by striking it from a number of vulnerable directions. Therefore, the art of encirclement deserves special consideration and study.
- (b) Adopting battle formations at all levels in depth to ensure momentum of attack. This can be achieved by dividing the attacking force into

first echelon, second echelon and reserves. Second echelon as opposed to reserves should be assigned specific tasks in depth at the planning stage itself and grouped accordingly ab initio.

(c) Conduct of break through of enemy's defences upto tactical depth and induction of second echelon as one whole operation.

(d) Suppression of enemy electronic means for specific periods in specific sectors.

ORGANISATIONAL CHANGE DUE TO IMPACT OF NEW TECHNOLOGY

The ongoing all round advancements and development of new weapons and technology down to ages necessitated restructuring of armed forces from time to time. These changes have become more frequent with acceleration in development. History is replete with examples of armed forces which failed because they did not change with the changing time or because they made wrong changes. In the past our changes have been mostly reactive changes to the organisation adopted by our adversaries. This needs to be curbed. Since it takes decades to organise armed forces and since frequent changes leave an organisation in a state of flux, we need to take a long term view based on our peculiar needs. As we see the future battlefield with new weapon systems and technology, there will be no time for mending mistakes. It will be absolutely necessary to organise not only to win the first battle but the war itself. Under the envisaged scenario, the existing highly compartmentalized and bureaucratic organisational structure of Indian Armed Forces will be found grossly inadequate. Some of the organisational changes advocated are as follows:-

(a) The inevitability of mass casualties, the envisaged battlefield scenario and fluidity of operations will necessitate switching of forces from one type of battlefield to another with totally different configurations. Organisational structure should provide very high degree of inbuilt employment flexibility. This can be achieved by possessing strategic mobility, high degree of survivability and organisational adaptability. It is the organisation of this nature which only can provide us the ability to conclude the war on our terms.

(b) The mechanised forces due to their bulk, weight and terrain sensitivity lack strategic mobility and operational flexibility. The future lies in highly adaptable and rapidly deployable mechanised forces. They should possess crippling and versatile, integral, conventional and anti-tank fire power for enhanced kill and high degree of survivability.

(c) A formation should not only possess conventional but also air assault, air transported and heliborne operational capability backed by

matching predominantly missile, field and air defence artillery. It should have organic air element down to divisional level.

(d) The organisation should be flexible to match the requirements of different terrains. For example, a formation should be able to shed its terrain sensitive elements/ equipments for employment elsewhere, without reducing its combat effectiveness.

(e) We need to place dependence on conventional infantry. These formations should be basically structured for operating in mountains. They should be so structured that they can also adopt air mobility configuration. Such forces will be able to operate in mountains, jungles, marshes and islands. For operating in plains they should be given additional anti-tank weapons and a mechanised brigade on selective basis.

(f) There will be a need to have a couple of airborne divisions for specific roles.

(g) There will be an inescapable necessity of theatre unified command of the Indian Army, Indian Navy and Indian Air Force. The present set up will fail to withstand the stress and strains of the future war. A unified command system at the theatre and operational levels, would be better both from the point of view of optimum employment resources and financial economy. The most important reason for the success of British forces in 1982 in Falklands is said to be the unified command of all forces as against divided command of Argentinian forces.

CONCLUSION

The rapid strides in technology are creating capabilities which were beyond fiction a few years back. These bear on the armed forces and infact the very survival of a nation necessitates revolutionary changes. The existing organisational structure of our armed forces was created to meet immediate post-independence requirement and will be completely obsolescent for high technology warfare. The role and capabilities of armed forces have taken a totally different course. The future battle scenario will be full of devastation. While the man behind the machine will always play a dominant role in warfare, new technology and equipment give a distinct edge to the side possessing them and contribute to the success in battle. With the impact of new technology and highly sophisticated weapon system, the Indian Armed Forces will not be able to stand the test of next war. Our armed forces need revolutionary changes to meet revolutionary demands and it is not a day too early to embark on this project.

Journeys of Aurel Stein & Sven Hedin into Aksai Chin

SAHDEV VOHRA I.C.S.

Sir Aurel Stein made discoveries of ancient Indian finds in the Takla Makan desert and the Jarimbasin of Eastern Turkestan (or Sinkiang as it is now called) early in the twentieth century. He also made several treks into the Aksai Chin region from Khotan during these expeditions in the years from 1900 to 1908. During this period Sven Hedin the famous Swedish explorer also passed through Aksai Chin while making his attempt to reach Mansarovar lake from the side of Laddakh, as the British Government refused to give him permission to proceed to the holy Lake region direct from India. This was because the British Government had imposed on itself a self-denying order not to allow any entry from India into Tibet after the storm raised by the Young-husband expedition of 1904.

These journeys are of interest from several aspects, but in this paper we shall confine ourselves to analysing the revelations they make about the political control, the geography, and the general importance of the Aksai Chin area to Sinkiang, to Tibet, and to Ladakh.

In 1900 Aurel Stein travelled from Hunza to Kilik Pass on his way to meet Macartney in Yarkand who was the British representative in East Turkestan. Stein's aim was, among other things, to survey the sources of the Khotan river which had its source in the regions south of the Kun Lun mountains. When he reached Khotan, the Chinese Amban, Pan-Darim remarked that "the routes were very bad and that beyond the valleys of the Karanghu-tagh (it literally means "mountain of blinding darkness") lay the uplands of Tibet where Chinese authority ceased" (This is quoted in Jean Mirsky's life of Aurel Stein), Stein persuaded the Amban to let him proceed there into the Aksai Chin region. From 17 October to 15 November 1900 Stein travelled looking into the source of the Yurungkash (White Jade) river. He states that Fa-hsien the Chinese traveller in the fifth century, had crossed from Khotan to Ladakh. He was aware also that Johnson had travelled through Aksai Chin to Khotan and Stein wanted to travel from the opposite direction to explore the sources of the Yurung Kash river.

His immediate goal was Karanghu-tagh, the last hamlet at the northern foot of the Kun-lun peak. From here he travelled to a pass which offered a

“full view of the outer ranges through which the Yurungkash flows in a tortuous gorge”. Looking towards Tibet from ridge of 14,000 feet height Stein beheld “a panorama ... To the east there rose the great Kun-Lun peak... By its side the main branch of the Yurungkash could clearly be made out as it cut through a series of stupendous spurs. The deep cut valleys and serrated edges presented a most striking contrast to the flat, worn - down features of the plateau behind us”, he wrote to Macartney. Thus Stein clearly distinguishes the mountain region south of Khotan and through which the Yurungkash flows north to Khotan, from the plateau of Tibet. Earlier, Sven Hedin the Swedish explorer had crossed over from north of Khotan to Keriya river, on alternative route from East Turkestan into Tibet which avoided the Aksai Chin.

Stein also reached into the drainage of the river Karakash, the other branch of the Khotan river. He followed a route from the Yurungkash. About four passes had to be crossed. He met only a few scattered Taghliks as he calls the local people, and states that they were a shy and obstinate race. This was Stein's first exploration of the sources of the two rivers that joined and flow north to Khotan from the Aksai Chin region. He also made an attempt to explore the alternative Keriya route used by Sven Hedin. East of Khotan, Karadong (the black hillocks) lies 150 miles down the Keriya river. Situated “in the narrow belt of forest land between the desert and the river, it might once have been a frontier post”. Stein was reminded that a Mughal historian had suggested correctly that the Keriya river reached the Tarim.

Stein had not succeeded in 1901 to reach the source of the Yurungkash river. In 1906 he again attempted to do so. Stein's main mission was to find the Indian funds in the Taklo-makan-Tarim region where work was suspended till September as it was too hot in the summer to work in the desert. He writes on 2 Jan 1907 to Dunlop Smith the Private Secretary to the Viceroy Lord Minto, “By the beginning of September I had succeeded in exploring the most important of the high glacier filled valleys which descend from the main Kunlun range to the Khotan river. It is a very inhospitable region, made up solely of ice, rocks - and dust, but full of interest by its deep-cut gorges and closely packed steep peaks rising to over 23,000 feet. One could not imagine a greater contrast to the flat Tibetan uplands extending behind it.”

In 1908 Stein made a final attempt to explore the Aksai Chin. He approached it from the east where this unexplored mountain region adjoined the extreme north west of the high Tibetan table land. The vast, empty unsurveyed region of the Aksai Chin furnished a direct route from Kashmir to Khotan and this was known in 1820 to Moorcroft, the first Englishman to take interest in the region. He was told that it was a secret route forbidden by the Chinese. The new route which Stein now used eastward to Keriya and then

into the mountains of Polu, the last village at the north foot of the Kun Lun. On 15 Aug 1908 Stein reached the plateau 15-16000 feet in height, after four marches from Polu. On 3 Sept 1908 Stein camped at Ulughkol, Aksai Chin. A Taghlik guide knew the tracks allowing a complete circuit of the uppermost Yurungkash river. "From the great Kun Lun range, he took us into a wild side valley of the Khotan (Karakash) river where gold pits long suspected but never seen by Europeans had been worked since ages. The Zailik gorge where all the conglomerate cliffs overlying the limestate rock are honey-combed with galleries..." From here for seven days Stein marched, crossing ridge after ridge over passes all 17-18000 feet high, to reach the main Yurung-leash valley. Stein discovered that the valley was, in the lower portion of the river, quite as unpracticable a gorge as he had in 1901 found it to be above Karanghuta far away to the west.

Almost without crossing any watershed, Stein says, "We passed into the region of the flat Tibetan plateau sending their drainage into isolated big lakes". Stein was therefore hopeful that after following for a few days the Lanakla route to Ladakh, he would strike across to the sources of the Karakash, the second big Khotan river. He wrote, "By the evening of 8 September we left the road to Ladakh and struck eastwards. My object was to follow the big range which feeds the Yurung-kash sources. It proved a grand succession of lakes and high basins with the big snowy range always in view to the right." Then they entered by a pass to the west an easy valley opening a passage towards the Karakash. "It was such a comfort to have 50-60 miles of open ground before us", he writes, "After two days all surface water disappeared. By the fourth day we struck extensive dry lagoons covered with salt". It was here that Johnson had forty years earlier roughly located a big lake.

Now Stein followed the route that Johnson had taken in the reverse direction. For two days (16/17 September) Stein skirted at 16-17000 feet elevation, desolate basins "once filled with lakes and now showing only dismal soda beds between vast alluvial pans of detritus at last on 17 Sept we struck old road marks in a barren side valley - a decayed shetter that showed we were on the route which Haji Habibullah (of Khotan) had tried to open". Next day a well marked track took them over spurs of the Karanghuta Kun-Lun down to feeders of the Karakash. Unfortunately, an accident occurred on Sept 27 when they were hoping to reach the Yangi Dawan (Pass). Stein injured his toes by frostbite. All his energies were concentrated now on a rapid journey to Ladakh. On September 30, he struck out from the Karakash valley to where they reached the Karakoram trade route. By Oct 3, he crossed the Karakoram Pass, reaching Leh on Oct 12, 1908, having travelled 300 miles "since my work closed at the foot of the Yangi Dawan".

The Journey of 1908 which Stein made from Keriya to the high peaks of the Kun Lun that separate the Sinkiang region from Tibet and the Aksai Chin region of Ladakh, is remarkable for its endurance and grit. Stein was able to confirm the earlier findings of Johnson and the route that Haji Habibullah had taken to reach Kashmir by a new route when the Karakoram Pass route was closed to the Khotan ruler by the orders of Yakub Beg of Kashgar. The region that lies between the Tibetan plateau and Sinkiang and which forms part of Ladakh is seen to consist not only of the salt pans and briny lakes of the western and lower part, but also the high mountains forming sources and providing feeding channels of the Yurung Kash and Karakash rivers which join to form the Khotan river. While Johnson had explored from the South, that is, from Tankse and Chang Chemno, Stein had made the attempt to cross the area from the north. He gives a memorable picture of the mountain systems that lie south of Sinkiang and that may be said to constitute nature's barrier between Sinkiang and Ladakh and Tibet.

We should also remember that Stein had undertaken his journeys to Khotan primarily to explore the ancient sites in the desert wastes of the Takla makan. He had completed this work successfully and it had taken him to Lop-nor and to Tun Huang, besides the sites north of Khotan. The exploration of the Aksai Chin region was an additional undertaking. It could not be completed but he has given us an account of the region which is unrivalled in accuracy and detail.

It is interesting to note as a supplement to the journeys of Aurel Stein, that the great Swedish explorer Sven Hedin passed through Aksai Chin in 1906. He was determined to reach Mansarovar Lake. The obvious thing to do was to go to the sacred area from, say Simla to Gartok and then to the Mansarovar, or by the pilgrim route from Uttar Pradesh. This Sven Hedin was not allowed to do. He therefore obtained permission from the Chinese government to visit Turkestan. He decided to go to Aksai Chin, and then from there to Tibet to reach Lake Mansarovar. A round about way to get there, but Sven Hedin was not to be denied his ambition!

While the United Kingdom government forbade his entry into Tibet from India, the Indian Government helped him to organise his journey to East Turkestan with a view to entering Tibet. In Ladakh he reached Tankse for journey to Aksai Chin. From, Tankse, Hedin went to Chang Lung - Barmy, to Chang Chemno and Aksai Chin 'where I cross the frontier to Eastern Turkestan'. Hedin found "very good grass", dry 'Yapkah' for firewood, and water in abundance. He wrote to his friend Dunlop Smith, Private Secretary to the Viceroy Lord Minto.

"This part of the great plateau has in reality proved to be one of the

easiest parts It is nothing like Eastern Tibet where one may go ten days without finding a single strand of grass". On the route Hedin's party had to cross the Marsamik Le (18,300 feet). "The part of the country, we have travelled from the pass and which has taken me through absolute *terra incognita* has from geographical point of view, been extremely interesting". We do not have a detailed description of the area from Hedin but he went as north as the first parallel ranges of the Kun-Lun system". To cross them should have been to go down to Polur, Khotan, or Keriya — my Ladakhis say that this country has no master or sovereign at all, and I believe they are right".

Hedin was an enforced traveller through Aksai Chin. He wrote, "When I was in Drugut or Tankse it should have been extremely easy and comfortable to go eastwards over the Lanak-la, but I had to go up to the Turkestan frontier and so I had to go to the horrible pass of 19,300 feet.... Now it is 34 days since I left Leh. By taking Lanak La I should have gained at least two weeks".

Stein's account of Aksai Chin is supplemented, though in a sketchy manner by the journey that Hedin had made a couple of years earlier through Aksai Chin on his way to Western Tibet. We are able to form an idea from these accounts of the geography, natural features, and the political status of Aksai Chin early in this century. We note that there was hardly much habitation. Stein met a few people of the Toghlik race in the mountain regions of the Kun-Lun. No human contacts seem to have been established in the dry salt pan region of briny lakes. The routes across Aksai Chin were known but scarcely used. Apart from the route from Yangi Dawan (Pass) to Chang Chemno, and the route from Chang Chemno via Lanak La (Pass), there is also the Keriya route which was mentioned by both Stein and Hedin. This lay east of Khotan and avoids Aksai Chin area.

Today, as we learn, the Chinese route connecting Khotan to Western Tibet passes through Shahidulla and is used by a meagre traffic of civil and military motor trucks that have to travel by preference in convoys. It ends at Ali in Western Tibet. At the northern end it ends at Kokyar beyond which is Sinkiang. This area will be the main area for decision in determining the Line of Actual Control under the recent agreement of 1993.

Proliferation of Nuclear Weapons : Fateful Nuclear Decisions and Discords

MATIN ZUBERI

It is still an unending source of surprise for me to see how a few scribbles on a blackboard or on a sheet of paper could change the course of human affairs.

— Stanislaw Ulam

One of the fateful ironies of the brutal twentieth century is that the crescendo of discovery in physics not only paralleled the rise of Hitler in Germany but was significantly influenced by it. The successes of James Chadwick, Ernest Lawrence, John Cockcroft and Ernest Walton made 1932 the miraculous year in the history of physics. Chadwick's discovery of the neutron in February 1932 was followed by the formal assumption by Hitler of the Chancellorship of Germany in January 1933. The Nazi persecution of the Jews disturbed the peace of German universities where a large number of distinguished physicists happened to be Jewish. Politics began the fateful collision with science which has characterised the later half of this century. The exodus of scientists had begun. Escaping from advancing fascism, about a hundred eminent physicists, including eight of the Nobel prize-winning calibre, found refuge in the United States between 1933 and 1941. The discovery of atomic fission by Otto Hahn and Fritz Strassmann on Christmas eve in 1938 came three months after the Munich agreement. More than a hundred research papers on fission were published by the end of 1939. This momentous discovery has a unique place in the history of science. No other single discovery has had such dramatic consequences in peace and war in such a short time.

THE AMERICAN DECISION

The Hungarian physicist Leo Szilard had an apocalyptic imagination and an unerring nose for bad news. Fleeing from Germany a day before the German borders were closed, he settled down in Britain and organised the rehabilitation of emigre scientists with appropriate funding and other facilities. Szilard was an exuberant impressario of ideas and possessed an uncanny ability to combine many emerging scientific postulates into a single overriding anxiety. The prospect of nuclear chain reaction paving the way for the manufac-

ture of an atomic bomb became his obsession even before the discovery of fission. He and other refugee scientists were worried about the prospect of a German bomb. Despite the exodus of scientists from Germany, there were still scientists of the calibre of Otto Hahn and Werner Heisenberg who could direct a German atomic weapons programme. The emigre scientists' anxieties eventually succeeded in alerting the British Government; and the fear of a German bomb took firm root when these scientists started thinking seriously of building one of their own. Rumours and conjectures continued to focus attention on the German threat. The busy mind of Szilard conceived one scheme after another, including self-censorship by the scientists so that research in this dangerous field could be kept secret. Shifting from Britain to the United States, he joined other refugee scientists in warning the American government of the sinister consequences of fission. The famous letter dated August 2, 1939 from Albert Einstein to President Roosevelt was part of this endeavour.

The American official response was initially rather slow. Considerable prodding by the refugee scientists was still needed. Three reports of the National Science Academy submitted between May and November 1941 explored the feasibility of military uses of nuclear fission. But the immediate catalyst for the American decision was the affirmative conclusion of a committee of eminent British scientists. On October 6, 1941 President Roosevelt sanctioned intensified research efforts. The Japanese attack on Pearl Harbour in December 1941 was followed by Roosevelt's decision on January 19, 1942 authorising a crash programme to manufacture the bomb. It was one man's secret choice. Roosevelt did not seek a mandate from the U.S. Congress.

The German nuclear enterprise neither had the full support at the highest governmental level nor a close military sponsorship. Even the German Post Office had its finger in the nuclear pie. German scientists including Heisenberg had realised that the effort needed to manufacture the bomb was too great for Germany under aerial bombardment. They regarded it as a distant goal without any relevance to the outcome of the war. It never seemed to have occurred to them that the Allied scientists might be ahead of them. Their comfortable illusion of being leaders in the field contributed to their complacency. The assumption of German efficiency, however, was a spur to intensive and frenzied attempts in Britain and the United States. Since the Allied scientists thought that the bomb could be manufactured, they assumed that the Germans did as well. The German scientists did not think it feasible during the war; they, therefore, assumed that Allied scientists had come to a similar conclusion. These divergent assumptions resulted in a peculiar race for the bomb. For the Allied scientists it was a potentially fateful race against time; for their German counterparts it was a marathon race irrelevant to the fortunes of war.

The German scientists never asked for a crash programme. They were cautious enough to realise that if they did so, they would be under tremendous pressure from Hitler to produce the bomb according to his agenda. Moreover, there was an unprecedented disaffection among these scientists. Allied intelligence sources received messages on nineteen occasions informing that the German scientists were deliberately slowing down the German programme. The hierarchical structure of the German scientific community resulted in major scientific mistakes; there were technical failures as well. German scientists failed to make an estimate of the critical mass of material needed to make the bomb. After an aborted experiment, they discarded graphite as a moderator in a nuclear reactor. These disastrous failures were partly due to the absence of an interlacing of theoretical and experimental aspects which was so conspicuous a feature of the Allied nuclear enterprise.

The Soviet counteroffensive against German forces launched towards the end of 1941 forced an assessment of German military research priorities. As the German economy was stretched to its limits, it was decided that only those programmes would receive priority which could lead to militarily useful results within a short period. The crucial German decision on whether the nuclear programme should be continued at all was taken at a meeting in Berlin in early June 1942 when the German minister for munitions Albert Speer critically evaluated the programme. When he asked the scientists how much financial support would be required, they requested the ridiculously low figure of only 40,000 marks, which was later raised to 75,000 marks. This extinguished the last flicker of official interest in the programme; it was scaled down to a lightly funded project for basic research.

While the fate of the German project was sealed in June 1942, the Americans decided in the same month to build industrial-scale installations necessary for producing the bomb. The Manhattan Project was launched. General Leslie Groves, who supervised the project with relentless energy and drive, imposed secrecy through compartmentalisation; only a very small number of responsible members had a complete picture of the directions and objective of the programme.

Established to keep the secret of the programme from the Germans, secrecy was quickly transformed into an instrument for controlling the scientists engaged in producing the bomb. They became captives of the enterprise. For Groves the galaxy of scientists was "the greatest collection of crackpots". Robert Oppenheimer, handpicked by Groves himself for the post of Director of the Los Alamos Laboratory where the bomb was finally fabricated, was persistently interrogated by secret service agents about his past radical activities. The scientists' mail was regularly censored and telephone conversations

tapped. The Manhattan Project became almost a state within a state. It had its own secret cities, laboratories, factories, secrets and laws. About 400,000 security checks were made relating to 160,000 project employees working in more than 25 laboratories and installations. Even Einstein, who was not involved in the project except for the two letters he wrote to Roosevelt at the request of Szilard, was considered a security risk because of his pacifist inclinations. Groves even put Szilard under constant surveillance and drafted a letter for the Secretary for War which would have led to the imprisonment of Szilard for the duration of the war. This extraordinary proposal was rejected because of its inevitable impact on the morale of the scientists.

Secrecy was also used to stop the flow of information to the Soviet Union and Britain. Groves admitted after the war that he conducted the project on the assumption that "Russia was our enemy". He did not subscribe to the general view of the Soviet Union as the gallant ally and employed the security system, on orders from Roosevelt, against the Soviet Union much as he did against Germany. He also attempted to seal off important areas of research and development from the British and French scientists participating in the project. Groves was thus implementing American policies designed to ensure American nuclear monopoly in the post-war world.

After the secret decision of June 1942, German scientists continued with a programme of building a nuclear reactor. They were hoping that a German lead in the peaceful uses of atomic energy would save the reputation of German science. But by the end of the war they had not succeeded even in producing a self-sustaining nuclear chain reaction which Enrico Fermi's team had achieved in Chicago on December 2, 1942. British and American secret agents, however, continued to collect scraps of garbled information about the German programme.

The anxieties generated by these reports led to an attempt to kidnap or assassinate Heisenberg during his visit to Zurich in December 1942. As the German surrender became imminent, Groves mounted a secret mission to capture German scientists so that they did not fall into Russian hands. American agents did not hesitate from dashing into British, French and Russian zones of occupation in Germany, spirited away heavy water, uranium stocks, research documents and scientists. Otto Hahn, Werner Heisenberg and other German scientists were captured. When asked whether he would like to work with American scientists, Heisenberg archly replied that he would be glad to show the results of German research if they came to his laboratory. These scientists were kept in a British countryhouse and their conversations were secretly recorded. The news of Hiroshima swept aside their sense of complacency. The German research equipment was physically destroyed on orders from Groves. This was an early manifestation of the policy of non-proliferation of nuclear weapons.

The German surrender did not lead to any relaxation in the frenzied efforts of the Manhattan scientists to fabricate the bomb. By then they were committed to do it not only for pragmatic reasons but also because of their purely scientific pursuits. The fascination of their work possessed them. Only one scientist, Joseph Rotblat, left the project after the German surrender. (He is now the guiding spirit of the Pugwash Movement). The first nuclear test, code-named Trinity, was conducted in the New Mexico desert on July 16, 1945. This was quickly followed by the atomic bombing of Hiroshima and Nagasaki in August 1945.

American scientists had estimated that it would take five years for the Soviet Union to produce an atomic bomb. Groves, however, thought that it would require a much longer period; the basis of his confidence was the fact that the Americans and the British had secretly cornered all available and future stocks of uranium produced in the Congo, Canada, Australia and South Africa including Namibia. The Soviet nuclear explosion of 1949, which the Americans dubbed "Joe-I" after Stalin, therefore, came as a great shock. Fear of a German bomb was now replaced by fear of the Soviet bomb. A small group of American scientists led by Edward Teller exerted pressure for an H-bomb to counter the Soviet threat. This triggered an agonised but secret debate about a possible American response. Robert Oppenheimer and some of his colleagues, though not against research on the proposed bomb, were in favour of maintaining American lead in the production of atomic weapons. They also pointed out that it was not yet conclusively established whether such a bomb was scientifically feasible. Two Nobel laureates, Enrico Fermi and Isador Rabi, maintained that such a bomb would necessarily be a weapon of genocide and, therefore, even the knowledge to make it would be a threat to humanity.

The Teller group then enlisted the support of some influential Senators. The Joint Chiefs of Staff were also roped into this controversy; until then they were unaware of the feasibility of such a powerful weapon. President Truman could no longer resist the pressure and on January 31, 1950 he took the decision in favour of the Teller group. There were still many scientific and technical hurdles to be crossed. Stanislaw Ulam, a respected mathematician, made the necessary calculations on thermonuclear reactions which culminated in 1951 in the so-called Ulam-Teller formula for the H-bomb.

The first American H-bomb test, code-named Mike with the M representing megatons, was conducted in the Pacific on November 1, 1952. Erected on the island of Elugelab, the device weighed 65 tons. Edward Teller did not go to the site of the test; he sat in a darkened room in Berkeley looking at the needle of a seismograph. As the shock wave of the explosion travelled from the Pacific, the needle started dancing. Teller knew that the test had been

successful. The island of Elugelab had evaporated during the explosion. But this was obviously not a deliverable bomb. The test series of 1954 included a device code-named Bravo which had the force of 10.4 megatons, about 700 times more powerful than the bomb dropped on Hiroshima.

A Japanese fishing trawler outside the extensive danger zone received a shower of radioactive fallout from which one of the fishermen died after reaching Japan. He became the first victim of an H-bomb. It was on this occasion in 1954 that Jawaharlal Nehru first proposed a cessation of nuclear testing. The world had entered into the era of megatonnage of explosive power. As Winston Churchill put it, safety had become the sturdy child of terror and survival the twin brother of annihilation.

The bitterness generated by the H-bomb controversy eventually resulted in the denial of security clearance to Robert Oppenheimer. His lack of enthusiastic support for a crash programme became a major issue in the secret hearings of 1954 in which Teller played a decisive role. He wanted to "unfrook" Oppenheimer in order to ensure the success of the H-bomb programme. The American scientific community splintered on this issue and Teller lost the friendship and professional contact with his scientific peers; his intellectual isolation has not ended even after the passage of 40 years.

THE BRITISH DECISION

Britain was the first country to take a policy decision in September 1941 to explore the feasibility of military uses of nuclear fission. The initial impulse came from emigre scientists fearful of the prospect of a German bomb. Otto Frisch and Rudolph Peierls prepared a memorandum in 1940 consisting of three foolscap pages which not only gave a theoretical reasoning for the critical mass, but also suggested how uranium-235 could be separated, and how the bomb could be detonated. It has rightly been described as the first memorandum in any country which predicted with scientific conviction the practical possibility of manufacturing the bomb. When shown to the American scientists, it energised their efforts as well. This short memorandum swiftly led the world into the nuclear age. Every nuclear weapon can be traced to this remarkable piece of paper based on scientific calculation and intuition.

The British decision, though designed to anticipate a German bomb, was also based on postwar calculations. A committee of eminent scientists came to the conclusion that atomic bombs were likely to have decisive results in the war. It added that even if the war ended before the bomb was ready, the effort would not be wasted because no country would care to risk being caught without a weapon of such decisive possibilities. Thus it can be said that Britain

was the first country to view nuclear weapons as a long-term asset, unrelated to the dangers posed by any particular country.

The exigencies of the war, however, forced the British to suggest a fusion of British and American weapons programmes. The British realised that their own pioneering work was a dwindling asset once the American enterprise got into high gear. A merger would enable them to benefit from cooperation with the Americans; after the war British scientists would return enriched by their experience thereby hastening the day for the British acquisition of the weapon. But reciprocal suspicions came in the way; the Americans were convinced, it is amusing to find, that the wily British were interested in postwar commercial advantages of peaceful uses of atomic energy while the British suspected the Americans of a desire to establish a postwar nuclear monopoly.

After two years of informal bargaining Prime Minister Winston Churchill and President Roosevelt signed the Quebec Agreement on August 19, 1943, which paved the way for an integrated Anglo-American bomb project. The British negotiators were aware that in nuclear matters the salad was permanently smeared with the garlic of suspicion. Churchill expressly disclaimed any interest in the industrial and commercial aspects of atomic energy beyond what may be considered by the American President to be fair and just and in harmony with the economic welfare of the world. The most extraordinary feature of this agreement was not so much a blank cheque to the Americans but the naive belief that the future dissemination of nuclear technology could be controlled by an exclusive club of Britain and the United States. A Combined Development Trust was created for joint acquisition and allocation of nuclear raw materials; this mechanism eventually enabled the United States and Britain secretly to corner all the uranium resources of those portions of the globe where they held sway. British scientists, including those who had fled from German-occupied Europe, joined the Manhattan Project. Some French scientists also joined their British and Canadian colleagues in the Montreal laboratory in Canada which became part of the integrated project.

Members of the British team thus got an opportunity to participate in the isotope separation work at Berkeley, on the heavy water project in Canada and on bomb assembly at Los Alamos. Nineteen of them, including the German refugee scientist Klaus Fuchs, were spread through various teams at Los Alamos. It was said that pooling of their knowledge and experience could be sufficient for an encyclopaedia of the bomb. William Penny, later called the father of the British bomb, knew more about the Los Alamos work than any other member of the British group. Expert in the blast and shock effects of the bomb, he witnessed the first American nuclear test on July 16, 1945. He was on the plane which accompanied the bomb run on Nagasaki. Courted by the Amer-

icans for his expertise, he was invited to do blast measurements on the first post-war American test series in the Bikini atoll in 1946. Klaus Fuchs left Los Alamos as late as June 1946, after having accumulated considerable knowledge not only about the design of the American device tested in July 1945 but also about the theoretical work on a thermonuclear weapon. He had already conveyed crucial data to the Soviet Union through Soviet secret service agents; and his knowledge was an asset to the postwar British weapons effort.

Anglo-American nuclear cooperation, despite many irritations, had worked well and the British were looking forward to its continuation after the war so that the British weapons programme could be accelerated. Churchill and Roosevelt signed an aide-memoire on September 19, 1944 which provided for British consent before the use of the bomb against the Japanese and full collaboration between their countries after the war in the military and commercial uses of atomic energy until terminated by mutual consent. Thus even before the German surrender, Roosevelt and Churchill had decided that the bomb was to be used against Japan.

The U.S. Atomic Energy Act of 1946 was a disaster for the British; it imposed complete secrecy in the nuclear realm. Giving a comfortable clothing of respectability to their domestic legislation, the Americans quickly discarded their embarrassing commitments to the British who were forced to exercise almost biblical patience in dealings with their allies. Prime Minister Attlee telegraphically reminded President Truman that British scientists had shared all nuclear secrets with their American counterparts in the confident belief that the spirit of partnership would continue after the war. Truman did not even acknowledge this telegram. James Chadwick, the discoverer of neutron, moaned British helplessness; and the residue of gentlemanly bitterness persisted for a long time.

A deeply felt sense of betrayal by the United States contributed to the British determination not to be bullied out of the nuclear business. Foreign Secretary Ernest Bevin maintained that Britain could not afford to acquiesce in an American monopoly in this crucial field; the only way to stop American hectoring was to build nuclear plants in Britain with the Union Jack on top. "Keeping up with the Trumans" meant having the bomb.

An ad hoc committee of the British Cabinet, from which Chancellor of the Exchequer Hugh Dalton and President of the Board of Trade Sir Stafford Cripps were excluded, took the fateful decision in January 1947. This was the country's darkest hour; the coalminer's strike had resulted in closure of factories and the people were shivering in their bomb-wrecked and cold homes. This makes the exclusion of the two ministers all the more significant. The

British decision had emerged from a self-image of Britain as an imperial, self-sufficient Great Power which should have the most powerful weapons. There was no immediate military threat facing the country; in fact, the Minister of Defence issued a directive in August 1947 which declared that the risk of a major war could be ruled out for the next five years. The bomb was then viewed not so much as a deterrent against a possible adversary but as a diplomatic asset in relation to a friend and possible ally. It was also hoped that an independent British military programme could facilitate the revival of Anglo-American partnership. And it was a ticket to the top table. Moreover, an unstated assumption was the superior wisdom of British counsel and the restraint it could exercise upon impulsive American behaviour. For the pioneers in the nuclear enterprise like James Chadwick and John Cockcroft, it was just the completion of the work started during the war.

There was, however, one eminent physicist who believed that a decision to manufacture the bomb would tend to decrease British security. Patrick Blackett, in his memorandum of February 1947, analysed various assumptions about conflicts between Britain, the United States and the Soviet Union. Taking into account the geographical situation of Britain, the military strengths of the major powers and their relationships, and the properties of atomic weapons, he pleaded for a complete reappraisal of defence and foreign policies and unilateral renunciation of the bomb. This renunciation should be accompanied by a request to the Security Council of the United Nations to inspect British atomic installations, irrespective of whether other countries followed the British lead. Blackett, of course, did not know that the crucial decision had already been taken. Attlee wrote on his memorandum that the author, though an eminent scientist, was commenting on political and military problems on which he was a layman. Henry Tizard, who was Chief Scientific Adviser to the Minister of Defence, dismissed any conceivable risk of major conflict with the Soviet Union and asserted that the main danger to the Western democracies was not war but economic collapse and disorder. Making a realistic appraisal of Britain's diminished status in the world arena, Tizard said Britain was no longer a great power and never again would be; Britain was a great nation and should stop behaving as a great power. It was foolish to do things that the United States could do much better.

The most remarkable feature of the British decision was the fact that it had been taken in utmost secrecy in peacetime. Neither the full cabinet nor Parliament was taken into confidence. Parliament was casually informed about it only on May 12, 1948. Replying to a prearranged question in the House of Commons by a backbencher, the Minister of Defence said that all types of weapons, including atomic weapons, were being developed. This important piece of information was conveyed as unostentatiously as possible. There was

no press comment on the parliamentary episode. Secrecy was partly necessitated by the fact that there was considerable unrest in the ruling Labour Party and a public debate on the nuclear issue would have demonstrated greater support for the government from the opposition Conservative Party than from the Labour backbenches. The American obsession regarding nuclear secrecy also influenced the manner in which the British decision was taken; it was feared that a public debate in Britain would hinder the hoped-for restoration of Anglo-American partnership. One can speculate that if the Labour Party had been in opposition at that time, there might have been some questioning of the decision.

The man brought in to supervise the production of plutonium for weapons was the retired Chief of Air Staff Lord Portal. John Cockcroft, William Penny and Christopher Hinton were responsible for the implementation of the decision to manufacture the bomb. They were shocked to find that the Canadians had, without informing the British Government, secretly committed themselves to supply their entire stock of uranium to the United States. Moreover, when the British requested the Canadians to give them on loan 5 kilograms of plutonium, they were told that all Canadian plutonium was earmarked for the United States and, therefore, the British needed American consent for the proposed transaction. Chief of British Air Staff Lord Tedder, on a visit to Washington, had to tell the Americans that if they threw a spanner in the plutonium transaction with Canada, British patience would go through the roof. Eventually, the Canadian Prime Minister persuaded the Americans to sanction the deal.

The Soviet nuclear explosion in 1949 was profoundly disturbing to the British scientists because they had assumed that Britain would be the second nuclear weapon power. Tizard found it difficult to believe that the Russians could solve the immense technical problems in the manufacture of atomic weapons; it must have been due to help from spies who might have stolen some plutonium. British scientists at Harwell, despite this shock, worked with a sense of idealism and dedication. The British tested their first atomic device in the Monte Bello islands off Australia on October 3, 1952.

The American thermonuclear test series of 1954 made the British cabinet realise that Britain could not expect to maintain her influence as a world power unless she also possessed this second generation of nuclear weapons. A sub-committee of the British cabinet accordingly decided in 1954 to produce these weapons. The British objective was political rather than military - maintenance of British prestige and promotion of Anglo-American special relationship in the nuclear field. The Americans had supplied intelligence data about Soviet tests of 1953 and had also allowed the British to collect air samples during the 1954 American test series.

None of the four British tests conducted in May 1957 was that of a hydrogen bomb but recent researches have revealed that large boosted fission bombs were presented to the Americans, through clever media manipulation, as thermonuclear explosions. This blatant bluff succeeded in convincing the Americans that the British were sufficiently competent in the nuclear field. The U.S. Atomic Energy Act of 1946 was amended in July 1956; this facilitated Anglo-American exchange of nuclear knowledge and material. The Americans supplied the British detailed design information regarding thermonuclear devices. It was not until April 28, 1958, that the British successfully tested an H-bomb. The production of these weapons based on American designs began in earnest at Aldermaston around 1960. Britain had initially produced nuclear weapons in order to develop an independent British nuclear deterrent so that it could be in a position to influence American nuclear policy. But in this process it was the United States which acquired substantial leverage over British nuclear policy.

THE FRENCH DECISION

According to the British Nobel Laureate Patrick Blackett, had the Second World War not intervened, the first self-sustaining nuclear chain reaction would have been achieved by the French scientists. Frederick Joliot - Curie and his collaborators were the first group in the world to take nuclear fission seriously. By the summer of 1939 they had prepared a secret patent on a crude uranium bomb, sketched out a nuclear reactor and even succeeded in persuading the French Government and private industry to support their research. Viewing themselves in a race with the German scientists, they had managed to obtain 185.5 kgs of heavy water from Norway which arrived in Paris on March 16, 1940. By May of that year they started thinking of a bomb to be tested in the Saharan desert. The German invasion and the French collapse in June 1940 ended the concerted French nuclear efforts.

French contact with nuclear research, however, continued in a completely unanticipated manner. Joliot decided to stay in German-occupied France, eventually becoming a hero of the French resistance movement. The heavy water was deposited in the State Prison at Rion, where the death cell was cleared for the bottles. Threatened with a drawn revolver the next day, the prison guard released the consignment which was taken by Hans Halban and Lew Kowarski to Britain. It was used in British atomic research. Pierre Auger, Bertrand Goldschmidt and Jules Geuron also left France. All these French scientists later joined the Anglo-Canadian Laboratory at Montreal which made its contribution to the American Manhattan Project.

These scientists viewed themselves as patriotic civil servants; but the

secrecy imposed on the Manhattan Project by the paranoid General Groves compelled them to resort to devious means. When he imposed more stringent security rules in July 1943, denying the French scientists access to results of the work they themselves had done, Auger and Goldschmidt paid a private visit to the Chicago laboratory; as they still retained their badges as consultants from earlier days, they simply walked in to find a warm welcome from their American colleagues who were themselves smarting under the General's directives. They left the same evening with the basic constants of the reactor and two tubes, one filled with a portion of fission products and the other with a few drops of solution consisting four micrograms of plutonium. The scientists had deliberately flouted official regulations; and the nuclear arms race had already begun between the Allies. When General de Gaulle visited Ottawa in July, 1944, these scientists arranged a secret meeting with him lasting three minutes in a room at the end of a corridor and one of them whispered into his ears the secret of the bomb project and the need to secure uranium deposits in Madagascar.

When the French scientists wanted to return to liberated France, Groves insisted on an undertaking that they would keep their nuclear secrets strictly to themselves and they were warned to take no documents with them. Before their departure, Kowarski asked John Cockcroft what exactly was a document; were notes written from memory included in the definition of a document? Cockcroft thereupon drew out of his side pocket a notebook roughly the size of a paperback containing his own notes written in a very small and neat handwriting. That, he said, was not a document. Kowarski, Goldschmidt and Gueron brought back to France packets of handwritten notes along with what was stored in their memory. All this became the basic text of the physics of reactors that France had at the end of the Second World War.

Joliot-Curie was made head of the new Commissariat à l'Energie Atomique (CEA). It did not enjoy, however, the full support of a victorious power. France was a nation rent apart and economically prostrate. Joliot offered cooperation with the British in peaceful uses of atomic energy; but the British, keen to restore Anglo-American collaboration rudely interrupted in 1946, spurned the offer. In the nuclear realm no country is a friend of any other country. The French position in relation to the British was similar to that of the British in relation to the Americans – the French scientists had to discover facts which the British could have told them in a brief conversation. A programme to build research reactors and then to build plutonium-producing reactors was evolved. But it was officially stated at the United Nations in June 1946 that the goals of French nuclear effort were purely peaceful and that France hoped all countries would do the same as swiftly as possible.

Joliot had joined the French Communist Party. His scientific internationalism and nuclear pacificism become a divisive issue; and there was a certain ambiguity in his position in the nuclear establishment. Joliot was interested in the industrial promise of nuclear energy but not in its military applications. He was keen to produce abundant energy from the atom but not plutonium for weapons. This was, unfortunately, a distinction which nuclear reactors were not designed to observe in their operation. When his team extracted tiny amounts of plutonium in November 1949, he, instead of being happy, reacted with anger. He was the first to sign the Stockholm peace appeal and then publicly stated that, if the Government asked French scientists in the future to produce an atomic bomb they would refuse to do so. Soon after this statement Prime Minister Georges Bidault, his old friend from the days of the resistance movement, summarily dismissed him in May 1950. Thirteen leading French scientists of all political persuasions publicly declared their solidarity with Joliot whom nobody was qualified to replace. Joliot was a broken man, despite the fact that by his rash statement he had courted martyrdom. When he died in 1958, de Gaulle gave him a State funeral.

Fear of a political purge then affected the morale in the nuclear establishment. Francis Perrin, a distinguished physicist, was appointed High Commissioner in April 1951; he retired in 1970. But the man who covertly pushed France in the direction of a weapons option was Pierre Guillaumat who was determined to ensure a nuclear future for his country. Adept at institution-building, he was relentless in his demands for efficiency, speed and secrecy. He exploited the rather chaotic political setting of the Fourth Republic by taking initiatives which the shuffling politicians did not have the strength to veto.

The French scientists were much less disposed to push the weapons effort than their counterparts in other countries. They were not a monolithic group. Some of them tended to favour peaceful uses of atomic energy and preferred to stay as far away from the weapons option as possible, while others, including Goldschmidt, Kowarski and Gueron, had no qualms in producing plutonium which may be useful in fabricating weapons in a distant future. Francis Perrin had misgivings about the development of large reactors which might be useful for a weapons programme. John Cockcroft warned him that if the reactors were built he would face unbearable pressure from the military to produce bombs. It was, however, not clear to Perrin when he would have to face this difficult choice. A decision to fabricate weapons could not be taken until after the completion of the first stage of development which was independent of the final outcome. This specific attractiveness of nuclear decisions is a recurring theme in the final outcome of a weapons effort. Perrin was conspicuously absent when the first French test was conducted in February, 1960.

Between 1952 and 1960 the budget and personnel of the nuclear establishment doubled every two years. Massive gas-cooled reactors and a large plutonium extraction plant were built with increasing vigour; this would logically culminate in the production and reprocessing of large quantities of plutonium for weapons. According to Gueron, there was no formal decision to fabricate a bomb but a large number of those involved in the programme wanted it. Guillaumat was certainly pursuing his objective in a somewhat slow and underhand manner; no definite decision for a military outcome was at that time necessary.

Prime Minister Mendes-France told a French scientist in 1954 that the permanent members of the Security Council were like gangsters around a table with their bombs and he had no bomb to talk with them. On Christmas eve in 1954 he decided to keep the military option open. Within a few months his government fell and during the transition period the bomb project was quietly pushed forward.

The upper echelons of the French military community were initially either unfavourable or lukewarm in their attitude towards a weapons programme; their major concern at that time was how to cope with rebellions in Indochina and Algeria. A small group of military officers favouring a weapons capability emphasised the need for a nuclear reprisal capacity in the nuclear age. They realised that nuclear weapons were comparatively cheaper in the long run than conventional defence. The pressures exerted on France during the Suez crisis of 1956 which exposed the full implications of dependence on American nuclear support convinced a large number of French military officers that their country should have an independent nuclear deterrent of its own. Repeated humiliations in the process of withdrawal from the French colonial empire, German rearmament with American support and the British Defence White Paper of 1957 announcing cuts in conventional forces and greater reliance on the British nuclear deterrent led to a reassessment of the future status of France. Although an important member of NATO, France was being informed rather than consulted on its major decisions. In an encounter between de Gaulle and NATO commander General Norstad in September 1958, it was clearly stated that the precise location of NATO troops in France and the targets assigned to them could not be revealed even to the French head of state. President de Gaulle retorted that it was the last time any responsible French leader would allow such an answer to be given by the NATO commander. The favoured position of Britain within NATO could be attributed to her nuclear status; this added to the irritation of the French with the Anglo-Saxons. A nuclear weapons capability was intended initially less against the Soviet Union than as a means of triggering the American Strategic Air Command in situations where French and American interests may not be compatible. It was also

expected that a demonstration of nuclear military capability would facilitate access to American technology in the field – an expectation which was eventually fulfilled in the late 1970s.

There had been no official decision on the nuclear issue; the French progress toward acquiring a nuclear weapons capability had proceeded without any official sanction. It was on April 11, 1958 that Prime Minister Felix Guillard signed a crucial order setting the date for the French nuclear test in the first quarter of 1960. It has been said with a slight exaggeration that France had drifted towards possession of nuclear weapons without actually deciding to have them. The Fifth Republic of de Gaulle simply executed a programme which had been slowly moving towards its final stage.

Britain and France were two great colonial powers accustomed to play a global role. With their colonial possessions in revolt and economies shattered by the war, they realised that without possession of nuclear weapons they would be reduced to the status of minor players on the world stage. In the United States, Britain and France the decision to acquire nuclear weapons preceded public debate. (There had been parliamentary debates in France but they were about the position of France within EURATOM.) The British Parliament was excluded from nuclear policy for a number of years after the war; this reflected the nature of the British political system where the cabinet could control the flow of information to the press through the so-called D-notices.

There was a crucial difference between the American and British decisions and the evolution of the French Programme. The weapons decision was taken in the United States and Britain, after initial pressure from the scientists, by a restricted number of responsible political authorities; moreover, these were unqualified political decisions. In France, however, the decision of responsible political leadership was the last in a long chain of events. It is the most striking example of maximum technocratic direction and minimum political leadership and direction. Rather than evolving through the legislative and executive branches of government, nuclear policy was developed progressively by a small group of scientific and administrative personnel which shrewdly exploited ministerial instability and parliamentary apathy for its own consensus-building among those holding crucial official positions. Its focal point was the CEA, which was responsible only to the Prime Minister. The CEA provided initiative and guidance on nuclear matters; and it was cautious enough to maintain a modicum of support from the relevant members of the political and administrative apparatus. The shuffling ministries of the French Republic could neither decide on a weapon programme nor did they have the strength to veto the trend towards it.

In response to a resolution in the UN General Assembly in 1959 asking

the French Government not to proceed with the forthcoming nuclear test in the Sahara desert, French representative Jules Moch declared that in the absence of a general agreement on disarmament, France would resist any form of discrimination against her interests and would go ahead with her test programme. He added that the French nuclear weapons programme could not be a matter of debate in an international organisation. Such a bold assertion of national sovereignty in the nuclear arena was possible only when nuclear proliferation was confined to the Western countries.

The first French device was exploded on February 13, 1960, nearly 1,000 miles from Algiers. It was three times as powerful as the first American and British weapons and like them, used plutonium. The second test on April 1, 1960 was conducted during the visit to Paris by Nikita Khrushchev who congratulated de Gaulle on the French achievement. President de Gaulle's impatience about the delay in the French H-bomb test reached its peak in July 1967 when China exploded a thermonuclear device. "So, now the Chinese have done it too !" was his reaction. The French H-bomb was exploded on August 24, 1968 in the Pacific. The device of 2 megatons was in a cradle suspended from a balloon at a height of 900 ft.

THE SOVIET DECISION

The Russian scientific community, especially the physicists, enjoyed great respect before the Second World War. Peter Kapitza spent 14 years working with the legendary Ernest Rutherford at the Cavendish Laboratory in Cambridge. Igor Kurchatov built the first cyclotron in Europe in 1937. K.A. Petrzhak and G.N. Flyorov discovered spontaneous fission of uranium under the direction of Kurchatov. Petrzhak later claimed that but for the war, Soviet physicists might have been the first to achieve self-sustaining nuclear chain reaction. During the war, Flyorov went to a library in February 1942 to find out from foreign journals whether there had been any response to the discovery of spontaneous fission. Not only was there no response; British and American journals contained no reference to the work of the great figures like Fermi and others. He surmised that some war-related censorship had been imposed. Thus secrecy itself gave the secret away. Flyorov wrote several letters to Kurchatov and eventually alerted Stalin himself about the possibility of a bomb project. In December 1941 he had sent Kurchatov a manuscript proposing the "gun method" for making the bomb.

The State Defence Committee, by its decree issued in December 1942, established an atomic energy programme with Kurchatov as its leader. This decision, taken at a time when Leningrad was under German siege and the heroic battle of Stalingrad was being fought, could not have been taken in the

hope of producing the bomb for use in the war. It made sense only as a hedge against a possible German or American bomb in the post-war world. The Soviet intelligence sources had started getting information from Klaus Fuchs in the summer of 1942. As the German invasion penetrated deep into Soviet territory, laboratories were deserted and scientists devoted their talents to more urgent war work.

A few months after the end of the Second World War, the British Ambassador to Moscow, Sir Archibald Clark Kerr, poignantly recalled the frightened reaction of the Russians to the dawning of the nuclear age. The moment of exaltation, the fall of Berlin, was followed by news from Hiroshima. The three hundred divisions of the Soviet armed forces were at a stroke shorn of much of their value. About all this the Kremlin was silent but such was the common talk of the people.

After Hiroshima, Soviet scientists were summoned to meet Stalin. "A single demand of you, comrades", Stalin said, "provide us with atomic weapons in the shortest possible time." With Levrenti Beria in overall charge and Kurchatov as its scientific leader, the Soviet weapons programme went into high gear. Like the American original, secret locations with research centres sprang up. Prisoners from special labour camps were dragooned into service under the ruthless supervision of the dreaded Beria. Kapitza was included in the project; but he soon developed an intense dislike to Beria and his attitude towards scientists. He carried his protest to none other than Stalin himself. His letters to the tyrant are a remarkable testimony to the courage of this legendary scientist. In a letter dated November 25, 1945, Kapitza complained that orchestra conductor Beria held the baton in his hands; the scientist nevertheless should play the first violin because the violin gave the pitch to the entire orchestra. Party functionaries imagined that having learned twice two equaled four, they had already plumbed all the profundities of mathematics and could make authoritative pronouncements. He added that he was willing to teach physics to Beria. These were bold protests regarding the general attitude of party functionaries and severe strictures on the behaviour of Beria who, Kapitza knew, was the trusted henchman of Stalin. Kapitza again requested Stalin to relieve him of his duties and eventually succeeded in getting out of the project. In a letter addressed to Nikita Khrushchev dated September 22, 1955, He asserted that the sole reason he was forced to refuse this work was the insufferable relationship of Beria to science and scientists.

The Soviet scientists estimated that it would take them five years to produce nuclear weapons. (Incidentally, this was also the estimate of the American scientists, although General Groves thought it might take the Soviet Union twenty years because the Americans had already cornered the known

supplies of uranium.) Thirty thousand copies of the American official publication *Military Uses of Atomic Energy* were rushed through the press. An atomic industry with all the necessary corresponding technologies had to be created in a country which had been devastated by the war and had suffered more than twenty million casualties.

Klaus Fuchs believed in the greatest possible dissemination of scientific knowledge. He, therefore, passed on important information to the Soviet Union, including the design of the plutonium bomb tested in the New Mexico desert on July 16, 1945, enrichment of uranium through the method of gaseous diffusion and the general principles of the 'Super' (as the proposed H-bomb was called by scientists of the Manhattan Project). He was not motivated by greed or ambition but was driven by a moral passion to do what he thought was right. As the Soviet Union was the "gallant ally", he thought it was his duty to keep it informed about the secret project. He made a complete and detailed confession of his spying activities to the British Secret Service in January 1950.

In November 1992, academician Yuli Khariton, the Soviet equivalent of Robert Oppenheimer and director of Laboratory No. 2, said on Russian television that it was now being claimed in Russia that Soviet scientists were presented all the information about the bomb by intelligence agents. Credit was given to Fuchs for speeding up the Soviet weapons programme by at least two years. It is now stated that at least 10 British scientists, some of whom are still alive, supplied information without any rewards.

Yuli Khariton and his colleague Yuri Smirnov, who participated in the design of the 50-megaton Soviet bomb detonated on October 30, 1961, have recently given the first authoritative account of the Soviet atomic and thermonuclear bombs. Without in any way denigrating the successes achieved by the intelligence services, they put the achievement of Soviet scientists in the perspective of an almost unbearable burden on the Soviet scientific community. The burden of their responsibilities was no laughing matter and they felt the prickly chill of possible retribution. The scientists were engaged in an exciting endeavour and Kurchatov embodied the patriotic impulse shared by all his colleagues. They were overwhelmed by the immensity of their task and were keen to achieve success as soon as possible.

In view of the urgency and the high stakes involved, Soviet scientists decided to build the first bomb according to the detailed diagram and description of the first American bomb which was received by them towards the end of 1945. Kurchatov was cautious about reliance on the intelligence data, fearing that it might have been fabricated to disorient the Soviet weapon programme. After many calculations and experiments, Soviet scientists confirmed the authenticity of the information obtained from the Manhattan Project. Russian

scientists now maintain that it was their competence in the nuclear field which enabled them to critically examine the information and test the data; without their own scientific knowledge they would not have been able to do this assessment. They thought it prudent to replicate the American design for the first test because it was a proven design. The surviving Russian scientists are now absorbing the shock of this revelation. But the second Soviet test in 1951 was based on a Soviet design. It was certainly an improvement on the first test in terms of yield-to-weight ratio. Copies of both designs are now on display in Russia.

Stalin was personally interested in the project and showed a desire to improve the living conditions of the concerned scientists. Before the first test he even wondered whether the plutonium produced could not be used in two smaller tests instead of one. When the results of the test conducted on August 29, 1949 at Semipalatinsk in Kazakhstan were presented to Stalin, he asked the scientists whether they had themselves observed the explosion.

Western literature asserts that the H-bomb tested by the Soviet Union on August 12, 1953, was similar to the American boosted fission bomb tested in 1951; and that analysis from the radioactive particles of the American H-bomb test of October 31, 1952, provided vital information to the Soviet scientists which contributed to the two-stage H-bomb tested in November 1955. These assertions are now denied by the declassified documents on the Soviet weapons programme. The device exploded on August 12, 1953 was really a thermonuclear weapon. It was developed independently by Andrei Sakharov who claimed to be a soldier in a scientific war. He was inspired by a sense of patriotic urgency and was moved by the seductiveness of the scientific challenge. It was also his considered judgement that a Soviet thermonuclear capability was an urgent necessity in order to restore the global balance of military power. Sakharov has revealed that the debris collected from the American test of October 31, 1952 was absentmindedly poured down the drain by a Soviet chemist who was emotionally disturbed over a personal matter.

THE CHINESE DECISION

Among the five declared nuclear weapon powers, China is the only country whose weapons programme was initiated after the Second World War. Moreover, China was subjected to nuclear threats – from the United States towards the end of the Korean War and again during the Quemoy and Matsu crisis of 1958, and from the Soviet Union during the Sino-Soviet border dispute in March 1969. The experience of nuclear threats and nuclear encirclement necessitated a credible deterrent. Another motive was building up the strength of the socialist countries. While appreciating the importance of the

Soviet Union's nuclear status, China asserted that this should not be made a justification for preventing other socialist countries from increasing their own defence capabilities. Nuclear weapons of a socialist country, it was asserted, could pose no threats because they would only be for defence against nuclear blackmail. The monopoly of nuclear weapon powers was intolerable; they could not be allowed to behave as self-ordained nuclear overlords treating the overwhelming majority of countries as if they were nuclear slaves.

As part of the efforts to establish a scientific infrastructure, the Chinese Communist Party enjoined all party cadres to study important Soviet publications on science and technology. Nuclear cooperation with the Soviet Union began in 1950 with the establishment of a Sino-Soviet Non-Ferrous and Raw Materials Company; this was the beginning of the uranium mining exploration in Xinjiang. In 1953 the first Chinese scientific delegation led by Qian Sanqiang, who was Deng Xiaoping's friend and schoolmate, arrived in Moscow to negotiate details of future cooperation. Soviet aid began to flow and in July 1953 about 10,000 metric tons of nuclear equipment and material was sent to China. Soviet experts helped in the setting up of a number of laboratories. In 1954 a Joint Institute of Nuclear Research was established in Dubna near Moscow with nuclear experts from Eleven countries of the Socialist bloc. China contributed 20 per cent of its budget; its contribution was second only to that of the Soviet Union. About a thousand Chinese scientists received training at this institute.

Nobel Laureates Irene and Joliot-Curie were keen to help China break the American nuclear monopoly. Qian Sanqiang, who had gone to Paris in 1949 to attend a peace conference, was assisted by the Curies in his purchases of nuclear materials in Britain and France. Joliot-Curie also sent a message to Chairman Mao Zedong through radio chemist Yang Chengzong who went to Paris in 1951 that he should have the bomb, noting that the first principles of it had not been discovered by the Americans. Irene Curie gave Yang ten grams of salt standardised for radioactive emissions as a token of her desire to help the Chinese people in their nuclear research.

It is possible to give a precise date for the start of the Chinese nuclear weapons programme. The nuclear decision was taken at a meeting on January 15, 1955 presided over by Mao with Premier Zhou Enlai at his side. It was an enlarged meeting of the Central Committee of the Party. Qian and other scientists were present. They had brought a sample of uranium and a Geiger counter; politburo members played with them and smiled jubilantly. Mao closed the meeting with the assertion that China possessed the human and natural resources and that every kind of miracle could be performed.

Most of the credit for designing the bomb has gone to Wang Ganchang, Pen Huanwu and Guo Yonghuai. Nieh Rongzhen headed the overall strategic weapons programmes. He was one of the most powerful figures in Beijing-veteran of the Long March, close associate of Zhou Enlai from their first meeting in Paris, and Army Chief of Staff during the Korean War. Deng, succeeding Zhou as promoter of science, was not only a close personal friend of Nieh's from their Paris days, but they had also been classmates in high school. This network of old relationships considerably facilitated China's quest for a nuclear military capability.

Between 1957 and 1959, the Soviet Union gave extensive assistance. A Sino-Soviet New Defence Technical Accord was signed on October 15, 1957, according to which the Chinese were promised a sample of the atomic bomb. The Chinese later accused the Soviet Union of having unilaterally torn this agreement on June 20, 1959. Soviet leaders were accused of saying how could the Chinese manufacture nuclear weapons when they ate watery soup from a common bowl and did not have trousers to wear. The Chinese asserted that even if they could not produce the weapons for a hundred years they would not crawl to the baton of Soviet leaders nor kneel before the American nuclear blackmail. Foreign Minister Chen Yi asserted that the Chinese people would produce nuclear weapons even if they had to pawn their trousers for this purpose.

Nikita Krushchev, on the other hand, maintained that Soviet nuclear experts kept no secrets from their Chinese colleagues and suggested giving them a prototype of the atomic bomb; it was even packed and was about to be sent to China. This most unusual transaction was prevented at the last moment on the initiative of Yefim Slavskii, Soviet Minister for Medium Machinery who was also minister in charge of nuclear weapons. The letter dated June 20, 1959 from the Central Committee of the CPSU to its Chinese counterpart stated that because of the nuclear test ban negotiations in Geneva, the Soviet Union could not supply the prototype bomb and its technical data. The Chinese dubbed the design of their first bomb "596" - commemorating the year and month in which the Soviet letter was sent to Beijing.

The sudden departure of Soviet experts stunned the Chinese scientists. Wang Jieifu, leader of the gaseous diffusion plant, personally escorted the last group of them to the airport. Before their departure Soviet experts shredded sensitive documents. The Chinese scientists assembled and examined the fragments and succeeded in piecing together crucial data for the bomb's design. The abrupt shift to self-reliance delayed the Chinese weapons effort by 700 days. But the Chinese officials admitted that without Soviet help it would have been impossible for China to have achieved such a rapid success in producing atomic and thermonuclear weapons.

The first Chinese test explosion took place at Lop Nor in Xinjiang on October 16, 1964 at 3 p.m., Beijing time. Zhou and his colleagues signed a memorandum for the Central Committee certifying that the probability of a successful test exceeded the required 99 per cent. As the mushroom cloud rose, the scientists, including Wang Ganchang and Peng Hunwu, could not control their tears of joy. Zhang Aiping, director of the first atomic bomb test commission, trembled with excitement but demanded scientific confirmation of the explosion. Only after Wang Ganchang's confirmation that it was a nuclear explosion did Zhang telephonically inform the minister in charge in Beijing, Liu Jie, of the successful test requesting him to communicate the glad tidings to Mao and Zhou. The Prime Minister later telephoned Liu saying that Mao wanted verification about the nuclear explosion so that the foreigners could be convinced. This message was transmitted to Zhang. Towards the end of this extraordinary episode, minister Liu told Zhou that it was a successful nuclear test. It is interesting to note that Stalin also demanded a confirmation from Soviet scientists in 1949.

The first test contained a surprise; unlike the American, British, French and Soviet first tests which were of plutonium devices, the Chinese had exploded a uranium device. Moreover, the Chinese showed no interest in the peaceful uses of nuclear energy. The units which took part in the process of building the first bomb were spread over 20 provinces, municipalities and autonomous regions, 26 military organisations and more than 900 factories and research institutions. According to Chinese calculations, their nuclear weapons programme cost them almost the same amount as in building a large modern steel factory; and this amount was spread over a period of ten years, between 1955 and 1964. The cost of skilled labour was considerably lower than in the other nuclear weapon powers. Another factor which reduced the cost was the considered decision not to pursue the seductive trail of extremely accurate weapons. What mattered was the ability to destroy some urban centres or soft military targets of an adversary. As Zhang Aiping once put it, in case of a nuclear war with the Soviet Union, it made little difference if a Chinese ICBM missed the Kremlin but hit the Bolshoi Theatre.

Building the gaseous diffusion plant with Soviet assistance imposed exacting standards of cleanliness and humidity in a region of pervasive dust and low humidity. It was a daunting task. When the plant was inspected by Soviet experts, they pronounced it unfit for the Soviet equipment. Wang Jie immediately mobilised 1,400 workers who made it spotlessly clean. When the Soviet experts visited the plant the next day, they conceded that the Chinese had performed wonders. This was the period of upheavals in China. The slogan given was that the scientists should produce the thermonuclear bomb as a tribute to the Cultural Revolution. An element of patriotic competition was

also introduced : China should produce it before France did. The Chinese must have collected and analysed radioactive debris from Soviet nuclear tests, a large number of which were conducted at the Semipalatinsk testing ground in neighbouring Kazakhstan. This may explain the swift Chinese transition from fission to thermonuclear bombs. The Chinese exploded their first H-bomb on June 17, 1967.

Recently declassified American documents have revealed that in 1963 President Kennedy, alarmed by the prospect of Chicom (his short form for the Chinese Communists) wielding nuclear weapons, explored the possibility of a Soviet-American preemptive military strike on the Chinese nuclear facilities at Lop Nor. The CIA had reported that a Sino-Soviet rift had already occurred and that China and the Soviet Union would increasingly behave as hostile powers. Soviet interest in concluding a nuclear test ban agreement was attributed to this momentous development. Kennedy was now ready to conclude such an agreement which he viewed as a non-proliferation measure. There were two sets of negotiations taking place in Moscow in July 1963. A Chinese delegation led by Deng Xiaoping was trying to resolve party differences. While this conference had reached a deadlock, American and British delegations arrived in Moscow to negotiate a test ban. On July 15, 1963 Kennedy directed Averell Harriman, leader of the American delegation, to elicit Khrushchev's views on a joint military strike; in case this was not acceptable, would he acquiesce in an American preemptive attack? Khrushchev ignored this proposal.

On July 20, 1963 it was announced that the Soviet Union, the United States and Britain had tentatively agreed on a partial test ban treaty. Deng's delegation left Moscow the same day after an unsuccessful party summit conference. The entire Chinese party leadership gave Deng hero's welcome on his arrival at the Beijing airport. Mao Zedong exhorted the people of the world to defy nuclear blackmail. The Chinese government denounced the Partial Test Ban Treaty of 1963 as a fraud while the Soviet Communist party accused its Chinese counterpart of wanting to build communism on human corpses.

There is one important respect in which the Chinese differed from the other four permanent members of the U.N. Security Council. Their statement announcing the first nuclear test contained a pledge of no first-use of nuclear weapons, a pledge repeated ever since.

CONCLUSION

Secrecy provides the common thread in the decision-making process in all the declared nuclear weapon powers. It simplified the policymaking proce-

dures and eliminated public pressures. The differential impact of the Second World War on the fortunes of the countries involved in the nuclear enterprise determined their ranking in the postwar world order. While the war completely disrupted the French and Soviet programmes, it prompted the initial British decision to produce the bomb; but the course of hostilities forced the British to merge their programme within the Manhattan Project. The greatest gainers were the Americans; Hitler's anti-Jewish policy enriched the American scientific community and triggered the massive American programme which enlisted the best scientific talent gathered from all over Europe. The assembled scientists were engaged in a crusade against the odious regime of Hitler; they pushed the very boundaries of scientific knowledge outward on a grand scale in the pursuit of a deadly weapon. It was during the Manhattan Project that the American Military-Industrial Complex acquired its distinctive characteristics. In the case of Britain, France and China, political motivations predominated; they initiated their weapons programmes at a time when there was no compelling reason to doubt the adequacy of nuclear protection offered either by the United States or the Soviet Union. The urge to play a more assertive and independent role in relation to the protector contributed to the nuclear decisions. There was also a remarkable absence of strategic thinking in the early stages of weapons development. Nuclear capability preceded military rationale.

Britain was the first second-ranking power to launch a nuclear weapons programme after the war. The British justifications for their 'independent deterrent' were seized upon by the French supporters of a weapons effort. Britain was the first authentic proliferator of nuclear weapons. "The right to distrust the Americans", Richard Crossman once observed, "cannot remain a British monopoly."

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Pakistan : Evolution of Naval Strategy

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The Indian sub-continent, despite its past maritime tradition, did not possess a credible naval capability during the long period of the British rule. Even during the Second World War, contribution of British Indian naval force was subsidiary to the overall British naval strategy in the Indian Ocean region. That was reflected both in the fleet strength as well as in the types of vessels with which that force was equipped. That limited role, within the overall Commonwealth strategy in the Indian Ocean, continued to influence the naval strategy of the states of the Indian sub-continent even after they acquired independence. The choice of British vessels, training, joint exercises and often even of British officers continued to bind these countries to Britain directly and to the Commonwealth indirectly. Pakistan was no exception.

When Pakistan became an independent state it inherited/acquired a few ex-British warships. By 1951-52, it operated three destroyers, four frigates and seven minesweepers. Pakistan's naval strength was boosted after it joined the Baghdad Pact. It continued to acquire British warships though it was the USA that paid for their refit and modernization under the Mutual Defence Assistance Programme (MDAP) and the Military Assistance Programme (MAP) between 1956 and 1964. During that period, Pakistani Navy was strengthened by the addition of one light cruiser, five destroyers and eight minesweepers, all under MDAP/MAP, thereby almost doubling the naval strength. After 1963, when US task force began regular visits to the Indian Ocean and began to develop a long-term naval strategy for the region, Pakistan was offered, on loan, one Tench-class submarine, the Ghazi, and four MR/ASW aircraft.

On the eve of 1965 War, Pakistan was operating one submarine, one light cruiser, five destroyers, two destroyers/frigates and eight minesweepers. All of them were the result of the US-funded MDAP/MAP. Pakistan's naval strategy seemed to concentrate almost exclusively upon West Pakistan. East Pakistan was grossly neglected. Pakistan had ordered in 1963 four small Town-class patrol craft of about 115-143 tons. They were commissioned in 1965 and were stationed in East Pakistan. There was no effort to build a major naval base in that sector. Pakistani Navy was also not capable of guarding Pakistan's East-West life line. These factors were reflected during the 1965 war. Though Pakistan had taken the initiative, Pakistani Navy did not produce any spectacular results. In fact, in 1965, naval engagements had remained an insignificant side-show for Pakistan as well as for India.

Between 1965 and 1971, Pakistani Navy continued to stagnate except for the addition of three Daphne-class modern submarines from France. They were laid down in 1967-68 and were commissioned in 1970. They were relatively small submarines and their range confined them to operations in the Arabian Sea only. They could not be sent to the Bay of Bengal. Ghazi, with its longer range, was dispatched but was detected and finally sunk before it could do any damage. If Pakistan had a strong naval base in East Pakistan and if Pakistani submarines had been operating from there, they could have posed a far greater threat to Indian naval operations in the Bay of Bengal. Four small patrol craft stationed there could not do much. Only one managed to escape to join the Pakistani fleet after the war.

Naval engagements of 1971 revealed Pakistan's weaknesses and strength. The old and obsolete surface vessels proved no match for the Indian ships that were armed with anti-ship missiles. The combination of small Osa-class missile boats, operating under the cover of larger surface vessels like cruisers, destroyers and frigates, proved very effective against Pakistani surface vessels as well as targets on shore. In the action, Pakistan lost one destroyer and one minesweeper in the Arabian Sea operations. It also lost the submarine Ghazi and three Town-class patrol boats in operations in the Bay of Bengal. More effective was the manner in which Indian ships cruised along the Makaran coast from Karachi to Gwadar and shelled targets on shore beside blockading Karachi port. It brought home the lack of maritime reconnaissance capability of Pakistan at that time. The only success story was the sinking of one small anti-submarine frigates, the Khukri, by the Daphne-class submarine in the Arabian Sea.

Naval operations in 1971 had a major impact upon the reshaping of Pakistan's naval strategy. The breakup of Pakistan freed Pakistan from whatever little responsibility it had for the defence of that far-flung territory. Now Pakistan could concentrate exclusively upon its immediate environment. It is a compact area extending from Karachi to Gwadar and intruding into the Arabian Sea up to the extent that Pakistan can project its capability, which for want of an aircraft carrier, has to be land-based. In 1971 Pakistan had, what is generally called, a 'balanced' Navy with a mix of sea-control and sea-denial capability. The war demonstrated that Pakistani Navy's large surface vessels of World War II vintage, though refitted and updated in 1956-58, were incapable of performing sea-control role in the Arabian Sea.

Acquiring new and modern ships was beyond Pakistan's limited financial capability at that time. Though USA did send a small task force headed by the aircraft carrier USS *Enterprise*, as a gesture of friendly support to Pakistan after the war was almost over, it did not pursue that policy further by strength-

ening Pakistan's naval capability as it had done between 1956-58 and 1963-64. By 1971, USA had opted for a role for itself in the Indian Ocean that depended on the base at Diego Garcia. It was also supported by Iran under the Shah in the Gulf. Pakistan did not fit into that strategy. Hence, USA did not transfer any naval equipment to Pakistan till the US strategy was once again influenced by regional issues like the downfall of the Shah, Soviet involvement in Afghanistan, future deployment in the Gulf of US Rapid Deployment Force etc. These were also influenced by the new Cold War that heated up after 1978. These factors helped to redefine US-Pak strategic relationship and Pakistan once again began to get US weapons. But till then, and even after that, Pakistan had to depend upon China for arms transfer under favourable conditions. However, at that time China could not satisfy Pakistan's requirement for modern sophisticated large surface vessels capable of fulfilling sea-control role. In view of these constraints, it seemed that Pakistan consciously opted for sea-denial as the main plank of its naval strategy, at least for some time to come.

Pakistan's sea-denial strategy was largely based upon a mix of effective maritime reconnaissance, long-range guided anti-ship missile preferably launched from helicopters or fixed-wing aircraft, and on modern submarines. This strategy overcame the need for acquiring large surface vessels like destroyers and frigates. Such a strategy had the disadvantage of having a limited range because of the fact that fixed-wing aircraft and helicopters which had to act as a team had to operate from land bases on the Makaran Coast and from Karachi.

During the decade that followed the 1971 war, Pakistan acquired one Daphne-class submarine from Portugal and two Agosta-class submarines that could not be transferred to South Africa because of UN sanctions. It also acquired six SX 404 midget submarines from Italy. Pakistan already operated three Daphne-class submarines. Thus, Pakistan more than doubled its submarine fleet and also began developing a capability for commando-type sneak attacks on nearby Indian targets, like harbour installations and ships anchored there, by using the midget submarines.

The under-water threat was buttressed in the sea-denial roll by the acquisition of three Breguet Atlantic BR 1150 MR/ASW aircraft from France. One more was added subsequently. Pakistan also purchased six Seaking helicopters and armed them with Exocet anti-ship missile. Subsequently, the Atlantic MR aircraft and about five Mirage V fighter-bombers were also armed with Exocet anti-ship missile. Their radar and electronics were suitably modified for the new role of maritime strike aircraft. Thus, Pakistan not only emphasised upon the sea-denial strategy based upon anti-ship missiles launched

by aircraft, and upon submarines, but also relied to large extent upon France for the success of that strategy in the seventies.

In the initial phase of the new strategy, Pakistan depended upon China for the supply of surface vessels. But Chinese capability in that sector was limited. It could supply only small vessels. In fact, China did supply in the seventies 12 Shanghai II-class fast attack craft and four Hu Chwan-class small torpedo boats. These could only act as forward screen in the sea-denial strategy but had limited real value. In 1975, China transferred two Hainan-class patrol craft. They were slightly larger (392 tons) and had a limited ASW capability. Two more of this type were transferred in 1980. China upgraded its supply when it transferred four (Komar-type) Hegu-class missile boats in 1980, and four (Osa-type) Huang-feu missile boats in 1984. These provided a much needed surface capability for sea-denial role, thereby filling a crucial gap. It needs to be underlined in this context that Pakistan's effective sea-denial capability, which depended primarily upon its small fleet of Atlantic MR aircraft, extended to about 300 km from its coast. That was, however, more than adequate to ensure that the Indian Navy could not, with impunity, repeat its 1971 exploits off the Pakistani coast.

While Pakistan was building up its sea-denial capability in the seventies, its ASW and sea-control capability was fast declining because of lack of replacements for its fast aging and obsolete fleet of cruiser, destroyers and frigates. Luck turned in favour of Pakistan after 1977-78 when it once again acquired a role in US strategy. That strategy was focused on the control of the Gulf oil either through local surrogates like Iran under the Shah and Saudi Arabia or directly by building up a massive rapid deployment capability. Though the option to use US force to capture or protect the crucial oil belt of the Arabian Peninsula was finalised after the 1973 oil crisis, it was pursued more purposefully after the overthrow of the Shah of Iran and the potential threat of spillover of Islamic radicalism from Iran.

Since Saudi Arabia had limited potential to develop as a viable regional naval power capable of replacing Iran, USA had to rely more upon Pakistani support especially in pursuance of building the facilities for the rapid deployment of force. Pakistan's close contacts with Saudi Arabia and Gulf sheikhdoms like the UAE, as well as the willingness to expand naval and air base facilities in the Makaran coast once again projected Pakistan as a valuable regional partner of the USA. It needs to be underlined in this context that the Pakistan's relevance in the context of the USA's Gulf strategy pre-dated the Afghanistan crisis, though the Afghan connections were given greater prominence in the media. US-Pak naval strategic linkages started in 1977-78, much before the Afghan crisis, and continued till 1991-92 i.e. even after the

withdrawal of Soviet armed forces from Afghanistan. It is in this context that one needs to analyse recent transfer of naval equipment from the USA to Pakistan.

As in the past, during the days of the Baghdad Pact, even now, the USA supplied much needed replacements for heavy surface vessels like destroyers and frigates. The first such transfer took place in 1977-78 when the first pair of Gearing-class destroyers was handed over to Pakistan after extensive refits at nominal cost. The second pair of the Gearing-class destroyers was handed over in 1980. The third pair was transferred in 1982-83. These ships were equipped primarily for ASW role with updated sonar and ASROC launcher. They could also carry a light helicopter. These ships replaced the aging fleet of Pakistan and most of these new destroyers were even named after the ships that were being replaced. One of these destroyers was even armed with Harpoon anti-ship missile (3 twin launchers) and it was expected that others might also be similarly armed. That would have given the Pakistani Navy a sea-control and ASW capability comparable to that of the Indian destroyers and frigates.

The Gearing class destroyers were old ships and posed problems of spares. To further buttress Pakistan's ASW capability the USA transferred to Pakistan, on lease, four Brooke-class and four Garcia-class frigates in 1989. The addition of these eight frigates almost doubled Pakistan's fleet of large surface craft. Pakistan was also promised more sophisticated P-3 Orion MR/ASW aircraft and Sea Sprite ASW helicopters by the USA. Induction of these weapons would not only have substantially added to the ASW capability of Pakistan but would have enhanced the range of its naval operations.

As had happened in the past, once again Pakistan became a victim of the wide fluctuations in American strategic perceptions. The end of the Cold War, destruction of the USSR, the erosion of power of Iran due to the long drawn Iraq - Iran war, and the growing presence of the USA in the Gulf which got firmly consolidated after the Kuwaiti crisis of 1990-91 drastically reduced for the USA the strategic importance of Pakistan. Pakistan's so-called clandestine nuclear weapon strategy and the desire to develop a credible ballistic missile delivery system provided the excuse not only for denying to Pakistan weapon systems like F-16, P-3 Orion, Sea Sprite helicopters etc., but also to recall eight Brooke and Garcia-class frigates that were on lease. The decision to terminate the lease on these frigates probably hurt Pakistan most because they were seen as the primary ASW weapon system, and the only viable challenge to the growing submarine capability of India. Pakistan had to rush to fill that gap, and it approached Britain for that purpose.

As seen before, large surface vessels of the Pakistani Navy were largely of British origin though paid for by the Americans. After the short honeymoon with the USA, Pakistan once again went back to Britain for those ships. Many of these ships were becoming surplus either because of more modern replacement or because of the changing strategic requirements after the end of the Cold War and the disintegration of the USSR. Pakistan had earlier acquired one Country-class destroyer. In 1982, it acquired two ex-British Leander-class frigates, geared primarily for ASW role. The American decision to terminate the lease of the eight Brooke and Garcia-class frigates, however, forced Pakistan to search for and acquire their replacements as early as possible. Pakistan opted for six Amazon-class (Type 21) frigates that were becoming surplus for the British Navy. These were transferred to Pakistan in 1993-94 and replaced the Brooke and Garcia-class frigates. This was the first time that the Pakistani Navy had purchased so many large and sophisticated surface vessels in such a short time.

Today, Pakistan's Navy has a very sophisticated mix of sea-denial capability and a fast growing ASW and sea-control capability. Its sea-denial capability is based upon the maritime reconnaissance role of four Atlantic MR aircraft that are not only expected to give an advance warning of the threat but also to guide and help coordinate the attack. The attack capability is based upon a triad of aerial, surface and sub-surface platforms consisting of four Atlantic MR aircraft, five Mirage V fighter-bombers and six Sea King helicopters, three Gearing-class destroyers, eight ex-Chinese missile boats and six Daphne/Agosta-class submarines. All these platforms are capable of launching long-range anti-ship missiles like the French Exocet, the American Harpoon or the Chinese Hai-Ying. These six French submarines and three newly acquired midget submarines are also capable of launching torpedos. Though these multi-tiered launch platforms will pose their own problems of C³I in actual operation, it will be very difficult even for a medium power to affect a breakthrough, approach Pakistani coast and attack targets protected by this cover.

Unlike the strong combination for the sea-denial strategy, Pakistan's ASW and sea-control mix is still weak and vulnerable. As noted before, it had been given a lower priority after the 1971 war. Pakistan's dependency upon fluctuating American interest in the region was also responsible for that weakness. Today, Pakistan has a mix of about 12 destroyers and frigates. One more of that class is serving with Pakistan's Maritime Defence Agency; a dignified version of the Coast Guard. Remaining vessels are of British origin, and consist of one Country-class heavy destroyer (more in the nature of a training ship) two Leander-class frigates and six Amazon-class frigates. Thus, it is possible that two remaining frigates of that class may be armed, besides their basic ASW weapons, like torpedoes, with anti-ship missiles like the Exocet or

Pakistan : Naval Build-up

	1951	1956	1965	1971	1975	1981	1986	1991	1994
Submarine	-	-	1	4	3	6	6	6	6
Midget Submarine	-	-	-	-	6	6	6	3	3
Cruiser	-	1	1	1	1	1	-	-	-
Destroyer	3	8	5	5	4	8	8	6	3(+1)*
Frigate	4	4	2	2	-	-	-	10	8
Corvette/large patrol craft	-	-	-	-	2	4	4	4	-
Fast attack craft missiles	-	-	-	-	-	4	8	8	8
Guns	-	-	4	4	13	13	13	9	3(+3)*
Torpedoes	-	-	-	-	4	4	4	4	4
Minesweeper	7	7	8	8	7	6	3	2	8 (+2)
<u>Naval Air</u>									
Strike aircraft with ASM	-	-	-	-	-	-	(5)	5	5
Strike helicopter with ASM	-	-	-	-	(6)	6	6	6	6
MR/ASW aircraft	-	-	4	-	(3)	3	3	4(+2)**	4(+3)**
ASW helicopter	-	-	-	-	-	-	2	2	2 (+4)

* One more Gearing-class destroyer and three Shanghai-II-class patrol boat transferred to Maritime Defence Agency

** Fokker F-27 aircraft - visual reconnaissance only.

the Harpoon. There are reports that sophisticated systems from the old Gearing-class destroyers, like the Vulcan Phalanx gun system, with a limited anti-missile capability, may be fitted to more modern Amazon class frigates, and these Gearing-class destroyers will be ultimately phased out or kept in reserve. Thus, very soon Pakistan's effective surface fleet of heavier vessels would be limited to two Leander-class and six Amazon-class frigates. Of them one can anticipate that at least two Amazon-class frigates will be fitted with anti-ship missiles and Vulcan-Phalanx system to give them superior sea-control capability on the high sea. Now, after Pakistan has committed more than \$ 1 bn for the acquisition of three modified Agosta-class submarines from France, it will be difficult for the fund-starved Pakistani Navy to augment its fleet of heavy surface vessels unless the wheels of great power strategy once again favour Pakistan.

The report of Pakistan's modified Agosta-class submarine deal with France has generated an exaggerated response in some circles in India. These submarines will be the modified and updated version of the Agosta-class submarines now being used by Pakistan. These Agosta-class submarines, as also the older Daphne-class submarines, have been modified to launch the American Harpoon anti-ship missile. The new submarines will be armed with Exocet sub-launched anti-ship missiles. Thus, no great addition has been made to their fire power. The modified Agosta-class submarine ordered by Pakistan will, however, have one distinct advantage over other conventionally powered submarines. That advantage lies in its air-independent propulsion (AIP) system. Unlike other conventional submarines, these new submarines will not have to come to the surface to charge their batteries. Rather, the new system, called Mesna by the French, will reportedly burn ethanon and compressed oxygen in the combustion chamber to drive the turbine which will in turn generate electricity to power the submarine. That will enable the submarine to remain under water for a considerably longer time.

This system has been perfected by Sweden which had successfully powered a modified Nacken-type submarine equipped with two Stirling V 4-275^R engines, developing 250 kws. The AIP system will be integral to the new Gotland submarines being built by Sweden. Reportedly, Sweden was competing with France for the sale of submarines and was offering the AIP system as an added incentive. The French, therefore, have promised to provide their own version of AIP system. But, unlike Sweden, France has not operationally demonstrated the system. One can anticipate some teething troubles.

Pakistan seems to be in no great hurry to acquire the new submarines. The first of these modified Agosta-class submarines will be exclusively built in France and will not be available for at least three to four years. The second

submarine will be built in France and assembled in Pakistan. The third will be reportedly built in Pakistan. Thus, the modified-Agosta programme of Pakistan is most likely to spill over into the next decade. By then, not only three Daphne class submarines acquired in 1970 but also the fourth submarine of that type will be needing urgent replacements. Also, the two Agosta-class submarines acquired in 1979-80 would be approaching the end of their effective life. Thus, Pakistan will, at best, be able to stabilise its submarine fleet, though with some distinct advantages.

Undoubtedly, the AIP system will enhance the effectiveness of these submarines. But, if Pakistan wishes to have a conventionally powered submarine with propulsion characteristics of a nuclear-powered submarine, Pakistan will have to develop equally sophisticated C³I system that will have to include at least a more updated reconnaissance capability and also a very low frequency (VLF) communication network capable of maintaining contact with submerged submarine. Pakistan has not succeeded so far in acquiring three P-3 Orion MR/ASW aircraft, and under the present circumstances, is not likely to get them. Hence, the transfer of three Atlantic MR aircraft, as a part of the modified-Agosta deal, is understandable. These are old aircraft and will be constantly in need for spares if they have to provide the crucial MR cover for an effective sea-denial strategy for Pakistan.

One can argue that Pakistani Navy has settled for a limited role in the over-all Pakistani strategy. While the main thrust will remain on air-land battle, Navy will be playing three supportive but important roles. The most crucial of them will be keeping the sea-lanes open, at least along the Makaran coast via the major sea lanes of the Gulf of Oman and the Arabian sea, so as to frustrate future Indian attempts to blockade Pakistani ports. The second is to deny the Indian Navy the chance of penetrating Pakistani defences and attacking the shore targets. Lastly, Pakistani Navy will seek to dominate if possible the Indian sea lanes to and from the Gulf so as to try and impose an oil blockade on India far away from India's immediate shores. Though all the three objectives are inter-connected, one notices a greater tilt towards sea-denial rather than sea-control in the overall Pakistani naval strategy.

New Challenges to Security

MAJ GEN DIPANKAR BANERJEE, AVSM

THE BACKDROP

Five years after the end of the Cold War, the world is still in a state of transition. From the certainties of the bipolar global confrontation, it is entering a period of uncertainty and unpredictability. This is hardly new in international relations. The last three hundred years and more, since the Treaty of Westphalia introduced the nation state system in Europe, modern political history has been the story of the rise and fall of great powers and changes in their state of balance. More often than not the world power equation in the past was multipolar, which led to the formation of alliance systems that the states exploited through diplomacy to enhance their respective position. The post Second World War era was a major exception when bipolarity alone prevailed.¹ Even then it left out much of the Non-Aligned World, which attempted to shape its destiny unfettered by the rivalries of the bipolar confrontation. The end of the Cold War has brought this to an end, yet has not replaced it with another system that addresses satisfactorily the question of interstate relations and of the nature and possibilities of conflict in tomorrow's world.

The current environment is not entirely promising. The end of the old order has introduced a new period but not a more orderly world. The thawing of the Cold War has not led to the blossoming of the buds of peace. Instead we are experiencing new and perhaps more destructive conflicts which earlier lay submerged while the larger global confrontation prevailed.² In any case the Cold War ended confrontation only in one dimension - Europe, no doubt with residual beneficial effects elsewhere. But these were marginal in Africa and less significant in Asia. It is true that after every great war there has often been a chill peace, often interspersed with tension and conflict.³ That is what we are experiencing today. One has to briefly look at the preceding one and a half century to put this into a historical perspective.

It is necessary to go back at least to the Vienna Conference of 1815. This Treaty, even though it stabilised relations between nations in Europe and led to a period of prosperity and growth in that environment, shifted the scenes of conflict to the 'new world'; to the Americas, Africa and Asia. The colonial conflicts in these far away continents kept these very same European powers

more or less constantly engaged in warfare. Its unequal nature led to the establishment of large colonial empires that kept almost two thirds of the world more or less totally subjugated for nearly two centuries. Its consequences are with us even to this day.

The First World War was the result of the contradictions and confrontations between the powers in Europe and the consequence of the failure of balance of power politics. It was also to be the last of the imperial wars. At its end there was an attempt at a global dispensation that was patently arbitrary and unfair to the defeated powers and did not address the question of the colonial world at all.

The wars of imperialism were replaced in the 1920s by conflicts between ideologies. New ideologies took birth even before the end of World War I and soon afterwards challenged the entrenched as well as fledgling democracies of the world. First came Communism, then fascism, and later Nazism, leading to that great conflagration, the Second World War. This global conflict as well as the Cold War that followed were that of ideologies confronting each other. Victory in such wars would not necessarily contribute directly to national power as the objective was to prevail over another ideology. This reintroduced the concept of balance of power now at a global scale and brought in the new term 'zero-sum game', where each side was compelled to counter the 'gains' of the other, so that the balance sheet overall will remain nil.

The Treaties of Versailles and Yalta (Second World War) attempted to shape the international order after the respective wars. The first gave birth to the League of Nations. A still birth in a sense, as the United States refused to join, which made the organisation near impotent. The United Nations was to fare somewhat better even though it was the child of its times and reflected the bias and predilections of that bygone era. It discriminated entirely against the vanquished in favour of the victors, though not as severely as at Versailles. It totally ignored the developing world which was still in colonial chains. The instrumentalities and mechanisms set out at Yalta and Bretton Woods discriminated against the developing world, whether it was the United Nations with its all powerful executive body, the Security Council, or the international financial institutions like the International Monetary Fund and the World Bank. No doubt some tokenisms were allowed. KMT China found a place in the Security Council, to be replaced after over two decades by the People's Republic of China.

The developing world, as it slowly emerged from colonialism in the 1950s and 1960s, attempted to form their own organisations to break-out of the rigid structure of the Cold War. The first attempt was the Asian Relations

Conference at New Delhi in 1947. The next was the Afro-Asian Conference at Bandung in 1955 where an attempt at a new framework of international relations was laid through the Ten Point Bandung Declaration. finally, the Non-Aligned Movement (NAM) was established on a global basis in the early 1960s. In economic interaction efforts were made through 'Group 77' and 'Group 15' Organisations to articulate the points of view of the developing World.

The dramatic transformation of the security environment actually came about in the mid 1980s. In November 1985 at Vienna, Presidents Reagan and Gorbachev announced together that a nuclear war could not be won and hence must never be fought. Almost at a stroke it outlawed war at one level - in the nuclear dimension. Subsequently both the USA and USSR initiated substantial measures to reduce the possibilities of war in other area. Gorbachev's unilateral reduction of armed forces and major military equipment from Europe, the Intermediate Range Nuclear Forces Treaty, the Strategic Arms Reduction Treaties I & II, the Conference on Security and Cooperation in Europe, the Vienna Document under the Helsinki process and the Conventional Forces in Europe Treaty, all helped to eliminate the possibility of a sudden major war in Europe. But this has not eliminated war elsewhere. In a way it has only changed its East - West orientation and in some manner its conduct.

The world has indeed paid a very heavy price for this non-war. At one level the vanquished stands totally destroyed. The Soviet Union has disintegrated. Its economy is in ruins and its ecology and infrastructure lie shattered with little chance of renewal in the near future. Many billions of dollars that it does not possess, will be required to restore it. Even the victor is vastly diminished. The USA's gross domestic product of \$ 5.9 trillion cannot afford a military expenditure around 7 per cent. Its total defence spending of \$ 11 trillion during the entire Cold War has lowered its standards of living, led to loss of industrial competitiveness, deteriorated its public education, has caused urban blight and led to a drug culture among its young. These developments have reduced US global influence and cast doubts on the nation's ability to lead. Cleaning the USA of toxic pollution will also require many hundreds of billion dollars and take many decades to be achieved. Yet, President Clinton's military budgets over the next five years anticipate an expenditure of \$1.3 trillion.⁴

The developing world too has had to pay a heavy price, both directly and indirectly. Its weapons expenditure remained very high in this era of strife. Quite often it was also fuelled by the urge for profit of the military industrial complexes of the developed world. The total debt of the developing countries crossed \$ one trillion in 1986. Since 1982 the net transfer of capital turned

negative for the developing world. In 1989 the amount transferred from the South was \$ 50 billion. Far from receiving assistance, actually the poor of the world have provided the equivalent of six Marshal Plans to the rich North.⁵

THE POST COLD WAR WORLD

The end of the Cold War has introduced critical changes. One dimension of this was symbolised by Francis Fukuyama in his treatise, *The End of History and the Last Man*. It is his observation that with the end of the great ideological debate between liberal democracy and totalitarianism, we have seen the end of conflict as we know it, in the developed world. But the developing world, "mired in history", and which is yet to see the end of this debate will continue to experience wars.⁶ Though the prescription really pertained to a global conflict, perhaps it was hoped that the 'liberal democracies' will no longer experience a major war. But in the interdependent closely interrelated world, the western powers can hardly remain aloof from global turbulence. That is the reality today from former Yugoslavia to Somalia to Rwanda and Haiti.

Samuel Huntington, on the other hand, in his essay, "The Clash of Civilizations", paints a different picture of future wars.⁷ It is his contention that these will no longer be against contending ideologies (thus agreeing with Fukuyama?) but against civilizations. He claims that, "The fault lines between civilizations will be the battle lines of the future". This implies that, "not ideology, but civilizations as the basis in the latest phase in the evolution of conflict in the modern world". He goes on to describe 'civilizations' as Western, Confucian, Japanese, Islamic, Hindu, Slavic-Orthodox, Latin American and possibly African.⁸

While the thesis is cogently argued it may be said to have a relevance only from a western perspective. There are atleast two issues that immediately arise. First, is over the delineation of 'fault lines'. Unlike in the context of *Western* and *Slavic-Orthodox* civilizations in Europe, where Huntington provides a clear demarcation, dividing lines are blurred in other cases. In India we find it difficult to locate a *Hindu* civilization, even though there may be at one level a limited Hindu renaissance in line with rising global religious revivalism. There is instead a larger *Indian* civilization that transcends religion. It may instead be argued that conflictual situations arise when attempts are made to superimpose other civilizational values at the expense of existing historic and socio-cultural ethos.

One of the reasons why such scenarios are emerging in the West is perhaps because we have yet to see the end of the great ideological struggle, just as we are yet to see the end of conflict. It is relevant at this juncture then to identify the critical forces that affect today's world.

- First, the pulls and pressures of economic forces. At one level are integrating factors, such as economic interdependence, globalization, and supranational capitalism. At another is the widening gap between the 'North' and the 'South', attempts at regional economic groupings and tensions in the developing world due to the unfulfilment of rising expectations.
- Next, is the diffusion of power and the emergence of regionalism. Economic globalisation is decentralising power more widely and regional power centres with credible military capabilities are re-emerging. Regional powers may be a factor in shaping the global security scenario. Conditions are still too fluid to allow a clear definition of regional powers.
- Next, is the rise of ethnicity and assertion of political identity. The desire to increasingly identify with smaller and more cohesive groups along with the decreasing influence of larger nationalism, is leading to the fracturing of states into smaller entities. People are more keen today to identify themselves by race, religion, language, tribe or even a shared history. Simultaneously, these growing populist assertions are increasingly taking recourse to force.
- With the rise of ethnicity, there is also the phenomenon of the diminishing power of the state. Yet, expectations from government have not reduced, leading to pulls and pressures, which it is unable to meet adequately.
- Finally, there is population movement and environmental degradation. While the population in the North is likely to remain static and in turn become aged; in the south it is likely to double every 25 years. This growth is not uniform and a wide variation can be found within the South itself. This in turn will lead to even greater population movement both within the South and from the South to the North. Along with this and spreading industrialisation will result ecological degradation and become issues of potential conflict.

A NEW WORLD ORDER

No one has been able to define the New World Order with any degree of clarity, though attempts have been made at various levels. One view was articulated by President George Bush on September 11, 1990 in a speech for the build-up to the Gulf War. In defining the purpose of the War, apart from its four broad strategic aspects, he mentioned a fifth overarching objective, to

establish a 'new world order', "A new era - free from the threat of terror, stronger in the pursuit of justice, and more secure in the quest for peace, an era in which the nations of the world can prosper and live in harmony".⁹

The reality today is that there are just as many conflicts raging around the globe as in the past. If anything their number has probably increased. Indeed one of the defining moments of the post Cold War period was the Second Gulf War, which was the most destructive war that the world had seen after Vietnam. It is only patterns of conflict have changed. Its contestants are different and its objectives vary from the past. But the stark reality is that the world is not free from terror. The global environment is not characterised by justice. For millions of people harmony and prosperity are but distant dreams. Indeed, it has become more fashionable to describe the present situation as one of "New World Disorder".¹⁰

ISSUES OF FUTURE CONFLICT

With the changing strategic environment new issues are emerging that have the potential to lead to major conflicts. Three critical development are discussed below.

Primacy of Economics Frederick Engel's understanding that economic competition is ultimately more important than military competition seems at last to be realised. Global competition now is centred more on questions of trade, tariff, market access and investment and are dominating political discourse. This in turn is linked to domestic economic advancement. National power is being measured more in terms of per capita growth in GNP than military strength. While this is giving rise at one level to competition, at the same time the world is getting increasingly interdependent and is in the process of unification as in Europe, Asia-Pacific and North America. Will this in turn lead to carving out areas of economic domination by the major powers, a situation that led to the wars of the past?

REEMERGENCE OF NATIONALISM AND ATTEMPTS AT SELF DETERMINATION

The end of the Cold War has also seen the birth of a new era of nationalism. Actually it is difficult to say whether it was the cause or the consequence of the end of the Cold War. In the past, whether in Europe, Africa or Asia, national and political maps have not always coincided. With the end of the Cold War and the resurgence of nationalism we are witnessing a new kind of fragmentation, often without sufficient cause acrimony, as in the case of Czechoslovakia; but on other and more frequent occasions through great violence. This growth of nationalism is splintering the world in to a body of

many new nation states. In 1776 the world had around 35 empires, kingdoms, countries and states. By the Second World War the number was about 70. In the late 1960s it was around 130. Today there are some 200 nation states in the world which are all sovereign in their own rights. An immediate consequence of this new nationalism is the emergence of ethnic separatism, with its new terms such as 'ethnic cleansing'. Amitai Etzioni has recently argued that this emphasis on self determination will only lead to more conflict and turbulence and militate against the more substantial good of 'democracy'.¹¹

Rise of Religious Strife Particularly of Islamic Revivalism. Wars have often been fought in the past over religion, yet religious wars were also used as a camouflage to hide other ethnic, political or economic issues. Because religion is a potent motivating factor its misuse is rampant. It is in this context that the rise of Islam needs to be noted. It is far too simplistic to term what is presently happening in the Islamic world under the broad and inadequate category of "fundamentalism". For fundamentalism by definition means return to roots and this cannot be a negative factor. But it is adherence to outdated dogma, to precepts propagated many centuries ago in a different environment, that is what is fundamentally disturbing. It is politicisation of Islam and using it as tool for revolution that causes instability in the neighbourhood and worldwide concern. Many conflicts currently in progress allot in them some role to religion. Whether it is between Azerbaijan and Armenia, or Serbs and Croats or Muslims and non-Muslims in Bosnia-Herzegovina, religious overtones prevail over many of these. Islam was treated in the past with excessive neglect and today it is considered with undue alarm. Yet, the developments in the southern Mediterranean and in West Asia should not be under estimated. Its manifestation is already felt in many countries and can spread far from this region.

PARADIGM CHANGES AFFECTING SECURITY

Beyond these global power structure alignments and interests major paradigm changes are altering the nature of international security. It is necessary to describe some of these briefly.

FROM EXTERNAL AGGRESSION TO INTERNAL INSTABILITY

An overtly declared war went out of fashion after World War II. Yet, wars have persisted. We have had numerous undeclared wars and interventions during the post colonial era. By most counters these have been more than two hundred. But the Soviet aggression in Afghanistan, totally without cause or excuse, and the more justified intervention by Vietnam in Cambodia, both proved to be equally disastrous to these two aggressors. No longer would

naked aggression remain profitable or captured territory be kept under control without great cost. The growth of nationalism in the developing world and the power of international sanctions, have all proved too strong to resist. The Iraqi aggression against Kuwait, potentially of enormous economic advantage to Baghdad, only helped to nearly destroy Iraq.

The pattern of conflict in today's world is moving away from inter-state of intra-state, often with a large element of external involvement. Force is projected through proxy wars, state sponsored terrorism or the like, often exploiting an internal weakness. It is the latter that allows external intervention to be successful. Whether it is 'peaceful evolution' as in the erstwhile Soviet Union and perhaps in China in the future, it is the weakness of the State that is meant to be exploited. For what is meant to be undermined is the cohesion of the nation state itself.

INTERPLAY OF ECONOMIC FACTORS

Three characteristics in the international economic environment have come to acquire primary importance. First, the centrality of economics and economic management in domestic politics. Second a recognition that international trade is essential to national economic development. Hence a movement across the globe for marketisation of economics and global integration. Lastly, simultaneous with attempting to find global solutions to trade problems are efforts at safeguarding national economic interests. In the developing world including the former centrally controlled economies, the urgency of economic development and the need to meet the growing aspirations of the people are dominating all other factors.

Alongwith these economic changes, international trading has become much more complex and interdependent and is posing major challenges to economic control by individual states. Global investments are growing phenomenally and driving domestic structural changes. Capital is truly international and moves across continents at the twinkling of an eye. Investments flow wherever conditions are most favorable. Yet, though at the global level the forces of market economy tend to integrate, there are also major efforts at forming regional economic groupings.

EMERGENCE OF REGIONAL CONFLICTS

It is the sudden convergence of these multidimensional issues that are giving rise to a plethora of regional conflicts. This is borne out amply by current realities. The Jane's Defence Weekly analysed that as of January 1993 there were a total of 73 "hot spots" around the world. These included 26

ongoing conflicts, 23 areas of potential conflict and tension in another 24 places.

It is even more interesting when one analyses the characteristics of these regional conflicts. The more prominent symptoms are:-

- Proxy wars, supported extensively by one or more countries from outside.
- Conflicts that use a large variety of highly sophisticated weapons. Insurgents and terrorists today are particularly well equipped, often far better than the security forces. The availability of stinger missiles, rocket projectiles and other advanced weapons and equipment are especially interesting in this context.
- Some of the conflicts have a high degree of international involvement. The trend began in Afghanistan where nationals from the Islamic world were induced to come and join the jihad. This has subsequently led to the formation of a group of international Islamic terrorists who can influence a region from Morocco to Philippines.
- Acts of terrorism have become enormously violent. Terrorist killing of innocent people, holding citizens to ransom and random and mindless slaughter by terrorist groups have become the order of the day.
- Finally, the spread of sub-optimal weapon systems in very large numbers is another critical element. Especially dangerous is the spread of Kalashnikov series of rifles and land mines. Some one hundred million of these rifles were manufactured in the last 50 years in the Soviet Union, East European countries and in China. Over 115 millions of mines are currently planted around the globe with the greatest concentration in Afghanistan and Cambodia.

NEW CHALLENGES TO INDIAN SECURITY

With this overview it is necessary now to move from the international to the national; from the issues that concern the world to those that are of prime importance to India. For this we need to deal with the specifics rather than with generalities. But even before that it is necessary to consider attitudinal questions. The changes required are mainly in three areas.

First, to deal with proxy wars, insurgencies and state sponsored terrorism, the answer lies not entirely in a military response. There is an equal if not larger importance that should be devoted to strengthening national resilience. In its ultimate analysis national resilience is improving effective administration, economic development and political participation at grass roots level. Military response may still be necessary and indeed in most cases must provide that final bastion, but it can never replace good governance.

Secondly, we need to change our mental thinking and prepare more deliberately for peace. The old Roman adage - *Si via pacem para bellum* - that if you want peace, you must prepare for war needs to be replaced. Instead, the opposite should be considered. If we want peace, we must prepare for peace. The acceptance of this basic fact will then alter many of our strategic thinking. In place of preparing for a war of convulsive destruction through pursuing strategies of deterrence, we need to consider alternative means. One area that holds great promise is the doctrine of defensive war. It is not entirely a new subject. It has been practised from time long ago in history. In recent years Mao Zedong's People's War was one such concept. Prior to the end of the Cold War it was a much debated topic in Europe. Defensive doctrines evolved based on the principle that it was not necessary to attack in order to defend one's territory. Defensive weapon systems today provide many more options and are more deadly than those that facilitate an attack. Tactical doctrines could be developed to utilise this advantage. To suit the specific operational environment will require greater attention and deliberate preparation.

Thirdly, we need to develop and enhance the concept of cooperative peace and security. This doctrine rejects the concepts of alliances and balance of power. It rejects the theory that one state's security can be enhanced only at the expense of another. It advocates cooperation and partnership. The reality today is that with all nations save one that are in India's neighbourhood, this strategy holds great promise today.

CONCEPT OF COOPERATIVE PEACE AND SECURITY

Cooperative peace and security has to be implemented in two dimension - domestically and internationally. Domestic peace and security can be achieved based on five broad principles. These are outlined below:-

- Provide a broad political structure to allow maximum expression of respective desires and regional aspirations within a single national framework.
- Devolution of political power, authority and responsibility alongwith accountability to lowest functional levels of authority.

- Complete the process of nation building by a fixed time frame, say 2015, including all the tasks that this entails.
- Strengthen local police and security mechanisms within the parameters of local authority with full autonomy of operations.
- Finally, ensure effective and efficient administration at the lowest functional level so that development becomes a reality.

At the level of international affairs ten guiding principles would help give form to cooperative peace and security.

- Commitment to peace as a pre-condition for human development. Peace and security, therefore, must be sought in an integrated approach to ensure harmonisation at the global, regional, national, societal and individual levels.
- Respect for the sovereignty of states, and cooperative rejection of all attempts to compromise state sovereignty.
- Acceptance of the principle of mutual and equal security, military sufficiency and the maintenance of military balances at the lowest possible levels.
- Recognition that all states - large and small, rich and poor - are equal. Respect for the equality of states and cooperative rejection of all attempts to compromise the principle of equality.
- Cooperative rejection of any attempt at hegemonism, imperialism, colonialism and political dominance, whether these be from regional or external powers.
- Respect for the territorial integrity of state, and cooperative rejection of any attempt to violate this.
- Commitment to peaceful settlement of disputes, and co-operative pro-active action to encourage and ensure the pacific settlement of disputes.
- Respect for the inviolability of frontiers and mutually accepted lines of control, and cooperative rejection of any attempt to violate them.

- The construction of processes of conflict prevention, confidence building, and conflict management and resolution, at the bilateral and multilateral levels.
- The deliberate construction of comprehensive cooperation between states, including economic cooperation, based on the principle of mutual respect and mutual benefit.¹²

CONCLUSION

Change is the only constant in the world whether in physics or social sciences. This is a reality that has long been accepted. The world order too is constantly in transition. At times the pace and content is different and more 'substantial'. This is the reality today. The issue is not whether change is necessarily for the better or that it leads to a more orderly world. That result is only for the human race to determine for itself. Such a time is now at hand and opportunity beckons.

There is a need to put aside our old thinking and adopt new approaches to meet the challenges of the future. Security is a dimension that calls out for a change today. We need to acquire greater awareness and knowledge of these emerging opportunities, both nationally and internationally. Only then can we fashion new strategies. The ultimate need for security is to provide opportunities for greater development to meet the aspirations for a secure future for all our citizens. A future that is more self fulfilling in our own particular national ethos.

NOTES

1. Kenneth N Waltz, "The Emerging Structure of International Politics", *International Security*, vol 18, no. 2, p. 44. Waltz says that at one time in the multipolar era there were as many as twelve great powers. We are likely to see something similar over a period of time.
2. Waltz, *Ibid*, p. 73.
3. Michael Howard, "Cold War Chill Peace" *World Policy Journal*. p. 33.
4. Bernard Lown in his Indira Gandhi lecture of 1993 at New Delhi, *Tribune*, December 21 & 23.
5. *Ibid*.
6. Francis Fukuyama, *The End of History and the Last Man*, (Penguin Books, London). 1982
7. Samuel P Huntington, "The Clash of Civilizations?" *Foreign Affairs*, vol 72, No 3, Summer 1993, pp. 22-49.
8. *Ibid*.
9. President George Bush in his Aspen Speech, July 1990.
10. Dominique Moisi was one of the earliest in calling the new environment as one of "The International Disorder" in column in *Europe Affairs* in 1991.
11. Amitai Etzioni "The Evils of Self Determination", *Foreign Policy*, Winter 1992-93, pp. 21-35.
12. "Towards a New Asia", *A Report of the Commission for A New Asia*, 1994, pp. 13-14.

Letters to the Editor

Letters are invited on subjects which have been dealt in the Journal, or which are of general interest to the services.

I

BRIGADIER PRITAM SINGH - SAVIOUR OF PUNCH

Sir,

In the USI Journal of April-June 1994 Brigadier R C Butalia has highlighted the part played by Brigadier Pritam Singh in the defence of Punch. As an officer on the staff of 161 Infantry Brigade during the critical days of Oct. - Dec.47, I have first hand knowledge of the heroic part played by Pritam Singh, especially in the battle of Shelatang and the pursuit of the enemy upto URI. Pritam Singh drove up beyond Uri to Chakothia and pleaded with Brigadier L.P. Sen to be allowed to continue the pursuit upto Domel. Had his request been accepted the Kashmir problem would, perhaps, have been solved in 1947 itself. Pritam Singh can truly be called the saviour-not only of Punch but of Srinagar as well.

In 1951 it was my painful duty to hold Pritam Singh (brought down to major) as a prisoner facing a court of inquiry on frivolous charges. During the time Pritam was in custody we shared a two room hutment, I was then able to get an insight into the other side of his personality. He was a kind hearted person of impeccable integrity. He was a victim of cross fire between two generals.

Brigadier Butalia has done great service to the Army by putting the record straight.

In the U.K. the cases of soldiers who were wronged as far back as World War I are still being reconsidered and their families suitably compensated.

It would be in the fitness of things if the Govt. of India restores the rank of Brigadier to Pritam Singh and awards the pensionary benefits to his family/heirs which they would have earned had Pritam Singh not been dismissed unfairly.

This step would be a great morale booster to all ranks of the services past and present.

Yours sincerely

Mini Farm
P.O. Chatterpur
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Maj Gen Nirranjan Prasad (Retd)

II

USI JOURNAL

Sir,

During my recent visit to the UK, I had the occasion to meet a number of old British Indian Army Officers as well as a few serving British Army officers. I was pleasantly surprised that most of the ex-Indian Army Officers were regularly reading the USI Journal to keep in touch with the ethos, life, spirit, and thought of the Indian Armed Forces. Practically, all of them commended the standard, contents, nature and quality of the articles and the level of maturity, knowledge, and expression of the authors.

It was flattering for me to hear the views of our old Comrades on the standard of our premier defence Journal which I wish to share with our members and the staff of the USI whose hard work and planning frequently goes unrecognised.

Yours sincerely

D-206, Som Vihar
R K Puram, New Delhi

Maj Gen L S Lehl
PVSM, VrC (Retd)

Service to the Services

CANTEEN STORES DEPARTMENT

"ADELPHI"
119, MAHARSHI KARVE ROAD,
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**IN PURSUIT OF ENHANCED CONSUMER
SATISFACTION TO OUR VALIANT
ARMED FORCES**

Review Article 1

A Sidelight to the Partition of India

LT GEN M L THAPAN, PVSM (RETD)

A surgical operation is performed on a patient in the hope of his partial, if not whole, recovery. The surgical operation performed on India, in the shape of partition in 1947, was doomed from the outset. It was based on false premises, in that political division of a multi-religious community, spread over a vast sub-continent, solely on the basis of a particular religion, is feasible or justified. Nevertheless power hungry politicians, went ahead with division. Substantive proof of this falsity came with the emergence of Bangladesh, (formerly Muslim East Pakistan), independent of its western counterpart, less than twenty five years after the creation of Pakistan. In a recent work, a Muslim academician has revealed that only 3.5 per cent of the total Muslim electorate, voted for the muslim league (not necessarily for Pakistan), in the 1945 - 46 election in undivided India. The hollowness of the claim for a separate religious homeland is exposed by the reality that there are more Muslims in India today, than there are in Pakistan.

General Shahid Hamid's book was first published in 1986. His friend, Peter Willey, in his preface to this second edition, states that a second edition was important for two main reasons. Firstly, many people who were deeply interested in the subject of Partition in India, were unable to obtain copies of the earlier edition. Also, Willey considers it necessary to deal with the strong reactions to this book in literary reviews, letters, debates and broadcasts, after its first publication. This he does in a preface of extra-ordinary length, together with the examination of the second reason, that of the appearance of new evidence, on the alleged tampering of the Boundary Award of Sir Cyril Radcliffe, by the Viceroy, Lord Mountbatten. The insinuation is that it was modified in favour of India, thus casting doubts on Mountbatten's integrity. Peter Willey also joins issue with Philip Ziegler, Mountbatten's biographer, who was asked to write the foreword to the first edition of this book, for his patronising tone and his studied denigration of Shahid Hamid's intellectual capabilities. In a curious introduction to what is claimed to be objective history, the author felt constrained to issue a corrigendum to Ziegler's foreword, refuting some observations made by the latter. Reading through these preliminaries, it is obvious that General Shahid Hamid's book is a subject of great controversy.

Shahid Hamid was (he died in March 1993), a King's Commissioned Indian Officer. He received his early education of Colvin Taluqdars' School,

✓Disastrous Twilight : A Personal Record of the Partition of India. By Maj Gen S. Shahid Hamid, Yorkshire, Pen & Sword Books, 1992, p. 365, £ 19.95, ISBN 0-85052-396-6.

Lucknow, Aligarh University, and then at Sandhurst. In March 1946, he was appointed Private Secretary to Field Marshal Sir Claude Auchinleck, Commander-in-Chief, India. His book begins from this date, and we know little of his earlier background, except that he was commissioned into the Indian Cavalry and was serving as Commander, Royal Indian Army Service Corps, in the rank of Lieutenant Colonel, when the call came. There is no reference to his military service in the Second World War, or in the earlier campaigns on the North West Frontier. Though his home was in India, it is clear from the tone of his comments that he was a protagonist of Pakistan, even before its creation.

The main frame of this book is a diary kept by the author, amplified by explanatory chapters and by appendices, mostly military papers written by Auchinleck, his staff, or transcripts of talks given by him during the heady days of partition. The diary itself is pedestrian, and from the intensity of the comments on topics and personalities reproduced, it is obvious that the temptation to polish it with the benefit of hindsight, and the passage of time, has not been resisted. A diary thus re-written ceases to be objective. Shahid Hamid does not disguise his venom for India, for Indian politicians frustrating the creation of Pakistan, and for Mountbatten, whom he regards as sold to the Indians. His hero is Auchinleck, with which judgement, however, no dispassionate witness, who lived through that period, will disagree. If for nothing else, this book is worth reading for the tributes paid to Auchinleck; Jinnah is his other model, whom he claims to have known since the early thirties and who he courted throughout the Pre-Partition and Partition years, in defiance of the apolitical trust reposed in him as a serving soldier in uniform. To what degree Jinnah reciprocated this adulation is not recorded, but the book does quote a perceptive reply given to a question asked by prospective Pakistani officers of Jinnah, at a private dinner at Shahid Hamid's house in New Delhi, of their hopes for promotion in Pakistan. In his typical style, Jinnah looked them over from head to foot and said: "you Mussulmans, either you are up in the sky or down in the dumps. You cannot adopt a steady course. All the promotions will come in good time, but there will be no mad rush. "Well said by a man of undoubted percipience, a Muslim only superficially, but who used religion as an expedient for furthering his political ambition.

Even after the passage of several decades, the military papers in the appendices are worth study. They are a model of cogent reasoning and clarity of expression. There is a particularly interesting paper on the strategic implications of the setting up of an independent Pakistan, prepared in April 1947, under the directions of Sir Claude Auchinleck. It gives one an insight as to the level of thinking which prevailed, and ought to prevail, in a Service or Combined Defence Headquarters. The memoranda written by the 'Auk', and his addresses to the officers of the Indian Army, bring alive the greatness of his leadership.

Peter Willey admits in his introduction that this book received more brickbats than bouquets, when it was first published. The reason for this was the author's blatant partisanship for Pakistan and those who worked for its creation. This colours what might otherwise have been an objective account of the partition. History may well apportion blame to Mountbatten, for the unseemly haste with which he ended British rule in India, and the incalculable suffering so inflicted on her people. Given the prevailing circumstances, the recalcitrance of politicians in India, the mood of the people of both Great Britain and India, he had an impossible task. His motives, however, were above reproach. He does not deserve Shahid Hamid's continuous carping criticism.

The map of India reproduced on the end papers has some glaring errors. Junagarh is not in Orissa, but in Gujarat, Palam is Delhi's airport and not in Maharashtra, Nasirabad is in India and not in Baluchistan, and the omission of Kashmir State's Southern boundary does not reinforce Pakistan's claim to it, on grounds of Muslim homogeneity. Otherwise, the book is well got up.

A heavy dose of vitriol, which one must read to understand the psyche of the Service officers who worked for the establishment of Pakistan. It is an irony of fate that those Muslims from the former United Provinces of India (Shahid Hamid was one of them), who were loudest in their demand for a Muslim state, are the Mohajirs, now a virtually outcast community in Pakistan.

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Review Article 2

Fundamentalism in West Asia

J P SHARMA

The phenomenon commonly referred to as Islamic Fundamentalism has been recurring in Muslim societies from time to time for several centuries. In the present century, a succession of events including the collapse of the Ottoman Empire followed by European domination over several Muslim countries, the abolition of the Caliphate, the birth of Israel and its subsequent occupation of Arab territories, annexation of Jerusalem, burning of Al Aksa mosque, invasion of Lebanon etc, have provided impetus to the growth of fundamentalist sentiment among Muslims in many parts of the world. The success of the Islamic revolutionaries in Iran and money doled out by oil rich states like Saudi Arabia, Kuwait, and Libya helped Islamic organisations of various hues to acquire considerable strength in many countries having predominant or sizeable Muslim populations.

While engaged in the struggle against communism, West regarded Islamic fundamentalists as useful allies, the process reaching its culmination in the Afghanistan War. Western scholars with rare exceptions had not till then turned their attention to the implications of strengthening radical Islamic forces. The end of the Cold War put an end to this benign neglect. The fundamentalism project of the American Academy of Arts and Science undertook to study fundamentalist movements in major religious traditions around the World. "Fundamentalist Observed" was the first volume of essays produced by the project. While the project scholars were still working on their themes the Gulf Crisis of 1990-91 erupted. Iraq, a secular Muslim country invaded and annexed Kuwait another Muslim country and threatened Saudi Arabia. The Western powers and their Arab and Pakistani allies rallied to the defence of Saudi Arabia and Kuwait and non-Muslim troops were stationed in close proximity of the holiest places of Islam. Saddam countered by playing the Islamic card. Claiming to defend Islam against the threat posed by the Jewish Christian alliance, he called for Jihad against the West and offered to withdraw from Kuwait if Israel withdrew from Arab territories and the U S A withdrew its troops from Saudi Arabia. In responding to this situation the leaderships of Islamic fundamentalist movements were put to a severe test. The questionable Islamic credentials of Saddam Hussein and the role of Saudi Arabia and Kuwait as their long standing financiers were not the only reasons for their dilemma. With sights fixed on the capture of political power in their home

countries, the Islamists could ill afford to lose support of the masses, and the Muslim masses generally came to regard Saddam as their hero. Excessive Islamic zeal on the other hand could cause Islamists to lose whatever they had gained from the "democratic bargain" under which some authoritarian regimes had allowed their limited participation in state organs. With the exception of the extremist fringe groups of Egypt (Al Jihad and Islamic Jamaat) who dismissed Iraq, Kuwait and Saudi Arabia as equal partners with USA in a western conspiracy, the leaderships of Islamic fundamentalist movement displayed unexpected pragmatism, and flexibility and responded to the crisis with nothing more serious, than strong words, high profile travel in the role of peace mediators and some public demonstrations of solidarity with Saddam. With the end of the War, it was business as usual everywhere.

Interrupting the work on the main thesis, the directors asked the scholars working on the Fundamentalism Project to prepare report describing the major Islamic Fundamentalist movements in Iraq, Jordan, Palestine (West Bank & Gaza) Egypt, Algeria, Iran and Pakistan, their response to the Gulf Crisis and giving their assessment of how the crisis and the response affected the status and salience of each movement "Islamic Fundamentalism and the Gulf Crisis" presents the seven reports produced by the scholars as also two essays in the nature of an introduction and a summing up. As mentioned by the project directors the surveys of seven countries where Islamic fundamentalists have a strong presence are hopefully intended to provide basic information for a synoptic approach and to enable identification of common factors, if existing, in the response of the movements studied. It may be noted that out of the countries covered by the study (eight including Saudi Arabia which is dealt with in the first chapter) Iran and Saudi Arabia are noted by fundamentalists and in Jordan, Egypt and Algeria, they had a share in the state organs. Islamic radicals had been prominent in the Intifada in West Bank and Gaza. In Pakistan, fundamentalists were major partners in the coalition which was in power at the height of the Gulf crisis. Yet another point worthy of note is that a majority of the countries included in the study are heavily dependent on the USA for their defence and economic requirements. The essays presented in this volume have dealt with the strengths and weaknesses of the movements covered and the likely impact of the Gulf Crisis on their future prospects. The project directors have taken care to emphasize that the issues involved are exceedingly complex and that the conclusions drawn are only tentative. Despite its limited scope and admittedly modest aims, the books is a very welcome addition to the scanty literature on the subject. Professor Piscalory's essay on Religion and Real politick is outstanding even in distinguished company. Indian readers in particular would benefit considerably from Professor Mumtaz Ahmad's excellent contribution on fundamentalists within and outside the government of Pakistan.

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During the Gulf crisis many Western analysts had expressed apprehensions that the unrest triggered by the crisis may destabilize the US friendly governments in many Muslim countries. The Editor has noted with satisfaction that far from being proved unbending dogmatists, many fundamentalist leaders performed as seasoned politicians. Not having witnessed Islamic fundamentalist action at home (the attack on the World Trade Centre was still in the future then) Western scholars could find the conclusion reassuring. But the poor developing countries of South & Central Asia, experiencing the ravages of Islamabad directed Islamic militancy are in no position to share such equanimity. It was the US and its allies in the Afghan war who enabled the Jihadists in Pakistan to accumulate a virtually inexhaustible supply of guns, missiles, explosives, money and manpower. Perhaps the Fundamentalism Project, will at some stage, study the consequences of reckless support to dangerous ideologies in pursuit of important short term gains which may eventually turn out to be less substantial than imagined and at least note the terrible price which the unfortunate millions of the region have been left to pay.

NOTE TO CONTRIBUTORS

Articles on National Security issues and Defence and Security forces, for publication in the USI Journal, may be sent to the Editor in duplicate, typed in double spacing. Subjects should be covered in depth with adequate research and reference made to sources from where information has been obtained. The length of articles should be between 3,000 to 4,000 words.

Articles may not be returned unless accompanied by self-addressed and stamped envelope.

Review Article 3

Geopolitics-Implications for Defence Policy

LT GEN M M WALIA, AVSM, SM

Although military power is one of the major components of national power, a holistic view is to be accorded to understanding of national power which includes elements of geography, demographics, economic power and technology besides some other inputs such as national ethos and infrastructure as also regional or multi-national alliances among nations with common strategic aims. National power when viewed in connotation of science and geopolitics acquires a specific meaning, viz , the ability of a nation to deter or resist military invasion or other form of forcible aggrandizement.

Taking into account the amorphous mixture of various elements of national power, nations could be divided into two basic groups namely the 'Salient Powers' and the 'Minor States'. The former are those who possess adequate geopolitical potentialities but who do not wish to use war as an instrument of policy, it being considered too expensive or self-destructive. One or more of the salient powers could be called the 'Super Powers', like the United States and the erstwhile Soviet Union. The remaining could be treated as 'Major Powers' which should rightfully comprise China, Canada, Australia, Brazil, Western Europe, Japan and even India.

Out of the major powers, the prognosis is most favourable in respect of China which might rise to super power status in the course of next century. China's predictable rise to competing super power status will probably serve to increase the anti-hegemonic posture she has set forth to engender. The rise of Western Europe as economic super-power, if it comes to that status, can only serve to enhance the nature of geopolitical buffer between the other contending super powers.

For the salient powers, to rely on military power as a means of resolving conflicts among themselves is likely to become a thing of the past. Perhaps, war has become too expensive not just in military terms but also in terms of what it would do to the other elements of national power. The tendency of some defence experts to seek or atleast advocate military solutions to problems that are best left to diplomatic and political initiatives, particularly in the

✓ Geopolitics and the Decline of Empire : Implications for United States Defense Policy. By George M Hall, North Carolina, McFarland, 1990, p. 244, \$ 29.95, ISBN 0-89950-538-4.

absence of clear cut statement of national aims and objectives, needs to be carefully watched.

Strategic defence, it would appear, may become the basic posture as part of national policy in time to come. The aim would be to restore or maintain the status-quo. Resultantly, wars for defence will include pre-emptive attacks aimed solely to nullify the threat of invasion of own territory as also defensive measures against externally inspired internal threat. Wars of offence which in the form of blatant aggression with territorial aggrandizement as its aim, are to persuade or deter a potential adversary against use of military force.

Proxy war through state sponsored terrorism seems to be the most likely form of modern warfare of the future. Thus, the war's manifestation may arise out of nuclear terrorism and the threat arising from 'mad man at the nuclear triggered scenario'. Modern strategic philosophies such as the Strategic Defence Initiative will prove totally ineffective to deal with such threats. There is a world-wide effort to find appropriate application of the SDI in tactical terms through options such as Global Protection Against Limited Strikes - 'GPALS', is currently going on. However, there is no fool-proof answer to dealing with the challenge of international nuclear terrorism. There is a need to propagate world-wide condemnation and punishment against and plan for use of nuclear weapons by terrorists.

The basic policy guidelines as basic defence parameters spelt out in the book under review are outlined below:-

Firstly, the existence of the thermonuclear form of power should be recognized as a permanent fact of international relations, concentrating policy on reducing the risk of its use in war, in lieu of trying to eliminate the source.

Secondly, the defence posture of a major power should rely primarily on the global equilibrium among the salient powers, endeavouring to maintain it if not enhance that equilibrium, and thus avoid any actions which could serve to weaken it.

Thirdly, maximum reliance should be placed on deterrence but where deterrence is inadequate and force must be used as a last resort, the emphasis should be on damage limitation and escalation of hostilities.

Fourthly, except when other states threaten the equilibrium, a policy of self-determination towards all states should be inviolate, irrespective of their political systems, with an emphasis on provisioning of elementary infrastructure for the poorest of the remainder states.

Deterrence is an instrument of war in its own right - a psychological weapon aimed at the mindset of a potential aggrandizing opponent. To be effective, that mindset must -

- (a) be convinced that retaliatory damage will prove intolerable in comparison to the gain sought.
- (b) be assured that the retaliating state has the means and the will power to make good on its "promise".
- (c) be convinced that it is essentially impossible to disable the retaliatory means by a preemptive action or by other preconflict means.
- (d) be persuaded - which presumes sufficient rationality to react prudently to the above perceptions.

However, if the potential aggressor believes that lesser means can be employed or indirect objectives selected which are below the threshold value that will invite retaliation, he may be tempted to resort to their use. For example, while the Soviet Union did not hesitate to invade Afghanistan, secure in the belief that likelihood of retaliation on the part of United States was negligible, but it would have thought twice before it ventured any such misadventure against a NATO country.

The effectiveness of deterrence as an instrument of war has its obvious limits. It is apparently not effective against terrorism, although it can keep the collusive involvement of a hostile foreign power under limits. It is, therefore, necessary to have workable options to deal with the threat when deterrence fails or when it is not relevant. All the same, defence policy must ensure that the level of deterrence is maintained in its near perfection stage as also its credibility ensured to the maximum.

If a nation is primarily defence oriented, then its main interest should be in counterweapons, whereas if it is an aggressive nation, then it must depend on extending the life of its offensive weaponry of mass destruction. While a defensive orientation may require offensive tactics on the battlefield, but considering the lethality of modern weapons, deterrence takes on a much higher priority than in the past.

Book Reviews

Analysing Strategic Nuclear Policy, By Charles L. Glaser, *Princeton, Princeton Univ*, 1990, p. 378 £ 16.95, ISBN 0-691-07828-9.

This is a comprehensive volume covering America's nuclear policy since the end of the 'Cold War'. The purpose of the book is to determine which particular strategy would provide the United States with the maximum security. An answer to this question as provided by the author in his Preface is that "United States should revise its nuclear strategy, rejecting deterrent threats that require the ability to destroy Soviet nuclear forces - that is, that require extensive counter force capabilities and foregoing entirely efforts to limit the damage if all - out nuclear war occurs".

Fortunately, among the five recognised nuclear powers, namely the United States, Russia, China, Britain and France, none except perhaps China is likely to start an operation by using nuclear weapons against a non nuclear adversary. And, as of now, a nuclear conflict between two nuclear "haves" is out of the question. A nuclear power does not have to use 'nucs' against a non nuclear adversary. The latter, knowing its limitations cannot but be cautious in its dealings with other powers, nuclear or non-nuclear, more particularly the former. Hence a nuclear confrontation between two nuclear powers is out of the question. And a recognised nuclear power is most unlikely to threaten the use of the weapons against a non-nuclear State.

When Glaser's book *Analysing Strategic Nuclear policy* was first published (1990) the 'Cold War' had ended but America remained suspicious regarding Russia's intentions. Gorbachev had done his best to cut down Russia's military power and turn the attention of Russia's elite towards solving its economic problems and internal security issues arising from domestic unrest in many of the units that were past of the Soviet Union. Under Gorbachev's successor, Russia has gone much further on the road towards denuclearisation. Politically, the Soviet Union of yester years has ceased to exist. Each of the European Baltic States have opted out of the Union. So have the Islamic States in the South. It is in this overall context that Glaser's book has to be read. It deals comprehensively with nuclear issues from America's point of view and should be studied carefully by students of International relations.

-- Col Rama Rao, AVSM (Retd)

Job Search: Marketing Your Military Experience in the 1990s. By David G. Henderson, *Harrisburg, Stackpole Books*, 1991, p. 175, \$ 14.95, ISBN 0-8117-2347-X

An officer or other rank from the defence services retires at a young age. There is a requirement for him to work for few more years to firstly earn his living and secondly to have a gainful occupation.

Mr. David G. Henderson in his book "Job Search" has compiled all the aspects like defining your occupational interests, preparation of resume, interviews, salary

negotiation etc. He has also given samples of resume, cover letter and other material which will assist an officer or other rank to acquire a job.

-- Captain R.P. Khanna, AVSM
Indian Navy (Retd)

Islam, Politics and Social Movements. Ed By Edmund Burke III & Ira M Lapidus, Berkeley, University of California, 1988, p. 332, \$ 11.95, ISBN 0-520-06868-8

This book owes its origin to a conference at the university in 1981. The aftermath of WWI, saw the destruction of the Caliphate in 1924. This removal of the focal point of identity of the Sunnis - led to the emergence of Muslim Nationality. The Khilafat Movement in India - finally led to the formation of Pakistan.

The overall study of the movements in the World, is heavy reading, for the Indian readers.

-- Maj General Pratap Narain
(Retd)

Essays on Strategy VII. Edited By Thomas C. Gill, Washington, DC, National Defence University, 1990, p. 231

This excellent collection of nine essays is a book worth reading. A collection of essays written by students/staff at the National War college and its affiliates like the Air War college, which won recognition in the 1989 Joint Chiefs of Staff Strategy Essay Competition. The standard of the texts is unusually high, for which the National Defence University deserves to be congratulated.

-- Maj General Pratap Narain (Retd)

Icarus Restrained: An Intellectual History of Nuclear Arms Control 1945 - 1960. By Jennifer E. Sims, Colorado Westview, 1990, p. 264, ISBN 0-8133-7750-1

Very appropriately the author, Jennifer Sims, has chosen the title "Icarus Restrained" as the title for this book because the leaders in charge of the countries which had nuclear weapons (during the period 1945-1960) realised, having seen the havoc caused by nuclear weapons in Hiroshima and Nagasaki, that they had to exercise the utmost restraint in their deployment and use. These weapons can cause irreparable damage to life on earth, as noted by nuclear weapon powers during the course of trial firings of the weapons as they came to be developed.

"Icarus Restrained" deals with the problem of nuclear arms control during the critical years 1945-60, when the World was "bi-polar". The disintegration of the Soviet Union has given rise to some serious problems notably the safeguarding of weapon grade nuclear materials which are reportedly being smuggled abroad. These are the problems of today.

-- Col R Rama Rao, AVSM (Retd)

Arms Industry Limited. Ed By Herbert Wulf, Oxford, *Oxford Univ*, 1993, p. 415, £ 37.50, ISBN 0-19-829164-7

This well researched book on the weapons production industry, worldwide, written by 16 experts, gives a commentary on their present status. Of particular interest to the Indian readers, is the present problems in erstwhile USSR, Australia, and Turkey, the countries on which we have little information. The book contains valuable information on industries in these countries.

-- Maj General Pratap Narain (Retd)

The World that Came in From the Cold: Perspectives From East and West on the Cold War. By Gabriel Partos, London, *Royal Institute of International Affairs*, 1993, p. 302, \$ 19.95, ISBN 0-905031-58-X.

The author in his inimitable manner traces the genesis of Cold War through Soviet vision of its being a super-power, political ideology, economic interests and strategic concerns. He covers Soviet Satellite States of Eastern Europe, continent of Africa, Sino-Soviet split, Cuban (in) dependence, its subsequent missile crisis in the Bay of Pigs and war in Angola. In this Cold War, there was no ceasefire. It was relentless on all fronts. From 1974 onwards, Cold War gave way to a policy of detente followed by Arms Control thus taking the earth away from mutual assured destruction.

The breaching of the Berlin Wall in November 1989 signified the demise of Cold War and commencement of the collapse of the Soviet empire. An absorbing book, well researched and convincingly presented.

-- Maj General JN Goel (Retd)

Conflict Resolution Theory and Practice: Integration and Application, Ed By Dennis JD Sandole and Hugo Van Der Merwe, Manchester, *Manchester Univ* 1993, p. 298, £ 45.00. ISBN 0-7190-3747-6.

This book analyses and gives out in general the meaning of the integration of theory and practice of conflict resolution. The book is divided into five parts. Each part attempts to explain the different aspects of conflict resolution; such as generic theory and practice in conflict resolution; concepts and aspects of the resolution process; theory and practice at different levels; relevance of theory to the practitioner and finally, feedback : what does it all mean? In a broad sense all the chapters address the inter-relationship of theory and practice of conflict resolution, which may be called as a 'Care' of the present book.

A significant part of the book is that it contains a rich and varied array of philosophical assumptions, theoretical approaches, research methodologies, levels of analysis and styles of practice. The book is a very valuable contribution to the existing literature on conflict resolution, considering its integrative approach.

-- Maj Sunil Chandra

Does Technology Drive History? :The Dilemma of Technological Determinism. Ed By Merritt Roe Smith and Leo Marx, *Massachusetts MIT, 1994, p. 280, ISBN 0262-19347-7*

The book contains 13 essays written by eminent persons in the field of political science, history, sociology, science and technology. Theme of these essays has a common thread namely, "machines have made history by changing the material conditions of human existence."

The authors bring out that social consequences of technical ingenuity are cumulative, far reaching, mutually re-inforcing and irreversible.

Writers, artists and philosophers contributions to technological progress has been recalled. They gave emotional boost to technological progress through their writings and paintings. Technology while acting on society also reflects the influence of socio-economic forces on its development. The book brings out that in the world of rapidly depleting aquifers, ozone layer and global warming, any theory of technological determinism that assumes humanity's triumph over natural necessity is un-realistic.

-- Maj Gen Pran Nath, AVSM (Retd)

Spies : The Secret Agents Who Changed the Course of History. By Ernest Volkman, *New York, Wiley, 1994, p. 288, £ 14.95. ISBN 0-471-02506-2*

A work of immense informative value on a little known subject concerning one of the three oldest professions. Since the advent of mankind, as practised to the pinnacles of perfection during the 20th century - a century of the spies. The book gives brief details about the recorded past of this 'black art' covering almost a period of 5000 years; a glossary for proper understanding of the subject; a detailed index for quick reference; illustrative pictures of 'ring leaders' of the game; the intelligence agencies and their exploits - covering almost all secrets concerning - geostrategic, political, science & technology decisions/developments.

It is to the credit of the author that he has been able to provide the flavour of authenticity rather authoritatively defying the very nature of the theme. Despite the inherent lack of order, categorisation or systematisation in espionage, the author has successfully arranged the matter in appropriate categories while covering moles & legends, traitors & defectors, infamies & spymasters, mysteries & curiosities. The book lends itself to easy & absorbing reading by virtue of its excellence of print, chapterization, the current/contemporary themes & personalities, matter of fact & to the point data/detail. Also a new psychological dimension has been drawn in relation to the concept of nationalism, patriotism and service to the nation.

In short, an excellent book on a most complex subject for quick and easy insight of its past and perhaps for future as well, in view of its eternal & infinite applications.

-- Air Vice Marshal S S Malhotra, AVSM, VM (Retd)

The Guinness Book of Helicopter : Facts and Feats. By Mark Lloyd, Middlesex, *Guinness*, 1993, p. 256, £ 16.95, ISBN 0-85112-577-8.

Like other books of Guinness Publishing on Aircraft and Railway, this book also covers the facts and feats in respect of Helicopters in an authoritative and comprehensive manner, right from early experiments to the likely designs and specifications in the 21st century. The key areas covered include helicopters in conventional and limited warfare, naval helicopters and civilian application, lastly major helicopters of the future giving details of new avionics and design.

The book is well illustrated throughout with photographs and with eight Appendices containing facts and figures, detailed glossary and comprehensive index. This book would be useful to experts and enthusiasts alike.

-- Maj Gen KB Narang (Retd)

The Electronic Eye : The Rise of Surveillance Society, By David Lyon, *Cambridge Polity*, 1994, p 270, ISBN 07456-08396

The increasing influence of computers in modern societies has been seen by some as offering a great promise for the future but by others as solely sinister and manacng. In this book David Lyon, Associate Professor of Sociology investigates the validity of these opposing views by considering surveillance situating trends and counter surveillance. Computer and communications technologies have made possible the "information Society" a world as "Global Village", but its impact on modern social, political and economic dimensions has to be assessed. Lyon provides an overview of such surveillance and makes a genuine contribution to the understanding of modern institutions. The book is recommended for reading by students and professionals in the areas of sociology and political science, communication and information science.

-- Maj Gen K B Narang
(Retd)

On Space Warfare : A Space Power Doctrine. By Lt Col David E. Lupton (USAF), *Alabama, Air Univ Press*, 1988, p. 149.

In this useful publication, Colonel Lupton has discussed in sufficient detail the characteristics of space warfare, and given the progress made by the United States and Russia in developing space technology. Among the many subjects of interest to students of defence science and technology are, 'Military Value of Space forces', "Basic tenet of sanctuary doctrine" (if one is likely to be subjected to bombardment by nuclear missiles), the need for safeguarding one's forces and vital installations, and simultaneously attack the enemy where he is most vulnerable.

The author has also discussed in some detail 'Space Power Doctrine' as practised by the United States. From the late Fifties to the early Eighties, US defence planners were justified in developing and utilising space technology primarily for defence purposes, and to the extent possible applying the technology for economic development and achieving scientific progress.

The World now is uni-polar and the main concern of US planners is to ensure that their nation's dominance in nuclear and space technologies remains unchallenged.

The book merits careful study by students of defence as well as of science and technology.

-- Col R Rama Rao, AVSM (Retd)

International Organization in the Modern World. The Regional and Global Process by Paul Taylor. London *Pinter* 1993, pp 256, \$ 31.50, ISBN 0861871111.

In the growing proliferation of conflicts all over the globe and increasing role of the International Organization in the resolution of the conflicts, there is a definite need to understand the development of international organization at two levels, the regional and the global. This aspect has been very well highlighted in the present work by Paul Taylor, London School of Economics. The book under review highlights what implications the International Organization has for the States and the pattern of their relations in International Society. Throughout the book the attention is focussed on the question; how far the emergence of international organization has challenged the Sovereignty of the state.

-- Maj Sunil Chandra

The Uruguay Round and the Dunkel Draft. Edited By Malcolm S Adiseshiah, Delhi, *Konark*, 1994, p. 62, Rs.100/- ISBN 81-220-0346-X

This Monograph is the outcome of the seminar organised by the Economic Affairs Group of India International Centre on the Dunkel Draft. The book has seven chapters related to important issues written by different authors who participated in the seminar.

The issues discussed are with special reference to the developing world and are of significance to India. The author's view that there cannot be two sets of rules for developed and developing countries is relevant. However, non-trade issues like human rights, environment and social causes have not been discussed, may be of later origin.

-- Col O L Sharma

Defence Policy in the Reagan Administration. Edited By William P. Snyder and James Brown, Washington DC, *National Defense University*, 1988, p. 424, \$ 9.50.

This book contains fourteen edited essays which earlier in 1986, were presented at a conference held in Dallas, Texas by a grouping of faculty at institutions in Texas, Louisiana, and Oklahoma with interests in National Security issues. The essay on the 'Reagan Administration and Arms Control' can be considered the 'piece de resistance' of the book. Many of the others are eminently readable. Essays on 'Building Reforms in Weapons Acquisition' and 'Manpower and Personnel Policy' contain ideas that should attract the attention of our defence planners. The final essay, 'Did Readiness Get

its Fair Share of the Defence Build Up' clearly brings out the difference between overall defence capability and defence readiness. Defence capability is an amalgam of force structure, force modernisation, force readiness and force sustainability. Readiness is a much narrower concept, but we use it to indicate that we are ready to face all kinds of challenges. Some discretion is considered necessary.

-- Air Mshl H K Oberai, PVSM, AVSM, VM
(Retd)

Fire Fight at Yechon: Courage and Racism in the Korean War. By Lt Col Charles M Bussey (Retd), Washington, *Brassey (US)*, 1991, p. 264, \$ 21.95, ISBN 0.08-037448.4

This is a personal memoir of an officer who also served with distinction as a fighter pilot during World War II.

The army that Bussey served in was segregated by racism, this was in spite of President Truman's decree banning racism.

On July 25, 1950 the US won the first major victory of the Korean War in the "bloody battle" of Yechon. The author was only decorated with the Silver Star as his Colonel told him that because he was a "Negro" he could not give him the Medal of Honour. The author contends that the history of the 24th Regiment was biased as the historian in his report on the behaviour of "Negro" troops only quotes 'White' officers; he further describes how was it that the 'Blacks' performed so well in Vietnam. Surprisingly the Americans made the same mistakes of tactics, training and equipment in Vietnam as they did in Korea.

-- Brig Y P Dev
(Retd)

"H Norman Schwarzkopf : Road to Triumph". By ME Morris, London, *Pan Book*, 1991, p. 286, £ 4.99, ISBN 0-33-32291-5

This book contains a record of service of General Schwarzkopf and also the transcript of the briefing he gave on the conclusion of Operation 'Desert Storm'. These could be of interest to the serious minded in uniform, the world over. Apart from these, this 'quickie' degenerates into a PR job for the sole benefit of the American public, destined for planned obsolescence.

-- Lt Col A K Sharma

From Pusan to Panmunjom. By General Paik Sun Yup, New York, *Brassey's (US)*, 1992, p. 271, \$ 24.95, ISBN 0-02-881002-3.

This book adds an additional dimension to the history of the Korean War 1950-53. It is the first of its kind written by a South Korean four star general, a superb operational commander who fought his way onwards from command of a division then a Colonel and became the Army Chief of Staff twice and later the Joint Chief of Staff.

The narration of events is commendably enmeshed upto Eighth Army Level.

It deals with leadership in combat. It contains vivid and candid account of failures and successes of the ill-equipped and ill-trained South Korean Army led by some incompetent officers. As the equipment and training improved, these battle experienced officers gave a worthy account of themselves. The American commander's attitude of disdain and helpfulness, untrustworthiness and implicit faith, suspicion and confidence in the fighting qualities of South Korean Army are given out in detail without malice towards anyone.

A welcome and dispassionate account of the performance of South Korean Army both in defeat and victory.

-- Maj Gen J N Goel (Retd)

Patton's Third Army, A Daily Combat Diary. By Charles M. Province; New York, Hippocrene Books, 1992, p. 336, \$ 22.50, ISBN 0-87052-973-0

This Book is a day and date-wise concise summary of all the major events that the Third Army including XIX TAC went through in its 281 days of combat involvement on the European continent from August 1944 to May 1945. It is an abridged war diary. It contains the intelligence assessments of the German Forces, planning options and subsequent achievements of the Third Army.

The value of the book would have multiplied manifold if suitable maps at appropriate places giving essential details had been included.

-- Maj Gen J N Goel (Retd)

Payback : America's Long War in the Middle East. By John K. Cooley, New York, Brassey's (US), 1991, p. 257, \$ 19.95, ISBN 0-08-040564-9

Many have wondered how the people of Iran gave up a stable developing economy, oriented to wealth, comfort, and Western ideas of welfare and civic institutions, all in exchange for bitter conflict, comparative hardship and poverty, and a reversion to fundamentalist control over individual and personal freedoms. "Pay back" gives some answers, as it covers the main theme of Iran - USA relations, axiomatically linked to all the states and events in the Middle East upto and after Desert Storm.

This is news correspondent's story. With personal reports, nitty-gritty details not commonly known, analysis, and pertinent comment by an exceptionally level headed observer. His view is that Western experts have "mind sets", as politicians have personal bias and purpose on the world stage, and so did not correctly understand the Middle East and Iran. This melting pot of conflicting tribal and ethnic history, religions and sects, on which were super-imposed oil interests and cold war politics, created long term objectives within the region, which were not always the same as, judged, expected, or hoped for, by outside powers. The USA, as a major player in the game, had different agencies and individuals backing different sides of the same con-

flicts, some overtly, some secretly, but most with inconsistent and often ignorant policies. This is illustrated by the US faith in the Shah and his USA patterned military, followed by diplomatic failures, which included his sudden fall; by Iran-gate; by support to Iraq in its war; by policies, good and bad, but generally with inconsistency and lack of foresight, right upto Desert Storm, where the USA did not apply itself to the Kurds, to the southern Shias of Iraq, and the Turkish waters flowing into the Gulf.

The Author states he is not an expert. But his factual presentation and down to earth news-man's analysis give a truer and more pragmatic assessment of the region than what the experts and the powerful have demonstrated in their past performance. This book is an enjoyable "read", almost like some modern thriller of the cold war, something worth reading just for fun. Yet it is a "must" for serious study of the Middle East; and for those cynical minds which say that the day an easy and cheap substitute is found for oil, the Middle East will quickly sort out its conflicts and begin to live as it should.

-- Tindi

The United States and the European Community in a Transformed World, By Michael Smith and Stephen Wool Cock, London, *Pinjer for Royal Institute of International Affairs*, 1993, 121, £ 22.50 ISBN-0-86187-097-2

Post-Cold War era has thrown up new challenges of the policy making across the Atlantic in respect of the management of transition in the European continent. While the European nations are concerned about the new-look European Economic order established through traditional Community institutions, and the stability of the European Union, USA is searching out for the broader horizon of trans-Atlantic relations, the creation of NAFTA - North American Free Trade Area, and America's role in this transition.

The authors have first reviewed the trends and likely course of the on-going structural transformation within the enlarged European Union, and, thereafter led on to economic polarisation, international identities, and Institutional systems, etc. How these will influence and be influenced by global security and economic environment. 'For example, the Single European Market, SEM, now accounts for 47 per cent of Foreign Direct Investment of the USA. The discussion winds its laborious way through a maze of institutional activity, programmes, conferences and trade negotiations proliferating through 1988-1992 in an attempt to focus on a viable pattern. In the absence of a systematised catalogue of the mass of institutions and committees the maze tends to leave the reader in confusion.

-- Maj General S K Talwar (Retd)

Peace Process : American Diplomacy and the Arab-Israeli Conflict Since 1967. By William B. Quandt, Washington, *Brookings Institution*, 1993, p. 612, ISBN 0-520-08390-3.

William B. Quandt is a close observer of the Middle-East generally and of the Arab-Israeli conflict in particular and has written a number of books on the subject.

He has from time to time been closely involved in the decision making processes, particularly during the Nixon Presidency, as a member of Henry Kissinger's "Washington Special Action Group" (WSAG) whose purpose was to closely and constantly monitor and assess the developments in the Arab-Israeli conflict, under the direct control of the White House.

PEACE PROCESS is an update of a previous book, "Decade of Decisions; American Policy Towards the Arab-Israeli Conflict, 1967-1976", incorporating material that has since come to light and also including material from several of his other books. Mr. Quandt has been able to shed more light on the 1967 six day war as also on the Yom Kipur war of October 1973, and the shaping of American policies, particularly in the Nixon, Ford, Carter, Reagan and Bush Presidencies.

In spite of the availability of a vast amount of literature on the Middle East in general and the Arab-Israeli conflict in particular, Mr. Quandt's "Peace Process" is a balanced, well researched and highly informative book on the subject, accompanied by copious footnotes and appendices bearing texts of various UN resolutions as well as correspondence between various leaders. A very informative and readable book on the Arab-Israeli conflict as it has developed since 1967.

-- Lt. Col S K Dhar, VSM (Retd)

Power Over Rationality : The Bush Administration and the Gulf Crisis. By Alex Roberto Hybel, *Albany, State Univ of New York, 1993, p. 143, \$ 39.50. ISBN 0-7914-1421-3*

In a short but useful foreword, James Rosenau points out that "A wide array of dynamics can intrude at a number of points in the processes through which foreign policy decisions are made and actions subsequently taken. The intrusions can originate with demands in the external world, with stresses and strains of the domestic scene with rivalries that sustain governmental bureaucracies, and with distortions in the minds and hearts of officials. So pervasive and inevitable are the intrusions that pure rationality - is beyond realisation". Rosenau goes on to note that there is an "interaction between the observers and their theories on the one hand and the actors and their situational circumstances on the other". This theoretical approach governs Professor Hybel's approach to the study of President Bush Administration's policies that were designed to meet and reverse Iraq's unprovoked attack and annexation of Kuwait.

Hybel observes that the Gulf War could well have been avoided, if US, in time, had cautioned Saddam that if he violates Kuwait's sovereignty or its borders, US would come down heavily on Iraq. In the event, Saddam did invade and annex Kuwait for a short time and ultimately paid for it. For its part, US waged the war with support from its allies and won it easily, as expected. In the process considerable expenditure was incurred which had to be borne by Saudi Arabia and the Gulf States.

-- Col R Rama Rao, AVSM (Retd)

Riviera to the Rhine. By Jeffrey J. Clarke and Robert Ross Smith, *Washington, Center of Military History, 1993, p. 605, (U.S. Army in World War II)*

This history of the Allied landings in south of France "The Champagne Campaign" has been brought out as a commemorative edition on its 50th Anniversary. It brings to light operation ANVIL (later renamed DRAGOON) which was totally forgotten in view of the much larger landings in Normandy a few months earlier.

The authors have clearly brought out the controversies that surrounded this operation. Churchill was dead set against it, he preferred a landing in the Adriatic, while the Americans were all for it as they felt that this landing would augment the Normandy landings. Churchill may have been right as these landings certainly weakened the allied effort in Italy, and ultimately, left eastern Europe to post war Soviet domination. However, once the decision was taken to go ahead, Churchill had a ring-side seat in a cruiser and watched the landings take place.

The authors must be complimented for their research. At the end of each phase they have done an excellent post mortem, highlighting all that went well as well as that went wrong, and plenty did, particularly the shortages of shipping, fuel and inadequate air cover. However, the authors have clearly shown that the landings did help the allied cause in the final phase of the war by taking away a lot of pressure from the northern army groups, both in terms of fighting and logistics. They helped in shortening the duration of the war.

-- Cdr S Varma SC IN (Retd)

Every War Must End. By Fred Charles Ikle, New York, *Columbia, 1991, Rev. ed. p. 160, \$ 13.50 (pa) ISBN 0-231-07689-4*

If recourse to a war is undertaken or enforced by national interests - or those of an alliance of nations, how accurately can the end-objectives be defined or pegged down. Can these extend to total annihilation or quantifiable punishment of the adversary. What are the cost parameters of concessions for a timely cessation versus the temptation and risk of escalation for gains and glory. What is the matrix of the "Last Battle" or the genesis of the opening salvo.

"Every War Must End" is a thought-provoking discussion of the factors and imponderables bearing on the above issues which influence, and often, controvert decision-making. The author has developed his exposition by deep and critical review of the numerous conflicts of recent global history. In this revised edition, he has also covered the Gulf War of 1980's in his preface.

-- Maj Gen S K Talwar (Retd)

Chester Bowles : New Dealer in the Cold War. By Howard B. Schaffer, *Londón, Harvard, 1993, p. 387, \$ 29.95, ISBN 0-674-11390-X*

Chester Bowles served two tenures as the US Ambassador in India and left his

mark in no uncertain way. During the second tenure Howard B. Schaffer served on his staff and he has now written a biography using all the documentation that is available. A gap in the history of US foreign policy making has been filled.

The book could not have been more timely where Indo-US relations are concerned being reviewed when Indo-US relations are in a turmoil (April 94). During his first tenure Chester Bowles had pleaded for a humane and forward looking foreign policy towards the sub-continent which was never implemented by the democratic administration of Truman, (nor is his advice being followed now). Right through the book Mr. Schaffer highlights the frustrations that Chester Bowles felt both as an Ambassador and as a Dy. Secretary of State when his advice was ignored.

Mr. Schaffer brings out quite clearly that Chester Bowles was a very dedicated man whether serving in the Office of Price Administration during the Second World War, or as Governor of Connecticut, or as a freshman member of the House of Representatives' foreign relations committee or as the number two man in the State Department. Bowles was a man of original ideas with a background of Madison Avenue who brought into diplomacy many unconventional ideas. This book is a must for anyone particularly interested in the post independence history of India seen through sympathetic American eyes, and US relations with other Asian countries in general.

-- Cdr S Varma, SC IN (Retd)

History of the Air Corps Tactical School 1920-1940. By Robert T. Finney, *Washington D.C., Center for Air Force History, 1992, p. 145.*

The air experience of World War I, demonstrated, among other things, the need for officers to be trained in use of military aircraft. Hence in 1920, Air Service as a combatant arm of USA Army, was recognised, and Air Service School was established at Langley, which was shifted to Maxwell Field Alabama, in 1922. Its functions and historical development is akin to our own Army Aviation Corp, though of a later vintage.

Robert T Finney in this book, has given details with regard to the establishment of Air Corp Tactical School, its basic function of training air officers in strategy, tactics and techniques of air power, the organisation of the school and the syllabus, which included 126 hours of flying to refresh basic flying.

The air doctrine formulated and training imparted at the Air Corp Tactical School, made major contribution in World War II and its legacy continues with the comprehensive programmes of the Air University, the world's premier air power training institution.

-- Maj Gen Ram Nath, SM

The Origins of US Nuclear Strategy 1945-1953. By Samuel R. Williamson Jr. and Staven L. Rearden, *New York, St. Martins, 1993, 224 pp. £ 29.45, ISBN 0-312-08964-3.*

This publication of the Franklin and Eleanor Roosevelt Institute Series in Dip-

lomatic and Economic History, takes a fresh look at the evolution of American nuclear weapon strategy in the light of the classified official records that were subsequently released. Thus, the study adds more to the already prolific literature on the subject. In the book the authors have analysed the evolution of the US nuclear strategy in the context of experience in the WW II, the beginning of the Cold War, development of nuclear weapons in the USSR and, above all, the various personalities involved in the decision-making process. According to the authors the nuclear strategy was the logical outcome of President Truman's policies and practices since the first nuclear explosion in the summer of 1945.

-- Prof K R Singh

School of International Studies, J.N.U

Intervention into the 1990s : U.S. Foreign Policy in the Third World (Second Edition) Edited by Peter J. Schroeder, *Colorado, Lynne Rienner, 1992, p 489, \$ 18.95, ISBN No. 1-55587-292-1*

An extremely absorbing and readable analysis of the US military interventions in the Third World covering the entire spectrum of interventionist impulses, tools, constraints and perspectives for the post Cold War era.

While US interventionism in the Third World is traced to the impulsive policies of containment during the Cold War, the point is well made that US interventionist impulses will continue during the post Cold War era also, albeit for different reasons and different perceived threats - ethnic threat, nuclear proliferation, promotion of democracy and spread of international drug cartels.

A major conclusion that emerges is that in the post Cold War era, USA must strive for greater regional and international consensus in support of such operations due to lack of enthusiasm and political support domestically and the growing pluralism in the international arena.

-- Brig (Dr.) Subhash Kapila Ph.D.

The Naval Air War 1939-45. By Nathan Miller; *Maryland, Naval Institute, 1991, 212 pp, \$ 24.00, ISBN 1-55750-564-0*

In the book under review, the author has strung together, an authentic and full blooded account of the exploits of naval air forces, and the crucial role played by them in WW II, as the eyes and ears of the fleet, as the nemesis of mighty men of war, and often as contenders for the supremacy of the skies.

Trying to condense a saga of this magnitude into a slim volume is a hazardous undertaking, where the author walks a precarious gangplank between brevity and authenticity. It must be said that Miller has made a gallant attempt and succeeded in substantial measure. Not only has he kept faith with history, but his evocative prose brings alive, famous battles, legendary men of war and historic naval figures of WW II.

The book is lavishly illustrated with some high quality photographs but it is here that the reader may find a flaw. The pictures are often not only out of sync but also out of context with the text and the rambling captions disrupt one's continuity of reading.

At US dollars 24.00, this is not a book that many Indian naval officers can afford. And yet it encapsulates the kind of history no professional can afford to miss, I, therefore, hope that naval libraries and ships will make the effort to acquire it.

-- RAdm Arun Prakash

The USA and the New Europe 1945-1993. By Peter Duignan and L.H. Gann, *Massachusetts, Blackwell, 1994, p. 357, £ 14.99 (Pb) ISBN 1-55786-519-1*

At the end of World War I the USA had completely pulled out of Europe, run its armed forces down to the bone and adopted an isolationist stance. After the Second World War, however, it remained actively involved in all facets of European affairs which included military, economic, social, cultural and political run of things. This book is about Euro-American relations from the end of World War II to the present times. The early chapters covering historical origins, the American view of Europe and the European view of America assist the reader in understanding the developments during the period covered by the book. The part played by the USA in the creation of NATO, which protected Europe against threat from the Soviet Bloc; the economic recovery of war devastated Europe; the movement towards European unification leading to the creation of the European Community, which promoted trade and economic development to bring about prosperity hitherto not seen by its members; failure of communism and emergence of democracy in Eastern Europe and the break up of the Soviet Union, are very lucidly described and analysed.

The authors ascribe the failure of the Soviet economy, a major cause of the break up of the Soviet Union, to such factors as over centralisation, corruption, inflexibility, managerial inefficiency, waste, misguided investments, over manning, industrial obsolescence, high level of peace time military spending, consumer shortages and consumer demoralisation. Besides the collapse of its economy the demise of the Soviet Union is also attributed to ethnic differences. This should provide food for thought to some of the countries which have suffered from or still suffer from similar ills. In India we have, in addition, post independence politicalisation of linguistic and caste differences.

An exceptionally good book which presents the entire gamut of Euro-American relations between 1945 and 1993 in a single very readable volume. The authors are both connected with the Hoover Institution at Stanford, California and have produced a book which can be regarded as a textbook on the subject.

-- Brig RD Law (Retd)

At War in the Shadow of Vietnam : U.S. Military Aid to the Royal Lao Government, 1955-1975. By Timothy N. Castle, *New York, Columbia Univ, 1993, p. 210, \$ 55.00 ISBN 0-231-07976-1*

This book is an account of the American secret war in Laos spread over two

decades. The author's first exposure to Laos was as an enlisted man in the USAF where his duties involved scanning the countryside from the doorway of a helicopter to locate communist positions on the Mekong River in the capacity of a 'surveillance and intelligence specialist'. On demobilisation he joined a Southern California university to study for MA and PhD degrees. His MA thesis dealt with the Hmong people of Laos and their alliance with USA and his doctorate was in South East Asian History. He rejoined the USAF as an intelligence officer and was later appointed assistant professor of Asian Studies at the US Air Force Academy. He returned to Laos twice, once for research for his MA thesis and later as a military researcher funded by the US Air Force Academy. He also did extensive research in the USA for his book despite the difficulties of obtaining access to official documents after clearances by various departments including the CIA and many of the documents covering the US involvement in Laos having been 'sanitised' before declassification. A very informative and readable book.

-- Brig RD Law (Retd)

Post-Cold War US Security Strategies for the Persian Gulf, By Marcy Agman, (*Prepared for the United-States Air Force and United States Army*) Santa Monica, Rand, p 71, ISBN No. 0-8330-1312-2

Regional instability in the Gulf Region, both political and military, continues to be a matter of concern and study in the United States. The former is more unpredictable while the latter may be controllable.

This brief and crisp costs-versus-benefits analysis examines four futuristic US strategies for this region grouped under two broad approaches - 'controlling' and 'insulating'. The latter approach in light of historical experiences emerges as more preferable as it intends to insulate US interests from consequences of regime changes in the area by acting as a "Disengaged Military Balancer" combined with a "US - Saudi Security Condominium".

Brig Dr. Subhash Kapila, Ph.D

The Post-Soviet Nations: Perspectives on the Demise of the USSR. Ed. By Alexander J. Moty, New York, Columbia University, 1992, p. 322, \$ 40.00 ISBN 0-231-07894-3

A collection of 12 articles contributed by eminent professors/researchers, who are also noted Sovietologists. 'Gorbachev's Perestroika destroyed the Soviet totalitarian State; it also necessitated a major restructuring of traditional Sovietology', claims the Editor. The volume under review is an attempt to close some glaring gaps in traditional Sovietology, as also initiate the beginnings of a new Sovietology.

The Soviet Union inherited by Gorbachev contained within itself all the contradictory pressures which Lenin had sought to resolve, almost seven decades earlier. Embarking on an ambitious effort, Gorbachev sought to rehabilitate Soviet socialism by reorganising the administrative system, breathing new life into a stagnant economy and enthusing the indolent Soviet worker. His spectacular failure on the economic front

turned his attempted reforms into a cascading revolution. During his efforts to revitalise the economy, Gorbachev faced increasing pressures to reorganise the political and economic structures to accommodate the social and economic diversity of the Soviet Union. In fact his 'Glasnost' with its emphasis upon public discussion of social and political currents in the country, opened the door to expression of long suppressed grievances by discontented, ethnically defined groups.

Critics claim that traditional Sovietology ignored the Soviet nationality question and had failed in four key areas. First, by emphasising the fusion of the State and the Party, it adopted a 'State-centric' view and obscured their comprehension of wider socio-political linkages in the system. Secondly, by taking an exaggerated view of the role of ideology, it discouraged empirical research at the cost of social science and theory building beyond the totalitarian model. Thirdly, being closely tied to Western foreign policy objectives, it exaggerated the moral failures and the material prowess of Soviet society. Finally, Sovietology restricted itself to Russian and not Soviet studies, thus taking a 'Moscow-centric' view and becoming insensitive to the dynamics of nationality regions. Sovietology was, therefore, incapable of predicting the collapse of Soviet communism.

The Bolshevik dream of establishing a rationally managed society in which man's inhumanity to man would be eliminated, where economic exploitation would be replaced by cooperative production and where individual citizens would demand from society only what was needed and in turn would freely give to society all that their abilities would permit, failed on all counts. The centrally planned economy produced not a rationally managed prosperity, but a bureaucratic allocation of scarcity. Collectivism had failed to take into account prevailing tendencies of human psychology.

The well researched and highly readable contributions address the lacunae in traditional Sovietology and initiate the beginnings of a realistic appraisal based on the emerging shape of a multipolar commonwealth of independent states and incorporating the nationality and ethnic dimensions.

A very interesting and thought provoking book; a useful addition to our library.

-- Lt Gen PE Menon, PVSM (Retd)

The Failure of Soviet Economic Planning : System Performance Reform. By Robert W. Campbell, *Bloomington, Indiana Univ, 1992, p. 185, \$ 27.50 ISBN 0-253-31311-2.*

The author points out in the Introduction itself that "The fundamentals of any decision are the formulation of alternatives, development of a criterion for choosing among them and gathering the information needed to evaluate the alternatives according to that criterion".

Issues discussed by the author which will be of interest to readers are the pricing of energy and energy producing materials namely, electricity, coal and oil. A "free market" ensures that electric power producers and distributors operate on the basis of

"cost plus profit"; under the Communist system in Russia, less than adequate consideration appears to have been given by electricity producing and distributing concerns to the need for securing fair returns to cover generating and distribution costs; still less, the costs needed to cover depreciation of capital equipment. Not surprisingly, viewing in retrospect, it is clear that the Soviet system could not provide its people, all it endeavoured to do.

Robert Campbell's book "The Failure of Soviet Economic Planning; System; Performance, Reform" deals comprehensively with all aspects of Soviet economic planning, its successes as well as its failures. It is a book that merits careful study.

-- Col R Rama Rao, AVSM (Retd)

Stalin in Power: The Revolution from above 1928-1941. By Robert C. Tucker, London, Norton, 1990, p.707, £ 19.95, ISBN 0393-09881-X.

Albert Camus attributed this to Caligula: "..... I should say the real tyrant is a man who sacrifices a whole nation to his ideal or ambition". This just about sums up Tucker's view of Stalin. Using this as the leading quote, he has gone on, in his scholarly way, to unravel the greatest murder mystery of this century - Stalin's terror of the 1930s.

The quintessential Bolshevik, Stalin, sought a bulwark for his policies from Russia's distant past, in an attempt to make his coercive revolution from above palatable in the form of resurgent nationalism. But so bankrupt was his dogma, that, the evil-empire, that he could so assiduously build only with the help of the state police and the Red Army, that it did not survive even for 40 years. Whilst it was existing, it only dunked the country with such tsarist practices as that of serfdom, convict labour in the various gulags, imperialistic annexations and total autocracy.

This to me is a land mark work, which should be compulsory reading for the sovietologist. For those interested in a comparative study of Stalin and a contemporary of his, who was equally single minded about nationalism and who was equally if not a trifle more ruthless, Allen Bullock's Hitler and Stalin should be a good bet.

-- Lt Col AK Sharma

Infantry Attacks by General Field Marshal Erwin Rommel with a New Introduction by Manfred Rommel, London, Greenhill, 1990, p. 265, £ 14.95 (ISBN 1 85367-064-2).

A much sought out enemy and a legendary hero of both the British and German troops in the Western Desert, General Field Marshal Erwin Rommel was also an enigma to his enemy commanders.

The book, intended as a text book for infantry was first published in Germany in 1937 as *Infantire greift An* and was based on his experiences as an Infantry officer during the First World War, where he was decorated with the highest Prussian order of valour, 'Pour le Merite'. The book was also first published by the Infantry Journal

in Washington in 1944 and for ease of understanding all German ranks and units were converted into the American equivalent. The book was revised by his son Manfred at Stuttgart in 1990 and also contains a small biographical sketch of Rommel.

The book covers different theatres where Rommel fought and describes different actions which he covers under, War of Movement, Trench Warfare and Open Warfare. The battles are illustrated with sketches prepared by him and contains "Observations" or lessons for the future.

-- Brig Y P Dev (Retd)

Ruling Britannia : A Political History of Britain 1688-1988. By Glyn Williams and John Rams Den, *London, Longman, 1990, p 547, £ 13.99, ISBN 0-582-49073-1*

The Book covers the political history of England from 1688 to 1988 though primarily designed for the history students of British Universities, it is good reading to have an understanding of the Governance of England during the period with its economic and social dimensions. The author has highlighted that the political history of Britain during the period has not been a smooth progression from a closed to an open system. The theme of the book can be best expressed in the Author's quotation from Hasley, during Queen Anne's reign, as "how those who are smaller part of the nation have made themselves formidable and terrible to the greater."

Even though the book is divided into 26 analytical Chapters often crossing chronological boundaries, there is a continuous narrative thread throughout the book.

-- Lt Gen S. Majumdar, PVSM (Retd)

Rebirth : A History of Europe Since World War II. By Cyril E. Black and Others, *Colorado, Westview, 1992, p. 565, \$ 59.95 (hc), \$ 24.95 (pb) ISBN 0-8133-1365-1*

The authors are professors of history and political science, qualified and able to critically present the rebirth of a powerful Europe from the shattered ruins left by the war. Events are analysed and developed to show how mutual interests, as much economic as political, led to old nation states getting their act together in the post war world. The unification of Germany and the breakup of the Soviet Union are examined for causes and results. Western European nations have tended to combine, while playing down past differences; in contrast, too many Eastern States, once held together under communist rule, have tended to revert back to past ethnic and nationalist conflicts, inspite of all rational reasoning showing their future advantages lay in getting together. A book for serious study and reference for scholars.

-- Tindi

Gentlemen's Sons : The Guards in the Peninsula and at Waterloo, 1808-1815. By Ian Fletcher and Ron Poulter, *Kent, Spellmount, 1992, p.251, £ 25.00, ISBN 1-873376-00-6.*

A book is in the mould of a regimental history; it covers the exploits of the British Foot Guards during the Napoleonic Peninsular wars. The title derives itself

from the fact that the Foot Guards in the nineteenth century generally had amongst its officer cadre a large complement of the aristocracy and the otherwise affluent. It was first used for Wellington's 1st Division in which the Guards were brigaded. In keeping up with the times these regiments carried themselves with much swank, swagger and snob. The officer class had a life style comparable to that of the nobility. This lead many to discredit the fighting ability of these regiments. These doubts were cleared in no uncertain way when the Guardes took the field in Europe. They proved their mettle at Waterloo in 1815. The Guards held the chateau of Hougoumont for a whole day against repeated onslaughts by Napoleon's own Imperial Guards.

Apart from the description of the many battles, the authors delve in detail into the social background of the commanders, their reasons to be there, military uniforms and the quality of life of the soldiers on the Peninsula.

-- Lt Col A K Sharma

One Hundred Days : Napoleon's Road to Waterloo. By Alan Schom, *London, Michael Joseph, 1993, p. 398, £ 20.00, ISBN 0-7181-3384-6*

Quite obviously the mystique of 'the Emperor' still lingers even in the Year 1993 of our Lord! Or else why should a retired professor of modern European history take it upon himself to essay to rewrite it? Napoleon has enjoyed a reverential position all over the world especially in Europe. There have been very few who rise to his stature in the military annals. Even when exiled on the island of Elba he retained his indomitable spirit. Had it not been for the intransigent attitude of his field commanders like Ney, Soult and Grouchy; who were repeatedly covertly insubordinate; the story of the 'one hundred days' would have been quite different. Even the very word 'Waterloo' would have had a wholly different connotation!

Notwithstanding the aforesaid, kuddos to Schom, who has managed to provide an engrossing account of the main events. His reconstruction of the psyche of the principal players is masterly as well as resplendant. Above all, this book will be remembered for its extraordinary perspective, despite the disparaging over tones.

-- Lt Col A K Sharma

Scandinavian Misadventure : The Campaign in Norway 1940. By Maurice Harvey. *Kent, Spellmount p. 323. £ 19.95*

After Poland had been overrun by Germany there was a pause in the war when neither side did anything. The French had manned their 'impregnable' Maginot Line. The British Expeditionary Force had gone across the English Channel and taken up positions along the Belgian Frontier beyond the Northern end of the Maginot Line. The Allied Naives had gone to sea to impose a blockade against Germany and to keep their own sea lanes open. The Allies had no clear strategy other than waiting for the next German move.

There was a strong section of opinion in Britain, mainly led by Winston Churchill,

with an urge to do something and get on with the war. This was one of the major factors which led to the disastrous Allied attempt to get involved in Norway with the primary aim of stopping the shipment of Swedish iron ore to Germany through the Norwegian port of Narvik which remained open throughout the year.

The British forces went to Norway ill prepared, ill trained, ill equipped and unorganised for conducting a campaign involving all the three services and certain Allied forces without a command organisation which could ensure close coordination of the different services and Allied contingents. Furthermore the campaign had little relevance to the overall conduct of the War. It, however, drove home some vitally important lessons, particularly in the sphere of joint command of the different services, not only of one nation, but all Allied forces operating in a theatre. These were to stand the Allies in good stead for the rest of the War. To the ultra conservative British Military hierarchy of the time joint command was apocryphal. To quote the author, "Joint service commands were almost regarded as heresy even though some forward thinking minds like General Montgomery had espoused the concept in 1938 (provided of course that he was the joint commander)." The Allies also no doubt learnt a great deal about how not to mount amphibious operations.

The author, a serving officer of the British Royal Air Force has taken great pains to produce a well researched and scholarly book which is at the same time very readable.

-- Brig RD Law (Retd)

Thangliena : The Life of T.H. Lewin, By John Whitehead, *Stirlingshire Kiscadale*, 1992, p.437 ISBN 1-870838-06-8.

The biography of T.H. Lewin essentially gives an insight into life as it existed in general area of Chittagong Hill tracts/Lushai Hills (presently known as Mizoram), in mid 19th/early 20th century of British administration in India. The tribes inhabiting these areas were largely left undisturbed in so far as they remained confined to a certain specified line, but the British retained their predominance and influence on them through a political administrator, which post T.H. Lewin occupied for over a decade, and came to be known with locals as Thangliena.

The book has a certain historical significance and would be of some value to those who have interest in the study of tribal areas of our Eastern region.

-- Lt Col Y P Gupta (Retd)

Serbs and Croats : The Struggle in Yugoslavia. By Alex N. Dragnich, *New York, Harcourt Brace*, 1992, p. 202, \$ 22.95 ISBN 0-15-181073-7

Since emergence of new realities in Eastern Europe, the events in the former provinces of Yugoslavia have baffled and bewildered us most. Prof. Dragnich, a specialist on Yugoslav affairs (at the US Naval War College) and as a former attache of the US Yugoslav embassy has rendered a lucid and masterly account of the divisions

and aspirations of the Serbs and the Croats and the Muslims within the interplay of interests of five empires bordering Balkans - the Ottoman, Austro-Hungarian, Russian, British, the French and their respective successors.

The book examines in depth and with incisive clarity the complexities that arose out of the tragedy of the serb hegemony, Croat obduracy and Muslim intransigence on one hand and rise of Tito and the performance of the communist state and later, its expiration. Does the book offer solution? Mercifully, no; yet its mirror like clarity offers a sound case study of a splintered nation beset with large obdurate nationalities. The book ought to be required reading for parliamentarians beset with tackling fears of large minorities, hegemony of majorities, and petty politicking.

-- Col Balwant Sandhu

The Imperial War Museum Book of the Western Front. By Malcolm Brown, *London, Sidgwick, 1993, p. 274, £ 25.00 ISBN 0-283-06140-5*

The Western Front of World War I 1914-18, stretching south from the North Sea, across Belgium, the eastern valleys of the Somme, Aines and the Marne, to the Franco-Swiss border, was the venue of unrestrained slaughter of military manpower and of general devastation. After the initial battles of manoeuvre and break-in-battles, till November 1914, the opposing forces got hopelessly bogged-down into entrenchments, where all operational doctrine succumbed to the dominating dictates of unremitting machine-gun bursts and artillery bombardments.

Malcolm Brown has researched through extensive first-hand source material - photographs, graphics and most of all, personal diaries, notings and letters of soldiers on the line to produce a compulsive narrative of events and battles on the Western front. This study is therefore a gripping safari into the psyche and perceptions of combatants and civilians drawn into the gruelling death struggle. The Study also portrays the process of techno-conceptual developments in trench warfare, and as a natural course, throws fresh light into selected but crucial battles.

-- Maj Gen S K Talwar

World War II : Fighter Bomber Pilot. By Bill Colgan, *Kansas, Sunflower Univ, 1985, p. 209, \$ 9.95 ISBN 0-89745-105-8*

A 'general interest' book with narration based on first person account of exploits & experiences during WW II in the European/North African operational theaters, reminiscences for all veteran fliers, excitement and inspiration for potential flier; the book depicts the evolution of Fighter/ Bomber phraseology, concepts and tactics leading to later day doctrines, stimulated by & keeping pace with technological advances/ progress.

Originality of text & idiom sprinkled with humour and some unimaginable yet true occurrences make it an interesting and motivating reading. A few of the readers may even be re-living their own past. The pictures & illustrations generate easy comprehension by non-fliers.

This book could serve as a 'model' to most aspirants who have wealth of experience and knowledge about things, which are not always likely to be available in official records/files, to put them down in an informal narrative, for the benefit of posterity, before such information is lost for ever. Reasonably priced, this book can be a good companion for most of the fliers, who have faced or are likely to face the 'FLAK' - airborne, chairborne or even 'rail-borne'!

-- Air Vice Marshal S S Malhotra, AVSM, VM (Retd)

They Fought with What They had. By Walter D. Edmonds, *Washington D.C., Center For Air Force History, 1992, p. 532.*

An excellent yet modest oral account of the first few months 'holding action' to stem the rapid aggressive Japanese advance in the Pacific theatre; painstakingly recorded over a period of six years after the Japanese surrender. The facts recorded have been verified with official documents, to the extent possible to avoid exaggeration. The book contains the biggest lesson for the posterity as to what determination can do even when deprived of the matching resources. These episodes become all the more exciting now-in the wake of rapid/quantum technological advancements. For military thinkers and policy makers particularly in developing countries, it is an ideal literature to overcome the ever so glaring temptation of 'Arms-Race'. Also it is a lesson for us how to cultivate the sense of 'History', we lack so woefully. Its quality of production is commendable considering it is not in 'hard' back; yet will endure in any library, at least upto Command Head Quarter level.

-- Air Vice Marshal S S Malhotra, AVSM, VM (Retd)

Martyrs' Day : Chronicle of a Small War. By Michael Kelly, *New York, Random 1993, p. 354, \$ 23.00 ISBN 0-679-41122-4*

This book is not a traditional military history book of the Gulf War between Iraq against U.S. and thirty nine of its allies, but it is a travelogue from Iraq through Jordan, Israel, Kuwait, Iran and culminates in Kurdistan. It vividly captures the initial optimism of defeating the U.S., later frustrations, emotional trials and tribulations, despondencies of Iraqis and the faith in the invincibility of their leader President Saddam Hussein. It also brings out the mad arrogance of Kuwaities and the greedy thuggery of Iraqis. The initial fears of Israelies of Scud missiles changed to jubilations on the performance of Patriots. The plight of Kurds in Iraq is pathetic.

The peregrinations of the author his observations and detailed writing about everyday happenings are lavished with the fertility of literary language.

-- Maj General J N Goel (Retd)

Military Man Family Man Crown Propety (2nd Ed)/By Ruth Jolly, London, Brassey's (UK), 1992, p. 200, £ 12.00 ISBN 1 85753 005 5

Mrs Ruth Jolly who served in WRAF from 1966 to 1971, is a practising social

worker of distinction. With an M.Sc. Degree in applied Social Studies and as a professional social worker, she has produced a well-researched sociological work which gives a peep and an understanding of the pressures on the military man, his wife and children.

The most interesting part of the book lies in its peep on 'working wives'. Empirical case studies have evidenced that they want to continue in employment or resume working after having children. These studies further reveal that their husbands, by and large, also like this proposition.

Mrs Jolly analyses the military way of life on the family in a very admirable way. According to her, "military families are as vulnerable as any others to the stress of high-speed, high-tech, high-expectation modern living". That apart, military families are subject to other pressures. She goes on to add that while some families cope with them successfully, others do not. Certainly, these pressures arise from circumstances for which there are no real parallels in civilian life. Really, military ethos is wholly a different thing which bears no correspondence with civilian ethos. It is, therefore, somewhat difficult for them to get assimilated and integrated in the retired "civvy street", so to speak.

Specifically, the British military is both apolitical and self-contained like perhaps anywhere else because of the traditional way of military life. Her thesis is masterly in its import, scope, coverage and content which is authoritative enough for sociologists, social workers, and, above all, military personnel of all ranks in the services, namely, Army, Navy and Air.

-- Prof T N Rastogi

D-Day Normandy : The Story and Photographs. By Donald M. Goldstein and Others, *New Jersey, Brassey's (US), 1994, p. 179, \$ 30.00 ISBN 0-02-881057-0*

'D-Day Normandy', a photographic depiction of the invasion by the Battle of Normandy Foundation, is a volume in the tradition of quiet dignity as pervades the Normandy cemetery (frame 9-6, page 174). The explanatory commentary draws attention to the routine and enterprising action that led to the long delayed reopening of the Western Front by Ike's pensive - "OK, lets go".

The book, a private sector initiative, through careful selection from the US National Archives photo collection, has recreated the epic for posterity - a testimony of the sense of history and regard for historiography of modern societies.

The lesson for India is in the emulation of such effort especially so because there is no national monument to honour the memory of those who have sacrificed in sustaining the inherited freedom. In approaching the golden jubilee of our state, may our striving to nation - statehood include our tribute to those who made it possible - as has been this book's success in remembering the dead at Utah, Gold, Sword, Vuno and Omaha.

-- Capt Ali Ahmed

Churchill, By Clive Ponting, *London Sinclair-Stevenson, 1994, p. 900, £ 20.00 ISBN 1-85619-270-9*

Among World War II leaders, Churchill stood a tower of strength, the solid rock the Nazis could not shake, the founder of Allied victory, the champion of democracy. In this deeply researched book the idol crashes; not just with feet of clay, but proved hollow and even false. We had an indication when the British voted him out of office before the world war ended. Now the author skillfully extracts reality from myth: He presents the hidden Churchill, selfish, utterly ambitious for himself even when his country was in dire straits, distrusted and disliked by his colleagues, inconsistent, impulsive, and only too often incompetent in war and peace. Even more, his democracy meant rule of elites over the masses, rule over colonies and dominions (for their own good); simply because these common folk were considered neither competent nor deserving of individual choice while the aristocracy and elite were there to rule them. A hundred years earlier he would have been amongst the empire builders; in this age he was out of tune, unable to understand or accept the decline of imperial authority, changing times, and nature of democracies of equal citizens. Yet whatever author Ponting extracts from the archives, Churchill did have his "finest hour" inspite of himself; possibly because England, behind the glamorous Empire facade, was ruled by aristocratic and elite incompetents amongst whom he was the only choice when the war was at its worst. This book gives a staggering picture of English government, dominated by personal interests, by power seekers, with minimal attention to the people ruled. It gives hope to all upcoming democracies, plagued with comparable politicians, that national strength lies in the people more than in the leaders. A book worth reading, specially for those of us who experienced the war and Churchill.

-- Tindi

Behind the Tiananmen Massacre : Social Change Political and Economic Ferment.
By Chu-Yuan, *Colorado Westview, 1990, p. 256, \$ 38.50. ISBN 0-8133-1047-4*

This book studies four salient points: Why did the Chinese leaders attack peaceful demonstrators? Why did Deng Xiaoping, whose policies had won him world-wide acclaim, decide to destroy in one day much of what he had accomplished in a whole decade? Are Chinese leaders justified in branding the pro-democracy movement as 'counter-revolutionary'? What is the impact of the bloodshed on the Chinese modernization and unification? It seems the root of the trouble lies in the one-party totalitarian system. World is waiting for the octogenarian leadership to disappear for major changes in China. It is worth noticing that when a powerful China unleashes a reign of terror on peaceful citizens, she is called just 'dingo'; but when a weak Burma cracks down on such demonstrators, she is branded as 'pariah'.

-- Lt Col Daljit Singh (Retd)

China's Search for Democracy : The Student and the Mass Movement of 1989. Ed
By Suzanne Ogden, *London, (N Y) Sharpe, 1992, p. 451, \$ 17.95 ISBN 0-87332-724-1*

The book is a selection of documents which appeared during the mass upsurge

of dissent that shook China in Spring 1989. The upsurge led to the imposition of martial law in Beijing and ended with the massacre of the protestors. The sometimes confusing and repetitive statements exhortations etc. included in the collection, make it quite clear that there could not have been a "hidden" hand orchestrating the upsurge. It is equally clear that the students' nonviolent and disciplined initiative to secure creation of autonomous student bodies, to highlight prevailing corruption, and for freedom of the press, touched a strong emotive chord among the general populace, which extended spontaneous support to the students. The Chinese Communist Party saw the movement as a threat to its power and legitimacy, but was divided on the means to contain it. Ultimately, the use of military force against peaceful dissenters aggravated the divisions and made it lose prestige at home and abroad. The upsurge has been compared with the May Fourth movement of 1919, which led to the establishment of the Chinese Communist Party. It remains to be seen if 1989 Upsurge will have similar far reaching influence on the history of China.

The documents are ably edited and the introduction to each section provides the needed perspective on the documents included therein.

-- S K Bhutani
Former Ambassador of India

Japan: Beyond the End of History. By David Williams, *London, Routledge, 1994. p. 238, ISBN 0-415-05243*

Japan's importance as an economic superpower and a major power in the making in the Asia Pacific does not require much introduction. However what has provided endless scope for contemporary analysis is the impulses that stimulate the Japanese system and its policy makers.

The book does not provide easy reading for a casual reader looking for simplistic answers to the above question. The author rightly and clearly warns at the outset that his work is meant for the intelligent adult, for those having a serious interest in public affairs and for the university students of Japanese politics.

For such readers the book offers a serious and thought provoking analysis of the ethos and philosophies forming the bedrock of the Japanese system and the contemporary changes underway in Japan.

-- Brig (Dr) Subhash Kapila Ph.D.

The Cyanide War : Tamil Insurrection in Srilanka 1973-88. By Edgar O' Ballance, *Brassey's (U K) 1989, p. 139, \$ 18.00 ISBN 0-08-036695-3*

'The Cyanide War' by Edger O' Balance provides a clear and impartial account of the struggle waged by Sri Lankan Tamils to secure for themselves a safe homeland in the Jaffna peninsula and adjoining eastern part of Sri Lanka where Muslims of Indian origin, mostly from Kerala had also settled down.

The title of the book - "The Cyanide War" is quite apt considering that Tamil

Tigers, i.e. Tamils fighting for the independence of northern Sri Lanka, from the clutches of Sri Lanka, as they saw it, were prepared to swallow cyanide pills which they carried with them and die when captured by Sri Lankan Army, rather than submit to torture by the latter.

Fortunately, as of now, there are some positive signs. Tamils of Sri Lanka would probably agree to have an autonomous Northern and Eastern Sri Lanka, forming part of a united Sri Lanka where all could live in peace and cooperate with each other in building up a prosperous Sri Lanka.

-- Col R Rama Rao AVSM (Retd)

Freedom From Fear and Other Writings. By Aung San Suu Kyi, *New York, Viking Penguin, 1991, p. 338, \$ 12/- (Pb) ISBN 0-14-017136-3.*

Under house arrest since 1989, the petite Burmese nationalist leader is rarely off the headlines. This collection of her writings written before her incarceration reflects interpretation of her country and its people; her own hopes, fears and beliefs. Her British husband, Michael Aris edited the writings and has added copious notes to link and explain. The two delightfully human accounts by the author's contemporaries, Ann Slater during her college days and Ma Than E at work with the UN add to the book's readability.

The author was awarded the Sakharov prize for Freedom of Thought in 1990 and the Nobel Peace Prize in 1991.

-- Colonel Balwant Sandhu

Asia in the 21st Century: Evolving Strategic Priorities, Ed by Michael D Bellows Washington DC, *National Defense University, 1994, p. 263.*

The book is a collection of seminar papers presented by East Asia Specialists at the Annual Pacific Symposium which in 1994 was hosted by the National Defense University, Washington, USA.

This year's compilation is rich in its choice of speakers from USA, Russia, Japan, South Korea and China, their contributions and the overall standard of the publication itself. Pertinently, the compilation contains two perspective papers on regional security structures for the 21st Century.

Of interest to students of Asia-Pacific Security, some major conclusions that emerge for the 21st century is that even in the "open period of history" of the post-Cold War era, bilateral security cooperation agreements with USA and continued American involvement in the region are essential requirements for security and stability in the region, as newer type of security threats with extra-regional implications emerge.

-- Brig (Dr) Subhash Kapila Ph.D

The Foreign Policies of Arab States : The Challenge of Change. By Bahgat Korany and Ali E. Hillal Dessouki, 2nd Ed Rev., *Colorado, Westview, 1984, p. 49, \$ 62.00 ISBN 0-8133-0875-5*

This book is a compilation of thirteen essays by ten writers on the foreign policies of the Arab States. Arab States imply 22 states belonging to the League of Arab States. These states are distinguished by cultural, linguistic, and though the authors don't say, by religious homogeneity.

All these essays are more of academic in substance with only cosmetic touches on vital issues in Arab politics.

-- Lt Gen Daljit Singh (Retd)

Turmoil : The Druzes, Lebanon and the Arab-Israeli Conflict. By Najib Alamuddin CBE, *London, Quartet, 1993, p. 292, £ 14.95 (HB), £ 7.95(PB) ISBN 0-7043-0189-X*

This book traces the history of Druzes from 1017 to-date. Druzes mainly live in Lebanon, Syria and Israel, Druzes claim Arab origin but their religion is shrouded in mystery and muffled by secrecy. They are not 'practising' Muslims as they differ in basics like fasting, Haj and five-times prayers. They trace their religion to the Ismailis and accord better status to women and are against polygamy. With the peace prospects between Israel and Syria making headway, the presence of 50,000 Druzes in Israel and over 13000 in Golan Heights should make the difference.

-- Lt Col Daljit Singh (Retd)

The Royal Road : A Popular History of Iran. By Eileen Humphreys, *London, Scorpion, 1991, p. 279 £ 14.95 ISBN 0-905906-94-2.*

This scholarly history, presented as an interesting story for just any reader, covers Persian civilisation for three thousand years and more. The name "Irani" dates back to antiquity, and like the Egyptians and Chinese, the area of Iran (as today), the fertile valley of the Tigris and Euphrates, bred a culture with philosophy, sciences, music, art, architecture, civic development, irrigation and government, headed by monarchs over many centuries. It survived and adapted to successive invasions, influences and religions; the theme of this history is the endurance of this culture, rooted in antiquity, and the legacy left to modern times when the last of the monarchs, Mohamed Raza Pahlavi, was deposed. The book is well written, illustrated with sketches, photographs, anecdotes and quotations, refreshingly different to the dry "facts and dates" histories of past years. It will attract rather than put off students; it has more than adequate references for the serious scholar. For the military reader, interested in modern Iran and events of the last two decades, there is only a background, insufficient for adding to specific material already available on the Middle East, and on the traditional Arab/Persian antipathy leading to wars, then and now.

-- Tindi

Securing Peace in the Middle East : Project on Economic Transition. Ed By Stanley, Fischer and Others, *London MIT, 1994, p.166, ISBN 0-262-06168-6*

This book provides a short but comprehensive account of the situation in the Middle East in the post Gulf War era.

The authors have argued, having in mind the need for maintaining peace in the area, that "Israelis, Jordanians and Palestinians can all benefit economically from an agreement in which (a) The Palestinians obtain control over the economy of the West Bank and Gaza; (b) Free trade develops substantially among the three economies; and (c) Regional projects to develop the complementarities among the economies receive a high priority.

Mutual trade and cooperation certainly would benefit all the States in the area by strengthening their economies. This is an important factor that would reduce the strength of disruptive elements in the area.

The is a very useful book that ought to be studied carefully by officers of the three Services and students of political history of the Middle East.

-- Col R Rama Rao AVSM (Retd)

Arms Over Diplomacy : Reflections on the Persian Gulf War. By Dennis Menos, *Westport, Praeger, 1992, p. 174, £ 38.95 ISBN 0-275-94160-4*

This book analyses the place of diplomacy vis-a-vis intervention by armed troops in solving international problems. Can economic sanctions and a daily barrage of oral ultimatums by the United Nations against an erring nation work? What was the aim of the US in the Gulf? The stated intention was to free Kuwait from Iraqi occupation and the unstated one was to destroy Iraq both militarily and politically as also to remove/humiliate Saddam. These are some of the questions/aspects this book dwells upon in detail.

The author in a very balanced, unambiguous and totally impartial manner brings out the greed of the US for Kuwaiti Oil/Oil based industries, its fixation about Saddam, and the obduracy of Saddam Hussein in ensuring failure of diplomacy and resorting to arms.

-- Maj Gen J N Goel (Retd)

Deterrence in the Middle East : Where Theory and Practice Coverage/Ed. By Aharon Klieman and Ariel Levite, *Jerusalem, Joss Studies, 1993, p. 164, \$ 24.50 ISBN 965-459-007-7.*

The book is the edited version of a symposium on the subject held at the Jaffee Centre for Strategic Studies, Tel Aviv University, in May 1991. Concept of deterrence is analysed in the context of 'rational' behaviour of the actors as well as a fine tuning of judgement so that the consequences of the action do not prove to be counter-productive. It, therefore, presumes that deterrence must be real and unambiguously

conveyed to the opponent. Objective of an effective deterrence is to compel the antagonist to shift the quest for the solution of the conflict from the battlefield to the negotiating table. Attempt has been made to determine whether the calculus of deterrence functions as effectively among small and medium powers as it did between the Superpowers. This theoretical framework is used to examine Israeli security concepts, especially after the end of the Cold War and the Gulf War of 1991.

-- Prof K R Singh
School of International Studies J N U

Two Kings in Arabia : Sir Reader Bullard's Letters From Jeddah. Ed. by E C Hodgkin, *Reading Garnet*, 1993, p. 289, £ 30.00 ISBN 0-86372-167-2 ✓

The period between the two World Wars form the peak of British Power. It was also a period of momentous changes in the Arab Middle East. The Ottoman Empire collapsed and its Arab provinces were reorganised as separate countries - Palestine, Transjordan & Iraq (under British mandate) and Syria and Lebanon (under French mandate). Encouraged by the British Hussein, the Sherrif of Mecca revolted against the Ottoman Sultan in 1916 and proclaimed himself King of Hejaz. One of the Husseins sons Faysal ended up as the King of Iraq (1921) and another Abdullah, became the King of Transjordan, carved out of Palestine. The Western part of Palestine, containing the future Jewish national home promised in the Balfour declaration, continued to be administered by the British. In Central Arabia Abdal Aziz Ibn Saud seized power in Nejd & Yemen emerged as an independent state in the South West of the Arab peninsula.

Hussein, who had projected himself as the spokesman for the Arab people and had harboured visions of being accepted as the independent ruler of Arabs felt betrayed. Worse fate awaited him, as after a protracted struggle between two Kingdoms, Ibn Saud of Nejd supported by Wahabis, conquered Hejaz and Hussein had finally to retire to Cyprus. The British however continued to dominate the South of the peninsula and the small sheikhdoms in the east continued as British protectorates.

Sir Reader Bullard of the Levant Consular Service, who retired in 1946 as the British Ambassador in Teheran, had two spells of duty in Arabia - first as Consul in Jeddah (1923-25) and later as Minister in Jeddah (1936-39). Oil had not been struck in Arabia until early 1939 and the Haj pilgrims constituted the principal source of income for the government and the people of Hejaz. The Nejdians lacked even that resource. Slavery was widely practised. Living conditions for diplomats in Jeddah were far from ideal - "no electricity, no refrigerator, little company and no diversions". Living mostly alone Bullard wrote regularly to his wife in England describing his life and work in Jeddah. The Hejaz -Nejd war was the major focus of his attention during his first term. Fostering of friendly relation with Saudi Arabia despite the consequences of the Balfour Declaration and keeping the Italians out were his major concerns during his second tenure. Free from the restrictive norms of official correspondence, Bullard expressed himself with frankness, wit and humour in his private letters which provide a fascinating account of the personalities and events selected for inclusion in his chronicle. He seems to have been somewhat harsh on the unfortunate King Hussein

and to restore the balance the Editor felt compelled to include a more sympathetic extract from another author. Nevertheless, the spicy letters compiled in this volume, written by the author for the benefit of a small, intimate audience would be found thoroughly enjoyable and informative by a much larger readership.

-- J P Sharma, Former Additional, Secretary
to the Government

Uganda Since Independence : A Story of Unfulfilled Hopes. By Phares Mutibwa, London, Hurst 1992, p. 209, £ 25.00, ISBN 85065-066-7.

Uganda at one time called the Pearl of Africa by the late Winston Churchill, achieved independence in 1962. However, since the mid-sixties and, more spectacularly, since Idi Amin seized power in 1971, the country has been involved in ethnic violence, wholesale disregard of the rule of law and economic chaos.

The author, a former head of the Department of History at the Makerere University has traced the entire history of this problem in great detail. Having himself suffered during the difficult years, his analysis is in depth with the knowledge of an 'insider'.

The book's canvas encompasses the pre-independence era up to the taking over of authority by the National Resistance Movement headed by President Yoweri Museveni, who has been in power since 1986 till publication of the book in 1992.

-- Maj Gen Nirmal Sondhi (Retd)
AVSM & Bar

Radhakrishnan : a Biography. By Sarvepalli Gopal, New Delhi, Oxford, 1989, p. 408, Rs 125/- ISBN 0-19 562999 X

The book covers early life of Dr. Radhakrishnan who was born of a poor family and had to struggle hard to do his education by taking tuitions. Thereafter, the book deals with his academic career of teaching in Calcutta, Oxford, Benares and Andhra Universities. This is followed by chapters on his assignments as head of Universities Commission, the Ambassador in Moscow and then his rise to the highest office first as Vice President and then the President of India.

The author has brought out in the book this remarkable man's integrity, simplicity and dignity and his philosophical and forthright approach to all problems and the one who never minced words whether as ambassador or Vice President or the President. His contribution towards Indo-USSR friendship and understanding and the subtle way of putting his point across to the Russians would be of particular interest to the readers.

-- Captain R P Khanna, AVSM
Indian Navy (Retd)

India Briefings 1992. Edited By Leonard A. Gordon & Philip Oldenberg, *Colorado, Westview 1992, p. 259, \$ 14.85 ISBN 0-8133-1497-6*

A very objective view of Indian scene at the end of 1992, published under the auspices of Centre for India - U.S. Education, it fulfills its aim admirably. The first part recounts the political happenings, and the changes in the financial management. The loosening of the hold of planned economy. The chapters on economics and Public sector bring out some interesting facts not generally known, such as number of people below poverty line, and steel production figures.

-- Maj Gen Partap Narain (Retd)

India and Bulgaria : Cultural Relationship. Ed. By Donka Alexandrova *New Delhi, Reliance, 1992, p. 278, Rs 400/- ISBN 81-85047-80-4.*

This book encompasses the multiple aspects of inter relationship from ancient through medieval to modern times between Bulgarians who introduced the Cyrillic script and Indians, the decimal, the concept of Zero as well as the system of numerals. There are thirty seven articles contributed by both eminent Bulgarians and Indians which discuss all possible aspects like history, culture, politics, evolution of Bulgarian Language, mythology, marriage customs, folk lore and the way of life of Bulgarians. The movement of Jats and Gujjars from Punjab and Rajasthan in India to Central and South Eastern Europe including the Balkan countries is authoritatively and authentically documented. Rakovski the great Bulgarian writer regarded India as the ancient fatherland of Bulgarian people.

Profesor D Alexandrova has done a yeoman's service in ably editing this book after much perseverance thus creating, deepening and widening the closer relationship between the two countries.

-- Maj Gen J N Goel

Succession and Imperial Leadership Among the Mughals 1526-1707. By Neeru Misra, *Delhi, Konark, 1993, p. 167, Rs.165/- ISBN 81-220-0337-0*

Notwithstanding nearly two centuries of continuous dynastic rule of the Mughals in India, and grandios reigns of Akbar, Shahjahan, and Aurangzeb, struggle for succession and revolts by provincial power groups occurred with cyclic frequency. This persistent conflict pattern has invoked many studies by contemporary historians.

The Study gives interesting insight into the personal traits of the successive monarchs - their experience, statecraft and diplomacy whereby each incumbent faced the challenges to his sovereignty. Humayun's diplomacy, Akbar's Mansabdari system, Aurangzeb's experience and aggressiveness.

With a profusion of names and references to comprehensive bibliography, the book would be of great value to a dedicated research scholar.

-- Maj Gen S K Talwar (Retd)

Anglo-Indian Attitudes: The Mind of the Indian Civil Service. By Clive Dewey, London, Hambledon, 1993, p. 292, ISBN 1 85285 097 3

The Indian Civil Service was an elite group with astonishing powers, exercised under minimal superior control. They functioned with great success, as if all had "God King and Country" emblazoned on their foreheads, (with "boxwallah profits" in fine print), and a unified zeal to run a powerful and efficient administration. This fascinating book goes into their minds, with the theory that these stalwarts were common humans, entrapped in their personal fundamental convictions, developed during their young years, and little changed as they grew through years of service exposure and experience. The author presents detailed lives of two opposites, first of Frank Brayne, (1882-1952) the "village reformer" dedicated to uplift and welfare of common Indians, and second of Sir Malcom Darling (1880-1969) a scholar and humanist, with friendship and understanding for India as it was. Both served at the decline of British power, but typically strove to the very end in an environment that gave them opportunity and scope to grow as individuals well beyond what they could have expected in their native England. We have here authentic research into the "whys" and "hows" of their functioning, representing much of what made the rest of the ICS think they were "the heaven born", always right, always best. This is an interesting book, going beyond its intended mosaic of the ICS; it gives a view of India and Indians as they were then, and how they responded to their rulers.

-- Tindi

Special Operations Forces : An Assessment. By John M. Collins, Washington, DC, National Defense University Press, 1994, p.189

This excellent book is based on a report prepared by John M Collins, Senior Specialist in National Defense at the Library of Congress on US Special Operations Forces, at the request of Chairman Sam Nunn and Senator William Cohen of the Senate Armed Services Committee to help the US Congress to assess the SOF current and future capabilities. According to Lt Gen (Retd) P Yarborough, a former Commanding General of the US Army Special Warfare Centre, the author speaks with the authority of one who was literally present at the birth of the "Low Intensity Conflict" era. He joined the US Army as a private in 1942 and retired as a Colonel in 1972 after wartime service in Europe, Korea and Vietnam.

The US Special Operations Forces (SOF), which are largely the product of the past three decades, have in recent years been considerably expanded and formed almost into a sixth service with direct access to the Secretary of Defence through the Assistant Secretary Defence holding charge of Special Operations and Low Intensity Conflict (LIC). The SOF, it is claimed, are ideal to cope with the types of crises the US are most likely to face in the future after the Cold War. The future will require regional orientation, cultural awareness, language proficiency and quick responsiveness which make the SOF the force of choice. Further Special Operations will often be more employable where high profile conventional forces appear to be politically, militarily or economically inappropriate.

Although the components of the SOF continue to be provided by the three Armed Services, namely the Army, Navy and Air Force, all active and reserve SOF elements in the United States are assigned to the US Special Operations Command (USSOCOM). The C-in-C Special Operations Command is charged with developing strategy, doctrine and tactics, establishing priorities training assigned forces and ensuring their Combat readiness. C-in-C SOC is additionally responsible for monitoring the preparedness of all SOF assigned to other Unified Combatant Commands.

While the tasks laid down for SOF were Direct Action, which included raids, hostage rescue and surgical strikes, Strategic Reconnaissance, Unconventional Warfare, Foreign Internal Defence and Counter-terrorism they have also in recent years been given responsibility for Humanitarian Assistance, Theatre Search Rescue, Civil Affairs and Psychological Operations. Whereas there can be no argument about the requirement of well trained elite forces being tasked for certain Direct Action, Unconventional Warfare and counter-terrorism tasks, the need for adding Theatre Search Rescue, Civil Affairs and psychological Operations seems rather dubious and debatable.

The author has described in superlative terms training and other standards achieved by the SOF. But the Report, while making passing references to the failure of SOF to free the US hostages in Iran and their unsuccessful attempts to apprehend the Somali warlord, General Mohammed Farah Aideed, it makes no mention of any successful operation to justify the claim to have achieved superb training standards. The nearest the author comes to doing this is to mention that 9,000 personnel of the SOF took part in Op Desert Storm.

The Report repeatedly emphasizes the need for language proficiency and the need for the SOF to have adequate supply of linguists. Yet during Operation Desert Storm less than a handful of SOF linguists were fluent in Iraqi dialects. During Operation "Restore Hope" in Somalia only one man spoke Somali and locals able to converse in English had to be hired. It is of passing interest that General Aideed's son, who was a corporal in the US Marine Corps, served as a translator until his presence was deemed impolitic. At the end of the Report one is left wondering how much of the repeated claims to uniqueness and superb training standards compared to Conventional Forces is an exercise in Empire Building which after all is not so uncommon a feature in the Armed Services of all nations.

-- Maj Gen S C Sinha PVSM (Retd)

The Making of a Sino-Marxist World View: Perceptions and Interpretations of World History in the People's Republic of China By Dorothea A.L. Martin, Armonk, M.E. Sharpe, 1990, P. 139, \$ 42.50 ISBN 0-87332-656-3

The author rightly states that to comprehend the nature of the state that governs one-quarter of the world's population requires an understanding of how that state views the world and its place in it, as well as the conditions under which that view is altered and evolves. The book aims to gain an insight into the origin, evolution and the making of a Sino-Marxist view and its interpretation of World history in post 1949 China. This

study, the author warns, is mainly concerned with Chinese interpretations and uses of world history and is therefore about China and not World History per se.

To achieve her aim the author, dealing with the writing of World history in the Peoples Republic of China, has included three interesting case studies to illustrate the application of the interpretative themes on events and subjects within the World history field. The first two are the seventeenth century English Bourgeois Revolution and the nineteenth century Paris Commune. Though both these events are considered to be of little consequence in the Western World a totally different perspective and importance attaches to them in the Marxist Socialist World and different lessons are drawn according to their present day needs. The last case study deals with China's treatment and attention given to Third World History.

The Chinese Communist success, Mao had declared, was not an aberrant form of revolution but the inevitable result of China 'falling behind' economically in modern times and a century and a half of oppression by foreign imperialism and domestic reactionary governments. It was to legitimise the Communist victory that China wished to emphasize a link to a long established historical chain of modern revolution, the first of which was seen as the seventeenth century English Bourgeois Revolution and considered by Chinese historians as the starting point of modern history. In this well written serious study, the author has with clarity brought out how in dealing with World history China 'makes use of the past to serve the present' - according to the political needs of the times.

-- Maj Gen S C Sinha PVSM (Retd)

Nuclear Weapons : Principles, Effects and Survivability. By Charles S. Grace, London, Brassey's (UK) 1994, p.146, £15.00 ISBN 0-08-040992-X

The author, who is a visiting lecturer at the Royal Military College of Science, Shrivenham, UK, has produced an excellent handbook on basic fundamentals of nuclear weapons, how they work, their effect on different types of targets and various methods of survival. The description in the book is supported by a large number of tables, charts, graphs, diagrams and photographs which enable a clear understanding of the nuclear weapons concepts even by a person without science background.

The book is a part of the Brassey's New Battlefield Weapons Systems and Technology Series (Volume 10). A good text book for the members of the armed forces who wish to acquire adequate understanding of the nuclear dimensions of a modern war.

-- N.B.S.

Additions to the USI Library for the Quarter - Ending December 1994

*(The books reviewed in Jul-Sep 1994 issue have been added
to the Library during this quarter but not shown in this list).*

Autobiography/Biography

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|-----------------------|-----------------------------|------|
| 1. Kutty, K. Govindan | Seshan : An Intimate Story, | 1994 |
|-----------------------|-----------------------------|------|

Disarmament

- | | | |
|---------------------------------------|---|------|
| 2. Reddy, ES &
Damodaran, AK (eds) | Krishna Menon on Disarmament :
Speeches at the United Nations, | 1994 |
|---------------------------------------|---|------|

Fiji

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| 3. Bhagwan Singh & Das,
Parimal Kumar | Fiji : The Changing Face, | 1995 |
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GATT

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| 4. Kulshreshtha, Ajay | Gatt : Critical Analysis of General
Agreement on Tariffs & Trade, | 1994 |
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India - Foreign Policy

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|-------------------|---|------|
| 5. Thakur, Ramesh | The Politics and Economics of
India's Foreign Policy | 1994 |
|-------------------|---|------|

India - Politics

- | | | |
|-------------------|---|------|
| 6. Chomsky, Noam, | Deterring Democracy, | 1992 |
| 7. ES, Reddy | India Against Apartheid : Speeches of
Krishna Menon at the United Nations, | 1994 |

India - States

- | | | |
|-----------------|--|------|
| 8. Ghosh, A | Development Strategy for the
Andaman and Nicobar Islands, | 1994 |
| 9. Trivedi, VR | Important Events in Kashmir, | 1994 |
| 10. Kyndiah, PR | Mizo Freedom Fighters, | 1994 |

Indian Ocean

- | | | |
|---------------------------------|-----------------------|------|
| 11. Sharma, RC and
Sinha, PC | India's Ocean Policy, | 1994 |
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|------------------------------------|---|------|
| 12. Raizada, Ajit | The Indian Ocean Politics, | 1994 |
| | International Relations | |
| 13. Rahul, Ram | China, Russia and Central Asia, | 1994 |
| 14. Weimbaum, Marvinds | Pakistan and Afghanistan :
Resistance and Reconstruction, | 1994 |
| 15. Melman, Yossi and
Dan Raviv | Friends in deed : Inside the US-Israel
Alliance, | 1994 |
| | Intelligence | |
| 16. Hopkirk, Peter | On Secret Service East of Constantinople:
The Plot to Bring Down the British
Empire, | 1994 |
| | Internal Security | |
| 17. Gupta Ranjit Sen (Col) | Management of Internal Security :
Freedom From Fear : Impact of State
of Security on National Integration;
Risk Analysis and the Profession of
Security | 1994 |
| | Iraq - Foreign Policy | |
| 18. Alam, Mahboob | Iraqi Foreign Policy Since Revolution, | 1994 |
| | Management | |
| 19. Vittal, N. | The Vicious Cycle of Vittal's Law, | 1994 |
| | Military - Law | |
| 20. Sharma, G.K. (Col) | Study and Practice of Military Law | 1994 |
| | Nuclear Powers | |
| 21. Grace, Charles S. | Nuclear Weapons : Principles,
Effects and Survivability, | 1994 |
| | Pakistan | |
| 22. Mohammad, S. Chand
(ed.) | Contemporary Conflicts in Pakistan | 1994 |
| | Reference Books | |
| 23. Mumford, Alan (ed.) | Handbook of Management
Development (3rd ed) | 1994 |

24. Norris, Robert S (et. al) Nuclear Weapon Databook 1994
Regimental History
25. Perkins, Roger (Comp) Regiments : Regiments and Corps of
the British Empire and Commonwealth
1758 - 1993 1994
Russia - Foreign Policy
26. Racioppi, Linda Soviet Policy Towards South Asia
Since 1970, 1994
Religion
27. Jain, Girilal The Hindu Phenomenon, 1994
Sikkim
28. Lama, Mahendra P. ed Sikkim; Society Polity Economy
Environment 1994
Sri Lanka
29. Chattopadhyaya, HP Ethnic Unrest in Modern Sri Lanka :
An Account of Tamil Sinhalese Race
Relations 1994
30. Swamy, MR Narayan Tigers of Lanka : From Boys to
Guerrillas, 1994
Strategy
31. Gamba, Stonehouse Strategy in the Southern Oceans :
Virginia A Study American View, 1989
Terrorism
32. Khurshid, Salman Beyond Terrorism :
New Hope for Kashmir, 1994
33. Tarapot, Phanjoubam Insurgency Movement in North
Eastern India, 1994
War/Warfare
34. Paul, TV Asymmetric Conflicts : War Initiation, 1994
35. Dunnigan, James F. How to Make War : A Comprehensive
Guide to Modern Warfare for the Post
Cold War Era, 1994
36. Alvin and Heidi Toffler War and Anti War Survival at the
Dawn of the 21st Century, 1993

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