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INDIA'S OLDEST JOURNAL ON DEFENCE AFFAIRS

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JANUARY—MARCH 1988

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The
Journal
of the
United Service Institution
of
India

Published by Authority of the Council



(Established : 1870)

Postal Address :
KASHMIR HOUSE, RAJAJI MARG, NEW DELHI-110011
Telephone No 3015828

Vol. CXVIII

JANUARY—MARCH 1988

No. 491

USI Journal is published Quarterly in April, July, October and January, Subscription : Rs. 60 per annum, Single Copy : Rs. 15. Foreign (Sea Mail) \$ 5.00 or £ 2.65. Subscription should be sent to the Director. It is supplied free to members of the Institution. Articles, Correspondence and Books for Review should be sent to the Editor. Advertisement enquiries concerning space should be sent to the Director.

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NOTE

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UNITED SERVICE INSTITUTION OF INDIA

**President's Report for the
year 1987**

GENTLEMEN, welcome to the USI Council meeting. I also wish to take this opportunity of welcoming all the new members who have joined the Council.

OBITUARY

It is with deep regret and sorrow that I have to inform you of the sad demise of our erstwhile Director Col Pyara Lal, AVSM. He passed away on 23 Nov after a long illness very courageously borne. Pyara had become an Institution here and it would not be far from the truth to say that he was the Institution and so we are all going to miss him very much.

Col Pyara Lal took over as Secretary of the USI soon after it moved to Delhi from Simla in 1957. At that time, as Pyara used to say, our Institution did not have enough money to buy even a bicycle. It was his tremendous selfless dedication, hard work and constant drive that saved the Institution from extinction and slowly built it up to what it is today. He started the various correspondence courses which have not only professionally benefited thousands of Army and Air Force officers but have also been a good source of income to the USI.

After having ensured the building up of a viable amount as a corpus, he started his more or less single handed crusade for the construction of a new building complex for the USI. He succeeded in getting an allotment of the five acres of land from the Ministry of Defence for our building project at Dhaula Kuan and also a sizeable grant of money from the Hon'ble Prime Minister and the three Service Headquarters towards its cost. It is a great shame that due to our building plans being turned down by the Delhi Urban Arts

Commission, he was not able to see the fulfilment of the dreams of greatness he had for the USI, which he loved so well.

The USI has, on behalf of its members and staff, issued obituaries which have been published in the Statesman and the Times of India. An obituary will be issued in the Oct-Dec 1987 issue of our Journal. But the best memorial to him will be our concerted efforts to get the USI its new building. Finally may I request you all to please join me in observing a minute's silence to honour his memory and pray that the departed soul rests in eternal peace.

FINANCES

Income and Expenditure accounts for the financial year 1986 have been with you and I hope you have had time to examine them. These have been audited. I regret we were not able to send you the audit report. These have, however, been laid on the table and you are welcome to go through them. There are, you will notice, no major objections and suitable replies have been given to all the objections raised. Action is being taken to rectify the faults pointed out.

The income and expenditure position of the Institution over the last three years is as follows :

<i>Year</i>	<i>Income</i>	<i>Expenditure</i>	<i>Surplus</i>
1984	4,42,276.98	2,24,961.10	2,17,315.88
1985	5,42,079.44	2,48,062.46	2,94,016.98
1986	7,37,357.17	3,14,910.40	4,22,446.77

A study of the Income and Expenditure Account for 1986, which is with you, will show that in addition to the surplus of Rs. 4,22,446.77, which I have told you about, a sum of Rs. 5,04,035.58 has been transferred to various other funds such as Revision Courses Fund, the USI Building Fund, Education and Training Fund and Library Fund. Our total savings were thus actually 9,26,482.35. This does not include a sum of Rs.82,249.32 set aside towards depreciation. These funds are separate from the new Building Fund which has been opened with the grants from the three Service HQ and that received from the Hon'ble Prime Minister.

It will be thus seen that we are now fast approaching our goal of creating a corpus of Rupees one crore to make the Institution self sufficient in funds for the future. If we maintain our present rate of savings then we shall reach our goal early in the year 1990. The expenditure and income account for 1987 is placed before you. These have not been audited and are an approximation.

As on date, the investment position of the Institution is as under :—

(a) *USI Corpus Fund*

(i) Public Sector Undertakings	Rs. 68,54,000.00
(ii) Nationalised Banks	Rs. 68,400.00
(iii) UTI and Govt securities	Rs. 2,06,600.00

(b) *Grant for Building*

Public Sector Undertakings	Rs. 1,73,50,000.00
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But here I would, however, like to sound a word of caution. In spite of all our efforts the annual expenses on running the Institution and its activities are still much beyond what we receive annually from membership subscriptions. At present the major portion of the membership subscription received, goes towards the cost of the four copies of the journal supplied free to our members. In fact with the increasing cost of this publication, it will soon exceed what we receive annually from each member. Besides this we have ahead of us very major expenses towards not only the cost of our building project but also in the furnishings and fittings that we will require once the building is ready. I will, therefore, request you to think how best we can raise more funds for our Institution.

JOURNAL

Unfortunately, due to Colonel Pyara Lal's illness the issues of the journal were delayed. The issue for this year's first quarter was despatched to members only in Aug 87. Since then fortunately for us, Air Cmde NB Singh very kindly volunteered to help in editing the Journal. With his help the issue of the Journal for the second quarter is being despatched now and that of the third quarter is almost ready for despatch. The last quarterly issue will be sent out

latest by the end of Jan '88. This will bring us upto date with our issues. I would like to place on record our appreciation of the good work done by Air Cmde NB Singh for our journal.

There is still, I feel, room for improvement in both the get up and the material of the Journal. Our Executive Committee has given directions to have this aspect examined. They feel that the honorarium paid for articles and book reviews is at present much too low and does not attract sufficient contributors. The financial aspects of increasing the honorarium and making it more attractive, are being gone into.

STUDY COURSES

The details of number of students and percentage of results achieved in various professional correspondence courses conducted by the Institution are :—

(a) Number of Students

	1984	1985	1986
(i) DSSC (Army)	243	450	621
(ii) Promotion Part 'D' Army	674	276	325
(iii) Promotion Part 'B' Army	216	217	219
(iv) TSC	92	85	81
(v) DSSC (Air Wing)	51	29	30

(b) Results

(i) DSSC (Army)	67(22%)	175(63%)	124(55%)
(ii) Part 'D'	484(72%)	189(67%)	Results Under com- pilation
(iii) Part 'B'	182(84%)	179(82%)	183(83%)
(iv) TSC	24(27%)	20(24%)	25(31%)
(v) DSSC (Air Wing)	36(71%)	21(89%)	18(60%)

(c) *Income*

	<i>Income</i>	<i>Expenditure</i>	<i>Net Surplus</i>
(i) 1984	2,15,995.00	1,20,372.94	85,622.06
(ii) 1985	2,91,905.00	1,44,738.07	1,47,166.98
(iii) 1986	3,21,047.00	1,34,456.62	1,86,590.38

This year we have not been able to adhere to the time schedule due to various administrative problems. However, for the courses commencing wef 1 Sep the time schedule is being kept. In order to achieve this aim, one officer has been detailed by the DGMT to assist the Director. One Officer (Colonel) has also taken up the work on a voluntary basis. I would like to express the appreciation of the Council to the DGMT and the officers for the timely help they have rendered to our Institution in running the correspondence courses.

RE-ORIENTATION COURSE FOR MAS

The Institution conducted a six week course for Military, Naval and Air Attaches and their wives being posted abroad. A large number of distinguished academicians from Universities, Research Centres and senior officers from the External Affairs Ministry addressed the student officers. Among those who addressed the officers were Dr. Karan Singh, Professors—Andrei Beteille, Bashir-ud-Din Ahmed. AM Khusro and AK Damodaran.

The Institution organises these courses on behalf of Dte of Military, Air and Naval Intelligence. From all accounts, officers found these programmes exceedingly useful. Indeed, they have come to occupy a place of pride in the expanding activities of the Institution.

USI BUILDING

Unfortunately we have not made any progress in obtaining sanction to start the construction work for our Building project. I will take up this point in greater detail when we come to it in our agenda.

NEW RULES OF THE USI

The last Council meeting considered the new rules which were prepared by Maj Gen SC Sinha and Air Cmde Jasjit Singh. Unfor-

Unfortunately the minutes of the Council meeting do not appear to reflect the correct position. These rules have, therefore, been placed before you for consideration and confirmation before they are finally adopted.

Once we adopt the new rules it will require the election for a year, that is till the Council meets again next year, of the President of the Council and its two Vice Presidents. We shall have these elections done after we have dealt with all the points on the agenda.

CONCLUSION

In spite of the severe setback the Institution received as a result of the long illness and sad demise of Colonel Pyara Lal, it can be said to his credit that he has left it in a very healthy state. It is unfortunate that our building project has not as yet taken off. But as you will see, even in this we have matters well under control. With your help and co-operation, I have no doubts that we will overcome all the obstacles and difficulties that lie in the way of our future progress.

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Issues Regarding India-China Border Agreement

SAHDEV VOHRA

INTRODUCTION

THE relations between India and China and the effect on these relations of the border dispute between them, has never really been out of our view ever since 1962, if not earlier. Neither country likes such an issue to remain unsettled between two great neighbours. But border disputes do not arise unless there are substantive issues involved affecting the policies of the two countries. In this case an area of about 15,000 sq. miles in Ladakh was occupied by China, beginning after 1950. In the context of the development of the Pakistan-China-US axis, particularly since the visit of Mr. Kissinger in 1971 from Pakistan to China, it cannot be stated that the border dispute between China and India is the only issue affecting their relations. No doubt we should put the dispute behind us as a step towards better mutual relations. In order to do so, we have to take a closer look at the complexities of the border settlement.

Border disagreements are seldom the cause of war between countries. When such a war takes place as it did between India and China in 1962, causes deeper than the border alignment are usually responsible for the conflict. Whatever the reasons for the coming about of the China-Pakistan-US axis subsequently, it dictates China's policy towards India rather than the unsettled border. The Indo-China border remained a 'live' one from 1954-1962 and has not since then been a line of peace. China did not reveal her precise border claims till 1960 and was busy moving into the areas which she was to claim and by 1962 she finally achieved her purpose. Ever since then ranging from non-acceptance of the proposals of the "Colombo Powers" by China, several attempts have been made by the two countries to agree to a border line, and the lack of progress in doing

so, is a measure of the differences that exist. What are these differences and how they can be reconciled is the purpose of this paper.

WESTERN SECTOR

We have a declared proposal of the British Indian rulers with regard to Kashmir's border with Sinkiang. In 1899, they proposed it to China, stating "It will not be necessary to mark out the frontier. The natural frontier is the crest of a range of mighty mountains, a great part of which is quite inaccessible. It will be sufficient if the two Governments enter into an agreement to recognise the frontier as laid down by its clearly marked geographical features". The line of boundary proposed (It is contained in C Macdonald's letter of 1899 (vide NAI Foreign Department Secret F Proceedings, August 1899 (168-201) and is as follows :

"Commencing on the Little Pamir from the peak at which the Anglo-Russian Boundary Commission of 1895 ended their work, it runs South East crossing the Karachikar stream at Mintaka Aghazi, then proceeding in the same direction it forms at the Karchenai the crest of the main ridge of the Muztagh range. It follows this to the South, passing by the Khunjerab Pass and continues Southward to the peak just north of the Shamshal Pass. At this point, the boundary leaves the crest and follows a spur running approximately east, parallel to the road from the Shamshal pass to the Hunza post at Darwaza. The line turning South through the post crosses the road at that point, and then ascends the nearest high spur, and regains the main crests, and follows them, passing the Gusherbrun, Saltore pass by the Karakoram."

We may pause at this point to note that the above line relates to the area of Kashmir in occupation of Pakistan and is the subject of an agreement of 1963 between China and Pakistan under which the Shaksgam Valley West of Siachen glacier has been occupied by China. Currently, China is reported to be carrying out a survey of this area. The first issue that arises is whether the alignment of the boundary from the Little Pamir to Siachen glacier is to be left over for later negotiation. This Chinese occupation West of Siachen and the Karakoram Pass is to be seen in the context of Chinese occupation East of the Pass after the War of 1962.

To proceed with the 1899 proposal, "From the Karakoram Pass the crests of the range run east for about half a degree and then turns south to a little below the 35th parallel of north latitude. Rounding then what in our maps is shown as the source of the Karakash, the line of hills to be followed run north east to a point east of Kizil Jilga and from there in south-easterly direction follows the Lak Tsung Range until that meets the spur running south from the Kuen-Lun range, which has been hitherto shown on our maps as the eastern boundary of Ladakh. This is a little east of 80° Longitude."

It may be noted that here the offer involves a part of Aksai Chin area. The Chinese made no response to this proposal, as they had not done previously when in 1846 the British had invited them to participate in demarcating the boundary of Kashmir. The 1899 proposal sought to include Aksai Chin in Sinkiang, as distinct from Tibet although China had at that time not done so. This was because at that time, the British aim was that in the event of Russia occupying Kashgar, i.e., Sinkiang, China should still serve as a buffer between Russia and Kashmir here.

Subsequent to the Anglo-Russian detente of 1907, the position was reviewed by the British Indian Government. The detente involved non-interference in Tibet by Russia and Britain. The Foreign Secretary Sir Louis Dane noted, however, "We hope to be able to keep Aksai Chin in Tibet in order to adhere to the Kuen-Lun boundary for that country" (i.e. for China) (Vide NAI, Appendix Notes Proceedings February 1908, Nos. 40-51). Thus the fate of Aksai Chin depended on the current perceptions of the British regarding the defence needs of the empire.

The demarcation of the northern border and colour washing of the boundary areas on maps of the Survey of India before 1954 was carried out to serve the internal administrative needs. The international boundary line shown by the Indian Government in their Survey of India maps of 1954 and subsequently was described in the official level border talks of 1960. This is based on the customary, traditional alignment, principally adhering to the crests of the ranges and the water-sheds as the supporting geographical basis. In Aksai Chin the drainage system is distinct from the watershed of the Karakash and Yurungkash rivers which flow north to Khotan in Sinkiang. Aksai

Chin, like Lingzi Tang and Depsang Plains, is one of the older geological formations that existed before the Karakoram and Kuen-Lun ranges rose in a later epoch and developed their own river watersheds. The question that the Chinese have raised from time to time is that notwithstanding these unexceptionable principles of border definition which they accept, they need the area of Aksai Chin in order to have within their jurisdiction the most convenient route from Sinkiang to West Tibet. It is not enough for India to point out that such a route via Keriya and Polu from Khotan is available to them already. The Chinese insist that it is the route passing through Aksai Chin that they needed. Consequently, at the border talks of officials in 1960, the Chinese drew a line from near the Karakoram Pass to Lanak La as the customary, traditional boundary, thus excluding from Ladakh not only Aksai Chin but a larger tract of about 15,000 square miles, roughly the same area of which they completed their occupation by the war of 1962. They can argue now from a position of vantage in so far as their claim is concerned since the area is already in their possession.

To sum up the points of dispute on the Kashmir Sinkiang border the main issues are :

- (i) China's entry on the Southern Slopes of the Aghil range into Shaksgam valley, west of Siachen glacier as agreed to between Pakistan and China in 1963.
- (ii) China's occupation of watersheds of the Karakash and Yurung Kash rivers and depriving India of Aksai Chin which has its own drainage basin.

So far, we have discussed the boundary of Ladakh with Sinkiang. As regards its boundary with Tibet there are fewer points of dispute. From Lanak La to Pangong lake the pastures on the two sides of the border were used by two sides according to long usage and are well defined. The areas of Chang Chenmo Valley, Lungzi Tang and Askai Chin where rights of pasture and salt collection were exercised were included in Tanktse area of Ladakh. The corresponding pasture areas of Tibet are thus defined also. The British Boundary Commissions appointed in 1846 found that there was no dispute with Tibet. This boundary was personally surveyed from the Chang Chenmo Southward by Strachey. Cunningham reported that cairns marking the boundary put up as long ago as

1684 after the Mongol-Tibetan invasion had been repelled, were intact. The Pangong Lake is partly in Tibet and partly in Ladakh. Khurnak Fort on it and Chushul and Demchok further south in Ladakh are the landmarks. The boundary then proceeds towards Bushahr, which is dealt with in the middle sector.

Regarding Tibet, it may be mentioned that the question of status of Tibet seems to have been settled in disregard of the facts of history and to the detriment not only of Tibet but also of China and India. Tibet has remained isolated from the conflicts of the great powers of the past. To keep the area free from militarisation as is the border between the USA and Canada is desirable and necessary. Tibet is an autonomous region of the Republic of China and the Tibetans should have the attributes of autonomy, i.e. be allowed to live and develop in their own way. With Tibet, the border disputes on the Western sector south of Aksai Chin are not intractable. In this sector, as a whole, any solution that we find can be seen to be linked, on the one hand with the dispute with Pakistan over Kashmir, and on the other, with the demand of Tibet for a genuine autonomous status as had been enjoyed by it ever since the creation of Tibet. Any concessions that India may make to China should not be at the expense of Pak occupied Kashmir or Tibet.

MIDDLE SECTOR

The middle sector covers the boundary from Ladakh to Nepal. Here also there is no major dispute and the boundary runs, broadly, along the crests of the Himalaya. The major passes have been named in the Sino-Indian Agreement of 1954. However, the British map makers were careful not to commit themselves to a definite boundary here as elsewhere. We find them saying in the context of map-making, 'No definite boundary can be shown for the British districts of the Punjab & U P boundary on Tibet and these should simply be colour washed red as far as was done in the previous edition. The external limits of Kashmir, Rampur Bushahr and Tehri are also undefined, and a yellow wash should be employed in the areas terminating as here to fine'. This was noted in March 1907 in regard to publication of the Fourth Edition of the map of India (vide NAI, proceedings Feb. 1908 Nos. 40-51). But the question was indirectly settled by the Indo-China Trade Agreement of 1954, which named the six passes as the routes by which such trade was to be conducted.

Article IV reads :—

“Traders and pilgrims of both countries may travel by the following passes and routes : 1. Shipki Pass 2. Mana Pass 3. Niti Pass 4. Kingri Bingri Pass 5. Darma Pass and 6. Lipu Lekh Pass.

“Also, the customary route leading to Tashigong along the valley of the Shangatsangpu (Indus) River may continue to be traversed in accordance with custom”.

The 1954 agreement does not say that these passes constitute the boundary but they do constitute a basis for the boundary along a line of crests connecting these passes. The few minor disputes here since 1954 like Bara Hoti can be decided according as they fall on the Indian or Tibetan side of this line. There are, moreover, earlier records of such local disputes which can be a useful guide. In the middle sector, therefore, neither side has stated that there exist any points of dispute which are difficult to resolve.

THE EASTERN SECTOR

The Tribal areas of Assam north of the Brahmaputra which form the State of Arunachal Pradesh, were directly administered by the Centre as North East Frontier Agency when the Chinese invaded Tibet in 1950. These tribes were isolated under the British rule as there was little road building activity in the thick Monsoon forests which covered these Southern Himalayan slopes. After 1951 the administration of these areas has been development-oriented and roads have been constructed. The result has been that they have gradually become part of the mainstream of life in Assam and India.

The boundary here with Tibet was fixed at the Simla Conference of 1913-14 attended by the representatives of India, China and Tibet. The guiding principle of the crests of the main Himalayan range was followed in deciding the boundary between Tibet and the North East Frontier. MAC MAHON had made efforts through despatch of special exploratory missions to determine the line of the main Himalayan range before offering the same to Lanchen Shatra, the Tibetan plenipotentiary, for his consideration. In a few cases like Migyutin, Namka Chu, the line may have to be corrected. Such

correction does not invalidate the main line or the principle on which it is based. There are Abors of Arunachal Pradesh tribes in Pemakoe and other areas north of the crest line. India is not making out a claim for those areas on that account because such "pockets" of people on one side or the other are only to be expected. One cannot on that account propose to meddle with the boundary.

Article 9 of the Simla Convention signed by the Tibetan and Chinese representatives indicated the frontiers of Tibet (outer Tibet and inner Tibet) with India and with China. This was signed on 27th April 1914 but on April 29 the Chinese representative announced that his Government had disavowed his action in signing the Convention. The so-called MacMahon Line defining the border of Tibet with India, was however, signed in March 1914. It was agreed to by the Tibetan representative after consulting Lhasa, and the map attached to the Simla Convention was signed on July 3, 1914 by Great Britain and Tibet. The delimitation of 850 miles of boundary between Tibet and India arranged through talks between McMahon and Lonchen Shatra was a victory for good sense and good will. It was denounced by China, after initial ratification by its plenipotentiary. The Chinese now claim the whole of Arunachal Pradesh as an integral part of China. The only time a Chinese entry was at all made in this area was when in 1914 Erh-Feng the general who was "guardian of the eastern marches" sent his troops to Rima. After marking their presence there however, the troops withdrew. This stray intrusion cannot be called a valid plea for claiming the whole of Arunachal Pradesh.

CONCLUSION

There is a lot of keenness for peaceful settlement of the border dispute. These issues which have been raised are pertinent to a settlement. The fact that there may be differences over these issues which have to be resolved indicates that we should in the meanwhile live with the *status quo*. India has been the loser by allowing Aksai Chin and other areas to be occupied by China since 1950, but we are committed to the principle of settlement by negotiations.

The Operational Environment of the Future*

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THE nature and pace of war have undergone significant changes during this century primarily as a result of the impact of advances and the momentum of growth of military technology. The operational environment by the end of the century promises to undergo many more changes. Security needs in the long-term perspective need to be assessed in relation to the operational environment likely to prevail, firstly at the larger absolute and global level and more specifically, at the regional relational level. Any attempt at a reasonable estimate of the latter must be based on and be within the framework of reference of the former.

The main characteristics of the operational environment at the turn of the century may be derived from the developments and trends in military technology (which is tending to shape the nature of warfare) and the doctrines of warfighting being adopted by the great industrialised power (since they are privy to the latest and the most modern military technologies). The maturing of a number of technologies (like precision guidance weapons, sensor technologies for reconnaissance, surveillance and target acquisition, and electronic warfare, etc) and formulation of new doctrines of warfighting (like the "Airland Battle 2000" etc) provide the pointers to the operational environment at the turn of the century. Before outlining the broad characteristics of the operational environment likely to prevail at the turn of the century, it may be useful to briefly outline a few general considerations which have an overriding influence in the shaping of the environment.

*Paper presented at a seminar on "India's security—the long term perspective" held at the Institute for Armament Technology, Pune on May 24-26, 1987.

NATURE OF WARFARE

The pace of warfare has accelerated tremendously during this century, so much so that the very nature of warfare is undergoing changes. The most significant single aspect of these changes, perhaps, is the changing *time-space paradigm* of warfare. The interface of firepower and mobility has always held the key to success in battle. The relationship of time-space dimension of warfare with the firepower-mobility paradigm has been critical in evolving the very nature of warfare and the resultant operational environment. But in the earlier eras, change in the military situation came about over a larger time-span ; and response could also be worked out over a period of time, after consultations and due preparations. Thus, even the formal declaration of war formed an essential ingredient in the total paradigm. Yet, the actual battle was limited in space due to limitations of mobility and range of firepower. Warfare, in earlier times, may thus be seen to have been expanded in the time dimension and restricted in space to relatively more confined limits. The wars of ancient periods were actually fought within the visual range of the commanders on horseback or mounted on elephants ; but a great deal of time was spent in jockeying and manoeuvring for favourable positions. As mobility on the battlefield improved, the dimension of space started expanding in later years. A classic example of the medieval period is the repetitive importance of Panipat as a frequent battlefield in Indian history. Information of foreign invaders entering the plains of Punjab from the north west would be available days, weeks, and even months ahead of their advance. The kings of Delhi would then start mobilising their forces and seek alignments and support to meet the challenges. And once it was clear that the invaders were, in fact, heading for the seat of power—Delhi—the defending armies would ponderously move forward to a field of battle otherwise a day's march away by horse ; and yet a field where the battle could be fought within the commander's visual range. Increasing mobility and firepower on the battlefield, especially with the introduction of armour in this century, led to expansion of spatial dimension of war. While the earlier wars were conducted over a compressed dimension in space, the information-action cycle was vastly enlarged in relation to the time dimension. Rapid advances in military technology, whether related to the introduction of the machinegun, the tank in land warfare, the steamship (and now

the nuclear-powered warships) at sea, or the aircraft in the air, started altering this relationship. With warfare becoming three-dimensional due to the advent of air power (and now the introduction of the fourth dimension—electronic warfare), the pace of warfare has been accelerating rapidly and has fundamentally reversed the time-space paradigm. The operational environment is already time sensitive; and the future environment promises to become increasingly time-critical. Thus, it may be appropriate to hypothesise one fundamental characteristic: *that the effective zone of space in modern warfare is expanding; and the time dimension is being increasingly, and in some cases dramatically, compressed.*

This fundamental change in the time-space paradigm of warfare places a heavy premium on information-action cycle. Increasing pace of warfare in the years ahead implies a greater rate of change in the military situation (in air, land, and sea warfare), and, consequently, greater challenges arising therefrom; and thus demanding an accelerating speed in responses. This places heavy premium on two factors: time and information. There is an ever-increasing pressure towards "real-time" information-decision-action. But the important point to bear in mind is not that the "real-time" input are vital *per se*; but that the critical issue would be to be able to *operate effectively within the enemy's decision cycle*. Initiative, autonomy, and through them, surprise and consequent asymmetry in capabilities will depend upon an ability to operate within the time limits of the enemy's decision cycle, thus making the information-decision-action cycle highly time-critical. One may well hypothesise that we are approaching the threshold of the fifth dimension of war: time.

ROLE OF ASYMMETRY

Historically, successful exploitation of asymmetry has almost inevitably led to victory in warfare. In fact, starting from deterrence through combatant force structures to employment of military force, it is essentially asymmetry (and its exploitation) which holds the key to success. A closer scrutiny of some of the widely accepted cardinal principles of war (surprise, concentration of force, etc) would reveal that they primarily seek to establish a situation of favourable asymmetry. The classical doctrines of warfighting, whether based on attrition, manoeuvre, or the theory of the indirect approach, all seek ways and means of creating a favourable asymme-

try in military terms. Even psychological warfare aims finally to achieve a favourable asymmetry, through the state of human mind, morale and will. The classical concept of numerical superiority in certain ratios as an essential prerequisite for success in offensive action is predicated on similar values.

In earlier wars, the primary means of achieving decisive asymmetries were essentially based on human courage and skill of the fighting man, and operational (tactical and strategic) surprise. In warfare involving well trained military forces, tactical surprise to achieve asymmetry became an almost prime factor of success; and hence the importance and value of the "art" of generalship. Generalship remained more of an art as long as the commander was unable to see or even "guess what was at the other side of the hill." However, the industrial and scientific revolution has had a profound impact on the prime means of achieving asymmetry. Starting with the grooved rifle and conoidal bullet in the mid-19th century, technological growth has been accelerating the pace of war. The importance of the individual combatant, in fact, has increased manifold. But even more important are the basic changes that have taken place in the means of achieving asymmetry. *Technological, more than tactical, surprise is increasingly the key to achieving asymmetry of military capabilities.* The ingredients of technological surprise must of course be applied and exploited tactically to achieve the end result. But technological capabilities have the intrinsic potential to help neutralise tactical surprises. Nowhere is this more pronounced than in the information-decision-action cycle of war. Information of hostile capabilities, moves and even intentions can be available to much greater extent and scope than was ever possible before. And this single factor alone would have far-reaching effects on the paradigms of asymmetry and conventional, traditional approach to assessing military balances and employment of force. The autonomous momentum of technological growth promises to increase the importance of technological asymmetries in future. It also needs to be noted here that the impact of higher technology of weapons systems in an operational environment otherwise involving lower levels of military technology can be crucial; at times leading to results totally disproportionate to the absolute quality or quantity of such weapons systems. The most vivid example perhaps is the air warfare over Beqa'a Valley in June 1982.

IMPACT OF TECHNOLOGY

The third general characteristic of future operational environment grows out of the impact of modern military technology. The spectrum of modern military technologies is vast, and each small and big system has a role and effect in the overall warfighting equation ; and it would be difficult to go over an exhaustive list within the confines of the present study. There are also a large number of "emerging" technologies which, if and when they mature, would have far-reaching impact on the nature and conduct of warfare. (A typical example would be the hypervelocity trans-atmospheric vehicle : the "space-plane"). However, it would be more relevant to focus on technologies already operationalised and deployed or in the process of deployment in the next 5-10 years. In this framework, four broad segments may be taken as typical in terms of their profound impact on the operational environment, especially as it is emerging. In substance, they have moved warfare from its traditional "line-of-sight" framework to "beyond-the horizon" combat capabilities.

The first area relates to *night and adverse-weather fighting capabilities*. Armies are progressively more capable of moving and fighting at night. At the same time, night and adverse weather conditions provided freedom of movement without significant interference by the only means by which it could be done : the use of offensive air power. While "all-weather", "day and night" capability was acquired by air forces many years ago in respect of air-to-air warfare, offensive air power in air-to-surface role has continued to remain in the World War II era of ground attack based on visual acquisition of targets. This has provided almost total freedom to land forces from interference by hostile combat air power for an average of 55 per cent of the time in climatic conditions like those on the Indian subcontinent. This freedom was utilised in the past mostly for movement and resupply/reinforcement ; but would progressively extend to fighting in future by mechanised forces. However, technologies (which make up systems like the LANTIRN - Low Altitude Navigation and Targeting Infrared for Night system) are altering this. At the same time, offensive air power would possess inherent advantages because of degradation of air defence capabilities at night and in adverse weather, especially under heavy electronic warfare environment. Night fighting capabilities in surface warfare

and the role and impact of offensive air power in air-to-surface warfare, therefore would constitute an important element of the operational environment in future.

The second area pertains to the significantly *enhanced weapon effectiveness* of land, naval and air armaments. Proliferation of precision guided munitions (PGM) and selective dispersal of cluster sub-munitions area weapons (like SADARM—Search and Destroy Armour, entering operational service) have tremendously increased the overall lethality of modern weapons. While artillery gun ranges have remained nearly static for many decades, modern aircraft and missiles using advanced guidance technologies are able to provide all-weather weapon-delivery of weapons with great accuracies over large distances. The USAF air strikes at the end of 5,000 km night navigation against targets in Libya on April 15, 1986 are typical of such capabilities using aircraft and weapons which have already been in service for nearly two decades. Another characteristic of the increased weapon effectiveness is the enhanced stand-off ranges of PGMs without sacrificing very high accuracies. Anti-ship sea-skimming missiles like the Sea-Eagle, Exocet and the Harpoon are typical examples. Similarly BVR (Beyond Visual Range) air-to-air missile capabilities (of which the 160 km range Phoenix AAM mounted on the F-14 Tomcat of US Navy is a prime example) provided by a combination of firecontrol radar and PGM have led to the operation of such combat aircraft as “stand-alone” fighters. Highly specialised and tailored weapons like anti-radiation missiles (HARM, ALARM etc), runway denial weapons (Durandal, BAP-100 etc), Copperhead artillery shells, are proliferating in most modern military forces. Perhaps the greatest impact of technology in this segment is taking place in the weapon-effectiveness envelope of combat air power. The combination of “look-up/look-down” fire-control radars with “shoot-up/shoot-down” guided missile capabilities (like those of the F-16 or the Mirage 2000) provide not only a tremendously enlarged envelope of weapon effectiveness, but also provide what may be termed as “engagement control” capabilities, thus altering the very basic paradigms of air warfare. Two points merit note here. The enhanced effectiveness of weapons systems is also accompanied by a near exponential increase in costs. Thus the *unit value of weapons systems operationally and financially is increasing rapidly*. At the same time, increasing accuracy (with single shot kill probabilities—SSKP—reaching figures of near one), lethality and

costs of weapons suggest pressures towards planning for lower consumption rates. However, so far the actual historical experience has been otherwise. *Logistics planning and accurate forecasting of likely consumption rate of weapons* in itself could, thus, become a crucial factor affecting the outcome of a war. A typical example is the acute shortage of surface-to-air missiles faced by the Arab military forces due to unexpectedly heavy consumption rates during the Yom Kippur war of 1973. In fact, the turning point of the war can be traced to a twelve-hour period on October 9, 1973, the day the shortage of SAMs was most acutely felt by the Arabs before supplies from Soviet Union could catch up to replenish the depleted stocks.

The third area of impact of technologies relates to *command control, communications and intelligence (C³I)*, and the inputs for them through RSTA (reconnaissance, surveillance and target acquisition). Rapid advances in sensor technologies and proliferation of sensor platforms (mostly aerial) have been expanding the information-decision input base, so much so that automated datahandling systems have become a necessity. The technologies, systems and their impact on the operational environment point towards five significant issues :

- Identification of target continues to be a major handicap and intractable tactical problem, especially in a highly lethal operational environment. It is instructive to remember that between 33-50 per cent of aircraft losses of the 1973 and 1982 Arab-Israeli wars could be attributed to friendly weapons. Some western estimates put NATO aircraft losses to friendly weapons systems also at around 33 per cent in the eventuality of a war in Europe.
- Non-compatibility and security of communications may prove to be the most crucial factor degrading C³I capabilities. Complexities and sophistication of C³I system in themselves contain the seeds of vulnerabilities especially for joint-force operations.
- Highly time-critical nature of the operational environment and the multiplicity of sensors and data inputs create their own set of parameters in respect of priorities and integration needs.

- C³I and RSTA system would completely lay bare military forces' dispositions and movements, by day and night, and in fair weather and foul, and thus bring about fundamental changes in warfare.
- Enhancement in the dominance of air power, both in providing the new set of "eyes and ears" for the commanders as well in "over-the-horizon" soft and hard-kill capabilities.

THE 50-YEAR CYCLE

Another general characteristic of the operational environment may perhaps be derived from the theory of the 50-year cycle for major changes in military equipment, doctrine of force structure. Brigadier Richard Simpkin lists out "five good reasons for this rule-of-thumb figure of 50 years." Beside the other implications of this theoretical exposition, the nature of operational environment in future may be derived from it.

Combat support system and measures for multiplication of force-effectiveness started gaining ground significantly during the Vietnam war. This was the time when sensor technologies and PGMs, mostly in their first-generation life-cycle, were operationalised. Electronic warfare capabilities also started expanding significantly around this time. If the nominal 50-year cycle is applied to combat support and force-multiplier systems from the late 1960s, these systems would theoretically reach their peak level of influence on the operational environment towards the closing years of this century. This is also supported by objective and subjective assessments of the impact of technologies and their usage related to them. In fact, operational deployment of major US systems like J-STARS (Joint Surveillance and Target Acquisition Radar System), JTIDS (Joint Tactical Information Distribution System), JTFP (Joint Tactical Fusion Programme) etc, by the early 1990s would tend to confirm this view. It may thus be hypothesised that the operational environment towards the turn of the century would be significantly influenced by combat support and force-multiplier systems.

Based on the 50-year cycle theory some pointers concerning future operational environment may be outlined :

- Rise of the fighter aircraft in air superiority role in the 1990s.

- Hybrid rotor-craft (like the tilt-rotor V-22) overtaking rotary-wing helicopter in most roles before the end of this century.
- Infantry combat/armoured fighting vehicle's ascending importance on the battlefield in the 1990s.
- Light automatic personal weapons replacing other existing types in the 1990s.
- Nuclear-powered submarine as the primary naval military system by the end of the century.
- Growth of the guided-weapon armed, fast attack warship in the 1990s.

OPERATIONAL ENVIRONMENT

The main characteristics of future battlefields may be postulated in the framework of the broad general considerations outlined above.

War in future would imply increasingly *intense battlefields*: characterised by high density of vehicles and targets. This would impose its own set of parameters. Highly sophisticated weapons with very high kill capabilities are being increasingly deployed on battlefields. While theoretically this would suggest lower consumptions, the actual experience of consumption rates (in the Yom Kippur war of 1973, the South Atlantic and Lebanon wars of 1982 and the Iran-Iraq war) points to the very opposite. Both the nature of weapons and their consumption rates would impose a new set of demands on logistics support. The intense battlefield would be characterised by greater mechanisations on the field, and combined-arms concepts at the operational levels, where manoeuvre would constitute the essence of warfighting. This would place heavy premium on armour (tanks as well as armoured fighting vehicles) on one side and logistics support system with matching mobility on the other. The survivability of the fighting elements and logistics support systems would assume critical dimensions. Another very important characteristic of the new and highly intense battlefields would be the high density of targets, most of which could only be engaged by tactical air power. Let alone the follow-on-forces and logistics support elements, a first echelon attack in itself would generate large arisings of targets optimally suited for engagement by offensive air power. The threat of a breakthrough may generate demands to neutralise hundreds of targets within a span of a few minutes if the

momentum is to be broken up. At the level of an attack by combined-arms division, this may imply engagement of a couple of thousand targets in a time span of two days and less, going down to as little as a few hours. Reinforcement and resupply systems would offer additional targets and to greater depths. Naval power also appears to be shifting in favour of larger numbers of smaller warships but with enhanced firepower. Increase in speeds of combat aircraft and proliferation of air defence weapons are creating similar paradigms in the employment of air power. It need hardly be emphasised that this is exactly the sort of battlefield environment where employment of tactical air power produces the greatest pay-offs. Air power, in fact, holds the key to the new doctrines like Airland Battle 2000, as they are sought to be applied to future battlefields.

The new battlefields would be characterised by *high mobility* of both the fighting elements as well as resupply and reinforcements units. Subject to the limitations of terrain, rapid rates of advance are visualised, some estimates putting them higher than 150 km per 24-hour period. To a large extent this is made possible by the increasing mechanisation of land forces and their capabilities to move and fight at night and in adverse weather conditions. It would thus be possible (and necessary) not only to maintain the weight of attack, but also the mass momentum of attack. (And hence the importance of 2nd/3rd echelon follow-on-forces and NATO's doctrinal term FOFA (or Follow On Forces Attack). Disruption of the advance and attack, therefore, would assume greater importance than destruction of the combat elements, at least within the critical time frame necessary to achieve the breakthrough. Here perhaps, the example of the 1982 war in Lebanon is most instructive when the Syrian 3rd Armoured Division moving up to reinforce the battered 1st Armoured Division was halted through the employment of offensive air power and RSTA (Reconnaissance, Surveillance and Target Acquisition) systems well before it could even make contact with Israeli land forces. Increase in mobility in the maritime environment is similarly reshaping the maritime environment. Development of new air power systems like V/STOL (vertical/short take off and landing) aircraft, new designs like the V-22 tiltrotor craft and multi-role combat aircraft are transforming concepts of mobility in the air.

Another important characteristic of future wars would be that of an *expanded battlefield*. Increasing mechanisation and mobility of land forces and extended range of firepower which can be brought to bear on the battlefield are the main factors leading to the expansion of the battlefield. Seen in a historical context, World War I represented the last of near-static battlefield with the depth ranging mostly to 2 km as a result of trench warfare. The depth of battlefield may be seen to have expanded 15-30 km in World War II.¹ Modern armies may be expected to operate in a battlefield 15-50 km deep today. Forecasts of future battlefield place their depth closer to 300 km. As land forces overcome some of the limitations of ground resistance and friction, greater mobility would force expansion of the battlefield. In many ways land warfare is moving conceptually closer to war at sea. And as much as high-technology and air power have come to dominate maritime warfare, so may these be expected to do on the expanded battlefield of tomorrow. Maritime conflict environment has expanded in scale significantly with the introduction of stand-off weaponry, especially the anti-ship sea-skimming missile enlarging combat engagement ranges from 15-25 km of naval guns to 70-110 km range of such missiles. Cruise missiles would expand the maritime battlefield to hundreds of kilometres. Similarly, modern fire-control radars, with "look-up/look-down" capabilities extending to 70-100 km mounted on high-performance agile fighters armed with BVR (beyond visual range) air-to-air missiles like the Phoenix (range 160 km) and backed by airborne early warning systems have dramatically expanded the envelope and scope of aerial warfare.

Future battlefields will pose serious *problems of command control, communications and intelligence (C³I)*. The most crucial factor affecting these problems is that of short warning periods to face evolving situations and provide tactical solutions. Time and timing are becoming critical factors in modern and future battlefields. Because of the increased mobility of land forces, and their enhanced firepower leading to expansion of the battlefield, real-time information of hostile (and own) forces becomes a prerequisite. Coupled to this is the problem of target designation and acquisition; and technology is being pushed to find tactical solutions to these problems.

The new battlefields would demand new paradigms for target engagement. Until very late stages, a significant quantum of hostile land power would remain outside the range of land-based weapons

normally integral to the ground forces. Such weapons can engage effectively up to about 20-30 km at the most. However, most of the targets would be generated beyond these ranges. The only means of engaging these targets is by the employment of air power. It is the logic of the increasing role of air power which is reflected in the US Army's new doctrine for warfighting in the 1980s : as an Air Land battle doctrine,² which may place the USAF in the position of the lead-partner in the future battle scenarios. The type of real-time intelligence gathering, targeting and strike inputs required to influence future time-sensitive battlefields can only be provided by extensive reliance on air power and concomitant technologies. This also generates the demand for new technologies and exploitation of the existing ones to provide the necessary capabilities. At the same time organisational structures for greater inter-service coordination, co-operation and, in some cases, integration to provide requisite combat capability is receiving serious consideration. New doctrines and new technologies demand greater integration bordering on fusion of land, air, and sea forces; and "Inter-service" approach to warfighting needs to move towards "Joint-service" philosophies and doctrines.

The most significant effect of the operational environment would perhaps be the predominance of *non-linear manoeuvre battles* in the years and decades ahead. This was mostly so for naval and air warfare in the past too. But even in the case of air warfare, the operational environment since World War II had mitigated against greater fluidity. Because of the constraints and limitations of target location, acquisition and engagement, air warfare had tended to remain along orderly, distinct and even predictable lines : the search of air superiority through airbase attacks, preponderance of close air support as an augmentation of surface fire power, limited and almost negligible air interdiction at least against movable targets, terminal "point defences" tending to be based exclusively on SAM and AAA guns, etc. Extension of the radar horizons, engagement control capabilities of modern fighters, and above all, the airborne warning and control systems (AWACS) are bringing back the levels of fluidity in air warfare which it intrinsically possesses. Similarly, the speed and range of naval weapons systems, especially the anti-ship guided missiles, and integral air power with surface ships in the shape of helicopters (for ASW, AEW and electronic warfare roles etc), have already increased the fluidity of naval combat environment. It is, perhaps, in land warfare that the non-linear manoeuvre characteristic

of the operational environment would have its greatest impact. It may, therefore, be useful to quote from the US Army's Field Manual (Operations, FM 100-5) which outlines the basic "Air Land Battle 2000" doctrine of the US Army in fighting a future war at the turn of the century ;

Opposing forces on the next battlefield will rarely fight along orderly, distinct lines. Faced by an enemy who expects to sustain rapid movement during the offense and who will strive to reach his goals by using every weapon at his disposal, the US Army must be prepared to fight campaigns of considerable movement, complemented by intense volumes of fire even if we are successful at breaking or restraining the enemy's initial ground attacks. Massive troop concentrations or fires which are immensely destructive will make some penetrations by both combatants nearly inevitable. This means that linear warfare will most often be a temporary condition at best and distinctions between rear and forward areas will be blurred. Air and ground manoeuvre forces; conventional, nuclear, and chemical forces; unconventional warfare; active reconnaissance, surveillance, and target acquisition efforts; and electronic warfare will be directed against the forward and rear areas of both combatants.

This would actually manifest itself in the *deep battle* concept of the Air Land Battle doctrine, which, once again to quote FM 100-5 :

The deep battle component of the Air Land Battle is designed to support the commander's basic scheme of manoeuvre by disrupting enemy forces in depth. Its goal is to create opportunities for offensive action against committed enemy forces by delaying the arrival of enemy reserves or follow-on forces or by the destruction of key enemy organizations. Surveillance operations are conducted to identify significant enemy forces in the area of interest while electronic warfare, long-range-fire, and manoeuvre in depth are used to attack enemy forces whose delay or disruption is important to the success of the commander's plan. In the offense, the deep battle is fought initially to isolate, immobilize, and weaken defenders in depth and, as the attack continues, to sustain momentum by preventing the reorganization of coherent defenses by blocking the movement

of enemy reserves, and by preventing the escape of defending units. In the defense, the deep battle aims to prevent the enemy from concentrating overwhelming combat power. Major objectives are the separation and disruption of attacking echelons, protection of manoeuvre the defender undertakes, and degradation of the enemy's fire support, command and control communications, combat support, and combat service support.

Long-range weapons will be relatively scarce, but the choice of targets is apt to be large. It is therefore vital that the commanders select targets of the highest possible value, targets whose loss will cause a substantial degradation of enemy capability in an area of importance to the success of the overall plan.

Terrain in many cases would impose its own set of parameters on the operational environment and modify many of these characteristics. In this context, the Himalayan mountain terrain deserves specific mention. Altitude, weather and the terrain all combine to present a unique influence on operational environment often lost in general considerations and diffused in a study based merely on the flat projections of normal maps. Different sets of firepower and mobility paradigms have to be designed; and physiological constraints of high altitudes and acclimatisation requirements militate against rapid reinforcements unless deployments are structured around bases at medium altitudes. Air power would play a crucial role in mountain warfare; but it has to be carefully structured and tailored for the unique environment of highly restricted envelopes of space for manoeuvre, target acquisition problems and effects of high altitude. But the basic concept of the deep strike, perhaps, would carry an even greater impact in such terrain.

It is also quite obvious that both in the deep battle itself, and the larger deep strike strategy (and FOFA) aimed at disrupting and destroying the 2nd/3rd echelon forces, reserves, reinforcements, and follow-on-forces vital for the enemy in maintaining his weight and momentum of attack, air power would play a crucial role for the simple reasons that it provides the only reliable and effective means to engage such forces and targets, air power capabilities and effectiveness are increasing significantly, and offensive air power is also most effective in battles of manoeuvre (especially with mechanised forces).

Given the enhanced mobility and firepower of ground forces, especially in future, the side with the initiative can choose the time and place for his attack, and can concentrate his forces to swamp the defender. Land forces in particular are not generally sufficiently flexible to react quickly to this hostile massing. Air power, on the other hand, combines firepower and manoeuvre to provide the requisite flexibility and responsiveness. Air power can engage the enemy before he can engage the defending ground troops and can disrupt the concentration and at the same time reduce enemy numbers through attrition.

Similarly, maritime conflict environment has become extremely sensitive to air power. Sea skimming anti-ship missiles with a stand-off capability of 70-100 km launched from modern combat aircraft pose a very serious threat to surface ships. Air power is playing an increasingly important role in anti-submarine warfare. Naval strategy, therefore, will be increasingly governed by the capabilities and constraints of air power in future.

The same logic points towards the role and impact of *hostile air power as a major factor* in future battlefield environment : hostile air power which can interfere with the deep manoeuvre battle, which can interfere with one's air power executing the deep strike strategies, and which can support its own land forces in their manoeuvre and counter manoeuvre battles. Hostile air power thus emerges as the primary military obstacle. Time-tested logic of warfare requires reducing the primary military obstacle/threat as a primary objective. This points towards counter-air warfare once again as a prime priority in future. Incidentally, the US Army's AirLand Battle doctrine must be seen in the context of USAF doctrine of air superiority.

The operational environment in future, therefore, would be *air power critical* and characterised by a central role for air power which would have a predominant influence on the environment and the course of battles at sea and on land. Air operations, however, will need to be deeply integrated with land and sea operations. The vital issue which defence establishments throughout the world will need to resolve relate to the means and method of this integration : the resolution in fact of the essential conflict and contradiction between increasing specialisation (and its concomitant costs and benefits) on the one hand, and the needs of integration between diverse and

disparate military systems (with intrinsic risk of duplications and diffusion of expertise) on the other.

STRATEGIC AIR OPERATIONS

Increasing range, weapon payload and weapon effectiveness of strike aircraft also point towards another trend in the future; that of shift in favour of strategic air offensive. This is not meant to imply a return to the strategic bombing offensive of World War II. But when capabilities of long range offensive air power are carefully examined in relation to the vulnerability of strategic high-value targets, and some of the air operations of recent wars like that in Iran-Iraq, the scope and trend towards strategic air offensive becomes clearly discernible. This is of particular interest and importance in developing countries for two reasons. First, the very number of high-value "strategic" targets in a developing country are normally few in number; and their value and importance to the nation is normally much higher than an equivalent target in a developed industrial country. Secondly, most such targets are comparatively "soft" and not easy to defend. In fact, the only viable defence of specific "strategic" targets would be to achieve a degree of general air superiority, rather than rely on a purely "point defence" arrangement in relation to each target. This was the enduring lessons of World War II : and the trend towards strategic air defence should also be seen in the light of this lesson.

The other aspect of strategic air offensive is the basic characteristic of air power to provide deterrence through conventional air power. Air power alone possesses the capability to provide credible deterrence in both of its dimensions : that through denial, and through punishment. Nuclear weapons now are left with little option but to hold out deterrence through punishment. And while one may argue that tactical nuclear weapons can provide deterrence by denial, their very use, especially if they are able to deny that victory, would provide the incentive to cross the nuclear threshold and thus revert to use of nuclear weapons for punishment. Conventional military forces, with the exception of air power, have to rely on deterrence only by denial because the enemy forces must first be defeated in battle before any additional costs can be imposed on the enemy. Air power, on the other hand, has the unique attribute of transcending the battlefield and imposing additional costs on the

enemy as punishment, while at the same time operating with other forms of military power to deny the enemy a victory and impose unacceptable costs in relation to the objective he seeks. The future of air power, therefore, may hold out interesting possibilities of providing credible deterrence with conventional forces.

ELECTRONIC WARFARE

The enhancement of military combat effectiveness, expansion of the scope and acceleration of the pace of warfare have emerged substantially from the exploitation of the electro-magnetic spectrum. Its degradation and neutralisation, therefore, assumes a high priority. The strength and enhanced capability of modern military through the exploitation of the electronic battlefield also contain the seeds of new vulnerabilities. Electronic warfare (EW) with its various facets of ESM (Electronic Support Measures), ECM (Electronic Counter Measures), ECCM (Electronic Counter-Counter Measures) etc, has, thus, added a completely new dimension to warfare. Its importance is well recognised now. Dealing with just one aspect of it, the US "Airland Battle 2000" doctrine sums up that, "*Defensive electronic warfare may be the difference between survival or destruction on the modern battlefield.*" It is this logic which has elevated defence suppression to the level and importance of a priority mission.

At one end of the spectrum, EW is considered an element (and a vital one at that) of combat power. In order to fight and win in a modern battlefield with its pervasive electro-magnetic environment, EW has to be employed as a *weapon* to prevent the enemy from exploiting and controlling the electro-magnetic spectrum. This generates the logic for intelligence and electronic warfare activities as integrated operational functions (as different from mere intelligence one) to multiply overall combat power. However, EW by its very nature is a reactive function and therefore serious difficulties arise in peace time of accurate predictions of EW threat and responses required in a future conflict. EW responses to changing environment must come rapidly if high levels of attrition (imposed by enhanced lethality and effectiveness of modern weapon systems) are to be avoided. At the same time, EW is one field where only an integrated approach is likely to provide the requisite pay offs: integration between services, integration of EW capabilities into combat plans

and operations, and integration of EW systems with weapons systems etc.

Electronic warfare systems, much more than other combat support and force multiplier systems, have a "low visibility" index as compared to weapon hardware. Requirements of security and secrecy add to the remoteness of EW from conscious appreciation. The interactive nature of EW operations and constraints on indigenous autonomy of design capabilities would impose its own set of parameters on EW strengths and vulnerabilities in future conflicts.

One specific aspect deserving note is the effect of EW on communications. As is apparent from earlier exposition, future battlefields would be highly dependent on effective and rapid communications. But the battlefield is also likely to be characterised by intense electronic interference with communications so much so that conventional electronic communications is likely to be extremely limited, and at least occasionally impossible. Individual combat elements thus would need to have the capacity to initiate action at the appropriate time and with the appropriate objective, within the overall discipline of the operational plan. This would place additional demands on junior leaders especially in conceptualising the battlefields. At the same time, given the increasing fluidity of future battlefields and the serious threat to reliable communications, command and control mechanisms are likely to undergo major changes. Conceptually current concepts of command and control may be considered to be based on "positive control," thus linking individual weapon systems to higher leadership. The pace and nature of future battlefields under the influence of EW may not permit this. Thus new paradigms for command and control, besides the leadership needs to exercise them, would be created.

LEADERSHIP IN FUTURE WARS

Changes in operational environment and future battlefields (on land, at sea and in the air) will require new paradigms of leadership needs. The more formalised military structures now retain their leaders at various levels over a time span of nearly 30 years. The career profile of new leadership thus becomes an important aspect from the point of view of their ability to absorb the changes in the operational environment taking place and their impact and implica-

tions with regard to overall optimisation of military capability. Organisationally, however, two sources of disjunction arise. Firstly, the organisational environment of the military creates an intrinsic dilemma. The military must prepare itself during peace time for a future war. The better prepared it is to win a war, the less likely it will have to go to war; but the less likely it will go to war, the more difficult it is to be prepared to do so. The problems of adopting adequate responses into peace-time preparation for a significant change in the operational environment are even greater, and the military leadership leans ever more towards conservatism. And hence the popular view that the military leadership normally prepares for the "last war." Secondly, the formalised structure of the military tends to generate pressure towards a mechanistic organisation based on formal discipline. This could work against adaptability to new ideas and weapons, and a technology-doctrine appreciation gap is created. It is against this backdrop that the leadership requirements for future wars have to be viewed.

One can confidently start with the assumption that *future battlefields will generate tremendous amounts of stress*, especially amongst the combatants. John Keegan has listed out thirteen factors which will raise the level of stress experienced by soldiers (which are equally applicable to sailors and airmen), some of the more significant of which are :

- Objective danger will be higher because the size of the battlefield will be larger.
- It will be impossible to run away from battle because it will not be clear in which direction safety lies nor will the person be able to avoid extended exposure while trying to locate that area.
- Equipment will be more difficult to operate, less reliable, harder to repair and there will be fewer replacement items.
- Units in future will be smaller, dispersed over wider areas, and connected by communication devices that are vulnerable to jamming. This would make it difficult for the combatant to obtain social support (consider the "stand-alone" fighter) and an accurate view of what is happening.
- Fighting will be continuous, which means that people will be exposed at all times and therefore must constantly be vigilant; etc.

The pressures and demands on leadership because of stress on such counts will increase. An important lesson of the 1973 Yom Kippur war was that in a high intensity war with modern weapons, well-led and cohesive units had fewer stress casualties. The intensity of conflict itself generates stress; and casualty rates of 20-50 per cent per day in the most intense combat are estimated by some experts. At the same time additional stress would be imposed by an operational environment where information loads are increasing as a result of technology, and the time available for information use (including decision-making) is decreasing. At the same time, based on extensive research, experts have concluded that increase in the level of danger rapidly degrades human performance in managing complex weapons systems. Thus the essential demands on the combatant in future wars may in fact be the first casualty under stress.

The operational environment requires greater decentralisation and delegation. But inherent pressures for centralisation are also built into the environment: the information and control needs, C³I capabilities, especially those based on computer systems etc. Thus, fundamental disjunction between mechanistic and organic approach to the environment is created. Future wars will demand more initiative and foresight, especially at more junior levels, than at present. Advances in technology, sophistication of modern systems and increase in the military value of the unit system will demand increasing levels of technology competence. But perhaps the most important requirement would be capacity of even junior leaders to operate autonomously with greater flexibility and adaptability. The young pilot of a modern fighter with its look-up/look-down, shoot-up/shoot-down BVR capabilities would be called upon to take split-second decisions autonomously: decisions of the type and significance which were probably being taken by senior sector air defence commanders half a century ago.

The future battlefield will be characterised by much higher uncertainty and complexity than ever before. There will thus be a much more extensive requirement for thinking skills at junior levels, increased capacity to take command decisions autonomously, and substantially increased capacity for intelligent, flexible, disciplined, autonomous action in synchronisation with other elements on that battlefield. The most important aspect, perhaps, is that the type

of persons who have to train future leaders, and those who would be combat formation leaders at the turn of the century, are already in service.

NOTES

1. Distinction must be made in the depth of a battlefield as compared to that of a campaign. In World War II, a series of battles resulted in advances covering hundreds of kilometres by the time the campaign got over. But essentially each battle could be viewed as being fought to depths of 15-30 km before a decision on that battle was forced.
2. It may be recalled that even in World War I, armed conflict on *terra firma* was referred to as *land warfare*. The impact of air power altered this to *land/air warfare* in World War II. This is now giving way to *air land warfare*.

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Arms Transfers as an Instrument of Foreign Policy

MAJOR ARUN

“USA could not be the world’s leading champion of peace and at the same time world’s largest arms supplier. Our policy would be to view arms transfers as an exceptional foreign policy instrument to be used in rare cases.”

JIMMY CARTER

INTRODUCTION

ARMS transfers have been used since as early as 17th century by countries to increase strength of their allies and to buttress alliances. After the Second World War, the US and the USSR emerged as the largest arms suppliers. Later, countries like France, UK, Sweden, West Germany, China and some other NATO and Warsaw Pact members also joined as suppliers. Arms transfers have been on the increase basically due to two reasons. Firstly, the economic aspects and secondly, the foreign policy aspects. The decline in the traditional instruments of diplomacy and reassurance has also been responsible for large arms transfers to some extent. The result is that the arms transfers have become a crucial dimension of world politics.

ARMS MARKET

THE SUPPLIERS

Most countries admit that arms deals are at best an unpleasant necessity, but a duty not to be shirked at any cost. The major suppliers in the arms business are the US, the USSR, France and the UK. In addition there are a number of other suppliers who sell

comparatively small quantity of arms. Each country has its own policy towards arms transfers.

US. The US dominates the arms transfer market and supplies more than 10-12 billion dollar worth of arms a year. So far, fifty per cent of the total arms supplied in the world are from the US. In the period 1947-61, most arms transfers were under the Military Assistance Programme. In the subsequent decade the emphasis shifted to Foreign Military Sales with NATO countries receiving about one third of the total arms exports. In the seventies, the emphasis of sales shifted outside NATO. President Carter tried to put some restrictions but it only helped the UK and France to capture the market. President Reagan's policy is to link the arms sales entirely to the recipient country's foreign policies.

USSR. Next to the US, the USSR is the largest supplier. Till 1955, arms supplies were limited to only Socialist countries, but from 1955 onwards the market broadened. USSR is a very popular arms supplier in the Third World because of the following reasons :—

- (a) Prices are forty per cent lower than those of comparable Western arms.
- (b) Purchasers are given soft loans over a longer period.
- (c) Payment is often arranged in raw material or soft currencies.
- (d) Delivery time is as short as 1 to 1½ year as against 3 to 4 years of the US.

France. France is the third largest arms supplier holding more than 10% of the market. At present it exports arms worth more than six billion dollars a year. France treats arms transfers as a commercial matter rather than political. She has sold arms even to South Africa. The present government criticised the previous government of indiscriminate selling but they themselves have not been able to resist the temptation. In April 82, France had resumed sales to Libya, lifted embargo on Israel and has sold arms to both Iran and Iraq.

UK. At present it supplies about £ 500 million worth of arms a year. The arms transfer policy is so commercial that in the Falklands War some of the weapons used by Argentina were British

supplied. Britain's policy within the NATO is to work for co-operation rather than competition.

Minor Suppliers. In addition to the four major suppliers there are a number of other countries who export arms, but their contribution has little effect on the market trends. China and Sweden are now emerging as major suppliers.

THE RECIPIENTS

Arms transfers are made to basically the Third World, Central and South America and certain countries within the NATO and Warsaw Pact. Of the total arms supplied to the Third World countries 65 per cent are from the US and the USSR. The arms exports to the Third World countries increased five times in the last decade. Supplier pattern has undergone a change lately and France has now emerged as the leading supplier to the Third World capturing 36 per cent of the market as against 29 per cent of the US.

FOREIGN POLICY ASPECTS

Foreign policy decisions are fraught with dilemmas. Each arms transfer has to be dealt with individually. Short term benefits have to be weighed against the long term goals, economic advantages over political. Interests of one nation may clash with another. One of the main reasons why till now arms transfers could be used to achieve foreign policy objectives was the outlook of recipients. These countries were poor, politically not yet mature, recently liberated and hardly had any economic standing. Therefore, perforce they had to abide to the supplier nation's strings attached to arms transfers. In the succeeding paragraphs an attempt has been made to study the foreign policy objectives of the US and the USSR and their connections with the arms transfers.

US OBJECTIVES

To Contain Communism. This objective was the foremost during the first 'Cold War'. Some examples are :—

- (a) *Arms to Frontline States.* South Korea, Taiwan, Greece, Turkey, Pakistan, Thailand and Iran received huge arms trans-

fers so that they could act as front line states against the Soviet Union.

(b) *Formation of Security Alliances.* SEATO, CENTO and ANZUS alliances were formed basically through arms supplies.

(c) *Korea and Vietnam.* To prevent influence of communists, large supplies of arms were made to Korea and Vietnam in the 50s and 60s.

(d) *Africa.* Arms were supplied to rival factions in Angola ie to FNLA to fight Soviet supported MPLA.

(e) *Pakistan.* After Soviet intervention in Afghanistan, Pakistan has received more than five billion dollars worth of arms. Part of these arms are diverted to 'Mujahedeen' to fight against Soviet forces.

(f) *Latin America.* To stop communist influence spreading through Cuba, arms were supplied to Argentina, Chile and Guatemala.

To Topple Leftist Governments. Arms are being supplied to rebels in Nicaragua and mujahids in Afghanistan to topple Pro-Soviet governments there.

To Establish Regional Powers. Huge arms supplies were made to Iran, Saudi Arabia, Indonesia & Brazil to establish them as regional powers so that they can act as US proxy in these regions.

To End Regional Conflicts. An arms squeeze was applied during the Indo-Pak War of 1965, Arab-Israeli War of 1973, and Lebanon in 1982, to end the war in these regions.

To Ensure Security of Israel. A foremost US objective in the Middle East is to ensure security of Israel. This was achieved by :—

- (a) Sale of arms to Israel.
- (b) Arms to Jordan to win her over.
- (c) Arms to Egypt to keep negotiations going and reduce one adversary for Israel.

To Maintain Internal Stability of Allies.

(a) *Iran.* Arms supplies not only helped shah in modernising his armed forces, but also ensured stability of his regime. In the long term, this proved a failure.

(b) *El Salvador*. Arms are being supplied to fight the leftist guerrillas in El Salvador.

(c) *Latin America*. During the '60s the US supplied arms to Guatemala, Venezuela, Peru, Bolivia and Uruguay to fight insurgencies so that the pro-US governments in these countries could remain in power.

To Bring Warring Factions to Negotiations. The US supplied arms to Egypt to reach the Sinai Agreement. HAWK missiles were sold to Jordan to make her agree to participate in the Middle East talks.

SOVIET OBJECTIVES

To Spread Communism. A prime Soviet objective, it was achieved through :

(a) *Cuba*. Through Cuba communism is being spread to other states in South America.

(b) *Vietnam and Korea*. North Korea and North Vietnam were supplied arms to keep them in Communist fold.

(c) *Afghanistan*. Through Afghanistan, communism has now reached the Indian sub-continent.

To Stop US 'Imperialism'.

(a) *Middle East*. Arms were supplied to Egypt and Syria to counter US arms transfers to Israel.

(b) *Iraq*. During the period '60-'78, Iraq received large quantity of arms from the USSR as a counter to the US supplying arms to Iran.

(c) *Horn of Africa*. In 1977, when the US stopped arms supplies to Ethiopia over human rights issue, the USSR quickly stepped in to fill the gap by providing arms to Ethiopia.

(d) *Latin America*. The traditional spheres of influence of the US like Nicaragua and El Salvador have seen encroachments by the USSR through the arms supplied to the rebels.

To Isolate China. In early 60s, China and USSR started drifting on ideological grounds. USSR had tried to isolate China since then. Some instances are :—

(a) *Vietnam*. As US troops arrived in South Vietnam in 1965, the Chinese were obliged to give land access to Soviet troops

to North Vietnam. The Soviets kept increasing their arms supplies to North Vietnam and ultimately when Americans left Vietnam, the USSR was able to install a pro-Soviet government there.

(b) *Arms to India.* Arms to India have helped the USSR to some extent to pose a danger to China's south western borders, thus requiring the stationing of fewer troops on Sino-Soviet border.

To Fight Colonialism. Soviet arms transfers to Guinea-Bissau and Mozambique helped these countries to fight colonialism of Portuguese. Arms to MPLA in Angola decided the outcome of civil war. Czech arms agency OMNIPOL made covert sales to South Africa and Rhodesia.

To Strengthen Pro-Soviet Governments.

- (a) In Indonesia and Ghana, the Soviet Union supplied arms to support pro-Soviet governments.
- (b) In Nigeria, timely assistance in the 1960s to the federal government earned a lot of goodwill for the USSR.
- (c) Internal security assistance was provided to South Yemen and Syria to tide over internal turmoil.
- (d) Soviet arms to Hungary in 1956 helped her in overcoming internal crisis.

ARMS TRANSFERS—ITS SUCCESS AND FAILURES

While examining numerous cases of arms transfers the most consistent pattern that emerges is the temporal nature of a diplomatic benefit and the uncertainty of consequences. In assessing these, one is struck by the fact that there are aspects of both 'failure' and 'success'. Therefore, evaluation of arms transfers as a foreign policy instrument is most aptly described as a conundrum—a riddle with no real answer.

Successes. Arms transfers helped the US's economic interests in the Persian Gulf, helped her in Sinai, broke the Soviet hold over Somalia in 1977 and achieved formation of ASEAN. On the Soviet side, Cuba is the most successful story. It has also helped the USSR in the Middle East, Vietnam, Ethiopia and Iran-Iraq war.

Failures. In fact, failures on both sides far out-number the successes. On the US side, Iran is the biggest failure. To some extent long term goals in Vietnam have also not been achieved. Arms to Saudi Arabia are proving too costly a price for the security of Israel. In spite of huge arms supplies to Pakistan, she is still going ahead with her nuclear programme. On the Soviet side, Sukarno adopted a pro-Chinese policy and after the 1965 coup ousted the Soviets. Egypt did the same in 1972. In spite of Iraq getting so many arms, she still condemns Moscow's intervention in Afghanistan. For seventeen years Somalia got Soviet arms but is now a US ally. Congo, Ghana and Guinea have seen a string of Soviet failures to establish a permanent presence.

CONCLUSION

It is obvious from the study that as long as the recipient nations of the Third World do not develop capability to manufacture their arms indigenously they would continue to be dependent on the major suppliers. Arms transfer, though highly effective in most cases on a short term quid-pro-quo basis has contributed little in achieving long term goals. It has proved to be an instrument which is neither powerful nor flexible. It commits the suppliers prestige to a greater degree than any other kind of aid and once begun it can not be easily terminated. Moreover, due to close identification with the recipient, the supplier risks being dragged into unavoidable conflicts. It may also be concluded that arms transfer is no insurance against compelling social and political processes taking place in the World. More often than not arms have been supplied for the satisfaction and gratification of recipients; and rather than promoting stability, they have promoted instability in these regions.

Nuclear Non-Proliferation Issues : The South Asia Context*

MAHARAJAKRISHNA RASGOTRA**

NUCLEAR non-proliferation is a myth propagated by nuclear weapon powers to perpetuate their monopoly of nuclear weapons and to retain control of the world market for peaceful applications of nuclear technology. The Nuclear Non-Proliferation Treaty of 1968 is the 20th century's most audacious humbug. What is surprising is not its perpetration by the nuclear monopolists, but its easy, unquestioning acceptance by a large number of the World's non-nuclear countries.

Most of these latter are the erstwhile colonial possessions of western imperial powers. They are developing countries with large populations who will need to harness the atom for their future energy and other needs. These are also the countries which missed the industrial and technological revolutions of the last three centuries. The secret and sensitive nuclear technology of today will be the common industrial technology of the next century, and if these countries are not to remain backward and dependent in the future, they must acquire technical nuclear know-how for peaceful uses now.

There is a link between the commercial, civilian uses of nuclear power and nuclear weapons technology. They both utilise the energy produced by the fission of uranium or plutonium atoms. The concept of a nuclear bomb is simple enough and its configuration into a workable weapon design would be within the capabilities of almost any nation with some scientific talent, financial and industrial resources and engineering skills at its command.

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While a nation's capacity to build a nuclear arsenal is a technological question related to the quality of its nuclear facilities, the decision to build a nuclear weapon is a political one. Though I am personally opposed to nuclear weapons and consider them unusable in war, I believe each nation must be free to make its own political decision as to whether or not it will go nuclear in the military sense.

As a citizen of India, I have applauded and shared in my country's decision not to go in for a nuclear military programme. Nevertheless, I cannot bring myself round to accepting the argument advanced by some nuclear weapon powers, especially the United States of America, that other countries must not develop nuclear weapons because these would constitute threats to their security and to global stability or complicate their strategic planning. It would be a different matter if the world as a whole, including the present nuclear weapon powers, were to abjure nuclear weapons.

The South Asian sub-region is a rather small, integral part of the Eurasian landmass. Out of the globe's total arsenal of some 60,000 nuclear warheads, some 40,000 are deployed in and around Eurasia. Asia itself is significantly nuclearised with a concentration of about 15,000 nuclear warheads. These weapons are all around us, to the sub-continent's North, East and West, in the Indian Ocean, the Arabian Sea and the Gulf. Naval ships carrying nuclear weapons regularly visit a large number of ports of Asian countries. Infrastructure for nuclear war fighting has been created in a number of them, including one or two in South Asia. In our neighbourhood, threat and provocation continue to be flung at Iran which can only drive that country to the nuclear option. Israel with its clandestine nuclear armoury is good enough reason for Israel's Arab neighbours to choose the nuclear path.

Regardless of whether in our own little sub-region we possess or do not possess nuclear weapons, the nuclear weapons belonging to China, the Soviet Union and the U.S.A. overhang us from not so far away and are a threat to the security and wellbeing of our people. This is no argument for South Asia's nuclearisation, but any commitment of non-proliferation in our sub-region must predicate on the dismantling of these other existing threats.

In today's world, non-proliferation cannot be rationally considered country by country or on a sub-regional basis. The only

practical way to proceed with it is in the global context. Non-proliferation to be meaningful must be vertical and it must begin with those who have done the most proliferating.

There is no such thing as nuclear defense of a non-nuclear country by a nuclear weapon power. There is, therefore, no legitimate reason for the positioning of any one country's nuclear weapons in any other country's territory. And if we want to make a beginning with non-proliferation, we should have to start with the withdrawal of nuclear weapons of great powers to within their respective national territories. Keeping in view the long-reach of modern missiles, nuclear deterrence, to the extent it has any meaning, can be achieved effectively by deploying weapons within a country's own territories. Until this is achieved, proposals for non-nuclearisation or denuclearisation of any particular region or sub-region can have no credibility.

In the South Asian context, the issue is generally phrased as follows : the acquisition of nuclear weapons by Pakistan and India will inevitably lead to a nuclear war between them, these weapons are not safe in their hands; at any rate, nuclear weapons are too costly for developing countries and by embarking on a nuclear arms race India and Pakistan could spend themselves to destruction; they must, therefore, be saved from themselves and made to sign the NPT and accept international surveillance and safeguards. The argument gives little credit to either country for good sense, prudence and caution and for ability to discriminate between what is civilised and what is barbaric; it smacks of racial arrogance. It is hard to understand why the chances of a nuclear war between India and Pakistan should be rated any higher than chances of a nuclear war between the USA and the USSR or between the USSR and China or China and the USA.

Non-proliferation is no longer the real issue in South Asia. Proliferation has taken place here and the task before us is that of living with it and controlling its spread. Pakistan has had a nuclear military programme for sometime and is, today, a nuclear weapon power. India's technological capability dates back to the early sixty's: it was effectively demonstrated in its peaceful, subterranean explosion at Pokharan in 1974. It is equally obvious that India has not yet taken the necessary political and industrial decisions to translate its scientific and technological proficiency into weapon's capability. This is due to a genuine reluctance to depart from a policy, established by

Jawaharlal Nehru, which is both courageous and wise, of abjuring nuclear weapons as a means of war or international politics.

Pakistan's emergence as a nuclear weapon power faces India with critical choices. It has two options : to keep a strong nerve and spurn the threat inherent in the new situation and to continue with established policy. Or to develop and deploy nuclear weapons to counter the nuclear forces both of Pakistan and China. It is a tribute to Rajiv Gandhi's courage and wisdom and restraint that he has not rushed into the latter option. The constraints in India are entirely those of policy statesmanship, and of concern for human destiny in a nuclear world. India can match Pakistan's nuclear force, and to the necessary extent China's, with reasonable speed. Public opinion in India is veering in that direction and its government may be forced on to this latter course, Prime Minister Rajiv Gandhi's deep personal aversion for nuclear weapons notwithstanding.

It is my belief that in the course of the next decade or two a score of other threshold countries will also go nuclear in the sense of developing explosion capability for weapons or peaceful purposes. They need to acquire this technological competence for independence as well as economy in harnessing nuclear energy for their future development. The behaviour of present nuclear monopolists may leave them no other choice. I for one would not bemoan such a development. Perhaps, only wider horizontal proliferation may persuade the present nuclear weapon powers to move forward towards an agreed programme of substantial and meaningful reductions in nuclear arms and to place their own nuclear facilities under international inspection and safeguards.

All the various non-proliferation proposals, so-called, mooted from time to time by nuclear weapon powers for South Asia should be viewed in this larger context. Their central purpose is to persuade India to sign the Nuclear Non-Proliferation Treaty. India's objections to that Treaty are not of recent origin. They were spelt out clearly and forcefully when the Treaty was being negotiated. Experience of the actual working of that Treaty has amply demonstrated the relevance and validity of India's reasoning at the time against the Treaty's discriminatory character and its unstated purpose of legitimising the great power's race of nuclear arms, their monopoly of nuclear weapons and their hegemony over the non-nuclear world.

India's refusal to sign the Treaty had nothing to do with Pakistan. In 1968, Pakistan was among the more ardent champions of the Treaty which it hailed as the most important agreement on nuclear disarmament. I can understand Pakistan's later change of position and refusal to sign the Treaty. What is not easy to comprehend is Pakistan's willingness to be used as a bait to lure or pressurise India into the Treaty. I see no likelihood of India giving up its carefully thought-out position and policy in this regard for reasons of changes in Pakistan's positions and policy. Therefore, is it, perhaps, the case that Pakistan is taking shelter behind India's stand to effect a change of position. Pakistan is a sufficiently large, powerful and responsible country to justify the change on merits of the case.

The other proposals put forward by Pakistan from time to time—a nuclear weapon free zone in South Asia, mutual inspection of Indian and Pakistani nuclear facilities, simultaneous acceptance of international inspection and safeguards etc.,—are but variations on the NPT theme and India can hardly be expected to entertain them.

Personally I am attracted to the suggestion that both India and Pakistan should renounce the acquisition or manufacture of nuclear weapons. India's policy thus far has, in fact, been one of voluntary and unilateral renunciation of nuclear arms. Pakistan is pursuing the opposite policy and clothing it in calculated ambiguity. As a friend and well wisher of Pakistan, I would urge its authorities to give up ambiguity. In any country's nuclear policy, I can think of nothing more disturbing and dangerous than ambiguity. In a nuclear world, it is vitally necessary and infinitely more safe for countries to clearly understand where they stand in relation to one another. Unless the pall of secrecy is lifted from Pakistan's nuclear programme and the cloak of ambiguity drops, there can be no question of even the first steps towards a joint or parallel renunciation of nuclear weapons. Mutual inspections and verifications etc, will have to await developments of this kind : they cannot precede them.

As I said, proliferation has taken place in South Asia and therefore, non-proliferation is no longer the real issue. The task confronting us is that of controlling its spread and sophistication. This calls for a sincere, serious and sustained dialogue between India and Pakistan.

I do not fear a nuclear war between India and Pakistan. In the two countries there are millions of divided families and I cannot easily imagine the authorities here in Islamabad or in New Delhi callously taking decisions to drop nuclear bombs on the other side's cities. Nuclear attack by one on the other, even in the absence of retaliation, would be disastrously self-damaging not only in terms of fall-out and contamination and but also because of the economic, political and moral effects of the act.

Besides, we are two civilised societies, and unfortunate and tragic and frequent as our wars have been, neither India nor Pakistan took to genocidal bombing of the other side's cities and civilian targets, which was so often the case in the wars between industrialised western nations. What we have to avoid in South Asia is a futile race of nuclear arms becoming a substitute for war or diplomacy as is presently the case in the East-West confrontation. Security, especially in the nuclear context, cannot come from reliance on runaway technology. Only human beings, by mutual agreement and cooperation can generate a true sense of mutual security. For this too we need a vastly better climate of relations between our two countries than the one obtaining at the moment.

The only proposal which has relevance in the sub-continent's current nuclear situation is for a binding agreement between India and Pakistan not to use nuclear weapons against one another under any circumstance. In our situation, even the 'no first use' will not be sufficiently re-assuring. From the 'no use' commitment we can proceed to exclude resort to any kind of force at all in our mutual dealings and to the establishment of agreed nuclear force levels with which both feel comfortable about their security. These would be logical developments following the recent agreement between President Zia-ul-Haq and Prime Minister Gandhi not to attack each other's nuclear facilities.

Impact of Indian Culture and Traditions on Our Society and the Indian Army

COL S K SINGH

INTRODUCTION

CULTURE means improvement or refinement of the body, mind, manners and spirit by education and training, particularly intellectual development in a nation or civilization. Tradition is transmission of statement, beliefs, customs and culture especially by preaching or by practice but without writing. Long established and generally accepted habits, customs and practices, handed down from generation to generation also form part of culture and tradition.

AIM

Aim of this article is to discuss the impact of Indian culture and traditions on our society in general and the Indian Army in particular.

WHAT IS INDIAN CULTURE AND TRADITIONS

Indian culture and traditions have been interpreted in many ways. Many research works have been published and are available in libraries. These are interpretation of Mythology, Epics and ancient history by great people like Swami Vivekananda, Chinmayananda, Satya Sai Baba and many others. Mahatma Gandhi, Shri Rajagopalachari and Dr S Radhakrishnan have also written lucidly on the subject. Detailed description of Indian culture and traditions is beyond the scope of this article. Based on reading and study, we may draw certain characteristics, which all officers will generally find in our society.

Collectiveness. Because of age old traditions of joint family, by and large, an Indian likes to live in a group. He is not an individualist which is a common trait in an industrialised country.

Latent Hostility to Power and Seniors. Though Indian likes to live in a group, he does not like a dictator. He likes to talk ill of person in power, may he be the Prime Minister or the President and also his seniors that include his Boss, Commanding Officers or Formation Commanders.

Love for Centralisation. Indians in position of power and authority like autocratic rule and centralisation. They do not like subordinates sharing thoughts in decision making.

Communication/Power Gap. Because of the above characteristics there is always a communication gap between seniors and juniors. Fifty percent of the problems in daily life is because of this. A father arranges the marriage of his son without consulting the son. A son gets engaged to his girl friend without telling his parents.

No Risk Environment. An Indian likes to work in no risk environment. Even in daily life he does not want to take risk. That is why there is a clamour for Government service, though private enterprise is more rewarding.

Lack of Self Appraisal. An Indian is not good at self appraisal. He does not want to hear anything bad about himself. This is because of our childhood environment which we will discuss subsequently.

Lack of Role Relationship. An Indian is a Bengali, a Sikh, a Jat and a Christian first and then an Indian. He identifies the leader as a person. Personal and one-to-one relationship matters more than appointment, office or role.

IMPACT ON THE INDIAN ARMY

We will now consider how the above seven characteristics developed in us, by our culture and traditions, retard our functioning in the Army. Indian Army is not the same as it was four decades back. There have been many changes; in size, organisation, weapons and equipment. Modern technology has affected our society and

since the Indian Army is a part of the Indian society, we have also been affected. It will be a fruitful exercise if we study the above characteristics and see how it affects our work environment and also find solution to the problems.

COLLECTIVENESS

Since an Indian likes to stay and work in a group, we will find that any task given to an individual soldier, will not be done in the correct manner or by a given time. We will also find a soldier's discipline in an effective platoon or a company is good but he lacks self-discipline. An Indian left to himself will not work. Therefore, as leaders it is very essential that at each stage, all the work, task or mission we give, we must check and re-check.

LATENT HOSTILITY TO POWER AND SENIORS

This characteristic has stemmed from the fact that right from the days of Ashoka the Great, till the British left India in 1947, we have never been a Nation in the literal sense of the world. Our history is full of rivalries, jealousies and petty quarrels. We have a classic example of Mir Jafar deserting Siraj-ud-Daulah and walking over to the camp of Robert Clive during the Battle of Plassey in 1757, a battle which has been classified by Maj Gen Fuller as a decisive battle of the British Empire. This characteristic must warn us that anyone praising us is a sychophant because he is not true to his nature. A sychophant or a yes-man is very dangerous for the organisation. How to eradicate the habit of talking ill against seniors? This is a difficult task. We find general public talking ill of the politicians, senior officers blaming the generals for poor administration, officers in the units blaming the commanding officers for all the ills and thus it trickles down to the men talking ill against JCOs and NCOs. A concerted effort should be made by all officers to eradicate this characteristic and follow the Hindu philosophy of "doing one's duty without seeking rewards".

LOVE FOR CENTRALISATION

This particular characteristic is mainly for officers. We know that these are days of scientific management. For any organisation or enterprise to be a success, collective leadership and decision making is essential. If a Commanding Officer decides in an Officers' Confe-

rence how to celebrate the Battalion Raising Day, he will find all officers taking active part in the celebration. Latent hostility to authority perhaps comes because of centralisation and absence of group decision making.

COMMUNICATION GAP

Problems arise because points conveyed by the senior are misinterpreted by the subordinates. It is common to hear the seniors say that times have changed and juniors have become disobedient. This is not a correct deduction. It will be interesting to carry out a research as to why the orders were not carried out. We will find that invariably the cause will be a communication breakdown, the seniors and juniors were not on the same frequency, and, when the senior was passing the orders he had transmitted the orders on a different wave length and the subordinate was on a different wave length. It will be worthwhile re-checking what orders reach the Jawans, who are going to execute the task. All these problems arise because gap between generation and generation, and, between senior and junior, is very prominent in our homes.

NO RISK ENVIRONMENT

This characteristic is developed in us since childhood by our parents. In Western countries parents encourage the children to go out on a week-end with a ruck-sack on the back. But in India, schools organising hikes receive lukewarm response from the parents. In war we have to take risk at every stage. How to develop this trait in our subordinates? We have to start at officers levels. We should not detail an officer on a task which can be done by a JCO, and we should not detail a JCO on a task which can be done by an NCO. Over-reaction to various situations which we see in our daily life is because of this characteristic and we must be conscious of it.

LACK OF SELF APPRAISAL

An Indian child is a pampered child. Sociologists find that an Indian lady makes a very good mother. A survey conducted recently showed that though our per capita income is low, our children, even those living below poverty line, were found to be cheerful. An Indian child does not get appraisal and grows up in an environment where

he hears only "good" and "well done". Some industries in India have started a system of self appraisal in the annual confidential report. But it has been found that the page on self appraisal is full of praise only. An officer getting a lukewarm report immediately over reacts, an officer superseded considers the whole battle lost and stops working. This behaviour stems from the peculiar environment in which he has lived as a child. As an initiating officer how this problem can be overcome, I leave the readers to consider.

LACK OF ROLE RELATIONSHIP

Send a vehicle to the workshop for repairs. The work is not done till the commanding officer talks to the OC workshop. You demand meat-on-hoof for any occasion, the Supply Depot will tell you that the rules don't permit. The commanding officer speaks to the OC Supply Depot and the work is done. We hear officers talking about getting things done on "personal net". This is what we mean by lack of "Role Relationship". Why can't OC Workshop or OC Supply Depot do the job as part of duty? Because of our culture and traditions. Our history is full of battles where the people have accepted defeat once the leader has been captured or killed. The masses have identified themselves with a person and not with the organisation. That is why we find, in the same battalion, a company giving good account of itself in battle when the Company Commander identifies himself with the men, whereas an indifferent Company Commander blames the troops. But the fact is that, this officer has not established himself as a leader of his men; he has not taken pains to know them, understand them, and establish a personal rapport.

CONCLUSION

We have discussed certain aspects of Indian culture and traditions. Indian civilisation is one of the oldest civilisations in the world. Its culture and traditions are a wide subject and cannot be covered in a few pages. We have, therefore, selected a few characteristics which affect our behaviour in the Indian Army. As officers we should give due attention and thought to these aspects. As leaders, man-management is our prime responsibility. Without knowing our culture and traditions we cannot understand our men and their behaviour. Without knowing the men, man-management will be poor.

Standardisation of Material Handling Equipment in Defence

BRIG T V MANOHARAN, VSM MA

INTRODUCTION

STANDARDISATION is a very powerful tool of modern management and its utility cannot be lost sight of particularly when we face a deficit budget. The standards cover almost all aspects of economic activity of man—engineering industry, education, transport, food, forestry etc. Not a single activity is devoid of material handling. Material handling equipments are widely used in Defence sector including the 36 Ordnance Factories as well as in almost all Public Sector Undertakings. Standardisation can be adopted in any field. Hence standardisation of material handling equipment will not only ensure overall economy but also keep the Defence forces in absolute war preparedness. The present paper discusses how standardisation of material handling equipment held by the Services is achieved and it also highlights its benefits and other advantages including the usages of common supply languages for these equipments.

WHAT IS STANDARDISATION

In daily life, standards for quality products become universally known by public recognition. To cite some examples, the names of "PARKER" on fountain pens, "OMEGA" on watches, "SONY" on audio/video equipment mean certain standards for consumer products at international level. In Indian scene the names of "H M T" for watches, "MARUTI" for cars, "BAJAJ" for scooters, "STUDDS" for helmets etc have assured high standard products. Therefore, usage of standard products have become a necessity in life as late Shri C Rajagopalachari has stated "Standardisation is to industry what Culture is to Society". With reference to Industry, Standardisation

is a tool to promote cost effective production and variety reduction resulting in consumer satisfaction. At international level the Standardisation is defined as under :—

“Standardisation is the process of formulating and applying rules for an orderly approach to a specific activity for the benefits and with the cooperation of all concerned and in particular for the promotion of optimum overall economy taking due account of functional conditions and safety requirements.”

In Defence, a different definition is followed and it is as under :—

“Standardisation is a means to provide the use of minimum number of parts to serve the maximum number of purposes consistent with economy—manufacture, minimum whole life cost and quality/reliability necessary to ensure *maximum fighting effectiveness*”.

Directorate of Standardisation in the Ministry of Defence is the only Organisation entrusted with the responsibility of carrying out complete Standardisation activity in respect of all equipments and stores held by all the three Services with the help of following Sub-Committees.

- (a) Armament Standardisation Sub-Committee.
- (b) Electronics Standardisation Sub-Committee.
- (c) Electrical Standardisation Sub-Committee.
- (d) Instruments Standardisation Sub-Committee.
- (e) Materials Standardisation Sub-Committee.
- (f) Engineering Eqpt Standardisation Sub-Committee.
- (g) Engineering Stores Standardisation Sub-Committee.
- (h) Vehicles Standardisation Sub-Committee.
- (j) Medical Standardisation Sub-Committee.

All these Sub-Committees deal with the type of equipment/stores pertaining to their respective discipline. These Committees have a balanced composition of designers (R&D), manufacturers (DGOF), expert specialists, Inspectors (DGI) and Users (Services).

More than 3,500 Officers of all the three Services are also represented in various I S I Committees dealing with a number of Sub-Committees. Among these Sub-Committees Engineering Equipment Standardisation Sub-Committee deals with the preparation of Standardisation documents on Material Handling Equipment used by the Services.

SCENARIO OF MATERIAL HANDLING EQUIPMENT IN DEFENCE

Defence has a wide variety of material handling equipment, such as cranes, winches, trucks, forklift-trolleys, hand-carts and material handling spares like steel wire ropes, steel chains, slings for wire ropes, blocks etc. The three Services namely Army, Navy and Air Force have been getting cranes and other equipment of different capacities of different make, different models and with different technology. This has led to unnecessary proliferation of inventory, maintenance of additional spares for each of material handling equipment (MHE) items held by three Services in different varieties, capacities and sizes. Each of the Services bought these equipments at different times on "as and when required basis".

With the result that each service is not aware of what the other Services hold in their inventory, whether, the requirements are common or peculiar to the types of MHE held by a particular service. Over and above this, each service follows its own cataloguing system of giving its nomenclature and its catalogue number etc., and the end result is that the overall expenditure reached is maximum which would have been avoided, if proper codification and Standardisation had been carried out.

The Directorate of Standardisation was entrusted with the responsibility of Standardisation of these equipments and this exercise has been carried out to rationalise the above stores. Table I of this paper gives the rationalisation of material handling equipment items performed by the Directorate.

In the past cranes of electro-mechanical type have been procured from one agency in the country who were the proprietors for that particular equipment. In order to have a healthy competition and also to induct the latest technology like the useage of hydraulic cranes a necessity arose for the preparation of the qualitative require-

TABLE I

S No	Equipment/Party	No of Items		
		Considered	Eliminated	Retained
1.	Trucks fork lift	14	11	3
2.	Winches	11	2	9
3.	Blocks	413	187	226
4.	Carts, hand	10	6	4
5.	Trolleys, hand	32	11	21
6.	Conveyors	40	15	25
7.	Steel chains	159	65	94
8.	Steel wire ropes	259	158	101
9.	Slings for wire ropes	294	209	85

ments of cranes for the use of three Services namely Army, Navy and Air Force. Accordingly, Joint Services Qualitative Requirement (JSQR) on cranes of different types as highlighted in Table II have been prepared. In addition to this the policy pertaining to long term and short term procurement of cranes have also been prepared known as Joint Services Policy Statement (JSPS).

TABLE II

JOINT SERVICE QUALITATIVE REQUIREMENTS (JSQRs)
FOR CRANES

1.	Crane, Truck Mounted, Full Slew, Light (3/5 tonnes without and with out riggers)
2.	Crane, Truck Mounted, Full Slew, Medium (6/10 tonnes without and with out riggers)
3.	Crane, Truck Mounted, Full Slew, Medium (Special) (6/10 tonnes without and with out riggers)
4.	Crane, Wheel Mounted, Full Slew-Medium (5/8 tonnes without and with out riggers)

NOTE :—Out of 13 capacities of Cranes (upto 10 tonnes capacity) used in services Viz 1, 2, 2.5, 3, 3.5, 4, 4.46, 4.5, 5, 6, 7, 8.5 and 10 tonnes, only the 3 above mentioned capacities have been recommended for use of the three services

VARIETY REDUCTION

In order to calculate the economic benefits due to rationalisation the formula given by Prof S Matta (Pronounced as Matsura) of Hosei University of Japan is used. This formula has been widely used by USSR as well as Japan for calculating the savings on the procurement due to variety reduction. The formula is as follows :—

$Y = X^{-0.3}$ for estimating the unit cost where X is variety ratio.
To give an example :—

- (a) Item—Conveyor Belts
- (b) Variety
Reduction—52 to 11
- (c) Hence $X = 52/11 = 4.73$ and $Y = 0.63$ as calculated.
i.e. 0.37 fractional saving.
- (d) Hence a 37% saving can be expected on Defence expenditure on Conveyor Belts.

Table III gives the percentage of savings acquired on rationalisation of 13 capacities of cranes and table IV gives the savings accrued on account of rationalisation of material handling other

TABLE III

PERCENTAGE SAVINGS ON ACCOUNT OF CAPACITY REDUCTION
OF CRANES

Number of capacities use for cranes (upto 10 tonnes capacity)	—13
Number of capacities restricted to	— 3
Variety Ratio $X = 13/3$	$=4.33$
Fractional Unit Cost $Y = X^{-0.3}$	$=0.64$

ie. 0.36 fractional saving

Hence a 36% saving can be expected on Defence Expenditure on Cranes.

TABLE IV

PERCENTAGE SAVINGS CALCULATED USING PROF S MATSURA'S
FORMULA

$Y = X^{-0.3}$ (WHERE X—VARIETY RATIO AND Y—FRACTIONAL
UNIT COST)

S No	Equipment/Component	Original Number	Reduced to	Percentage Savings
1.	Truck Fork light	14	3	85%
2.	Winches	11	9	6%
3.	Blocks	413	226	16%
4.	Carts hand	10	4	24%
5.	Trolleys, hand	32	21	12%
6.	Conveyors	40	25	13%
7.	Steel Chains	159	94	15%
8.	Steel wire ropes	258	101	25%
9.	Slings for wire ropes	294	85	31%

equipment. It is obvious that rationalisation gives the following advantages :—

(a) *Advantages in Procurement :*

- (i) Increased purchasing power by procurement of large quantities.
- (ii) Reduced number of purchase order.
- (iii) Reduced lead time.
- (iv) Purchase done by intrinsic value rather than by sales staff.

(b) *Advantages achieved in Inventory Control :*

- (i) Reduced Capital Requirement.
- (ii) Reduced Storage Area.
- (iii) Reduced Record Keeping.

- (iv) Reduced Material Handling.
- (v) Elimination of Obsolescence and Obsolete Material.
- (vi) Reduced Service Timings.
- (vii) Practical Planning and Budgeting.

NEED FOR CODIFICATION OF THE MATERIAL HANDLING EQUIPMENT

Numerous suppliers and manufacturers including Public Sector units have their own system of items identification and codification. The same item is called by a different name by different manufacturer. To cite an example, a Sleeve is also known as cover or simple pin is called as a shaft or as a spindle or as a rod or as a connector and so on. This results in lack of communication for item identification among the suppliers, inspectors and the users, and difficulty in establishing commonality, interchangeability and substitutability. Ministry of Defence codifies all the items procured for the three services using NATO Codification system. This system gives a scientifically based nomenclature for any item based on 10 digit classification numbering system. This system ensures uniform and standardised approved item names and internationally accepted description. These item names are generic in nature and indicate the basic concept of the item—what the item is rather than what it does or where it is used or who manufactures it. This system is tried and tested and in vogue in advanced NATO countries and as such if codification system is adopted to these materials handling equipment manufactured in our country, not only confusion in the nomenclature will disappear, but also interchangeability and substitutability can be effected.

FUTURISTIC DESIGNS

The futuristic Material Handling Equipment will be generally of "Robot" types. They will certainly have high strategic as well as tactical mobility, enhanced endurance to all weather conditions, terminal efficiency and adaptable to have special roles. Such designs are only possible if standardisation of spares/equipments aspects are taken into consideration right from the drawing board stage.

CONCLUSION

It is, therefore, clear that there is a need for rationalisation of the existing material handling equipment available in the country.

In addition Standardisation documents should not only be prepared but also be implemented for entry control to prevent spurious purchases. There is a necessity for the preparation of Standards to eliminate repetitive decision making for procurement and to induct the latest development in technology by reviewing these standards periodically. There is also a necessity for preparing standardisation documents on qualitative requirement of the equipment to enable a healthy competition in the design and production of these equipments by private sector as well as public sector organisations of our country, instead of importing these equipments. Codification of Material Handling Equipment will ensure common supply language.

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Management of Peers

COL T MUKHERJEE

INTRODUCTION

AIM. The aim of this article is to discuss and put across views on management of peers in the Army.

Scope. Though targetted basically for personnel of the army the subject demands some interaction and interplay with views and practices of the private sector industries and organisations.

Method. A conscious effort will be made to avoid management jargon, theories (Howthorne Theory for example) and names (Drucker, Parkinson etc) during the course of this article. The subject, a part of group dynamics, is far too vast to be condensed into an article of a few pages, therefore, the concentration will be on discussion of some points and suggestions. Some aspects are based on personal experiences of the author and of others. Case studies are also being avoided so that people do not identify themselves with them and misconstrue the intentions of the article. This article is based on answers received to a questionnaire and interviews of and discussions with a variety of people. The people selected belong to professions and levels of management that cut across a wide range both horizontally as well as vertically.

IMPORTANCE OF PEER MANAGEMENT

Definition of Peer. (As it pertains to this article) Peer means an equal. Therefore, the study of management of peers should include colleagues and self. More on who should be considered peers is taken up later.

Functions. Task and result oriented jobs need involvement of groups in which peers will exist. Multidirectional pulls have to

provide unidirectional movement. Therefore, it is critical to ensure good peer interaction as this would have effects on subordinates and sometimes on superiors. However, it is pertinent to observe the tyranny of group thinking. Group pressures force a lot of people to agree to the group and individuality becomes the first casualty. At the same time when an individual is about to slip peer group pressures will keep him moving in the right direction.

Importance Accorded. It will be seen from our day to day experiences that the emphasis is on subordinate management and in rare cases management of superiors. This subject is not given much importance even during those courses where a capsule on management is included in the curricula. The perception of the term peer is vague. In addition, the outmoded perception of seniority/juniority (specially in the army) creates a famine of equals. The fact that a divisional commander, commandant and adjutant of a regimental centre could not spare fifteen minutes (in a fortnight) to answer the questionnaire issued to them exemplifies the importance accorded by various sections of the army.

The Right Perception. If a clear perception of the term peer exists in the minds of people the importance of managing peers would be self evident. Giving directions or taking directions form a minuscule part of the actual execution of a job where peers at different levels will play critical parts. Further, it must be accepted that within groups of peers ambitions and interests differ, will differ and should differ without affecting job participation.

ANALYSIS OF RESPONSE TO QUESTIONNAIRE

People. The people to whom the questionnaire was issued comprise a wide cross section, therefore, the views can be accepted as general. The marketing executive has to interact with peers of own and other organisations. The people were selected carefully and it is hoped an analysis of their responses will prove to be a useful study.

THE QUESTIONNAIRE

The Term Peer. Except for five people (who ticked the right meaning) opinions were split between 'a person to look upto' and a

well informed colleague'. It is evident therefore, that a clear perception of the term peer does not exist. Even in the army peers should include one up and one down levels.

Qualities Colleagues Should Possess. There was surprising similarity of views. However, since there was a limitation put on the numbers expressed I am certain a number of qualities were taken for granted and only those requiring emphasis were put down. The irritants are also taken up subsequently. (A indicates more than 60% people put this quality in the 5 they listed; B—30 to 60% and C: Less than 30%).

QUALITIES

- (a) Sincerity and honesty of purpose (A).
- (b) Good motivator (B).
- (c) Compatibility (Getting along with peers) (A).
- (d) Recognise good work (B).
- (e) Patience (C).
- (f) Sense of Humour (A).
- (g) Open approach (Flexibility) (B).
- (h) Competence (A).
- (j) Capacity for sustained work (C).
- (k) Basic intelligence and commonsense (C).
- (l) Cheerfulness (C).
- (m) Well informed even outside his field of work (B).
- (n) Reliability (B).
- (o) Curiosity (C).
- (p) Initiative (B).

IRRITANTS

- (a) Conceit (A)
- (b) Taking others for granted (C)
- (c) Artificiality (B)
- (d) We can't do it, syndrome (B)
- (e) Rudeness (B)

- (f) Plagiarism (C)
- (g) Yesmanship (A)
- (h) Insincerity and meanness (A)
- (j) Overtalkative (C)
- (k) Lack of values (C)
- (l) Excessive self projection (A)

Qualities I (meaning individuals) should possess. Generally, everyone felt they should possess the qualities they expect their colleagues to possess. However, there were some notable additions and these are listed below :—

- (a) Bravery.
- (b) Live within limitations.
- (c) Boss management.
- (d) Sense of discretion.
- (e) Unassuming demeanour.
- (f) Utter objectivity.

Dissent. Dissent is essential, as long as it is constructive, for progress. Everyone who answered the questionnaire said they would not enjoy “yes men” and were unanimous in saying that, everyone is not capable of handling disagreements. However, only a few people gave details of qualities required in an individual that equip him to handle disagreement. The major ones are listed below :—

- (a) Capacity to listen
- (b) Understanding another's view point
- (c) Clear perceptions
- (d) Maturity
- (e) Competence and self confidence
- (f) Good judge of character
- (g) Pragmatism
- (h) Patience
- (j) Absence of complexes

Double Standards. This was a question that, by their own admission, everyone found difficult to tackle to their own satisfaction. Since the responses were not too many I am putting them all down.

- (a) Since resources are limited, the boss can have them, others need not.
- (b) A weak man needing props.
- (c) Ambition and complexes.
- (d) Due to the confusion between ends and means.
- (e) Ego protection device (Basic insecurity and the desire to cover it up).
- (f) It is the easy way out.
- (g) A social malaise compounded by an educational system that encourages double standards.
- (h) Lack of moral courage.
- (j) Pressure of circumstances and opportunism
- (k) System promotes it as a chain.
- (l) Most profitable.
- (m) Lack of good upbringing (culturally, educationally etc)
- (n) Doing what the boss wants irrespective of right or wrong.
- (o) Lacking moral fibre and basic honesty.

Sensitivity. Though quite often we tell people, "Don't be so sensitive", not a single person thought sensitivity to be a derogatory word. They were also unanimous in their view that the capacity to appreciate art, literature etc did reflect on the quality of a manager/commander. The capacity to appreciate will make a person more positive and this is essential in a manager at any level.

Reading Habit. The impression gathered from the answers to the questionnaire is (and this would be generally true) that people are not reading enough. The average came to about one professional book in two months and the same with nonprofessional books. Though the average number in fiction came to two books per month the choice of authors would, in my opinion, put a number of books in the trash column (only five people admitted to reading trash). The authors generally read were Hailey, Uris, Ludlum, Sheldon, Bagley, Higgins; there were two exceptions who mentioned Fowles, Rushdie. The emphasis, as you will have noted, is on thrillers. On probing further during my discussions I discovered that quite a few had not even heard of (leave alone read) Cafka, Hesse, Genet, Mann, Camus, Saint Exupery, Canneti and the like. This void existed right across

the board. This trend, sadly, was reflected also in the choice of magazines. One or two current affairs magazines (like India Today, Sunday) and two or three professional magazines (Strategic Analysis, USI journal, Combat, Infantry, Business India, Accountant, Economist etc). There were two exceptions who read Marg and the India Magazine. The women (except for the career woman) read film magazines and women's magazines (I don't believe the husbands avoid them though not a single man except for the journalist admitted to reading them). Barring three exceptions (who spend Rs 50-60) everyone spends less than Rs 30 per month on books and magazines (this may be because of some dependence on libraries).

Time Management

(a) *With Own Organisation.* Time that should be spent with one's command/organisation drew the following response :—

(i) Less than 6 hours	—40%
(ii) 6-8 hours	—43%
(iii) 10-12 hours	—17% (Interestingly all infantry officers)
(iv) 16-18 hours	—Nil

(b) *With Family.* Everyone was of the opinion that, at least, six hours should be spent with the family though there were two persons who felt four hours were adequate while a good number felt ten hours would be more appropriate. One of the responses gave a thought provoking amplification : "Must leave some time for himself".

(c) *Boss Visiting Own Organisation.* In this sphere are civilians and quite a few forces personnel who hold (or have held) independent charges of branches or units felt there was no requirement at all of their bosses visiting their organisations. The balance of the people were split between 2-3 hours and 1 day with one solitary exception who recommended 2-3 days per month.

(d) *Visiting Subordinate Units.* Though everybody answered this question I have taken into account responses of only such people who hold (or have held) appointments that involve such

visits. Since the number is not large the responses are put down below :—

- (i) Don't see any need to visit.
- (ii) Only on formal occasions.
- (iii) Interaction with immediate subordinates essential though visits are not.
- (iv) One day per month.
- (v) Two to three days per month (Even three to five days).
- (vi) Three to four hours per month.
- (vii) Two to three hours per month.
- (viii) Not more than two to three hours per month.

Wives Response. The response from the wives was quite interesting (though I suspect in a number of cases the husbands doctored the answers). Our personal lives reflect our personalities, therefore, I thought the views of our wives would be useful. The responses are given below :— (16 responses so figures out of 16)

- (a) *Coming Home On Time.* Always—4; Mostly—11; Sometimes—1 Never—0.
- (b) *Bringing Work Home.* Never—4; Sometimes—9; Often—3.
- (c) *Time to Family.* Except one all said that their husbands give adequate time to family.
- (d) *Discussions at Home.* (Magazine or a book) Frequently—7; Sometimes—8; Hardly Ever—1.
- (e) *Perks.* One wife was not sure, three said no whereas 12 thought perks were attached to their husbands rank and position.
- (f) *Shopping.* Always—2; Often—9; Never—5.
- (g) *Married to Profession.* Yes—4; No—11; Infrequently—1.
- (h) *Attending Parties.* (A strain) Never—4; Always—0; Sometimes—12.
- (j) *Husband's Job.* Every wife said she liked her husband's job (coincidentally, none had her husband away in field).

ANALYSIS

Having gone through the questionnaire and the answers I am certain the reader would have by now drawn a number of conclusions

and hopefully, they will make him a better peer. The basic reason for discussing the questionnaire and answers was to bring to the fore qualities and actions that are demanded of us.

Unless a peer relationship is established interaction and feedback is impossible. I spent some time observing people (outside the Army) at work at some effective organisations and the point that struck me most was the easy working relationship. Boss and colleague were on equal terms and were on first name basis which, in my opinion, paved the way for easy disagreements with the good of the organisation in view. (None of the 'if you don't mind, Sir' or 'if I may submit, Sir' and so on. Simply : 'Trilokesh, I think the layout looks awful because of the photograph at the right bottom corner' and the reply would possibly be 'Yes, you are right. Should have seen the weakness. Will change it. How do you like this one, fine ?' and the work would go on without any fuss).

At our level we are bosses, colleagues, subordinates all rolled in one and, therefore, it is vital for us to strike a balance. Leaving from others' experiences we have to build a working relationship to get the best out of everyone and it is here that we find that optimum results are achieved by the interaction of peers. Reason enough, therefore, to take an intense and genuine look at peer management.

INTERVIEWS AND DISCUSSIONS

Since it was not possible to produce a comprehensive questionnaire (it would have become rather long) I felt conducting interviews and holding discussions with a few selected people would provide a lot of answers. The points that came up are covered later on in the article under suggestions.

I would like to, however, highlight three points that were brought up by the people interviewed with almost boring repetition.

- (a) It is important to stay young and inquisitive all the time. The moment you feel otherwise you should get out of the command/management game. One must indulge in lateral thinking as often as possible.
- (b) For every individual (most of us, unfortunately, sacrifice individuality very early) the most favourite and vital perfume is freedom. If you don't respect this, you can never get the best

from anyone who has the potential and capacity to produce genuine good work.

(c) One has to keep a constant (hawklike) eye on the frustration levels of people. Efficiency will fall without any reasons on the surface.

PEER MANAGEMENT

REQUIREMENT

It is hoped that by now the article has been able to convince the reader as to the necessity of studying the problem of peer management.

To reiterate, one must accept that in any organisation functional levels are both vertical and horizontal (peer interaction). The horizontal levels are of utmost importance because of, one, group action and, two, because of the vertical levels from each point on the horizontal level like the myriad roots of a banyan tree. Therefore, it is peer interaction that basically holds together an organisation.

HINDRANCES

Understanding of the Term Peer. The very first hindrance in peer management is the understanding of the term. If we stick to seniority of IC numbers then we are left with hardly any peers to manage. As a result of response to questionnaires, interviews and discussions I am of the opinion that one up and one down levels should be covered by the term peer (despite the frowns that I can already see).

ACRs. The annual confidential report (on which everything in our career depends) is possibly the biggest hindrance to any successful management of peers. Moment the secrecy of the ACR and the recommendations are introduced into the system everyone is on the defensive—"don't rub him the wrong way". To make things worse there are any number of immature and subjective officers who make it known to the people concerned openly or in a veiled fashion that they would reflect "things" in the ACRs.

Lack of Objectivity. There is a general dearth of objectivity and as long as this scene persists peer interaction is difficult. People

are assuming things, drawing inaccurate conclusions all the time, therefore, an "easy easy" atmosphere is impossible to obtain.

Ambitions. One must be ambitious but problems will come up when ambitions are pursued at the cost of letting down peers. Unfortunately, the number of people who are willing to see through (I do not believe such people can't be seen through) this, and put people in their places, is meagre.

Different Interests. One of our greatest weaknesses is that we do not accept the existence of different interests. We want every one to be interested in what we are interested in and should anyone fail to do so he is branded a renegade. Difference in interests, therefore, blocks off interaction.

SUGGESTIONS

The reader, I hope has drawn his own learning points from the analysis of the questionnaire. In the suggestions given in the subsequent paras some of the points may be repeated but that hopefully will be accepted as unavoidable.

New Values. There are new values in society and these can be held up only if peer group support is available within and outside the organisation. Lest I stir up a hornet's nest (by giving personal opinions), I draw from Crisis in Command (Gabriel and Savage): "We also suggest the use of strong ethical indoctrination programs at all ranks. Such programs must be particularly strong at the entrance level, for it is the young officers who can be expected to carry the new values throughout their careers and to eventually internalize them, so that they become part of their personal and organizational codes. Middle—and upper—tier officers could be "re-educated" with series of seminars, although how much real change can be expected through this process is unclear. The key point, however, is that the indoctrination of junior officers at the entrance level will place limits upon the behaviour of senior officers. Faced with a junior officer corps indoctrinated in a clear "code of honor" (read: new values), existing military elites are less likely to violate this code because of the serious risks of exposure. To be sure, this requires that the military be prepared to develop and observe such codes of behaviour, which entails a return to the corporating ethos and a move away from the ethos of the modern business

corporation". It is the peer group support (one is not by any chance suggesting unions) that can hold up values worth upholding. Take for example an article on sycophancy : if one was to be written it cannot be published because one is not certain of peer group support. The point that I wish to drive home is that if peer group support is available it is easier to do right. The Americans have to live down My Lai ; we also, if we think deep, have our problems of implementing new values in the system but I opt out of the temptation to quote an example in our context. (The reader may find it worthwhile to reread/read chapter VI of the book quoted).

Delegation. As mentioned earlier passing the buck is not delegation. It must be seen that the relevant person does the job. If a platoon commander can do a job don't give it to the company commander. Our files (mental and office) will show ever so many absurd jobs given and certificates asked for from irrelevant levels. One must be left free to work his organisation. Yet, every now and then a letter-pops up to say 'Junior staff officers are drafting signals' or 'Detail a field officer with more than ten years service' and so on. For every man his job is important so let him do it otherwise he will lose interest. The talent and potential available must be utilised fully.

Sincerity and Honesty. The average man will see through the lack of these and refuse to give his best. Often we find a democratic facade is created and suggestions asked for when the decision is already made ; this may work only once if at all.

Contribution. Are we doing something worthwhile ? If the answer to this has even a shade of the negative then one can be certain that people are working at subsistence level only. Right down the chain everyone needs to be convinced (not by lectures) that he is contributing.

Services. Whether in the army or outside it the services get bogged down in rules and regulations. A very large number of people in the services (that is the support organisation and it includes the staff) forget their basic purpose. Take the example of the Adjutant General's Branch which has a fairly big budget to buy books for the welfare and recreation of troops : how often have you seen these books at the unit level where the troops actually are ? In

fact they need nudging and constant reminding as to the purpose of their existence.

Time Management. It has been proved by a number of studies that we spend the bulk of our time on unimportant matters. Spending time must be well planned to achieve effective utilisation. The questionnaire response, I hope, has made the point about 50 per cent conferences being a waste of time. Another aspect on which we waste a lot of time is travelling: this is so because, one, of poor delegation and two, due to it being unnecessary. Take the example of a presentation of battle study (of a war that took place a few years ago), certainly a brigade commander or a divisional commander does not have to attend it. But if he has to, depending on the venue, just calculate the time he will waste on travelling. The more senior the post you hold the greater is the loss to the organisation in this respect.

Communication. We must make an effort to establish two way communications (rare at the moment in most organisations). It is vital to win the friendship of people we work with and the only way to do it is by being friendly. Another aspect that is neglected by most of us is the art of listening (as opposed to hearing), persuasive listening, in fact.

Appraisals. Normally the concentration is on pointing out faults and weaknesses. This is absurd; one must concentrate on the strengths. Praise and appreciation at the right moment from 'higher ups' will make people work even better. In this context I must mention that most of us have neither perception nor comprehension of 'counselling': we think it means telling the person what's wrong with him, we couldn't be further from the truth. A good dictum would be, "praise in public, criticise in private". Also do not criticise in general terms regarding the person only the particular fault; in fact attack the reason for the fault or failing.

Taking Responsibility. It is amazing how much people will respect you for your capacity to stick your neck out when the going gets rough. Contribution from the others will increase significantly once this angle of your character is established. Needless to say, the reverse will be disastrous even if not immediately visible on the surface.

Paper Work. Instead of grinding out letters endlessly use the telephone (for direct communication and not to get telephone messages passed by the duty clerk or duty officer after leaving office) to get answers. It seems that we have such a large volume of reports and returns so that everyone is kept busy and not much time is left for thinking. Even a most casual flow of a comb across the list of reports and returns will tell us that half of them are a waste of time and the other half could do with a rethink. Take the small example of a TCP : with so many controls and restrictions already laid down surely the unit commander should be competent to decide where he wants to send a vehicle but just look at the paper work we involve ourselves in. Also one should not get perturbed by a "Please expedite" letter from a unit or a subordinate headquarters : when two words are good enough why waste time on a longwinded letter.

Change. Change for the sake of changing is no good. The people actually affected must be consulted before changes are effected otherwise a lot of sulking awaits you.

Borrowing. In the course of my discussions I realised that this malady (of borrowing people and things) is peculiar to the army. If you can't make do with what you have then you are not utilising your resources correctly. Any man or equipment you borrow from a unit is at the cost of its functioning. This temptation should be curbed ruthlessly because one is interfering and stepping into another's working organisation.

Concern. Inquiries about a sick wife or the family will go a long way to establish an equation with your peers or subordinates. I once worked with a Brigadier (in a peace station) who did not know how many children I had, when my parents were in station and so on, therefore, I refused consciously to give him my best. This is happening all the time and we should avoid it but at the same time must ensure that the concern is genuine.

Spying. Avoid this at all costs whether it is through the sahayak or through another officer or anybody. Create an atmosphere for feedback though in this if one is not considered mature and 'big' hearted then the feedback will at best be a trickle.

Criteria for Organisational Efficiency. Suffice to say that the criteria is whether the organisation is doing what it is supposed to do. A little harsh objectivity will bring to fore the answer.

Manipulation. Men are neither chess pieces nor puppets so do not even attempt to manipulate them. Sooner or later (if they are worth their salt) they will rebel.

Principles. Not only should we have principles that we stick but this must be displayed. For example it is not good enough to be impartial you must appear to be so.

Security. One must make people feel secure to get the best out of them. At the same time one must guard against promises; if you make one you better keep it. A broken promise plays on people's minds like nothing else. Another aspect in this context is plagiarism of sorts and that is to claim others' ideas as your own. If you give a man his due he will feel more secure with you.

Insulation. This is all very well to avoid shocks but one must not be insulated from peers and the organisation as such. Some of us unfortunately get into this high and mighty attitude and the organisation is the loser.

Being Polite. It is very easy to be polite and nice to the boss but it is being polite to peers and the lower rungs that matter. It is indeed sad that the man, who is polite to the boss and rude to his peers and subordinates, is not a rarity.

Mistakes. They put erasers on pencils because mistakes will occur. The important thing is to recognise, accept and rectify the mistake (without harshness, if possible).

Interests. Interests have to be kept alive to keep an organisation breathing. Individual interests have to be catered for too and this involves intimate knowledge of people.

Feedback. An atmosphere of trust has to be created nay established to support feedback. Genuine feedback acts like adrenalin to the organisation as also to personal functioning. Any come

backs will ensure drying up of this most useful input in the successful running of an organisation.

Coming to Terms with Oneself. To be an effective peer and a manager one has to come to terms with oneself. Though very difficult but it is vital to KNOW oneself.

CONCLUSION

Management of peers deals with people. People, who cannot be replaced by computers, operations research and so on which will remain tools to assist the manager or commander to take decisions. Men, therefore, are the nerves of an organisation. It is vital then to study each person and utilise his talent and potential to the fullest. Interaction between men is what management of peers is all about. One has to identify with people, contribute and move towards a common goal.

Passing instructions is not good enough, getting them understood and implemented is the crux of effective organisation. Pushing authority around may get a job done once but it won't do for sustained efforts. One must ensure equal opportunities for everyone to ensure balanced pull on the oars.

"Let the young be blind to failure" someone said. In peer management one should not be afraid of failures specially where bringing up the younger members of the group is concerned. Close knit groups will hold up correct values and principles and will be instrumental in carrying the group forward.

It is hoped that by the time the reader reaches this point of the article he would have drawn whatever is relevant to him and would be in a position to utilise the information. To be able to manage peers the individual has to be a competent and a good human being.

At no stage should we forget that we are dealing with people which in itself is difficult and dealing with them at an absolutely equal level is even more difficult. That is management of peers and that is the task that lies ahead of us.

Shivaji's Raid on Surat

MAJOR BC JOGLEKAR

INTRODUCTION

THE ever expanding empire of Emperor Aurangzeb had only one hurdle in Deccan and that was of Chhatrapati Shivaji and his Hindavi Swaraj. The campaign of Shaista Khan from 1660 to 1663 was the first determined attempt Aurangzeb undertook to contain Shivaji. Shaista Khan was not only the Governor of Deccan but was also maternal uncle of Aurangzeb. During the three and half years of sustained campaign in the Maratha Kingdom Shaista Khan had unleashed untold havoc in the region by looting, plundering and taxing the public. Shivaji's treasury was almost empty due to the prolonged counteractions against Shaista Khan's force and at the same time there was no appreciable income as the revenue system was disorganised, temporarily. Shaista Khan was ultimately defeated in early Dec 1663 after the daring raid by Shivaji on his headquarters at Lal Mahal in Pune. Without any respite the Chhatrapati started planning for recouping the financial loss suffered to his Swaraj. Simultaneously with the plans of raid on Shaista Khan Shivaji's restless and daring mind started planning for the audacious action of raiding Surat the second most prestigious town of Mughul empire after Delhi.

IMPORTANCE OF SURAT

Surat had the same importance then which Bombay has in modern times. Surat fort and town on the bank of Tapti were the gateway to India from the western world. The port side of the town was known as Swally which was about 10 miles West of Surat. All the seabound trade to West from India was through this port. This town had the offices and small settlements of western powers like British, Dutch, Portuguese, French and Armenians. The Baluchis, Iranis, Afghans as well as Indians also had their godowns and

dwelling on this side. Surat was a very rich international market-place for all type of goods including women and slaves. It was the golden Lanka of Mughul's. It was the hen which laid the golden eggs. Its owner was in Delhi and the Chowkidar was one lazy Subedar Inayat Khan who was the governor of town and the port.

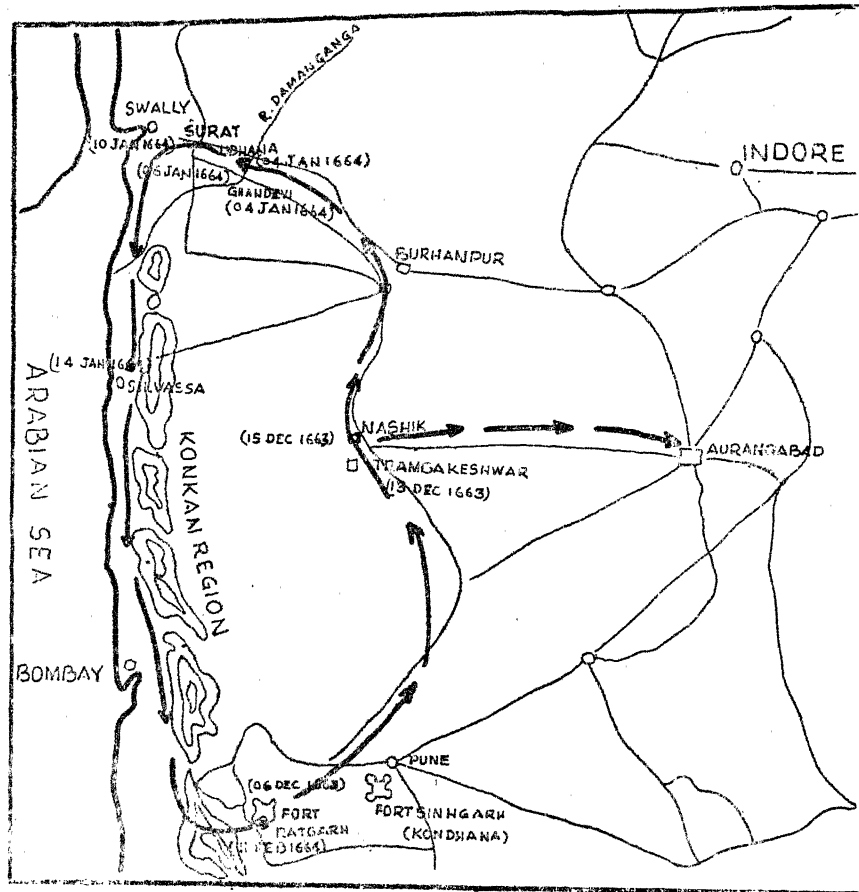
Although all this wealth accumulated there, this town had least of military protection despite Surat being surrounded by Mughul territory from three sides and the impregnable sea from the west. The Governor of Southern region of Mughul empire and son of Aurangzeb prince Muazzam would have laughed even to a suggestion of an attack on Surat. Subedar Inayatkhan was an easy-going and corrupt person. Although prince Muazzam had sanctioned revenue for a standing Army of 5000 horsemen for Surat's defence, Inayatkhan had maintained only about 500 strong garrison and used to gobble the remaining amount. This small force was concentrated in the fort of Surat and the town was left without any protection. In addition to these 500 odd troops, the English, Dutch and other Topiwalas (Foreigners) had small military detachments for their own protection. Population of Surat was approx 2 lakhs those days.

THE PLAN

Thus was the state of Surat in 1664 and Shivaji planned to raid and plunder this Golden Lanka of Mughul empire. He had to make up for the three and half years of systematic plundering of his kingdom by the Mughul army. The only source for this was the Mughul treasury itself. That would have served the ends of poetic justice !

Detailed information about the route upto Surat, the area around Surat and the layout of Surat town was essential for the planning. In Oct 1663 Shivaji detailed his chief secret agent Bhairjee Naik Jadhav and his small band of men for this important task. Bhairjee was agent par excellence in such matters. He left Rajgarh (the capital fort of Shivaji) sometime in later half of Oct 1663. He stayed in Surat for about one month incognito and gathered detailed information about the layout of town, its defence setup, the habits of the people, the main centres of wealth, the port and its layout and also about the fort like godowns of the Topiwalas. He returned to Rajgarh with this valuable information by end of Nov 1663. Surat was approximately 700 kilometres from Rajgarh (Please see sketch).

Shivaji and planned to go with fast moving means of transport, that is horses, and with minimum force; about 5000 horsemen, led by the Chhattrapati himself. He planned the entire operation to be over in approximately 40 days, a short time-frame in those days. As it was difficult to conceal such a force during the long approach march, to baffle the opponents Shivaji decided to plan a feint move of troops from Nasik towards Aurangabad in easterly direction.



THE PREPARATIONS

From late Oct 1663 onwards Shivaji started training of the raiding force by way of extensive horse-riding, fighting in built up areas and long approach marches. He also planned for adequate

transport by way of bullock carts to bring back the booty from Surat. The old record of that time gives out graphic and detailed instructions given out by Shivaji to his junior Commanders on every minute matter on this raid. Details of even matters like how many horse-shoes to be carried as reserve can be found in those documents called as 'Sabhasad'. By the end of Oct 1663 the troops and animals were concentrated and fully geared to move for the task.

THE EXECUTION

After leaving Rajgarh on 06 Dec 1663 with his fiery band of men Shivaji took the North Eastern route towards Nashik, which lies about 480 Kilometres away. The force reached Trimbakeshwar near Nashik by 13 Dec 1663. The move was strictly during day. The surprise was so complete that Aurangzeb's General Raja Jaswant Singh who was camping barely 12 Kilometres from the route near Fort Kondhana (now Sinhgarh near Pune) did not learn about this move on his right flank. After performing Maha Pooja in the Trimbakeshwar's Jyotirlinga Mahadev temple near Nashik Shivaji moved towards Gujrat on 15 Dec 1663. From Trimbakeshwar, a small force bifurcated itself, under one of the knights of Shivaji named Yesaji Kank, towards Aurangabad to show a feint move as planned earlier. Shivaji's force crossed river Damanganga on Monday 04 Jan 1664. The troops had entered enemy territory here. On 4 Jan 1664 by late evening Shivaji camped near Ghandevi village about 28 miles from Surat. Here he spread a rumour amongst the population that he was one of the Panchhazari Sardar (Knight Commanding 5000 men) of Aurangzeb's Army returning from Raja Jaswant Singh's force which was fighting against Marathas. This news created complacency in the town. But certain Mughul troops in Ghandevi had encountered Shivaji's army in previous battles and learnt the truth. They hurried to Surat to inform Inayat Khan. Inayat Khan was so confident of the secure position of Surat that he laughed off this information as a figment of imagination. How can Shivaji dare enter so deep in Mughul territory? But the news spread like wild-fire amongst the people of Surat and unprecedented panic erupted amongst the population of the town.

EVENTS AT SURAT

Meanwhile Shivaji moved few miles ahead and reached village Udhana, which was barely 8 miles from Surat. Now the panic in

Surat was complete. Many of the Arab and Gujarati traders started to leave the town with their families and household from two North-Eastern gates of Surat called Burhanpur Gate and Delhi Gate. One French visitor was in Surat at that time by name of M. De Thevinot. He has recorded detailed account of the events after Shivaji's arrival at Udhana. Many leading traders and heads of foreign missions called on Inayat Khan for protection. Inayat Khan brushed their requests aside and told them that, not even a fly can cross through the impregnable walls of defence of Surat. However, the head of the British mission Captain Sir George Auxendon organised his men into a small defensive force to protect his garrison and the British families. Similar actions were taken by other foreign garrisons. By now it was confirmed that it was Shivaji who had arrived with his men.

On 05 Jan 1664 Shivaji sent a representative to Inayat Khan demanding a heavy sum in return for peace of Surat. But Inayat Khan in his complacency refused to oblige. Shivaji was particularly interested in three chief traders of Surat namely Haji Sayyad Beg, Beharji Bohra and Haji Kasam. Inayat Khan assured them protection in return for favours and sent back Shivaji's messenger empty handed. He even sent a warning to Shivaji that if he even thought of touching Surat he will invite the wrath of the Jille Hilai Badshah Aurangzeb.

After this the small raiding force was let loose by Shivaji in the city on wednesday 06 Jan 1664 at about 11 o'clock. Detailed account recorded by foreign visitors and despatches of foreign garrison chiefs to their head offices narrate the events in detail. Once the troops and junior commanders of Shivaji started plundering the city there was no mercy. All the palatial houses of the important traders were completely razed to the ground. Subedar Inayat Khan gave protection in the fort to only those people who gave him heavy bribes. Only the British garrison commander Captain Sir George Auxendon showed courage by conducting a flag march around his garrison fort. For this act he was rewarded by Aurangzeb later and the British East India Company was exempted customs duty for one year.

For four days continuously from 06 Jan to 09 Jan 1664 the city was being plundered. The godowns and palatial houses of Beharji Bohra, Haji Sayyad Beg and Haji Kasim were completely razed to the ground. However, it was particularly recorded by M. De Thevenot and Rev Father Ambros both of France that Shivaji and his men did

not touch poor citizens, women and children. Neither did he touch the places of worship of any religion. Maratha troops however, raided some foreign-ships awaiting in the port of Surat. On Thursday 7 Jan 1664 Inayat Khan sent a messenger to Shivaji who during talks with the Chhatrapati tried to kill him with a dagger. Shivaji escaped due to quick actions of his bodyguards. However seeing some blood on Shivaji's person his troops went berserk and killed few prisoners waiting in the same tent.

A Greek citizen Nicholas Calestraw was captured by one of the small group of Marathas. But Shivaji ordered his release and asked him to go to British garrison as his messenger. But it was to the credit of the Englishmen that they did not budge to Shivaji's threat. This tenacity of this race gave them dividends later in further expansion in our country. However, it is recorded that the British artillery inflicted more casualties on the civilians and their property than the Marathas.

After collecting colossal amount of wealth in the raid Shivaji withdrew his force on Sunday 10 Jan 1664. As per records he had collected one crore of rupees in cash and many tons of pearls and gold and silver ornaments. Shivaji's troops loaded the wealth on the additional horses and bullock carts brought by them and the raiding force started homeward journey on Sunday 10 Jan 1664. In barely four days time the city of Surat was made 'Badsurat' by Shivaji. On this day Shivaji received information that Prince Muazzam had sent Sardar Mahabat Khan from Ahmednagar to counter-attack his force. Mahabat Khan reached Surat on 17 Jan 1664, seven days after Shivaji's departure.

Shivaji's force reached Rajgarh on Tuesday 11 Feb 1664 via the Konkan route running West of Sahyadri ranges.

LESSONS

By executing this most audacious raid Shivaji aimed to achieve two things. Firstly, he needed to re-coup the lost revenue to build the Swaraj again after the long occupation of Shaista Khan's army. Secondly, he aimed to warn Aurangzeb against any future moves against the Swaraj. For achievement of both these aims there could not be better action than the raid on city of Surat. It was located at a strategic place where interference to the raiding force was minimum.

It offered handsome dividends by way of massive amount of wealth. In this singular daring action of Shivaji following military lessons can be brought out :—

1. The planning was simple and execution of the raid was masterly. Timely collection of detailed intelligence and its maximum use was done during planning.

2. Minimum necessary force and resources were allotted for the task.

3. Proper training and rehearsals were carried out by the troops taking part.

4. This well-motivated force reached the objective with utmost secrecy and in minimum time. The actual action was also undertaken in minimum time and the disengagement was swift and with minimum involvement in running battle. We have to relate the time frame with the circumstances prevailing at that time and availability of means of communication and transportation.

5. Security during infiltration and ex-filtration was catered for. The feint planned for move of a smaller force towards Aurangabad was masterly executed and confused the Mughul completely. Route in and out was also different.

6. Full advantage was taken of the morale of Mughul army after the successful raid against Shaista Khan at Pune and the complacent defences of Subedar of Surat.

CONCLUSION

In raiding the fort city of Surat Shivaji showed great courage and ability to plan correctly to strike back at the enemy swiftly when enemy was superior in all respects. Due to the generally low morale after the action against Shaista Khan and complacent attitude of Subedar of Surat, Mughuls could not take any action against Shivaji's small force in Surat. The raid was completely successful in its objective. For the rest of the half decade after the raid Surat remained in panic due to repeated warnings of Shivaji's attack. It is worth while to add here that after six years of the first raid, ironically on the day of Luxmipujan on Dewali Amawasya (02 Oct 1670) Shivaji raided Surat again and created as much havoc as before and collected more valuable booty. But that story some other time.

The Indian Sailing Expedition Around the World

COL T P S CHOWDHURY AVSM

YACHT 'Trishna' touched the Gateway of India at 1600 hrs 10 Jan 87 after completing a historic sail around the World. She sailed a distance of approximately 30,000 nautical miles around the Globe and thus became the First Indian Yacht to Sail around the World. The ten member team was received at the Gateway of India by the Chief of Army Staff, Gen K Sundarji, PVSM, ADC and a huge gathering which included senior Army, Naval and Air Force officers, Shri K P Singh Deo, Patron-in-Chief of the Expedition, leading yachtsmen of the country, relatives of the crew and an enthusiastic local crowd. The entire Bombay Harbour was looking colourful with the Naval and Merchant Ships gaily dressed, with the entire Sailing fleet of Bombay and the Naval vessels accompanying Trishna, with helicopters hovering around Trishna, with the crowds waving banners. The Gateway of India never looked so colourful, in the recent past. The entry of Trishna back to Bombay, from where she had left on 28 Sep 85, was indeed a well deserved welcome home. With coloured flares and booming of guns, Trishna touched the steps of the Gateway of India amidst thunderous applause and cheers. It was a touching sight for us, our wives, children, parents, relatives and friends.

After our initial welcome by the Chief of Army Staff, a special postage stamp and a first day cover was released by the Post Master General, Maharashtra Area, to mark this momentous occasion. And thus ended our 470 days of sweat and toil, of good sailing days and stormy days, of exciting days and moments when we never expected to reach the next port. It marked the culmination of years of training and hard work by our ten member team. We had completed a venture, which is the cherished dream of every sailor in any Country-to sail around the World.

OUR TEAM

Our team consisted of ten members, with six on the boat at any one time. Four out of these six were permanent crew members, they being Lt Col K S Rao, SC, SM (Skipper), Maj A K Singh, KC, SM, Capt S Shekhar, SC and Capt C Bharti, SC, Capt R Bassi, SM, sailed from Bombay to Trinidad, Maj A P Singh, SM, from Bombay to Panama, Lt N Ahuja, SM from Trinidad to New Zealand, Col T P S Chowdhury, AVSM, from Panama to Sydney, Australia, Maj A Bhattacharya, SM, from New Zealand to Bombay, and Maj S N Mathur, SM, from Sydney to Bombay. Maj A K Singh, KC, SM became the first handicapped sailor to sail around the World. All the team members were accomplished sailors, who had taken part in many National and International Regattas, and in Ocean cruising ventures. Col TPS Chowdhury, AVSM, Lt Col K S Rao, SC, SM, Maj A P Singh, SM*, Maj A K Singh, KC, SM, Capt S Shekhar, SC, and Capt C Bharti, SC had gone to UK to buy Trishna and then sail her from UK to Bombay.

ORGANISING COMMITTEE

The Organising Committee which had spear-headed the Sailing Expedition Around the World, was :—

- (a) Shri K P Singh Deo, MP—Patron-in-Chief
- (b) Lt Gen P S Roy—Patron
- (c) Maj Gen K S Gill—Chairman
- (d) Maj Gen A L Suri—Member
- (e) Maj Gen H K Kapoor (Retd)—Member
- (f) Brig S N Endley—Member
- (g) Brig S C Thareja—Member

Others, who had been in the Organising Committee but have now retired, were Lt Gen S N Sharma, PVSM, AVSM—Patron, Lt Gen P R Puri, PVSM—Patron, Lt Gen R K Dhawan, PVSM—Patron, Lt Gen L M Misra—Chairman, Maj Gen J C Sachdeva—Member, Maj Gen N L Bery—Member, Maj Gen R D Mehra—Member, Maj Gen V P Yadav—Member and Maj Gen J P Sharma—Member.

CIRCUMNAVIGATION AROUND THE WORLD

Right from the time we left Bombay, we ran into the low pressure of the fading monsoons. We experienced rough weather till Male and Mauritius, due to the cyclonic disturbances of the Andhra Pradesh and the Tamil Nadu cyclones. We were hit by gales several times on 29/30 Sep, 1/2 Oct and 13/14 Oct 85, damaging our VHF and HF aerials and electrical systems. Our main anchor broke at Male, after it was stuck in the rocks.

The journey from Mauritius to Saint Helena Island around the Cape of Good Hope was rough and the longest non stop journey of the Expedition. On 05/06 Nov and 12/13 Nov 85, near the Madagascar and South African Coasts, we were hit by severe gales, which brought waves after waves in the boat from the stern. We lost one horseshoe buoy, a Danbuoy, and had trouble with the electrical system. On the night of 18/19 Nov 85, while rounding the Cape of Good Hope, we were hit by a severe storm with winds over 65 knots (120 kmph) and waves 40-50 feet high. We lost the second horseshoe buoy during this storm. Our radio set was damaged and the VHF and HF aerials broken, thus putting us out of communication with India and other ports. The Cape of Good Hope is aptly called the 'Cape of Storms' also, and very few sailors have gone around it without encountering a storm. Sailing thereafter was relatively easier till the Caribbean Sea. While Sailing up the Rio Para river in Brazil, going up to the Port of Belem, we had to sail 70 nautical miles up stream against the currents avoiding the numerous logs floating down the river from forests up-stream. This was dangerous particularly at night as any log could have easily ruptured the fibre glass boat. We had rough weather again in the Caribbean Sea from Barbados to Jamaica, when we encountered continuous winds over 30 knots for 7 days.

At Panama, the boat was taken out of water and overhauled including painting with anti-fouling paint. The earlier portions of the journey in the Pacific Ocean were relatively peaceful. With steady following winds, we covered the distance of 3200 nautical miles from Galapagos Islands to Marquesas Islands non-stop in 21 days making it one of the fastest passages of the journey. Galapagos Islands were one of the most beautiful Islands with plenty of protected sea life and animal life. We saw many sea lions, marine

and land Iguanas, whales, small penguins, giant tortoises, blue and red footed boobies, pink flamingoes, magnificent frigates, pelicans and birds of different species. We started encountering rough weather again from Tahiti onwards. We were hit by gales from Tahiti to Rarotonga, and then onto Fiji and by storms from Fiji to Auckland, where we experienced winds over 50 knots (90 kmph) and waves over 30-40 feet high. During this journey, both our main sails and then the jib sail were ripped apart. When the spare sails were put up, even they were torn by the strong winds. We had resorted to hand stitching during the journey on two occasions, to enable us to reach Auckland. Winter had set in the Southern Hemisphere, and it was rough and strenuous sailing in the wet wintery conditions, with huge waves breaking over the yacht.

We also had dangerous encounters with whales from Rarotonga to Fiji, on three occasions. On one occasion, two whales came to within 10-15 metres of the boat, swam around the boat and accompanied Trishna for over one hour. We were stand-by with our life jackets, because at anytime the boat could have overturned or been damaged by even a swish of the tail of the whale.

But the worst portion of the journey encountered by us was from Auckland to Sydney, from 3-17 Aug 86 across the Tasman Sea. Tasman Sea is normally rough, but gets extra rough during the winter months. Trishna crossed the Tasman Sea in the winter month of Aug, and ran into a severe storm lasting five days with winds over 60 knots (100 kmph) and waves over 40 feet high. Again our sails got torn and for the first time during the entire journey, we followed a special storm drill of 'hove-to' to avoid excessive water coming in the yacht and to prevent extensive damage to the fibre glass hull. For about 2 days, we made no progress in the Tasman Sea and were thoroughly exhausted. This was the same storm which had hit Sydney in Aug 86, causing extensive damage to the City and floods after 10 years. This storm was followed by three gales, before we limped to the Sydney Harbour. We were completely exhausted, with a big loss of appetite on board, during this tiring journey.

The sail from Sydney to Brisbane had strong winds against us. We ran into another storm lasting for over 20 hours, with winds over 50 knots. Sailing from Brisbane to Cairns, and Cairns to Thursday Islands was difficult due to navigational hazards. Trishna got ground-

ed on one occasion, when we ran into an unmarked reef. But with the next high tide after a few hours, we were able to get away, and sail safely into the harbour. Sailing through the Torres Straits caused us some anxious moments, as at places it was narrower than a mile with two-way shipping traffic all along. The sail from Thursday Island to Darwin was a pleasant one. We also caught many fish on the way, and re-established communications with India, which was broken while rounding the Cape of Good Hope.

Trishna left Port Darwin in North Australia on 13 Oct for Kupang in Timor. Initially for 3 days, the weather was rough, but thereafter the winds steadied and the sailing was comfortable. From Kupang we sailed to Waingapu in Sumba, and from there to Bali. Enroute caught plenty of fish, our largest catch being an 8 kgs Tuna fish. We received good 'following winds' from Waingapu to Bali and reached there on 22 Oct. There we saw many Hindu temples, Ramayana and Mahabharata dances. We celebrated Diwali with the locals and became very nostalgic. We had hoped that we could have spent Diwali at home, as it was the third Diwali we had spent away from home. It was refreshing to see Hindu customs and traditions being strictly observed in Bali. We left Bali on 02 Nov and sailed to Jakarta where we reached on 09 Nov.

At Jakarta, we were received by the Military and Naval Attaches, local Indian population and the local Yachtsmen. We had a good sail from Bali to Jakarta but had some rough weather enroute including thunderstorms. We were also becalmed on one occasion. Halt at Jakarta was very refreshing, as we had an opportunity to see the different customs and traditions of the many Islands of Indonesia. We also met the Indian Ambassador, local Military officials, military attaches of different countries and were presented one flag of Second World War by the Japanese Military Attache. We left Jakarta on 14 Nov 86 and reached Singapore on 19 Nov 86. We encountered heavy rains on the way accompanied by thunderstorms, but also had calm seas for a day. At Singapore we were received by the Defence Adviser, Indian High Commission officials and local yachtsmen. The Indian High Commissioner and the Indian Association at Singapore gave us receptions. We also gave lectures to various Institutions at Singapore. The local press and the television gave us a good coverage during the halt. We left Singapore on 27 Nov for Penang (Malaysia) where we reached on 01 Dec 86. The sail from

Singapore to Penang was peaceful but unlit fishing boats and two way shipping through narrow Malacca straits caused anxious moments. There were two days of calms before reaching Penang a day later than scheduled. We were received at Penang by the Indian High Commissioner, local officials and yachtsmen. We met the Chief Minister, Senior Military officials and Mr Tunku Abdul Rehman, who was very much impressed by our adventure. We were hosted to a reception by the Indian High Commissioner and the Indian Association. From Penang we left for Great Nicobar on 05 Dec 86 and reached Cambell Bay on 08 Dec 86.

We arrived in Colombo on 21 Dec after a very fast sail from Great Nicobar; which was the fastest passage of the journey. We had very favourable winds and currents, averaged approximately 160 nautical miles per day, and arrived 5 days ahead of schedule. Near Sri Lanka we saw three whales and had an opportunity to photograph them. We were received at Colombo by the Indian High Commissioner, the Defence Adviser, officials of the Indian High Commission, local Indians and Yachtsmen. We also met the President of Sri Lanka, Shri J R Jayewardene, who applauded the adventurous spirit of the Expedition.

Trishna left Colombo on 29 Dec 86 on her final leg of journey back home. We covered approximately 1000 nautical miles before reaching Bombay on 10 Jan 87. We encountered favourable winds and currents and had a fast and pleasant sail to Bombay. The journey was trouble-free, except for the fact that Capt C Bharti ran high fever for four to five days, and was evacuated to Bombay by the Indian Navy in a brilliant manoeuvre.

SPONSORS

And last but not the least, this cruise would not have been possible if our sponsors and well-wishers had not helped the Sapper Adventure Foundation. Our grateful acknowledgements for help to the Ministry of Defence, Ministry of Finance, Ministry of External Affairs, Department of Sports, Posts and Telegraphs, Army Headquarters, Naval Headquarters, Air Headquarters, Cost Guards Headquarters, Headquarters DGBR, Corps of Engineers, Corps of signals Army Adventure Foundation, Yachting Association of India, Oil and Natural Gas Commission, Oil India Limited, Air India, Shipping Corporation of India, Bharat Electronics Limited, ICIM, Bata, Bombay Dyeing, Delhi Recorder, Yachting fraternity, families and relatives of the crew members, the diplomatic missions in India and abroad, and the many many well-wishers in India and abroad.

Letters of Course Appreciation

Maj A Srivastva
BC
30400/AS/DO/87

4362 GW Bty (SP)
C/o 56 APO
25 Jul 87

My Dear Colonel,

I take this opportunity to thank you for the excellence of USI DSSC correspondence course 86-87. The course had been very beneficial and it is due to this that I have been nominated for DSSC.

Thanking you again.
With warm regards,

Yours Sincenly,
Maj A Srivastva

Col Pyara Lal AVSM
Director of Studies
USI of India
Kashmir House
Rajaji Marg
New Delhi-110011

Maj A K Bali
QM
30703/AKB/Pers

26 Inf Div Sig Regt
C/o 56 APO
11 Jul 87

My dear Col,

It is with a profound sense of gratitude that I am writing to you to convey my thanks regarding the correspondence course run by you which had proved to be very helpful to me because most

of the questions were asked exactly on the same pattern as they were fwd to us through various consignments. I benefited significantly from your esteemed course. Please accept my heartiest felicitations to your course for helping me gaining a nomination for DSSC.

I wish all laurels for your future similar courses.

With warm regards.

Yours sincerely,
A K Bali

Col Pyara Lal, AVSM
Director
USI
Kashmir House
Rajaji Marg
New Delhi-110011

Capt Sudhir Uppal
2IC Adv Party

Advance Party
3 KUMAON (Rifles)
C/o 99 Mtn Bde
C/o 56 APO
01 Jul 87

35290/SU

Dear Colonel,

I am writing to you today to info you that I have qualified for the DSSC entrance exam for Jun 88 course. Infact, this was possible due to valuable guidance provided by USI correspondence course. It most certainly proved to be very helpful. I am really grateful to you for being so helpful to me, specially, by sending a duplicate set of final test papers, which was quite a morale booster.

I also convey my thanks to the offrs in DS, who corrected my papers and their guidance played a very important role. Once

again, I convey my sincere thanks to you for your genuine concern cooperation and guidance.

With best wishes and fondest regards,

Yours sincerely,
Capt Sudhir Uppal

Col Pyara Lal AVSM
Director of Studies
United Service Institution of India
Kashmir House, Rajaji Marg
New Delhi-110011

Capt K N Ghorpade

Membership No O-44199
KUMAON SCOUTS
C/o 56 APO
15 Jan 88

The Secretary
United Service Institution of India,
"Kashmir House",
Rajaji Marg,
New Delhi-110011

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Please refer to your bill No 3262 of 22-11-87.

A bank draft for Rs 30/- towards amount due is enclosed herewith as desired.

I wish to take this opportunity to thank USI for its correspondence course for part 'D' exam, which greatly contributed to my success in part 'D' exam held in Sep 87.

Please ack receipt.

Yours faithfully
Capt K N Ghorpade

Templer—Tiger of Malaya

(A Review Article)

MAJ GEN S C SINHA, PVSM (RETD)

THIS is a well written and a very readable biography of Field Marshal Sir Gerald Templer, who was the Chief of the Imperial General Staff of the British Army (1955-1958). The title of the book—Tiger of Malaya refers to the distinguished role he played in Malaya, where he was responsible for breaking the back of the communist insurgency amongst the Chinese community of the country by “winning the hearts and minds of the people”. This phrase has almost become a cliché wherever counter-insurgency operations occur. Field Marshal Sir Gerald Templer was one of the last of the line of great British soldiers, who were the product of the British Empire and its imperial days. He was also amongst the last of the Chiefs of the Imperial General Staff, as the term ‘Imperial’ was dropped soon after him. During his tenure as CIGS, he had the unenviable task of coping first with the Suez fiasco and then with the drastic reduction in the size of the Army, that he loved so well.

Though Sir Gerald never himself served in India, both his parents and their families, like most British families of the Empire days, had many ties with this country dating right back to the days of the East India Company. His father, Walter Templer, was serving in Allahabad with the 87th Regt of Foot (Royal Irish Fusiliers) when he courted and wed—in Cawnpore on 7th Nov 1895 - Mabel Eileen, the daughter of Major Robert Johnston, Paymaster of 2nd Bn of the Highland Infantry, then stationed at Fyzabad. From India, the Templers moved with the 87th to Shwebo in Burma and after a while were transferred to join their 2nd Battalion stationed in England, at Colchester, where Gerald was born on 11th Sep 1898.

*By John Cloaks. Harrap London, pp 508, price £ 14.95,

Gerald's early upbringing was typical of his class during the hey days of the Raj. His parent's service overseas necessitated an unhappy separation from them for young Gerald, as he had to be packed off to boarding schools quite early. His days at Connaught House at Weymouth and later at Wellington College were unhappy ones, as being rather small in size, he was not quite able to reconcile to the ragging and the rough and tumble of public school life. He was glad to get away from it all when he qualified for Sandhurst at the age of seventeen. Gerald said many years later, when he declined with profuse apologies but with absolute determination to become a Governor of Wellington College, that "I loathed and detested my four years at Wellington", though he made many friends there and was prepared to admit that in many ways, the school made a great impact on him.

In early 1916, when Gerald joined Sandhurst, World War I was at its height and the courses at Sandhurst were shortened to little over six months. He was thus commissioned on 16 Aug 1916, a month before his eighteenth birthday, in his father's old Regiment, the Royal Irish Fusiliers. It came as a great disappointment, which he did not fully accept, that he would not be allowed to join the 1st Battalion in France until he was nineteen. When he joined the 1st Battalion in France, the survival of a subaltern in an infantry battalion on the Western Front was counted in weeks. It was the hand of fate that intervened to save Gerald from such an untimely end. On the first occasion, when his battalion went into the great British offensive at Cambrai it suffered over 50 per cent casualties. Gerald being the latest arrival in his company, was left out of battle. On a second occasion, just before an impending German offensive, he was hospitalised with acute diphtheria. But for this, his career might well have ended in France because by the end of the battle of St Quentin, the 1st Bn, which had started some 800 strong, were reduced to three officers and 28 men. Once again, much later, during World War II, his guardian angel presided over his destiny to save him from an untimely end. During an air-power demonstration one of the aeroplanes by mistake strafed the spectator's stand where Gerald was. Many spectators including his aide, were killed and a machine gun bullet passed through his newly acquired General Officer's peak cap but left him unscathed.

After World War I, it was the Bolshevik threat that loomed large in the eyes of the British. After brief attempts at direct intervention in support of the White Russians, a decision was taken to consolidate the defence of India on the old line of Persia and Afghanistan. After being reformed rested and refreshed, 1st Bn the Royal Irish Fusiliers were ordered to Persia in the summer of 1919, where the situation was chaotic and extremely dangerous. Gerald, who was commanding No 1 Platoon of A Company, was given command of a force consisting of one other platoon, Battalion Scouts, a troop of Guides Cavalry and a section of signals and given an independent task of holding the Karnisa Pass against any Bolshevik infiltration. He was given no written instructions, there were no maps and it took three days to reach his destination. Policing the Empire offered unique training opportunities to young British Army officers and built up their initiative, courage and confidence as nothing else could have done. From Persia the Battalion returned to England in 1922 after a short spell in Egypt. By 1924, the Battalion was out for another stint in Egypt. It was during this period, while on home leave that Gerald got married to Peggie and that year also qualified to attend the staff course commencing in Jan 1928 at Camberly.

The fact about a career soldier that comes out in this biography, from which our own Military Secretary could well profit, is the maturity and fairness that the British Army maintained in the assessment and reporting of its officers. During his first staff appointment Gerald fell foul of his GSO 1, Colonel TA Osborne, who later rose to be a Lt General. Osborne wrote a vindictive confidential report, which was not only adverse on almost all points but also went to the length of recommending that Gerald should be retired from the Army. It is to the credit of the British Army system that Gerald's GOC, Maj Gen Knox, was able to suppress this unfair report and initiated one which he wrote entirely himself, thus saving the professional career of the future Field Marshal from an early wreck.

After his staff tenure Gerald joined the 2nd Loyals at Tidworth and later moved with them to Palestine. It was in Palestine that Gerald was first exposed to counter-insurgency operations, the experience of which was to be of great help to him later in Malaya. It was here that he learnt the lesson of establishing close liaison and a good rapport with the civil government officials concerned in the

maintenance of law and order. For his good work in Palestine he was awarded a DSO and mentioned in dispatches.

It was during World War II that we find Gerald rising rapidly in the Army hierarchy. From a GSO 1 Intelligence at Dunkirk, he moved quickly through the command of a Battalion, Brigade and a Division to be GOC of a Corps, all in a matter of two years. After commanding a Corps in England for ten months, Gerald volunteered to relinquish his Lt General's rank and step down in exchange for the command of a division in battle. This was a display of dedicated professionalism at its best and deservedly got him the command of 56 London Division in Italy. With this gallant Division, he saw much heavy fighting especially on the Anzio beach-head. Later he was given the command of 6 Armoured Division, but this was brought to a premature end by an unfortunate accident in which he was badly injured. The end of the War found him heading the Civil Affairs and Military government in Gen Monty's 21st Army Group in Germany. It was during this period that Gerald had an ugly confrontation which Dr Adenauer, then the Oberbürgermeister of Cologne. He then dismissed Dr Adenauer from his appointment. This unfortunate incident was to later cost Gerald the prize command of the British Army of the Rhine as it was considered impolitic to send him to Germany when Adenauer as the Chancellor was supreme commander of the German forces, which would have been placed under Gerald's command.

It is Gerald's tenure as the High Commissioner in Malaya that is of great interest to us. His handling of the communist insurgency in Malaya has many lessons that are relevant to our situations in many ways. The joint command set up, the means used to bring the Chinese citizens of Malaya into the main stream and thus weaning them away from the communist insurgency by "winning the hearts and minds of the people", all bear examination in India. Gerald's views on the futility of security forces lining the routes to protect VIP movement could gainfully be examined in our capital city by the police authorities.

In his 28 months of proconsulship, though Gerald was not able to end the Emergency, and perhaps some of his apparent success may have been due to the change in communist strategy resolved before he arrived, but a large part of the success was due to the improve-

ment in tactics and efficiency of operations, which he introduced. He presided over a process which had reduced serious incidents and casualties to the security forces to a minimum. He cleared a lot of the country completely and induced hundreds of terrorists, including some important leaders, to surrender. He helped to restore police morale, set up a really effective intelligence system and introduced multi racialism into the Malayan Army and Civil Service. Though he did not manage to produce a united Malayan nation or to foster successfully non-communal politics, he did create conditions in which communities could begin to work together. He had brought a military approach to bear upon civil problems of resettlement of social progress and had galvanized the administration. To achieve all this he had been firm and sometimes harsh but always consistent and much more often sympathetic and helpful.

After returning from Malaya, Gerald was tipped to replace Gen Gale as the Commander of 21 Army Group in Germany. This prize command, which would have been a good command experience for the future CIGS, did not come his way as the political powers were not sure how his appointment would be accepted by Adenauer, who was the Chancellor. He had to instead fill in the one and a half years waiting period with lecture tours and by heading a committee to report on colonial security and intelligence. On 29 Sep 1955 he took over as CIGS from Field Marshal Lord Hardinge, who went as Governor to Cyprus.

In his three years as CIGS, Gerald provided a bridge across the generations as he was the last CIGS to have been born in the reign of Queen Victoria or to have served in the trenches in the First World War. He presided over the Army at the watershed of British power, the Suez fiasco. He had to prepare the Army for its reversion to a small, regular force more in keeping with Britain's reduced importance in World affairs. Faced with the changes in the Army and a drastic reduction in size, which were inevitable, he fought tenaciously and out-spokenly as long as he could for the interests of the Army but carried out changes that were necessary in a way which greatly helped to ease the transition from the type of Army in which he had been brought up to the Army of today. In this his great achievement was to retain the regimental system of the British infantry by amalgamating various regiments of the line. He had also to endure the transition from being the undisputed master of an

independent Service to becoming the subordinate of a Chief of Defence Staff.

Finally, after being made a Field Marshal and in 1958 when he finished being CIGS, Sir Gerald decided to make the creation of the National Army Museum the first—of a great many—calls on his time and energy. He saw it as a museum illustrating the contribution of the army to the history of his country and of the British Empire. The British fortunately have many ceremonial appointments which keep their old and distinguished soldiers busy in their retirement and help them to fade away gracefully. In sum, this competent biography of a great and distinguished British soldier, covers the interesting period spanning the twilight years of the great British Empire.

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The Uncertain Course : New Weapons Strategies and Mind-Sets

(A Review Article)

BRIGADIER SP DUTTA

THE book is a collection of related essays by thirteen authors—four from USA, four from United Kingdom, three from Sweden and one from Canada.

Carl Jacobsen presently a Senior Research Officer at SIPRI, has emphasised in his introductory chapter that new strategies, doctrinal and military-technological dynamics have revolutionized military affairs as fundamentally as gunpowder and atom bomb once did. Even though the homosapien has acquired twenty first century weapons, he has not yet grown out of his nineteenth century mind-sets. Consequently, the risks of inadvertent war and inadvertent cataclysm are increasing, even as the risk of deliberate war may be diminishing. The grandiose dreams initially associated with SDI now appear ephemeral and unrealizable. Its fall-out technological innovations may, however, change prospects of war at sea and land, particularly for the Soviet 'Theatres of Military Strategic Operations (TVD)' in the Barents and Okhotsk sea regions and the Western Air/Land doctrines on the Central front. Greatly improved speeds, accuracy, mobility and C³I (command, control, communication and intelligence) may tempt strategic pre-emption, more so if the pre-empters strategic defences are in place to take care of a multi-faceted retaliation. The extra-ordinary diversity and survivability of super-power strike options has made the concept of meaningful advantage in one or more areas, a dangerous mirage. The reality of the concept of Mutually Assured Destruction (MAD) mocks notions of any decisive big-power war. Mr. JacobSen concludes that technological advances should be used to dampen the pace of arms competition, and to reduce forces that suggest pre-emption.

*Edited by Carl G Jacobsen and published by Oxford University Press; Walton Street Oxford OX2 6DP on behalf of SIPRI (1987) 349 pages, £ 35.

Part I "Old Mind-Sets, New Weapons" presents the context of super-power relations during the early and mid 1980s. In his paper "International Dynamics : Arms Defiant". Mr. Jacobsen traces the evolution of U.S. and Soviet Military-political postures, strategies and doctrines. Ms Lauyel C. Schneider (Women's Action for Nuclear Disarmament, USA) analyses the basic contradictions in U.S. policy and the arms control process. Ken Booth (Univ. College of Wales, U.K.) is convinced that our understanding of war threat remains very limited and presents ten rules to improve our perceptions and assessment. His rules suggest that there is less to the Soviet threat than meets the eye.

In Part 2 "New military capabilities, new doctrines". Gerald Segal (University of Bristol) assesses various SDI programmes and concludes that none of them is anywhere near to fruition, even though its impact on arms control is a major cause for concern. He is convinced that SDI in its original Population-Defence concept is most likely to be quietly shelved; it may, however, be pursued for Ballistic Missile-Defence (BMD). David R Jones (Dalhousie University, Canada) studies the qualitative and quantitative capabilities of Soviet Strategic Air Defence, Ballistic Missile Defence and space war. He believes that Soviet General Staff's negative assessment of these capabilities led them to accept the reality of nuclear parity, de facto recognition of the MAD doctrine and subsequent switch of focus back to conventional battlefield. Prof Jacob W Kipp (US Army Combined Arms Centre) analyses the Soviet Military art and US Military doctrines vis-a-vis conventional force modernisation during various time periods since the end of World War II. In the West, the dominant concern is regarding the Soviet Military ability to engage in a blitzkrieg against NATO's Central Front, and the latter's ability to withstand such a threat without immediately resorting to nuclear weapons. Richard W. Fieldhouse (SIPRI) argues that the US naval strategy's twin goals of sinking Soviet Ballistic missile submarines and launching strikes against Soviet territory need an alternative. Carl G. Jacobsen is of the opinion that while in 1960s through early 80s Soviet Navy's vital force was SLBMs, today other branches are assuming comparable importance. William H. Kincade (Georgetown Univ. Washington) emphasises that modern cruise missiles show great potential for a variety of applications—tactical, theatre and strategic. They may have the effect of changing military strategy, both conventional and nuclear, as stealth—configured super-

sonic versions cannot be monitored by existing or foreseeable surveillance. Michael Krepon (Carnegie Endowment for international Peace, Washington) analyses three current trends in Soviet and US Nuclear forces—mobility, diversification of launches and counterforce capabilities. Successful arms reduction agreements will depend on relaxing counterforce requirements, non-deployment of space-based defences, reduction of mobile land-based missiles and sea-launched cruise missiles.

Part 3 "New complications for international security" throws light on British, French and Chinese nuclear forces and their ambitions. Edward Kolodziej (Univ. of Illinois, USA) is convinced that France and Britain have the capacity to inflict intolerable damages on the Soviet Union. Both insist on fulfilment of four conditions as a pre-requisite to their participation in arms control talks—significant reduction in super power offensive nuclear capabilities, no sancturization of super power homelands at the expense of Western Europe, significant reduction of super-power conventional forces (especially of USSR) and control on exclusive development by super-powers of defensive systems against nuclear attacks. Richard Fieldhouse (SIPRI) discusses China's nuclear arsenal of 300-400 nuclear weapons, and its retaliatory capacity against a Soviet nuclear attack. China's nuclear ambitions aim at achievement of a reasonable nuclear sufficiency vis-a vis the two super-powers and their theatre nuclear forces in Asia. Dr. Allan Din (SIPRI) analyses the impact of large-scale use of advanced computers, artificial intelligence—techniques and military application of automation on strategy and security. Dr. Phil Wilhams (Univ. of Southampton) discusses the implications of unbridled technological enthusiasm (especially in US) and its impact on arms control arrangements for the 1990s and beyond. Although increased C3 I capabilities could provide an illusion of controllability, the overall result is likely to be an escalation from conventional to nuclear hostilities.

Part 4 discusses the increased scale, pace and potential destructiveness of modern warfare and the resultant challenges to the political and military control of the use of force. The battle management systems are vulnerable to disruption, deception and internal failure modes. Information warfare may thus prove decisive in many types of future conflict. Wheeler and Booth (Univ. College of Wales, U. K.) conclude that lasting international security requires the creation of a legitimate international order, one in which states behave with moderation, recognise the rights of others without requiring changes in their domestic order.

It is a valuable book for decision maker and researchers in the realms of defence and foreign affairs, even though it completely omits any discussion on chemical warfare and arms race between feuding third world countries, e. g. India and Pakistan.

Book Reviews

ELECTRONIC WARFARE-FROM BATTLE OF TSUSHIMA TO THE FALKLANDS AND LEBANON CONFLICTS

BY MARIO DE ARCANGELIS

Published by Blandford Press Ltd, Link House, West Street, Poole, Dorset B H15 ILL

UK Edition 1985 ; Pages 320 ; Price

THIS book was published originally in Italian in 1981. The present volume is an English edition published in 1985 but received for review in 1987. The book traces the evolution of Electronic Warfare from its early beginnings during the Battle of Tsushima (1905) to its more recent and predominating influence during the Falklands and Lebanon conflicts (1982).

Admiral Thomas H. Moerer, former Chairman of the US Joint Chiefs of Staff, in his introduction to the book describes the importance of Electronic Warfare in modern wars in the following words ;—

“If there is a World War Three, the winner will be the side that can best control and manage the electronic spectrum.”

Electronic Warfare, sometimes called the “War in the Fourth Dimension” and the “Invisible War” has remained shrouded in mystery even to those who deal closely with other weapon systems of Warfare. This lack of knowledge about Electronic Warfare has prevented its integration in the modernisation plans of most of the armed forces. This book by providing the WHAT, HOW and WHY of Electronic Warfare alongwith a description of its actual use in various conflicts of this century highlights the importance of the “War in the Fourth Dimension” towards achieving success in offensive and defensive operations of war in the other three dimensions. In this regard, concluding the chapter on Falklands and Lebanon conflicts the author says :—

"The conflicts in Falklands and Lebanon represent an important turning point in the history of war because they demonstrate that Electronic Warfare is an irreplaceable instrument of success both in offensive and defensive operations. In particular, the battles fought in Lebanon have proved beyond any shadow of doubt that the results of future battles will depend much less in quantity of the aircraft, ships or tanks than on their quality, which naturally includes new development in the field of electronic technology."

The author has described in fair detail the use of Electronic Warfare in its various aspects like electronic surveillance, electronic counter measures and counter-counter measures during the Second World War in specific campaigns like the Battle of Britain, the Battle of the Atlantic, the war in the Mediterranean and in the Pacific. The employment of more advanced Electronic Warfare equipment during the Korean and Vietnam wars and its effect on the success of the land, air and naval operations make interesting reading. The author has an easy and smooth style, and the effects of Electronic Warfare are well highlighted in each campaign. Details regarding actual systems used, their effect on enemy electronic equipment and weapon systems and the subsequent outcome of the campaign clearly prove the author's thesis that future wars are likely to be won or lost on the electronic battlefield.

Without going into highly technical language the author has succeeded in giving the reader a good deal of knowledge about Electronic Warfare and its predominant role in future wars. He has, towards the end of the book, covered the subject of warfare in space or "Star Wars" and described in detail the anti-satellite and anti-ballistic missile weapons like the high-energy lasers and charged particle beam (CPB) weapons which are being developed by the two super powers.

The author has also highlighted the importance of having precise, up-to-date intelligence regarding the performance of weapons and sensors (ie radars, infra-red, etc) of all world powers, whether potential enemies or allies. Above all, there is a need to make a greater effort in collecting and analysing information regarding all potential electronic warfare threats.

The book will be a useful addition to libraries in defence and military institutions and of interest to those who are concerned with the future shape of warfare.

AIR CMDE N B SINGH (RETD)

USSR : FACTS & FIGURES ANNUAL**EDITED BY JOHN & SCHERER, VOL II, 1987****Published by Academic International Press Box 1111, Gulf, Breeze
FL 32561, USA, 1987 Pages 353, Price not known.**

A Book which is a Collage of probably, all material publically available in America on Russia. It starts with an interesting introduction by the editor, the beginning being "The difference between reform and rhetoric in the Soviet Union should have become clearer in 1986. The changes have been tactical rather than fundamental, introduced to enhance the image of the new leadership, to eliminate perpetual problems, and to improve the efficiency of the system without substantially altering it.

It is necessary, however, to analyze the motives behind it. There are chapters on Government, Foreign Affairs Communist Party, Demography, Armed Forces, Economy, Energy, Industries, Agriculture, Foreign Trade, Foreign Aid, Science, Transportation, Culture and Communication, Health, Education and Welfare, Institution (Religious news, Jews by profession. Museum and Library Developments,) Guide to oblaste in the Russian Republic and special topics which cover satellite launches space development, Human rights Jewish immigration, Espionage, Nuclear tests, percentage of women in various capacities and the results of the Goodwill Games.

Though meant as a serious reference book for the American Student of Russian it can also be browsed through to ones advantage. Some examples will give an idea as to what is available—the USSR has the third largest force of lawyers after the USA and India, there were 500 Russian Military technicians in India in 1984, in 1984 Russia imported 113.4 million dollars worth of cattle for slaughter and 14.9 million worth for breeding purposes, there were 176 registered divorces in USSR in June 1984 which increased to 292 in August the same year, the percentage of Jewish University Students is 3.29 as against a National Average of 1.96.

The Chapter on Armed Forces is of a particular interest for comparisons have been made with America in most cases thus providing useful information on developments in the USA as well.

The serious reader will do well to remember that the statistics are based mostly on published American material which according to their own journals are sometimes slanted to achieve a particular object such as pushing an appropriations bill through the US Congress.

A useful book for one interested in studying America's compulsive obsession with Russia and things Russian. The book will be a good asset in libraries of Military Institutions conducting research work.

COL R R CHATTERJI

THE MARITIME POLITICAL BOUNDARIES OF THE WORLD

BY J R V PRESCOTT

Published by Methuen & Co Ltd, 11 New Fetter Lane, London EC4P 4EE 1985, Pages 377, Price not given.

Having analysed the rash of printed material available on the subject of maritime boundaries, Prescott has gone on to give us an insight into the whys of maritime boundaries. More the sea wealth discovered more the importance of these divisions and, therefore, more the conflict. The problems of landlocked nations have also been covered alongwith the criticality of sea routes for the development of trade. The vital importance of island territories as an extension of maritime boundaries have also been lucidly covered. The chapter on the Indian Ocean holds special interest for us. All in all an excellent compendium of information and analyses (with clear tables and figures-maps) on the subject.

COL T MUKHERJEE

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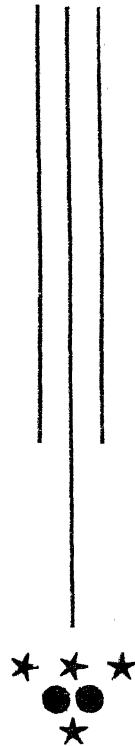


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