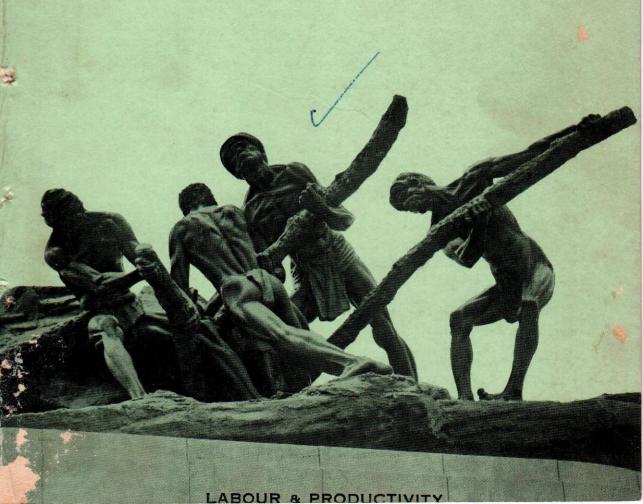
PRODUCTIVITY

NATIONAL PRODUCTIVITY COUNCIL JOURNAL

Vol. IV No. 3

July-Sept.



NATIONAL PRODUCTIVITY COUNCIL

The National Productivity Council is an autonomous organisation registered as a Society. Representatives of Government, employers, workers and various other interests participate in its working. Established in 1958, the Council conducts its activities in collaboration with institutions and organisations interested in the Productivity drive. 45 Local Productivity Councils have been established practically all over the country and work as the spearhead of the productivity movement.

The purpose of NPC is to stimulate productivity consciousness in the country and to provide services with a view to maximising the utilisation of available resources of men, machines, materials and power; to wage war against waste; to help secure for the people of the country a better and higher standard of living. To this end, NPC collects and disseminates information about techniques and procedures of productivity. In collaboration with Local Productivity Councils and various institutions and organisations it organises and conducts training programmes for various levels of management in the subjects of productivity. It has also organised an Advisory Service for industries to facilitate the introduction of productivity techniques.

NPC publications include pamphlets, leaflets and Reports of Productivity Teams. NPC utilises audio-visual media of films, radio and exhibitions for propagating the concept and techniques of productivity. Through these media NPC seeks to carry the message of productivity and to create the appropriate climate for increasing national productivity. This Journal is an effort in the same direction.

The Journal bears a nominal price of Rs. 3.00 per issue and is available at all NPC offices. Annual subscription (Rs. 12.00 to be sent by cheque in favour of National Productivity Council, New Delhi) is inclusive of postage. Subscription for three years, however, can be paid at the concessional rate of Rs. 32.00.

Opinions expressed in signed articles are those of the authors and do not necessarily reflect the views of NPC.

Unless otherwise stated, all material in the Journal may be freely quoted or reprinted, but acknowledgement is requested, together with a copy of the publication containing the quotation or reprint.



it's team-work that does it!

Great things are done when men and mountains meet; this is not done by jostling in the street.

—WILLIAM BLAKE

At Alind, there's team-work all along the line...so the company always delivers the goods!

Other Alind plus features are: its integrated production facilities, its rigid quality control measures, three plants in three strategic locations and a national network of sales offices. All of which splendidly add up to:

Quality first in the product... Service first to the customer!

Lines Include: ACSR; All-Aluminium conductors; Conductor accessories and tools; Covered aluminium conductors for indoor wiring and outdoor weatherproof applications; also ECgrade aluminium rod and high-tensile galvanised steelwire.

turn to

ALIND

a name with a tradition and a future!

THE ALUMINIUM INDUSTRIES LIMITED

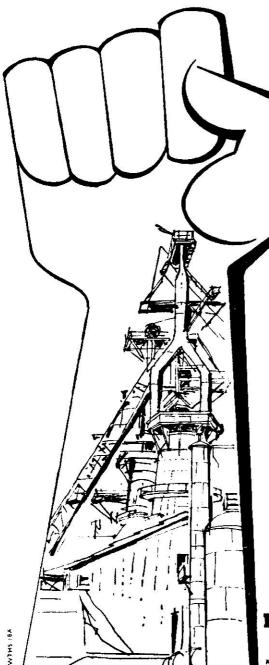
India's largest manufacturers of aluminium conductors and accessories Registered Office: Kundara (Kerala)

Works at: Kundara • Hirakud • Hyderabad

Monoging Agents:

SESHASAYEE BROS. (TRAV.) PRIVATE LIMITED

STRONGER THAN STEEL



There are metals stronger than steel, but steel is still the master metal because it helps build something stronger than all—a nation's economy.

India's annual steel production capacity has risen four times in ave years-from 1.5 million ingot tons in 1956 to 6 million tons today. In providing this firm foundation for the country, Hindustan Steel has played a leading role, building three one-million-ton integrated steel plants at Rourkela, Bhilai and Durgapur. And in the coming years, Hindustan Steel plans to expand the capacities of these three plants and build two more-one at Bokaro and an Alloy Steels Plant at Durgapur. By 1966 Hindustan Steel wil! increase its capacity to produce 7 million tons of ingot steel a year

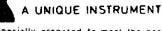
In the bid to make the national economy stronger, Hindustan Steel will play its part.



HINDUSTAN STEEL

Backbone of Industry

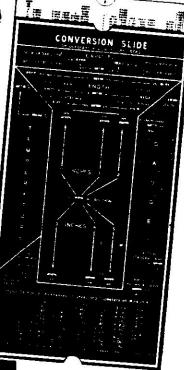
ROURKELA + BHILAT + DURGAPUR Here.; RANCHI



Specially prepared to meet the needs of engineers, designers and constructors for inter-conversion of values from metric to non-metric units or vice-versa.



CONVERSION



For enquiry and order, please write to.

INDIAN STANDARDS INSTITUTION

BRANCH OFFICES:

BOMBAT-CALCUITA-KANPUR-MADHAS

Write for, Subscribe to and Advertise in

NPC QUARTERLY JOURNAL

PRODUCTIVITY

A few recent Opinions

"excellent background informationa very good guide" —Maj. Gen. BD Kapur							
" the latest issue of the Journal is interesting" —SS Khera, ICS, Cabinet Secretary							
" contains useful and educative articles" —Prof. Srinagabhushana, Director, ISI, Bangalore							
"impressed by the excellence of your publicationa really effective contribution to the Productivity drive" —Alexander Gordon, Aberdeen Productivity Committee							
" profusely rich with a number of very learned and educative contributions" —JN Bose, President, Institute of the Cost & Works Accountants, Calcutta							
"a notable effort" —Prof. GC Hallen, Editor, Indian Journal of Social Research							
"I should like to congratulate you on the extent of the material in the publication" —JMS Risk (England)							
"a very fine magazine you are to be congratulated upon the presentation of managerial techniques to the industrial and businessmen of India" —Dr. Harold F Puff, Associate Professor, Miami University, USA							
"this productionseems to be full of good things" —Prof. A Roberts, Manchester College of Science & Technology, England							
" of high academic interest" —Dr. (Miss) IZ Husain, Lucknow University							
"full of good articles" —Dr. MP Sastry, Deptt. of Statistics, SV University							
"the rich material that it contains" -MC Bhandari, Calcutta							
" really a contribution to the nation such a good Journal" —Prof. MN Gopalan, Indian Institute of Technology, Bombay							

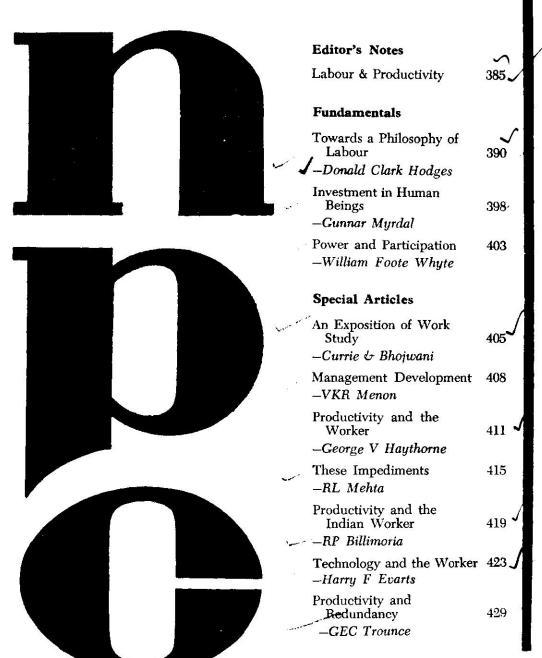
"... I have read your appeal to the subscribers in the latest issue with great interest. I am sure

read, rather chew the Journal so intelligently edited by you ..."

none of the subscribers would mind even if the subscription rate is increased slightly, as your Journal puts before us the articles on the subjects which are rarely touched by other papers and periodicals...it is needless to mention that every individual whether a business executive or otherwise, connected with production would love to

-AN Sharma, Dhanbad

national productivity council journal PRODUCTIVITY volume 4 number 3



productivity 8 labour special issue

July—Sept.

Rationalisation & Productivity Human Relations in Industry Trade Unionism Guidelines to Productivity		IP Saigal Anthony Cekota Mary Sur KA Zachariah		431 435 442 446
Labour Point of View Worker's Participation Productivity and the Worker Productivity and Labour Human Relations in Industry	•••	Khandubhai Desai Michael John Willfried Schaeffer N Thiagarajan		454 457 459 465
Joint Consultation & Management Co-determination in Germany Workers' Management in Yugoslavia NPC Question-Answer Service		Gerhard Pfeiffer ILO √		472 478 484
Recent Literature Financial Incentives Steel in the Soviet Union	••	Russell M Currie NPC		488 490
Plays on Productivity The New Dawn Land of Milk & Honey This Lecturing on Productivity We Want A System Why Productivity What is This Productivity Workers & Productivity Value of Time		Asok Sen Gupta PO Narayanan Nambiar BV Padh PV Advant RM Patil HC Sampat PK Chalam IIK Ghose		496 500 502 504 507 509 511 513
Staff Papers Case for Methods Study Low Productivity Labour & Productivity Developing Workers Labour Productivity A Case Study Confusion worse Confounded Significant Details		KC Jasper SK Lahiri Kameshwar Nath JN Singh RS Gupta AA Niazi VK Sharma		520 522 525 /527 529 531 533
Labour Productivity Safety and the Worker	• • •	Nitish R De HP Dastur	•	540 543

Froductivity Experts		John Morgan		546
Productivity & Labour	* *	Quader Nowaz		548
- Absenteeism		JP Singhal	*((*)	551
· Productivity and the Worker		YD Joshi		555
Worker Induction	* 0	SN Sinha		557
Labour & Productivity		Subratesh Ghosh		559 🥆
Productivity and the Worker	* *	KS Parameswaran		562
An Employers' Primer	20040	Shobhana Khandwala		562

THE TRIUMPH OF LABOUR

The picture on the cover page—called The Triumph of Labour—is a fascimile of the famous bronze statue produced by the great artist DP Roy Choudhury. While this is a photograph from an identical statue on the Madras Beach, the original can be seen in the grounds of the Jaipur House, New Delhi.

The picture printed below—also called the Triumph of Labour—is a fascimile of the symbolic sculpture located on the main floor of the new grand building, housing the AFL-CIO in Washington.

This art work was executed by one of Britain's most famous sculptors, LF Roslyn, RBF, and presented to the American Federation of Labour March 29, 1919. The sculpture's frame is woodwork from HMS VICTORY, Lord Nelson's flagship. The main figure is a symbol of "Triumph" and the figures in the artwork represent the endless procession of working people. The sculpture was removed from the old AFL building and installed in the new headquarters lobby area in Washington.



THE MERICAN WORKER

On the reverse is the fascimile in single colour of the centre piece of the impressive mosaic mural (17 by 51 feet in size) which adorns the lobby of the new AFL-CIO building in Washington.

depicts the broad sweep of American labour history from the days of settlement to the present. This great panorama is composed of hundreds of small glossy units assembled one by one from five colours of glass-gold from Italy and six colours of marble. The 860 square feet of wall space is made up of 300,000 separate pieces of mosaic and is one of the largest murals of its kind in the United States..... The worker as the central figure is shown with tools which have his-Executed in classic Byzantine mosaic techniques, this monumental panel was designed by the distinguished Kansas-born artist, Lumen Martin Winter and installed by union craftsmen. The mural, as a tribute to the American worker, torically shaped the essentials of progress—a pick, an axe, a sledge hammer and an adze. Coils of rope symbolize shipping and transportation. With his right arm he protects his wife and child. The wife, seated on the central stone block is teaching the fundamentals of work and social living to the coming generation, the son... In 1957 the United States Post Office Department issued a special commemorative stamp honouring labour, using as its illustration the central panel from this AFL-CIO mural... The motto shown is from Thomas Carlyle: "Labour is life" and the general theme of the blended elements is mun's mastery over the machine in behalf of progress

Labour & Productivity

FOUNDED ON THE TRIPARTITE PATTERN, NPC, LIKE THE ILO, has a paramount interest in the Productivity and Welfare of Labour. This special issue on Labour and Productivity has a marked significance, particularly in the context of the strategic role of labour in the industrial economy, not to mention the polity of the world's largest democracy. NPC has therefore on its Governing Body representation of labour of all shades of political opinion, and on par with Government and Management. And the welfare of labour is written as it were in the very Constitution of NPC.

While announcing the establishment of NPC in its communique, dated the 10th January 1958, the Government of India made it clear that apart from efficient utilisation of resources and general rise in the standard of living, the objective of the Productivity Movement, as embodied in the NPC, was to "improve the working conditions and welfare of labour, taking into account the social implications of these changes. The (Productivity) Movement does not seek the intensification of labour's burden through increasing work-loads and speed-up. . . . Government, employers and labour should take specific measures to obviate the possibility of any unemployment. . . . Benefits of increased productivity-increase should be equitably distributed among capital, labour and consumers. . . . "

In regard to this problem of Sharing the Gains of Productivity, the Founder-President of NPC, Sri Manubhai Shah, in a special article written for this Journal*, made the position categorically clear: "On one thing, I should be unequivocally clear, both as Minister of Industry of the Central Government and the President of NPC that the first and prior claim of increased productivity must be higher remuneration for labour. We must write this in our industrial code and make it clear both by words and deeds that the gains of higher productivity must be primarily devoted to raising the remuneration of labour to a fair wage level".

Dr. PS Lokanathan, the Founder-Chairman of NPC, in fact suggested a specific formula for sharing the gains!

	Percentage share		
Whom the same to 1.1	Management	Labour	
Where the wage is below the minimum wage	0	100	
Where the wage is between the minimum and the	_	100	
fair wage	20	80	
Where the wage is at or above the fair wage level	50	50	

^{*}Vol. I, No. 4, April-May 1960, page 190 †NPC Productivity Journal, Vol. II, No. 1, pages 4-6

In support of this formula, Dr. Lokanathan added: "It appears inevitable that the economy will either develop along these lines or will be made to do so.... In an economy such as ours, operating at such low levels of productivity, it should be immediately possible over a fairly wide front to link up increased productivity and higher remuneration for workers... a rise of wages to the minimum level would be rapidly paid for by increased productivity itself and the management, for foregoing its share in the gains of productivity, would have made an investment in the goodwill and contentment of its workers. This is good business".

This "good business" idea needs to be rubbed in, in the interests of higher productivity, higher wages, higher profits and the like, for historically, high productivity, high wages, high profits, high rates of capital formation, high taxes: these all go together, as also low productivity, low wages, low profits, low investment, low taxes. Broadly, therefore, the government and the people (including management and labour) have to make a fundamental choice as between a dynamic economy (whether socialist or capitalist) which raises all levels of effort, consciousness and remuneration or a stagnant economy where the factors of production cancel each other's productivity through mutual antagonism.

Dry Bread

In all this, Labour has been the principal loser, for, for good reasons or bad, men have made profits both from abundance as also from scarcity, from inflation as also from deflation, but from a state of low productivity, whether in a purely communist or in a purely capitalist society, labour has never been able to get more than — to use a famous phrase of Ricardo — "dry bread in the one case and dry bread in the other". The stake of labour in the game of productivity is therefore a crucial one. The Third Plan Report put this point of view squarely: "...neither the exercise of their organised strength in industrial conflicts, nor laws and the intervention of the State can help the workers much in realising their aspirations. Their gains can arise only out of the strength and dynamism of the economy, the only enduring basis of which is a rising level of productivity".

In fact, the main objective of the Directive Principles of State Policy, as elaborated in the Constitution, namely, the establishment of "a social order in which justice, social, economic and political shall inform all the institutions of the national life", is realisable only in terms of the productivity of the social economy. The point has often been missed that the Constitution makes several good things for citizens, very particularly for labour, conditional on the productivity of the economy, as would be amply clear from the underlined wording of Article 41 of the Constitution: "The State shall, within the limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement..." Even the relief of "undeserved want" is made contingent on "economic capacity and development".

It is thus clear that the framers of the Constitution knew the basic weakness of the Indian economy and the only means by which it could be made stronger and the citizens of this great democracy given the benefits of fundamental economic rights. These Directive Principles not only specify the productivity of the economy as the limiting factor to the realisation of these rights, but they do also specifically relate to the very heart of the controversy in productivity thought, namely, the problems that centre round Sharing the Gains of Productivity. Very obviously, practically all the policies laid down in these Directive Principles imply clearly that in Sharing the Gains of Productivity, the working class shall have a sort of pre-emptory right on the gains of productivity till a living wage level is attained: "The State shall endeavour to secure, by suitable legislation or economic organisation or in any other way, to all workers, agricultural, industrial or otherwise, work, a living wage, conditions of work ensuring a decent standard of life and full enjoyment of leisure and social and cultural opportunities" (Article 43). Obviously the text of this Article is stronger than even the statement of Article 41 already referred to. But if Article 41 is limited by "economic capacity and development", Article 43 would be much more so. Consequently it's not the Non-Justiciability of the Directive Principles but the Non-Productivity of the Economy that stands in the way of the realisation of a Socialist State.

The Platonic Analysis

Labour has therefore to make the economy more productive: then the world is theirs, for they have the major voice in this sovereign, democratic State. In this context, one has to examine carefully the forces underlying the growth and prosperity of the great liberal democracy upon which our Constitution is very largely patterned. The success of British Democracy is traceable to the decision, to quote Benjamin Disraeli: "We must educate our masters". The radical efforts now being made to liquidate illiteracy and the good beginnings in the direction of Workers' Education are likely to pay rich dividends in terms of industrial relations, industrial productivity, industrial growth; for the Platonic analysis is fundamental: what holds up human progress is not selfishness or cussedness as such, but ignorance.

Those who have critically examined the high productivity of the Japanese system have often pin-pointed the universal literacy that prevails there. Apart from education being an enlightening and moderating force, it is only an illustration of what Alfred Marshall called "Personal Capital". In a passage of marked beauty and depth, Prof. Galbraith (US Ambassador in India) refers to the radical change in economic thinking and policy: "We now get the larger part of our industrial growth not from more capital investment but from improvements in men... We get from men pretty much what

we invest in them." (The Liberal Hour).

The Soviet System

It is in terms of this persuasion that this special issue on Labour and Productivity has been brought out. Prof. Gunnar Myrdal, in an article published in this Journal, has laid powerful emphasis on "Investment in human beings;" and it is his conviction that the rapid economic development of the

Soviet Union is traceable primarily to this factor: "... the Soviet Union now stands with levels of education and health equal to, and in some respects superior to, what is standard in the richer western countries."

The fundamental issues involved in the various factors that converge into what we call The Productivity of Labour have been examined in this special issue by Prof. William Foote Whyte (Power and Participation), Prof. Donald Clark Hodges (Towards A Philosophy of Labour) and Professor Harry F Evarts (Production Technology and Worker Productivity). a number of distinguished civilians - VKR Menon, RL Mehta, NK Bhojwani - have contributed to this Journal; so too men from industry: Billimoria (TISCO), Anthony Cekota (Bata Director, Canada), IP Saigal (ESSO). We have also here the recorded views of the veterans of the Labour Movement: Khandubhai Desai, Michael John, Thiagarajan, Willfried Schaeffer, the Secretary-General of the Confederation of German Trade Unions. Three distinguished foreigners need special mention: George Haythorne, Minister for Labour in the Government of Canada, Dr. Gerhard Pfieffer of the West German Embassy here, who has written an excellent article on Co-Determination in Germany and GEC Trounce of the British High Commission, who has contributed an interesting article on Productivity and Redundancy.

Probably, a feature to which special attention needs to be drawn is a series of Plays on Productivity At the Plant Level: these have been selected from a number of contributions received in response to the competition organised by NPC in furtherance of Workers' Education in the various lines of Productivity.

In fact, it might well be in place to record that during the few years of its existence, NPC has organised a number of courses for trade union representatives and operatives. Language courses have been conducted in Tamil, Bengali. Marathi, Gujrati, Hindi etc. Recently, NPC personnel helped the Asansol Productivity Council to run a Work Study Course in Bengali for operatives and Trade Union representatives.

This is only illustrative of what a number of LPCs (Poona, Madras, Baroda, to mention only a few) are trying to do to enlighten labour regarding the various productivity techniques. It is interesting to mention in this connection that both in West Germany and in the USA, trade unions are training their own work study experts. The AFL-CIO in the USA is assisted in its work by a senior industrial engineer.

Not Techniques, But Attitudes

The trouble, however, is not techniques as such, but attitudes: we need, more than anything else, a reorientation of attitudes of which a classic instance may be cited from the life and career of Henry Ford, quoted in an article on Business and Productivity, printed in volume II, number 1 of this Journal. The record cited in the article is worth repeating.

STEVENSON: "Now I will ask you again, do you still think that those profits were awful profits?"

FORD: "Well, I guess, I do, yes."

STEVENSON: "And for that reason you were not satisfied to continue

making such awful profits?"

FORD: "We don't seem to be able to keep the profits down."

STEVENSON: "Are you trying to keep them down? What is the Ford

Motor Company organised for except profits, will you tell

me, Mr Ford?"

FORD: "Organised to do as much good as we can, everywhere, for everybody concerned. To do as much as possible for

everybody concerned. To make money and use it, give employment and send out the car where people can use

it. And incidentally to make money."

STEVENSON: "Incidentally make money?"

FORD: "Yes Sir."

STEVENSON: "But your controlling feature is to employ a great army

of men at high wages, to reduce the selling price of your car, so that a lot of people can buy it at a cheap price and give everybody a car that wants one."

FORD: "If you give all that, then money will fall into your hands.

You can't get out of it."

American Capitalism

Henry Ford was a powerful and successful businessman. He contributed massively to increase in employment, wages and the availability of cheap transport for the mass of the people and incidentally made money. This is the secret of productivity that Indian industry has to learn; and once this secret is learnt, a high level of labour productivity will be automatically achieved. The most significant lesson of American capitalism is not its Hire and Fire, but the leadership and inspiration of men like Henry Ford, Edison and the like.

In fact, the situation is ripe for industrial fulfilment of a high order. Ideology has receded into the background and the interests of the community are now recognised as paramount. There has been a marked improvement in industrial relations: the number of man-days lost in the post-Emergency period works out to a monthly average of 25,000 as against 400,000 in the pre-Emergency period. We can and should capitalise on these substantial evidences of the desire of labour to contribute to the national effort. On the other hand, managements of progressive industrial firms like the Indian Aluminium, Tata Iron & Steel, the Simpson Group, the Arvind Mills, the Panitola Tea Estates etc. have made a success of Joint Management Councils.

Thus a basis exists for the expectation that if we play our cards with integrity, goodwill and intelligence, we can raise the Productivity of Labour to a level, not incomparable with the developed industrial countries. It should, however, be clear in the retrospect of the Industrial Revolution that while Technology is a powerful transforming factor, its beneficence is directly related to the Productivity & Welfare of Labour.

Towards a Philosophy of Labour*

Donald Clark Hodges†

A philosophy of labour is likely to appear as an unwarranted excursion into areas unworthy of profound philosophical meditation. Though the dignity of labour is a fundamental article of faith in our secular religions of progress and our so-called Age of the Common Man, the concept of labour is hardly adequate as a starting point of a philosophical system, but those intellectual systems that have neglected to develop a philosophy of labour — and this includes most of traditional philosophy — have failed in their task of creating a full philosophical expression of human life.

IN ORDINARY USAGE, LABOUR IS A PARTI-CULAR kind of work, so that there are other forms of work besides labour. Generally speaking, work is concentrated and deliberate effort, whether for the sake of livelihood or some less urgent goal. Thus one can work at acquiring knowledge, at mastering a particular sport, and at the art of love-making, as well as at the business of mere survival. In contrast, play is activity for the specific purpose of amusement, refreshment, relaxation or diversion. Sports games are, for the most part, designed for the sake of play, may be pursued with such seriousness and intensity that they also acquire the character of work. Indeed, it is possible for a given activity to partake of both work and play, as in intellectual games requiring thought and concentration, whose aim is a martial victory over some friendly opponent. Such games are not necessarily relaxing nor even amusing, and pursued to excess they become even boring. By comparison, play is necessarily diverting, although it is also possible to find refreshment in some kinds of work. In current usage

work and play are not antithetical, since concentrated and purposive effort for the sake of entertainment requires a combination of both.

The predisposition of philosophers to think in terms of logically exclusive categories has led to a somewhat different conception of work and play. Thus work has been defined as activity performed not for the pleasure of acting, but for the sake of a result beyond the action, such that we would be unwilling to act unless we expected the result to follow. In contrast, play has been conceived as activity exercised purely for its own sake with no ulterior purpose. So interpreted, artists, scientists, philosophers and others like them, who are absolutely devoted to their professions, are players instead of workers, and such phrases as the "joy of work" and "joy through work" are only Common usage rhetorical expressions. has settled upon a different use of these terms, according to which work can be intrinsically enjoyable and play can find its amusement not only in the activity itself but also in the honour and self-esteem consequent upon victory over an adversary. To some extent all work is disagreeable, since discipline requires the suppression of spontaneity against which our instincts

^{*}Published by the courtesy of the American Journal of Economics and Sociology

[†]University of Missouri, USA

rebel. Yet even manual work may be intrinsically rewarding, especially the activity of mastering rebellious matter and shaping it according to our will.

There is another equally philosophical conception that work is the proper fulfilment of man's uniquely human capacities and that play is essentially trivial, although a means of refreshment in preparation for further work. Thus work is conceived as an expenditure of energy by which man conquers nature and impresses his own image upon it: a prerequisite of rational activity and of human virtue. In contrast, play is conceived as spontaneous activity carried on without impediments purely for the sake of pleasure and without hope of edification. Play cannot satisfy the soul as fully as work, for it does not bring into action the full potentialities of man, but only superficially engages his passions, commitments, knowledge, and intelligence. The trivial character of play, its carefree spirit, may lead it to place its faith, as in games of chance, into the hands of a capricious fate. However, in this interpretation, common usage is violated in favour of a philosophical credo. Work may be pursued for trivial ends, as in producing luxuries, and under such degrading circumstances that it stunts the growth of man's uniquely human capacities. Under certain conditions play may be more fulfilling than work, so that work becomes valued as a means to play instead of conversely. Labour itself is a species of work exercised under the pressure of survival and Although some chosen under duress. modes of work, especially professional, are intrinsically rewarding and worthy of pursuit without remuneration, the need to survive compels most individuals to labour for a living.

H

BEARING IN MIND THE ORDINARY USE OF these terms, is it correct to say, then, that labour has dignity? It would seem that labour lacks intrinsic dignity, since it com-

monly implies disagreeable efforts. whether physical or mental; work that is hard, wearisome or grievous; toil that is painful or fatiguing or drudgery that is dull, irksome and distasteful. Labour is degrading, since it is more suitable to animals than to men and interferes with the fulfilment of uniquely human potentialities. Since few persons who labour for a livelihood would do so if they could do otherwise, labourers cannot as such be regarded as free agents - at least, not in the sense in which professional workers are free in finding fulfilment in their jobs. Unlike liberal activity, which is also work whether or not it serves a pre-eminently economic purpose, labour is so intrinsically irksome that even a high degree of competence is insufficient to induce persons to undergo it without outside remuneration. The only kind of work that is intrinsically fulfilling or has intrinsic dignity is of a liberal nature, such as the profession and practice of the liberal arts. Although the term "liberal" signifies an activity that is befitting a free man - in the ancient sense of someone who is neither serf nor slave - a liberal education continues to elude the modern wage-earner who, being propertyless, is compelled to labour for a living.

There is a distinction of importance between manual activity and labour. Although the illiberal character of labour has sometimes been attributed to the former, there is a free play of energy in working with the hands that results in a feeling of expansiveness and exaltation - a sense of vitality or of the body being alive that cannot possibly be derived from reading and writing. Far from being purely brutish, manual activity requires intelligence and deliberation, occasionally bringing into operation more of the total man than so-called "intellectual work." Many intellectual occupations are more mechanical in their discipline than the work required of farmers and independent artisans. In part, the dignity of manual work stems from the knowledge that it is social-

ly necessary to human culture. From the simple observation that all men must have food, clothing and shelter before they can dedicate themselves to science. literature and art, there is a sense of importance in providing for human needs. Painting and sculpting are manual employments of intrinsic value to the artist, so that it is not the manual character of work that is intrinsically menial, but the social relations of coercion that have succeeded in transforming manual workers into wage-labourers and beasts of burden. To be sure manual occupations are far less capable than so-called intellectual ones of fulfilling man's uniquely human potentialities; yet it is not the manual or intellectual character of employments that determines which have dignity and which do not.

Labour tends to be mechanical in quality, requiring repetitive, routine operations that call for little or no independent judgment or creative intelligence from the labourer. It is the mechanical character of labour, not its bodily exertion or manual activity, that makes it stultifying, monotonous and dull. Prolonged or difficult repetition of the same physical motions results in the lowest of all forms of labour drudgery. Drudge labour stunts intellectual and moral growth not only on the job, but also off. Just as monotony in one sphere of life leads to confusion, disorder and distraction in another, so satisfaction in work conduces to the intelligent use of leisure. Human dignity resides primarily in those activities that are characteristically or uniquely human, hence distinct from the operations of machines modelled upon inanimate processes. Although labour is degrading also because of its urgency - the brute need to struggle for subsistence under the pressure of biological necessity - the reduction of activity to a series of mechanical operations is generally more frustrating to the labourer than his compulsion to labour in order to perpetuate himself. Indeed, the extent of human degradation exceeds that

of other creatures, since domesticated animals are seldom reduced to the status of machines, and even then the extent of their degradation is less than that of human labourers, whose degree of frustration is proportional to their comparatively greater powers of fulfilment.

Historically, the indignity of labour is attributable less to man's bondage to nature than to man's inhumanity to man. In the past, civilized societies functioned as coercive and semi-coercive States that exempted from labour a chosen few at the expense of the masses of humanity condemned to labour on their behalf. Labourers have served as living tools for their masters and employers not only in the role of slaves and serfs, but also as wage-earners debarred from the land and, consequently, without independent means of sustenance. Unlike the publicly or privately owned slave and the serf forcibly tied to the manor, the free labourer was able to hire himself out and to choose his own master. Yet the historical development of the labour process only partly transformed the conditions of the labourer. As a result of hire, his capacity to labour and not only its fruits passed into another's control; hence he continued to be alienated from the fount as well as the stream of the labour process. The more he put into his products, the less he had left for himself; the more energy expended in labour, the poorer he became as a person. Since labour was not meant to be self-fulfilling but to provide self-fulfilment for others, he was alienated both from his rational nature as a human being and from all those who used him – the superior beings to whom his labour and produce belonged and for whom his torment of labour was transformed into their joy and delight. The labour process destroyed the spirit of the labourer and, by making a mockery of his aspirations, diminished his stature as a human being. Instead of loving and affirming the world he learned to resent nature and society. In a word, he became cynical, dissatisfied with life, as represented by the labour process, a stranger to the liberal activity that continually eluded him. So farreaching were the consequences of the indignities suffered by the victims of the labour process that many lost respect for human dignity altogether, including their own capacity for indignation.

Ш

TO MANY, THE FIRST INDUSTRIAL REVOLU-TION heralded the beginning of the end for labour under this old dispensation. Yet it is only recently, with the advent of atomic power and automation, that the promise of a new order for labour has ceased to be a dream and acquired the semblance of reality. Concurrently, there has been an increasing tendency in the direction of the Welfare State, as societies have become more democratic and more responsive to the needs and claims of organized labour. For the first time in history labour governments emerged capable of passing legislation favourable to labour on a grand scale. Never before have labourers enjoyed such a high standard of living with the prospect of regular increases, greater opportunities for leisure, vacations with pay, social security and a guaranteed annual wage. Prophets of the new order have proclaimed the end of economics as the Dismal Science. along with poverty, inequality and insecurity. To some observers, the only serious labour problem of our times is the tendency of powerful trade unions to demand and obtain wage increases in excess of labour productivity, thereby contributing to inflation. On the one hand, countervailing power has resulted in the sharing of power between different classes, including labour, On the other hand, problems of labour legislation have become eclipsed by problems of international relations, whose solutions lie beyond the Welfare State. In this light, a major problem of a contemporary philosophy of labour is to appraise these recent developments in their bearing upon the dignity of labour and to reassess the

conventional wisdom concerning the labour process.

A consensus about the long-run effects of automation upon the conditions of labour. with and without government interference in business, is comparatively slight. Automation tends to render obsolete physical drudgery, at least under conditions of mass production where it increasingly substitutes nervous for physical fatigue. It also tends to reduce the relative and, possibly, the absolute number of productive labourers the blue-collar contingent of the labouring Whether or not it will eventually mean the continuous operation of automated offices and factories over 24 hours of a seven-day week, it will render superfluous large numbers of clerical and industrial labourers, even with shorter hours of work. Piece rates and hourly rates will tend to become obsolete as the individual labourer ceases to exercise control over a given output and his value comes to be measured in terms of teamwork. Since there is abundant evidence to show that real wages vary directly with the value of per capita capital entrusted to individual labourers, as well as with their rate of productivity, there will be a tendency for labourers working under automation to improve their standard of living. As the value of the machinery handled by each labourer increases, there will also be a tendency to improve work morale, which should mean not only higher pay but also increased security and improved conditions of work. Although automation tends to isolate labourers by eliminating opportunities for direct communication, it increases the psychological bonds between labour and management as a result of the smaller number of labourers and increased teamwork with management participation. Since all members of a team may be necessary to keep the wheels of industry turning, there may have to be emergency crews ever ready to replace workers on sick leave, absentee workers, uncooperative workers, etc. Consequently,

even though automation should contribute substantially to the numbers of unemployed, the extent of unemployment should be offset somewhat by the requirements of increasing cooperation and the need for a reserve corps of labourers in each industry.

Prima facie, the conditions of labour under automation would seem to indicate a turn for the better. Yet, despite some agreement about particular tendencies, there are differing interpretations of the social and political effects of automation upon labour as a whole. From the standpoint of labour, the most optimistic view -I shall call it the futurist thesis - posits a radical break with past tendencies, in effect a qualitative transformation of labour and a leap into the future. Its strongest supporters are drawn from the ranks of Marxian socialists, "new deal" technocrats, and not a few conservatives fearful of a forthcoming "revolt of the masses." Futurists argue that the tendency of automation is to upgrade the bulk of the labour force. thereby annulling the age-old divorce between manual and intellectual labour. Its ultimate tendency is to replace all routine and repetitive operations by machinery, to replace unskilled jobs by those that require constructive thought as well as manual dexterity, by inspection and maintenance staff, etc. Although the dominant tendency of mass-production industries for the past century has been the steady replacement of skilled workers by unskilled and semiskilled - before 1750 most workers were skilled in various degrees - automation represents a return to the former state, albeit on a higher level. One result of this general upgrading is to increase the standard of living and conditions of work for most labourers. The promise of automation, writes one of its leading prophets, is "the shorter work week, higher wages, and better working conditions". Since the upgrading of the labour force implies the increasing expensiveness or cost of producing special skills, there will also be a tendency to pay labourers higher wages in proportion to

their greater value to society. In the end the result should be an increasing share of labour in distribution, which futurists believe has been the general tendency over the past quarter century.

Somewhat less optimistic is the modernist view, a current of thought skeptical of the power of modern technology to alter radically the conditions of labour - although modernists affirm that the lot of most labourers should steadily but slowly improve with increasing productivity. Among its chief supporters are liberal protagonists of the Welfare State, including non-Marxian and evolutionary socialists. argue that current concepts of "upgrading" in job evaluation are highly ambiguous and that a detailed breakdown of jobs in automated industries indicates that there has been little over-all change in the job mix. A considerable amount of evidence has been marshalled showing a constancy in the ratio of skilled to unskilled labour within automated plants. Instead of increasing the demand for more complex skills, automation leads to an increase in the number and variety of skills required by individual workers, skills demanding a minimum of training, so that the over-all result is not an upgrading of the labour force. There is reason to believe that full-scale automation, as distinct from partial automation, actually means that skill, effort and responsibility requirements decrease. Yet evidence indicates that the corresponding rewards have tended to increase. Although automated roles are less demanding, they enjoy higher prestige partly because worker turnover constitutes a much graver problem than it does under mechanized conditions. Generally speaking, the Welfare State has contributed to raising labour standards. although most modernists agree that it has not appreciably altered the status of labour relative to that of other non-labouring Thus there is a noteworthy classes. tendency for the relative shares of capital and labour in the gross national product to remain constant. Although modernists predict that labour's share should eventually increase at the expense of capital, they do not share the futurist expectation that unskilled labour will be eventually abolished under the new dispensation.

A decidedly somber thesis is represented by the traditionalist view that automation tends to accentuate past tendencies instead of counteracting them. Traditionalists argue that the tendency of automation to upgrade jobs is limited to a small minority of skilled workers, and that its dominant tendency is to downgrade the labouring class. Instead of raising the level of most labourers to the status of skilled maintenance workers, inspectors, and technicians, automation tends to widen the gap between skilled manual workers and engineers, and between unskilled and skilled manual labourers. One effect of computers, for example, is to liberate engineers from the role of live calculators, to transform them into research workers and designers, thereby raising their intellectual level of performance. In contrast, the bulk of the labour force becomes supernumerary in so-called productive employments, and valueless except for its personal services. servant class is likely to emerge, in lieu of mass unemployment, bread and circuses so argues Michael Young in his combinsociological analysis and phantasy, The Rise of the Meritocracy 1870-2033, based in part upon Norbert Wiener's gloomy forecasts of the social effects of cybernetics. Wiener had argued that any labour that accepts the conditions of competition with "slave labour" - automated machinery is the contemporary equivalent of slave labour accepts the conditions of "slave labour", and is essentially "slave labour", and that one effect of automation is to devalue all categories of labour displaced by machinery, including mental labour in its simpler and more routine decisions. In the Age of Automation the only occupations remaining open to the vast mass of the labour force

are those in which automation may be expected to make the least progress, viz., the field of professional and personal services. The danger in all this is that the average human being of mediocre capacities and attainments, including the majority of labourers with inferior intellectual endowments, will have nothing to sell but their capacity to relieve others of time-consuming menial tasks outside the home and in it.

This argument provides support for the traditionalist view that automation signifies for the majority of labourers a decreasing relative share in distribution. Walter Reuther and James Carey, both leading officials in the industrial wing of the American Federation of Labour - Congress of Industrial Organizations, underline the tendencu for increased productivity to benefit primarily the owners and managers. There is also some evidence that the alleged constancy in the relative shares of capital and labour during the last quarter century was only apparent and based on a confusion of wages and salaries. The category of expense accounts alone conceals a multitude of sins. Equalization of incomes may serve to camouflage the increasing gap between wealth and poverty, as the differences between grades cease to be recognized in terms of personal income and become acknowledged in the form of expense accounts justified by the costs of efficiency. Moreover, even though the absolute gap between wealth and poverty may conceivably diminish with a strengthening of the Welfare State, the share of labour should gradually diminish as a result of the relative, if not an absolute reduction in size of labour force. One may reasonably anticipate a decline in the power influence of the labour movement, as automation renders increasingly superfluous large numbers of productive labourers. There is also reason to believe that the growing power of scientists and engineers, coupled with the ignorance and weakness of increasing numbers of unskilled

and semi-skilled workers, may lead to the eclipse of liberal and democratic by authoritarian forms of government.

IV

IS THERE ANY CLEAR-CUT EVIDENCE, THEN, that recent tendencies warrant the modern secular faith in the dignity of labour? Considering most of the relevant facts, the various tendencies and countertendencies, it is extremely difficult to concur with the optimism of the futurists and their unqualified faith in science and technology. There is much more evidence for the modernist view, although it, too, constitutes an "exceptionalist" thesis in relation to the past the thesis of an evolutionary transformation of the labour process into something different in kind, at least for the majority of labourers. Traditionalists also believe in a gradual improvement in the conditions of labour, in the form of better working conditions and a higher standard of living, but not to the point of positing either a revolutionary or evolutionary overcoming of the indignities of the labour process. In affirming a basic continuity of tradition, their position is assuredly the safest, most moderate and, to all appearances, most readily defensible one. The burden of "proof" rests upon the shoulders of modernists and futurists, who, owing to their radical views. have less evidence than hope for something new under the sun.

Evidence for the traditionalist view lies not only in the intrinsic character of labour, as distinct from work, but also in the longrun tendencies that have hitherto characterized civilized societies. Since the dawn of civilization the increasing productivity of labour has enabled increasing numbers to become industrially exempt and to enlarge their share in distribution relative to the class of labourers. As a result, the so-called natural wages of labour have gravitated towards a minimum of subsistence determined by the physiological minisurvival and reproduction, mum for minimum required for the economic

efficiency. and the sociological minimum of decency. Although the economic and sociological minima have steadily increased with changes in the mode of production and the consequent social life of mankind, they have not increased at the same rate as the higher standards enjoyed by other non-labouring classes. This has meant that the number of privileged individuals freed from Adam's curse has grown proportionately larger, and the number of labourers proportionately smaller. Inasmuch as labour's share in distribution represents an everdwindling proportion of the gross product of society, the dignity of labour has diminished in this respect. To some extent, the natural indignity of labour has been compensated by changes in the social amenities while the modern liberal and democratic ideology has also helped to mollify the labourer's subjective sense of social inferiority. Thus even unskilled labourers are currently addressed as "mister" and euphemistically denoted "gentlemen" - the first, a variation on "master", and the second, a term for nobility. Nonetheless, beneath the veneer of modern etiquette and civility lies the harsh reality of the division of modern society into workers who are really masters. and into labourers who are anything but lords of their own destiny.

Although in several respects there have been appreciable gains in the dignity of labour, these have been counterbalanced to some extent by other factors. As technology has advanced, the contribution of labour to the wealth of society has played a steadily diminishing role. With the progressive increase in the skills and intelligence embodied in technology, labour has become progressively reduced to an appendage of the machine, whose real masters are scientists and engineers who alone understand its full complexities. Possessing fewer skills relative to the machinery that it tends, labour has comparatively less value than the latter. Automation increases the demand for technical and engineering skills, but the tasks

performed by them are liberal rather than mechanical, despite the fact that they are used in producing the means of subsistence. Far from adding to the dignity of labour, the increased leisure made possible by automation decreases the demand for skilled labour, while increasing the demand for workers in the field of education and culture. Unlike manual skills, which cannot improve in quality beyond a certain point, there is no ceiling to the development and increasing complexity of intellectual talents. Since intellectual skills become more highly valued in proportion to their complexity and increasing costs of education, the gap between all grades of labour and intellectual skills tends to widen with improvement in the arts of civilization. The expenditure of energy in laborious occupations constantly diminishes compared to the amount expended in liberal activity. In general, the dignity of labour varies inversely not only with the power of technology, but also with the dignity of the professions.

The indignity of labour is associated with economic dependence upon the more or less arbitrary will of a master. Despite the growth of trade unions and legislation designed to protect the labourer against extreme abuses by employers, labourers continue to be degraded to a status comparable to that of children and adolescents. In contrast, the man of property is his own master and, to some extent, so is the collegian or professional man, whose knowledge of a particular field makes him eminently suited to command the labour of others. Having greater value to society than the ordinary labourer, the professional worker is less dispensable, hence more economically secure. By commanding a salary instead of a wage, he is guaranteed employment over a longer time interval than the manual labourer. Unlike the latter, he is not compelled by economic necessity to take the first job that offers itself, but is able to hold out and to choose one that is more congenial to his wishes. A professional ethic sets limits to

the arbitrary demands of employers, whereas the labourer is available for almost any kind of work and ready to produce almost anything to secure a living-wage. Although he is currently spared a realistic judgment of his actual degradation, it is partly owing to ideologies of the labour process indispensable to preserving his morale. Historically, there are many reasons for the tragicomic incongruity of the labourer's conviction of his own dignity, when his objective function in society is to minister unilaterally to other peoples' needs and desires.

The foregoing discussion of the meaning and dignity of human labour is only a sample of the kinds of problems posed by a philosophy of labour. Recent work in this area considers such vital philosophical questions as: What are the paradoxes or antinomies of Are these paradoxes a necessary part of the labour process? What is the role of labour in human life? What are the stages in a philosophical history of labour? Since these are not questions of concern to sociologists, economists or other students of the social sciences, it is the philosopher's task to discuss them - if they are worth considering at all. Until recently, philosophers neglected to consider questions of this kind. with the result that philosophy itself came under attack for failing to minister to the intellectual problems, as well as personal needs of the overburdened majority of the human race. In reaction Marxism went to the opposite extreme of making labour the starting point and primary subject matter or centre of philosophical thought. There remains, then, the problem of developing a philosophy of labour that will confront man with a many-sided image of the labour process, but that will not reduce philosophy primarily to an instrument of labour theory. To succeed in this task, one should avoid exaggerated claims on behalf of the value of labour - the subject of the present essay - and the no less immoderate claims of philosophy dissociated from the vital problems of human subsistence.

Investment in Human Beings

Gunnar Myrdal*

In a remarkable address to the Indian Parliament delivered at the special invitation of the Prime Minister, Prof. Gunnar Myrdal who was at that time in this country doing research, on behalf of the Twentieth Century Fund, on the socio-economic developments in Asia, analysed the basic causes of low productivity in this country, and what he said is still worth hearing.

THERE IS A DANGER THAT IN OUR endeavour to procure the machines and the tools, and to build the factories and the dams and to find the money to finance it all, we become too materialistic and forget the human factor, the people, whose bodies and minds must be the chief depository of a developing nation's savings and investments.

It is far from my intention to make propaganda for Communism, but on this point. simple honesty compels me to stress that the Soviet Union never made this mistake. In the time of the harsh and cruel dictatorship of Stalin, and in spite of the exigencies of the long civil war and the Second World War, and in spite also of an outmoded materialistic theory of capital formation. which Marxism has inherited from the classical economists and defines capital as only material goods, and while they were pressing up capital formation in that narrow materialistic sense to extraordinarily high levels, the Russians, at the same time, also continually, made huge investments in the human beings, what Marshall called "personal" capital. The result is that the Soviet Union now stands with levels of

*An economist and writer of international repute, Dr. Gunnar Myrdal was Cabinet Minister in Sweden and not long ago Executive Secretary of the United Nations Economic Commission for Europe.

education and health equal to, and in some respects superior to, what is standard ir the richer Western countries.

I recommend for study a little article on the Soviet Central Asian Republics in ECE Economic Bulletin for Europe, the last issue of 1957 - which is the result of a sort of additional preparation by myself and my two collaborators before we began our study of this region. These four republics are a purely Asian region with a Moslem population; what has been done there in regard to the human material should have particular interest for those who are concerned with development problems here. The serious question raised is whether a parliamentary democracy, which has imbibed the glorious traditions of Western and Asian humanism, should be less willing and capable to lift the masses out of illiteracy and ill-health to a richer and fuller life and to higher productivity, than a totalitarian regime.

But let me start with a comparison with another corner of the world which is geographically further away from India than Soviet Central Asia, but in some respects spiritually nearer. When my home country, Sweden, which in numbers has only 2 percent of the population in India, has a national income about half as large as

India's and on that basis is able to save considerably more than is saved and invested in India. i.e. if the individual Swede earns some twenty to twenty-five times and can save fifty times more than his Indian fellow human being, this is primarily due to the fact that, on the average, he works more hours a year, works harder, when he works, and works more efficiently. He produces more because he is more fully employed and because labour productivity is much higher.

Differences in natural resources mean of course a great deal. But don't let us exaggerate that factor. Denmark, which before the war had Europe's highest level of living and stands comparatively very high even now, is primarily an industrial country, though it has no industrial resources whatsoever, no coal, no hydraulic power. no minerals, no forests, indeed nothing, except sites to place the industrial plants on and its people. Switzerland is another highly industrialized country, though it is almost void of industrial resources, except water power. Denmark has also a highly developed agriculture. As a matter of fact, it is an industrialized agriculture, as to a large extent it uses imported fodder to produce its bacon and butter, and it has had to buy it on the open world market without having the special advantages of a colonial empire. This production provides two-thirds of that country's exports, which have a very much higher share of the country's national income, around one-third, and does it with a labour force corresponding to only one-fifth of the population.

The Swede, the Dane and the Swiss have at their disposal on the average very much more of capital equipment. But don't let us exaggerate that factor either. After Wicksell, economists have come to look upon capital and capital equipment more as something which becomes created in the process of successful economic development, rather than being its pre-condition.

Let me remind you of the situation in

Germany after its total defeat in the war. Germany's material capital apparatus for production, and its houses and everything else, were very thoroughly destroyed. Levels of living were pressed down to rockbottom; people were huddled in ruins and actually starving and freezing. I saw it with my own eves, and I was in ECE directing research on these conditions. Germans. after some time of demoralisation and total frustration, within a span of a few years succeeded again to come on the top of the world, this was not primarily due to what of scraps of an old industrial capital apparatus they had left in the wake of the war - many economists have made the observation that Germany succeeded to gain a particular advantage by having to build up its capital equipment anew, and then could make it more modern. The German "miracle" was mainly due to the will, the skills, the drive and the workmanship of the German people.

Or take the Soviet Union. The industrial apparatus after the war, as we learn now, was much more destroyed than even the experts knew ten years ago. It was a half-starving people with a thoroughly destroyed country who had to begin anew. And they did get through and started out on a more definite and more rapidly accelerating economic development than ever. The main explanation is again that in the human beings there were invested will and skills, and that they were set to work long hours, and work hard.

The main differences between an underdeveloped country and a developed one is in the human factor and I want to stress that I am saying this as an economist and not only as a humanitarian. In a developed country people work more, work harder, and work more efficiently. In an underdeveloped country there is permanent unemployment and underemployment, and I believe the people in India work perhaps not much more than half the number of hours a year compared with what people do in a developed country—and what the Indian people must come to do if this country shall become developed. And when they work their efficiency is low. This is true even of the professors, the students, the officials and engineers and, I would assume, the politicians also, except a few who fortunately and naturally tend to rise to the top. It is of course still more true of the large masses of labourers and peasants whose low levels of living, malnutrition and ill-health often prevents them from working at all, or working the whole time, and when they are working, prevents them from working so hard and so efficiently.

One adverse factor. is, naturally, the climate. All modern industrial civilizations are in the temperate zones, including the Soviet Union, Japan and also a large part of China as it now strides along. The larger part of the peoples of underdeveloped countries live in the tropical or the arid subtropical zones. But if we don't want to give up, we are not allowed to give too much weight to the weather. We have rather to direct intensive research on the practical problem: by what means we will be able to make sustained, hard and efficient work possible also in the tropics.

The two main development problems in India are therefore:

- (1) how to get the population into fuller employment and to liquidate not only unemployment but the much more serious underemployment.
- (2) how to raise labour efficiency.

The task is simply to increase the number of effective work hours per year for the entire population in the working age, the labour force, and at the same time to increase the efficiency of work, so that more is produced per work hour. In the final instance, India's economic planning will succeed or fail depending on this human factor: whether India can get its population to work more and better, and to produce more.

There is no lack of work to be done: industrial plants to be constructed and equipped, lands to be made to yield more than they do, houses to be built and repaired, latrines, drains and sanitary wells to be dug, trees to be planted, books to be printed and books to be read, floors and streets to be swept and cleaned, children to be washed and educated, sick and old people to be cared for, etc., etc. All this work, of whatever type, flows into, and raises, the national income, increases savings and investments, lifts levels of living, on the basis of which still more intensive work can then be done. The result is economic development

Some of this work requires capital equipment, which, however, in the end itself consists of labour, pent-up labour. Some of it can be done by the use of nothing more than our brains and our bare hands. The Prime Minister has recently very rightly reminded us that a speeding up of popular education in the villages doesn't even require school buildings, as the teacher can assemble the children in the shade of a tree and give vacation when the monsoon comes. The requirement is will and ambition, or, if you look one step behind and ask how to mobilize will and ambition, what we call enterprise and organisation. The requirement is also improved nutrition and health. which can give strength to work, and education that can lift the ambition of people living in apathy: apathy is, indeed, the cultural impact of long ages of backwardness. But these requirements, too, represent themselves, in the final instances, more work and better workmanship.

We are here facing the crux in planning for economic development. I will in this connection only point to one very important element of cumulative causation. I am in my studies becoming increasingly impressed by the fact that the low labour efficiency in an underdeveloped country, when labour is working, is largely an effect of the fact that people are not working or working

only fewer hours than would be desirable. Unemployment and underemployment signify a lack of scarcity of labour which is deeply demoralising. It creates a mental climate in society where labour is wasted by the employers. Around every piece of work to be done, there are too many workers hanging around. If I want a lamp fixed in my house, there comes a man who does the work, one who holds the tools, one who carries the ladder and, perhaps, a few more who are just standing by. You are, of course, well aware of the fact that a regular situation in some of the most modern factories in India is that a machine which in Sweden or Germany, the Soviet Union or the United States is serviced by one man or woman, here will need two, three, four or even five men. In spite of low wages the actual labour costs to the industry then often come up towards, or above, the levels in the richer countries with their higher wages but also higher labour efficiency. Your industry is then not competitive and will lack the strength for expansion.

In this social and psychological climate of lack of scarcity of labour the workers are in the same way often brought to show resistance to rationalization because it is labour-saving. In India as in other underdeveloped countries labour legislation and the administration through labour courts and officials of the labour laws are often raising hindrances for technological changes in the interest of higher labour efficiency, much more than they do in our highly developed countries. In the existing situation of surplus labour, they may even see good reasons for doing it, but this is only part of the vicious circle by the operation of which lack of scarcity of labour causes low levels of efficiency of labour.

There is, of course, only one solution to this: people must be set to work. Labour must become scarce and expensive. Only then can we permanently and over the whole field increase labour efficiency. Only then will the employer be made to avoid wasting labour — in the present situation to employ more labour than is needed seems sometimes a socially good behaviour. Only when labour has become scarce and expensive, will the worker whole-heartedly welcome rationalization as a means by which his labour can become still more scarce and expensive.

I think we should not conceal to ourselves that reaching such a situation will imply the sacrifice by the well-to-do classes in an underdeveloped country of certain amenities and conveniences which they are now enjoying. The society we have to strive for is a society where we are not surrounded by unemployment and cheap labour: where we have to carry out own bags; where regularly ministers and professors and their wives and children, according to an increasingly democratic cooperation within a family, will to sweep their own floor, prepare their own food, take care of their own babies; where perhaps every family has one or two automobiles, but nobody can have a chauffeur; and where the few servants there are, are professionals with salaries not very different from the salaries of a professor or a minister.

Some of the richest countries — rich because labour is expensive and labour efficiency high — have got near this ideal. All the underdeveloped countries are, of course, far from this situation and will reach it only after a long development. My point here is only that this must be the direction of their development efforts. Labour must be made scarce and expensive. Only then will labour productivity rise. Only then will rapid economic development ensue as an almost automatic process.

Indeed, not before labour has become an expensive commodity can we reach far with our social reforms. I am not criticising the important constitutional, legal, financial and administrative steps that Indian Parliament has taken to blot out that shameful phase of

the stale caste system in India which is present in the inferior social and economic status of the casteless, but true equality for the Harijans India will realize first when unemployment and the underemployment have been liquidated, and when human labour has become expensive.

Your Prime Minister has a few days ago had occasion to stress again, what he has stressed often before, namely that the status of women is one of the most important indicators of the advance of a country. I would like to add that the full equality of women in India — not only in the upper classes, where they largely enjoy it, but in villages and among the masses — will only be reached when what women can produce with their brains and hands has a greater economic value in India's economy.

Scarcity of labour has in this way impor-

tant relations with moral values, and cheap labour means unfortunately that human beings and their welfare become cheap also. There is one general ideal which I would have liked to see stressed more in the excellent preamble to India's Five-Year Plan, namely respect and esteem for manual labour. As we all know such a valuation of manual labour would have the support of the teachings of Mahatma Gandhi, whom you are so exceedingly fortunate to be able to name the Father of the Nation. But it is certainly not enough to express a general moral principle. It is not even enough to legislate that principle. Respect in Indian society for manual labour will come when labour is not available in such almost scandalous surplus, when it is scarce and expensive. And then India will be far on the way to economic development.

RURAL PRODUCTIVITY*



*Published by the courtesy of The Statesman, New Delhi. Original by the artist Sudhir Dar

Power and Participation

William Foote Whyte*

The world of industry is full of executives who will sacrifice almost anything in order to maintain their "power" to give orders that will not be effectively carried out. Experience has however proved conclusively that the power issue can only be settled by taking a different approach which avoids the power issue altogether. The parties solve their problems by finding ways in which each could help the other attain its objectives. If you ask the principal management and union people to define management's prerogatives today, they would not be able to go beyond a general statement. On any specific point the parties work so closely together that it is impossible to state who has the power to do what. In fact, it seems characteristic of cases of union-management cooperation that the people are not able to state specifically what management prerogatives are—and are not interested in trying to do so. In this and similar cases it may be said that workers and union officers have become real participants in the enterprise.

THIS RAISES THE KEY QUESTION: WHAT do we mean by participation? We often hear management people say, "We must make workers feel that they are important." The assumption seems to be that workers will feel that they are important in public speeches and in the company's house organ and if a foreman occasionally pats them on the back. At best, this approach seems to lead to a passive acceptance of management. This is a far cry from the enthusiastic cooperation we see in some other cases.

Workers do not come to feel important

*This is a re-print, for once, from the Special Issue on Incentives of the NPC PRODUCTIVITY Journal. It is taken from Prof. Whyte's classic work on Money and Motivation. Readers interested in the philosophy and experience of Prof. Whyte may refer either to the Professor's original work or to the series of articles that appeared in his name in the Incentives special issue: Money and Motivation, Problems of Human Organisation, Power and Participation, the last being the article reproduced here.

just because other people tell them they are important. They get this gratifying feeling of self-importance when they feel that they are exercising initiative in shaping the development of the organization. They have a sense of participation when they are contributing more than their physical labour to the organization. For them to feel this way requires that they have opportunities to initiate activity up the organization upon management as well as responding to management initiations for them. The management that is not prepared to provide opportunities and encouragement for this sort of initiative had best stop talking about participation. Any other approach to participation is simply lip service.

The widespread development of such initiative on production problems from the ranks of workers and union officers amounts to a veritable revolution in organization. It requires that the manager think and act in terms of leadership instead of simply in

terms of power and control. This does not mean that he has less control of the organization than he had before. In the drill line situation described by Donald Roy, management refused to accept any initiative from the bottom up, and his description clearly indicates that the workers gave their attention to constant and relatively successful efforts to escape managerial control.

Effective leadership achieves control in the participation process through initiating activity, not only down the line in management but also to and through the union. In effect, the manager gets action by initiating through two channels instead of one. This type of leadership also stimulates initiation from the bottom up through the management organization and from the union to management.

It is a difficult adjustment for many union leaders to shift from fighting management to participating in a cooperation programme. However, we should emphasize that this adjustment does not involve agreeing with everything that management wants to do on the production front. Our cooperation cases show local union leaders taking a critical attitude toward management and arguing aggressively for changes in some cases. Nor does cooperation with management simply involve the union selling the rank and leader in upon management decisions or even upon decisions jointly reached by union and management. Unless the top local officer is at the same time active in encouraging initiation up the line from the rank and file. he will find himself cut off from the membership and eventually replaced.

These observations suggest a new way of looking at power. Let us look upon it as the ability to get things done as one wishes them to be done. In that case we will not waste time and energy in asserting rights to give orders that will not be effectively

carried out. Instead, we will seek to understand the conditions under which we can initiate activity for other people. will then discover and utilize whatever inter-personal channels can be effective in carrying out a line of action. Furthermore, we will learn that effective action programmes require reciprocity in the initiation of activity. The executive who fails to respond to his subordinates and union officers finds that his orders are resisted, evaded and sabotaged. The executive who gets things done is the man who learns to initiate and respond in his relations with both management subordinates and union officers.

Management should recognize that financial incentives are both a technical engineering and a human relations problem. The two aspects are so intimately intertwined that it is impossible to separate them in action. Therefore, management should not be satisfied with a planned engineering programme and a catch-as-catch-can human relations programme. These activities should be planned together and integrated in action.

When it becomes evident that the results obtained are not in accord with the theory, management seeks to make some adjustments that will bring results and theory together. For example, if workers slow down while they are being timed, then management develops methods to compensate for this slowing down. When intergroup problems arise, an effort is made to avoid them by improving the techniques of time study. And so on.

In this way management continues to follow a theory while acknowledging its inadequacy in the test of practical experience. In effect, management is following a theory of how people should behave. We are proposing that management base its actions upon observation of the way people actually do behave.





An Exposition of Work Study

Currie* & Bhojwani

On the night of 21 April 1963, the AIR broadcast an interview between Mr. Russell M Currie and Sri NK Bhojwani, Executive Director of NPC. The transcript of this interview, printed below, is really an excellent exposition of Work Study.

- **B.** We have heard a great deal, of late, of Work Study as a tool of management. As you have been a pioneer of Work Study, may we request you to tell us what precisely, Work Study means and what are its objectives, mechanics and the areas of management activities which it covers? I know it is a large question but it might be possible for you to briefly tell us.
- C. I don't know whether I can answer that comprehensive question... You used, I think, the word 'tool of management'. I prefer to think of modern Work Study as a group of very powerful and I might add, dangerously simple techniques, for use within the management team. Some members may specialise in the practical application. But all the team all the management team, must understand the limitations of these techniques and their immense possibilities when they are used by trained men... As regards the objective of Work Study, it is to reduce the wastage of all resources used by any organisation of any kind, inevitably present in any organisation: in other words, by increased productivity within the organisation, to lower production cost, should I say, which leads to lower selling prices which lead to increased sales and as always found, to increased employment for people of all ranks. Now this in fact sums up my personal experience over the last 21 years in many countries.

I would like now to answer your point about mechanics. Briefly, again, I am afraid, Work Study consists of Methods Study and Work Measurement. Methods Study in itself can be described as a systematic, unprejudiced and intensely analytical approach to problems which will enable all the relevant factors to be evaluated so that a decision can be made. Its application in my experience and that of countless others is not limited in any way by the size or the complexity of the problem... The Work Measurement group of techniques are essentially evaluation techniques to determine the work content of any job. It is increasingly important to enable progressive management to do its job properly. In

^{*}Mr. Russell M Currie, Chief of the ICI Work Study Centre and now President of the European Work Study Federation, was recently here at the invitation of the Government of India to push forward the Productivity Drive in the context of the Emergency. It would be recalled that the foundations of Work Study in India were laid by Mr. Currie: it was he who brought the letter from Lord Mountbatten to Prime Minister Nehru suggesting the introduction of Work Study in the armed forces. Mr. Currie was naturally happy to see that his efforts had borne fruit through the establishment of a full-scale Work Study Centre, established by the Ministry of Defence at Mussoorie. Mr. Currie has now crowned his efforts by sponsoring the establishment of a Federation of Work Study in India under the Presidentship of Major General BD Kapur.

fact as I see into the future, I see the complete necessity of the establishment of Work Measurement, if we are to reach towards rough justice in industry. Of course, Work Measurement must be married to the other evaluation techniques, such as costing, mathematics, applied statistics as well as technical evaluation. It will be married in accordance with the particular type of problem.

And lastly if I may take your point about areas, I simply would answer I have yet to find any management activity which will not benefit significantly by the application of Work Study and I am including such fields as agriculture, hospitals, transport, public and private industries of all kinds as well as commerce and distributive trades. I am sorry I have taken a little longer than I intended, but it was a very comprehensive question.

- B. Well, it is very interesting to know from you that you consider Work Study to be a dangerously simple technique. Somehow, we have come to associate it with something, which is beyond the comprehension of ordinary management. Does it mean that in your estimation, it is possible for a company to undertake a Work Study of its own activities without outside assistance.
- C. Well, I said...could I tell one point with you? When I said dangerously simple, I meant that people might be inclined to think they have always done it. This is probably the most dangerous attitude of all. People haven't done Work Study all their lives with the intensity, necessary to meet modern conditions. Now in more direct answer to your question, whether it is possible for a company to do Work Study of its own activities I give you a positive answer yes. However, great and small the organisation may be, obviously the method of application and the trained staff necessary will vary very greatly in accordance with the size and complexity of the organisation. But all those trained must realise their own limitations and possibilities. A great deal can be done with a small amount of training, but it is very dangerous when insufficiently trained people try and tackle complex problems that's, when real trouble starts and they get a magnificent answer to a wrongly understood problem.
- B. Small knowledge is a dangerous thing you know...Now does it mean that a small industrial unit cannot afford to engage Work Study specialists? Can an owner-manager expect to know enough about it and apply it after going through technical courses of training? Now, here precisely can one say that training in Work Study provides sufficient expertise?
- C. Well, again the answer is yes. I have known many small organisations do it, and very successfully. My emphasis, however, would be on the necessity of proper training by really highly skilled instructors, but they are in short supply, the world over... May I add at this point that outside help of high quality can be most helpful especially when one is starting to instal and use Work Study for the first time.
- B. In your estimation, would it be useful for trade associations in India to have a pool of work-study men for the common use of their members? The reason why I am asking this question is this: there are so many thousands of small units which could not possibly afford to have Work Study specialists of their own, and in the day-to-day preoccupation, a manager is not likely to pay that amount of attention to his organisation as may be necessary for its proper functioning.
- C. Again, I would say 'yes' to your question. This practice is quite common, particularly in the UK and in the other countries of Europe with which I have, as you know, the

privilege of having a day-to-day contact. This practice is quite common and is spreading. Could I give you some instances; for instance, in the UK, Work Study service and training centres are being provided by the Cotton Trade, the Wool Trade, Steel, Furniture, Chemicals, Agriculture and so on. It is particularly aimed for the benefit of small firms of all kinds. A special non-profitmaking advisory service is run by the National Union of Manufacturers and is called the National Manufacturers Advisory Service. It is doing an increasingly important amount of work in the UK to help smaller firms. I must remind you too that the very active and well established Work Study units of the British Productivity Council of which you are probably well aware, are helping small firms in all types of industries.

- B. If I may ask a supplementary question: what broadly is the attitude of British industry to Work Study?
- C. I could dare an equally broad answer first of all, it is the characteristic attitude of the industries in the UK today in no small measure. And I must say that this is so with the increasing understanding and backing of the British Trade Union Movement.



Management Development & Productivity in India

VKR Menon*

The author, a distinguished administrator in the field of labour, has in the analysis presented below, shown the respective roles played by labour and management in increasing productivity. The author has also shown how the National Productivity Council in collaboration with and assistance of the ILO, contributed massively to the creation of productivity consciousness in Indian industry. The ILO has in fact played a pioneering role in the field of productivity, for the first ILO productivity mission came to India in 1952, 6 years before the NPC was born. In the field of management development, ILO's work in India started in a somewhat modest way. It has been acknowledged, however, that it has provided stimulus for many subsequent developments. In accordance with the accepted philosophy of the ILO, it only supplements the efforts of the countries concerned. The author's rather modest account of the supplementary activities of the ILO shows how substantial and fruitful they have been, the NITIE† being the last but not the least in the field of training.

THE ULTIMATE AIM OF PLANNING IN A DE-VELOPING country is the achievement of higher standards of living for its people and it is amply recognised today that for the realisation of this objective, the most effective utilisation of material and human resources is essential. Agriculture provides the base for the economy in India and other Asian countries and the importance of higher productivity in agriculture hardly needs emphasis. But with the ever-increasing population and consequent still greater pressure on land, industrial development also has to proceed side by side if healthy balanced economic development is to be achieved. Towards this goal, many new industries are being started, some existing industries are being modernised. since, in India, as in other developing countries, capital and foreign exchange resources are not in abundance, a third and vital direction of industrial development is

the maximum utilisation of plant, machinery and men, in the existing units. Strictly speaking, it is this that one means when speaking of increased productivity and it is here that the greatest effort and ingenuity are called for.

To judge how much we have marched forward, we might make a general comparison of the position today with what it was a decade ago. By coincidence it was in 1952 that the first ILO Mission started its work in India and, from all accounts, it was also the beginning of awakening productivity consciousness. The task was not easy. In the years of the war emphasis was on production and not on productivity. Men and money could be literally poured in, so long as goods of the quantities required, could be produced. To convert everyone to the view that this system would not suit industrial development in peace time, was a slow and laborious process.

^{*}Director, International Labour Office, New Delhi †National Institute for Training in Industrial Engineering at Powai near Bombay

[‡]This exactly is the danger in the present Emergency ! (Editor)

VKR MENON 409

productivity and the worker

As far as the maximum utilisation of existing resources is concerned, a facile answer may be, let the labour do its duty and all will be well. This, I am afraid, will be over-simplifying the issue, for the scope which the workers have to influence productivity, is limited. Greater effort and cooperation of labour are indeed essential but these alone cannot work wonders. Even if a worker gives his best himself and as a member of the industrial group to which he belongs, his output may be limited due to an imbalance in operations, sub-standard materials or irregular supplies, frequent changes in his duties, and machines or power breakdowns: all those things which are not within his control. These factors not only limit a worker's effort but also the scope of trade union's positive role.

better management

Although productivity can be raised in part through improved technology and better skill and cooperative attitude of workers, it depends largely on management attitudes and actions, and the leadership which the top and middle management can provide. All responsible management, in general, have accepted this. This is refreshing when I recall that ten years ago, even a friendly hint that improvements were needed on the part of management also, often resulted in angry protests.

ILO interest in productivity in India

The first team of ILO experts on productivity arrived in India in 1952 "to show how productivity and the earnings of workers in Indian textile and engineering industries could be raised by the application, in selected plants, of modern techniques of work study and plant organisation, and, in addition, where appropriate, by the introduction of suitable systems of payment by results." ILO assistance to India in the sphere of productivity has been continuing since then, but

on the basis of experience of the experts and developments in India - the most important of which were the establishment of the National Productivity Centre and the National Productivity Council - ILO experts' assignments are becoming more and more management-oriented. In the beginning, the experts applied their minds to savings in materials and labour through such management techniques as work study, plant organisation and incentive systems. It soon became evident, however, that other complementary measures were needed if the productivity gains were to become substantial and lasting. In particular, the scope of the individual worker's effort and initiative was found to be restricted due to various bottlenecks beyond his immediate Parallel introduction of other industrial engineering techniques, such as production planning and control, quality control and cost accounting was necessary. Further, the efforts of the specialist and middle-management at productivity improvement were liable to be frustrated unless the upper reaches of the management understood and supported the use of these techniques to improve and maintain the efficiency of the undertaking. These developments led to greater emphasis on management development in ILO assistance to India in the field of productivity.

According to the present plans, ILO's work in this field will be continued definitely for another four or five years. The efforts of the technical mission will be devoted primarily to the public sector undertakings. Emphasis will be laid on training a small body of nationals of the country to continue the work when the ILO Mission eventually leaves.

management development programme

The International Labour Conference, in 1958, in a resolution sponsored by the Government of India's representative, agreed, by an overwhelming majority, that

the ILO should enter into the wider field of management development. A special section on management development was created at ILO Headquarters to undertake the work of administering the work of productivity and management development missions and of developing courses, teaching materials and methods, as well as undertaking research into certain problems of management of particular relevance to developing countries.

The objective of ILO's management development programme is to further, among management in developing countries, a broader conception of the responsibilities in regard to training of personnel and other labour aspects of higher productivity, as well as a knowledge of the techniques of modern management, a better understanding of personnel administration needs and methods, and a progressive outlook towards labour-management relations.

In November/December 1960, ILO conducted an advanced Management Seminar at Bangalore, lasting five weeks, for junior executives from some advanced enterprises in private and public sectors. Teaching methods and materials used in this seminar included lectures, guided discussions, case studies, films and excursions involving decision making. This was followed by a three-day round table conference, which was attended by leaders of major industries in India. The seminar and the conference were organised by the National Productivity Council, while the technical assistance part of these was provided by the ILO. Advanced Management seminars were also held during 1961 at Coonoor and Nainital with the participation of the US International Cooperation Administration. August 1962, a special advanced management programme was held in Bombay for

directors of State transport organisations. A modest claim can be made that the work of the ILO in this field has contributed towards creating increasing interest in management problems and techniques. By saying this, I am not minimising the major role played in the same direction by the National Productivity Council.

special fund activities

One main reason why ILO's activities have necessarily to be restricted, is the limitation in resources. Some relief in this direction is now available through the United Nations Special Fund. On 5 January 1963, an agreement was signed in New Delhi under which the Special Fund will provide assistance in the setting up of the National Institute for Training in Industrial Engineering at Powai near Bombay. The Institute will train personnel in industrial engineering and allied subjects which will naturally include management techniques. The Institute will start functioning in July 1963 and is designed to turn out, when in full operation, about 1,400 industrial engineers annually. The ILO will be the executing Agency for this project which holds great promise.

conclusions

From the short account of ILO's work in the field of management development given above, it is clear that as usual, ILO's work in India started in an extremely modest way. Yet, it has been acknowledged that the initial work started by the ILO Mission did provide the stimulus for many subsequent developments over a decade. ILO's contribution, even today, is on a very modest scale. In accordance with our well accepted philosophy, ILO only supplements the efforts undertaken by the countries themselves and does not supplant them.

Productivity and the Worker

George V Haythorne*

Productivity has different meanings and significance for different people. To the worker it may serve as a spur to increased effort or it may give rise to a concern about a change in his job or, even worse, to a fear that he may lose it altogether. Before a positive attitude towards productivity improvements can be expected on the part of most workers, such concerns and fears must be removed. This requires, first, an understanding of the reasons for the fears that exist in a given situation and then the development of steps to deal with them in a constructive and practical fashion.

THE EMPLOYER HAS USUALLY AN INITIAL positive attitude towards productivity improvements. Even though inertia sometimes acts as a strong impediment, it is clearly to a firm's advantage to increase efficiency in production and to reduce per unit costs wherever this can be achieved. Just how these objectives can be best accomplished requires, however, careful planning and action to suit the widely varying conditions among industries, plants and other establishments.

Governments interested in the optimum performance of the economy, commonly also have a positive attitude towards increasing productivity. There are usually many more factors to take into consideration in developing national policies and programmes for the promotion of productivity improvements than in the case of an industry, a firm or an individual worker. Besides, the particular state of development in the economy will govern the appropriateness of the measures to be used and the agencies which may be expected to play an active role in productivity programmes.

The fact that productivity improvements have a more immediate appeal for both employers and governments requires all the more on their part understanding and sympathetic appreciation of the rather different position in which workers find themselves. What can employers and government do to assist workers in this regard and what can workers themselves do?

In the first place, it must be recognized that productivity improvements can best take place in the context of economic growth. Under these conditions the problems of human adjustment which inevitably follow will be minimized.

In a dynamic economy which has as its objective full employment, many workers face the twin problems of change and insecurity. These will be met with less fear and concern when appropriate training and re-training programmes are developed, and adequate provisions are made for workers to move to other work within the same industry or locality or in a different industry or locality.

Such measures initiated by employers and governments are needed but, in addi-

^{*}Minister, Department of Labour, Government of Canada

tion, it is important that workers today be prepared to accept the implications of change. This they will most likely be prepared to do if they realize that their position in the end will be improved and that during the period of adjustment they will not be left completely to their own resources.

The necessary feeling of security on the part of the individual worker can be strengthened if he acts as a member of a group rather than alone. Here is where collective action through a union comes in. It will help the worker overcome his or her fears if there can be confidence in the union helping to see that the fruits of increased productivity are shared fairly among employers, workers and the public generally.

Many of the early efforts of unions were devoted towards establishing this sense of security on the part of members, and inevitably there were problems in working out the respective roles of unions and employers. For a while there was a wide-spread belief that gains in wages and living standards had to be fought for at the expense of management. While a certain element of this remains, there is nowadays a much more widespread feeling that the main source of high standards of living is in economic growth.

Unions today are taking an increasingly active interest in the way in which economic growth comes about. This naturally leads to a fuller understanding of the part they along with management can play in the national productive effort.

The best results can only be achieved through effective teamwork. This requires a feeling of participation on the part of all workers, good communication and the sharing of common purposes. In this changed setting, unions are able to help workers adjust to new situations and develop a constructive and positive approach to productivity improvements. Employers and governments through recognizing the im-

portance of collective action can assist both the position of the individual worker and the promotion of improved productivity.

Many of the problems of economic growth in developing countries and elsewhere are in fact joint employer, worker and government problems. These can be solved more easily and common objectives realized by working closely together. To do so, though, requires an appreciation of the roles that each can best perform.

The key role of worker and employer groups in economic development was stressed at the Fifth Asian Regional Conference convened by the International Labour Organization in Melbourne in 1962. At the close of this Conference the "Resolution of Melbourne" was adopted unanimously in which it was recognized that "the existence of free, strong and responsible employers and workers' organizations is indispensable for bringing about sound industrial relations upon which the orderly growth of an economy so much depends..."

Stimulated by the work of the ILO in the field of productivity and by the European Productivity Agency, now succeeded by the Organization for Economic Cooperation and Development, many countries have developed programmes for stimulating improvements in productivity.

In Canada as in India and in many other countries a National Productivity Council has been established to help focus attention on the need for improved industrial organization and efficiency. This is being done in a wide variety of ways—through national labour-management-government seminars, through the promotion of training on all levels, through various educational media and through the efforts of local joint labour-management committees on an individual enterprise basis.

The fostering of good labour-management relations is being carried out in

Canada not as a substitute for collective bargaining but rather as an important accompanying activity. Through sustained efforts in this respect and with a realization that the rapid pace of industrial change makes many traditional methods of production obsolete, there has been a noticeable increase in interest over recent years on the part of Canadian workers in improving both their own skills and the operating efficiency of industries and plants.

In the long run, everyone benefits from improvements in industrial organization and in the quality of goods produced and services performed. Provided the costs of the adjustments resulting from these improvements are broadly shared, individual workers stand to gain rather than lose from them.

Because the workers in plants directly affected by changes are the most vulnerable, it is understandable that they should look for some assurances that steps will be taken to help them with the inevitable human adjustments. These may involve not only loss of income but the costs, or partial costs, of training and of mobility. It is also a fact that the social and psychological adjustments associated with technological changes may be more difficult for some people to overcome than those of a financial nature.

In Canada a proposal to provide a special government incentive* to encourage employers, workers and their respective organizations to examine technological and other major changes in industries in advance of their introduction is under consideration. By undertaking such an examination jointly, with technical assistance where appropriate from government, some of the fears may be removed and practical

measures developed to reduce the adverse effects on manpower resulting from major industrial changes.

There have also been some notable examples in recent years of collective bargaining settlements that incorporate provisions recognizing collective responsibility for adjusting workforces to technological changes in a way that takes account of the position of the workers, employers and the public. An agreement was reached in 1962 between the major Canadian railway companies and unions representing their nonoperating employees to provide for the establishment of a job security fund. This fund, to which employers contribute one cent per employee per hour worked, will, it is anticipated, help to mitigate hardships suffered by long-service employees whose jobs are eliminated due to technological changes. It may also serve as a source of support to workers while being retrained to qualify for new jobs or to those adversely affected by industrial changes needing other types of assistance.

When there is assurance in advance that workers will receive a reasonable measure of protection, they can be expected to adopt a different attitude towards productivity improvements. They are more likely to recognize that these will be in their long-run interests as well as in the interests of the country as a whole. Workers and their unions are also more likely, under these circumstances, to recognize that the main source of higher standards of living is sound economic growth and that any attempt to slow down or interfere with technological changes tends to work against rather than for economic and social wellbeing.

The identification of the interests of workers and of their unions with the wider interests of the larger communities of which they are a part is helping to foster fruitful tripartite relationships on both a nation-

^{*}The Government of Israel has a scheme in actual operation of tax incentives for increase in productivity. (Editor)

al and international level. When this attitude is freely reciprocated by the other members of the community, it can be a powerful means of bringing about greater labour-management-government cooperation which, in turn, helps to ensure increased economic and social growth.

To the extent that individual workers feel part of this total effort and are able to realize benefits from it, they can be expected not only to adopt a positive attitude towards productivity improvements but also to want to play an active part in achieving them.



These Impediments

"Let me not to the marriage of true minds admit impediments." —Shakespeare

RL Mehta*

Macaulay said somewhere, "Many bad generals have won battles but no debating society has ever done so". What is true of battles is true of productivity: discussions and exhortations cannot improve it. For, productivity is not more production for the sake of more production. There is no basic merit in that. In some cases it may even do harm; it may create slump, lead to closures and retrenchment, cause transport bottlenecks and give more of less important things at the cost of more important ones.

Similarly there is little point in working for an overall five or ten percent increase in all industries in the country. For instance, what is the use of increasing production of an article in an undertaking when another can produce it far more economically? Or, what can be the point of boosting the production of some component part if, by standardization, a component common to several other products and consequently far cheaper, can be substituted for it? Or, why should the workers be called upon to husband every minute of their time if ignorance of the market prevents the undertaking from guaranteeing

them a job? Interest in more production as such cannot solve these problems; it will not even tackle them. What needs attention is productivity. And productivity is more and more production with less and less effort. It is efficiency. It aims at getting the best out of industrial and human resources: a sort of happy and purposeful marriage between the two.

Apropos the purposefulness of this marriage, the Industrial Truce Resolution, which was adopted unanimously by a joint meeting of all central employers and workers organisations on November 3, 1962, advocates improvement in productivity in the following words:

"All impediments in the way of better and fuller utilization of men, machinery and materials should be removed".

Before we can remove them we should know what these impediments are. While the draft Truce Resolution was being discussed, a participant said: "We won't accept it. It is the Code of Efficiency through the back door". He was right. The Truce Resolution is the Code of Efficiency with a different hat on. This Code "defines in concrete terms the responsibilities of all in regard to achieving increase in productivity" to

^{*}Sri RL Mehta has had a distinguished academic career. He has worked in senior positions in the Government of India in the post-Independence period; at present, Joint Secretary, in the Ministry of Labour & Employment, Chairman, Central Board of Workers' Education, etc.

[†]Report on the proposed Code of Efficiency & Welfare, Ministry of Labour & Employment, page 1

But both employers and workers have been resisting the adoption of the Code of Efficiency since 1959 when it was first mooted. That is, since 1959 the "impediments" referred to in the Truce Resolution have been doing their traditional work, namely, to imhigher productivity. Even Emergency does not seem to have "stayed them from their steep course". That is why despite the Truce Resolution little has so far been achieved in terms of higher productivity. The increase in the index of industrial production from 148.2° in October 1962 to 159.7 in November 1962 does not The monthly mean more productivity. average of man-days lost during the period from January 1962 to October 1962 was 470,462. In November 1962 this figure came down to 70,149. About 4 lakh mandays were thus saved. The work done on these days and voluntarily on Sundays and holidays to help the defence effort naturally added to production. Thus while production got a boost during the first few months of the Emergency by the temporary cessation of industrial strife and by labour's gallant response to the call of the Nation to work more, productivity did not improve ipso facto. And productivity "is the thing". A close study of the anatomy of the impediments which retard improvement in productivity is therefore called for.

Before this study is made one or two preliminary remarks seem necessary. What is said below is, of necessity, in broad generalizations. This, however, does not mean that exceptions which prove the rule do not exist. They do. To save space they have been taken for granted. Secondly, the fact that the Truce Resolution was passed unanimously despite the recognition by some of the Code of Efficiency in it, shows that the old resentment against this Code has not been re-invested against the Truce Resolution, or against that clause of it which deals with productivity. In other words,

the iron is hot for an objective consideration of productivity and the impediments in the way of attaining higher standards in it. Let us strike.

The first impediment to productivity is the mistaken belief that it is an exclusively management function. It is true that there are many factors other than labour that enter into the productivity equation: capital investment, research and development. improved methods and equipment, technological advances and managerial skills and so on. And for all these the management is primarily responsible. But they are dust and ashes if not supplemented by the willing cooperation of labour. This is particularly so in less industrially developed countries where it has been seen again and again that spurts to productivity stem more from labour efforts than from managerial ingenuities. In the last analysis in these countries productivity is not so much how to get more from machinery and material as how to get more from men. Good industrial relations is therefore a condition precedent to any attempt at improving productivity. So is consultation with workers or their representatives. To ask an expert to evolve a formula for higher productivity in an undertaking without talking to its union or unions or taking into consideration the labour unrest prevailing there, is to expect him to turn the Nelson eye on reality; which-the Nelson eye and not reality-he may not have cultivated yet! Higher productivity is not possible except in an atmosphere of good industrial relations. there be no mistake about this. If not based on harmony between the employer and the worker any scheme of productivity will have its roots not in the ground but in Sir Francis the air, like Spanish moss. Drake knew this elementary fact centuries ago. When faced with constant bickering between those who handled the sails and those who led the fighting, he issued the following order: "I must have the gentle-

^{1956 = 100}

RL MEHTA

man to haul and draw with the mariner and the mariner with the gentleman. Let us show ourselves to be one company, and let us not give occasion to the enemy to rejoice at our decay and overthrow." In an undertaking in which the management and the labour do not haul and draw as one company the productivity expert can do nothing except waste himself.

Next to good industrial relations the attitude of workers towards productivity is most important. Till a few years ago productivity was to them a vague and hazy concept. Their attitude towards it therefore, was one of indifference. Now thanks to the efforts of the National Productivity Council they have become productivity conscious and indifference is being replaced by fear and suspicion. They now know that by being put to better use the same factors of production - including labour can achieve a general increase in prosperity and welfare. But they fear they may not get their proper share out of this increase, that it may all benefit only one particular section, the employer, and not the community as a whole. In other words, they fear exploitation. They have heard it argued that higher productivity does not entail an increased effort on the part of workers, that it is achieved mainly through better conditions of work and scientific management. This may or may not be true in the Indian context but it confirms their suspicion that not only would they be denied the advantages of higher productivity but might as well suffer unemployment. One way to exorcise this fear is to associate representatives of workers with the process of evolving and applying improved methods of work. This is how the technical and efficiency experts of the Chief Adviser of Factories to the Government of India carry out work studies and allied engineering techniques with a view to improving productivity. Workers' representatives must

*Corbett : Drake and the Tudor Navy

have full information which they need to defend their position with workers if they are not to be discredited by them. Further the cooperation of workers will be easily forthcoming if an incentive in the form of productivity bonus is offered together with an assured share in the benefits deriving from productivity increase. This direct interest in expansion of wealth is essential to the success of any productivity programme. If to this is added an extensive programme of technical and general education so that their efficiency also increases, a worker will be able to give more effectively of himself than ever before. This will also enable him, in due course, to discuss productivity problems with employers with intelligence and confidence. Exchange of views on equal footing makes for an atmosphere of harmony as nothing else does and from harmony to productivity is but a short step. The main reason for a favourable attitude of workers towards productivity in the United States is the confidence of the trade unions in their power to secure a reasonable share in the benefits of higher productivity.

417

Some managements in this country have their own inhibitions towards productivity and these inhibitions constitute another block on the road to industrial efficiency. They arise mostly from two misconceptions: one, the feudal belief that in the absence of unions all would be well within the labour force and secondly, from an exaggerated sense of, what some employers grandiloquently call, their prerogatives. They think that unions impose a restriction on their right to manage the workforce and fear that cooperation with workers or government in programmes to raise productivity will involve interference in the running of their business. When the Code of Efficiency was being discussed in the Madras Session of the Indian Labour Conference in 1959, one employer was overheard to sav:

"I wouldn't mind voting for this Code

and closing this hydraheaded issue but for that blasted Implementation Division which goes on pegging away at you till you do something. That's where the rub lies and not in plumping for this Code. We have already had enough interference from this Division in the implementation of the Code of Discipline. It doesn't give up till you toe the line. And if you don't, it hauls you over the coals and places you before the Implementation Committee. No, Sir, we can't allow ourselves to be bitten twice. The Efficiency Code must be rejected."

The consideration of this Code was postponed at Madras. It stands postponed till today. Meanwhile little more has been seen of productivity programmes in the country than some stray straws in the wind.

In addition to fear of interference, some undertakings are just not ready for higher productivity. Either their structure is such as to stifle enterprise or they suffer from inertia to change time-honoured methods and procedures or monolithic practices keep out all ideas bearing on productivity. To these must be added limitations within which almost all managements in India have to function these days. All capital, labour and human ingenuity cannot be put to the best use because of lack of raw material, or foreign exchange to replace outmoded machinery or shortage of power or transport or marketing facilities.

Lastly, there is a paucity in the country of technical knowledge to promote productivity. By the time the foreign experts understand the intricacies of our inter-union and intra-union rivalries it is time for them to go. The professional bodies are discredited by labour as employer-biased.

The productivity experts of the Chief Adviser of Factories cannot meet all the demands made on them.

Thus the productivity problem reduces itself to this: labour does not want to halt progress towards higher productivity; at the same time it does not intend to be ground to pieces in the rush. Management would also like to see the cake grow but it fights shy of consulting labour on how to bake it iointly or how to share it. Nor does it like Government to facilitate this consultation. That is why the resistance to joint management councils; managements have not passed beyond lip service in accepting the idea of admitting workers anywhere into what one may call a limited partnership in the affairs of the undertaking. In the meantime competitiveness in the world market is increasing and at home labour costs are rising.

The impediments to productivity are real. They will yield to a realistic understanding and a patient handling of them. But they will not disappear by uttering platitudes like "shoulders to the wheel", and "noses to the grind-stone". Nor will galloping in all directions melt them away. We cannot afford to make the productivity drive an expensive pastime, like the chase of the fox by the English country gentleman-"the unspeakable", to use the words of Oscar Wilde, "in full pursuit of the uneatable".* Perhaps, in addition to the steps detailed above, schemes like training within industry and workers' education can do more to meet the productivity challenge than an uncoordinated production campaign.

^{*}A Woman of No Importance

Productivity and the Indian Worker

RP Billimoria*

A very irritated group of workers approached their manager: they had worked hard, they had produced more but the bonus earned was less than in the previous month. Why? Oh why? They wanted to know. The manager patiently explained the production was a bit higher but productivity was lower as more men were allotted to the section. "What is this 'productivity'?" a worker asked. The manager, whose mothertongue was, incidentally, Hindi, wanted to make sure the right word was used; he opened his dictionary and rattled off the words, Utpadakta, Utpadita, Paidavar and Upjaoopan. The last word evoked a titter among the workers—they politely explained that it also stood for 'fertility', but they were still blank on what exactly this 'productivity' was. Yes, there were plenty of slogans plastered on walls and in newspapers "Utpadan Badhao" (increase production) and they were doing it, but whoever saw or heard of "Utpadakta Badhao" or "Upjaoopan Badhao"?

INCIDENTS SUCH AS THOSE RECORDED ABOVE are not uncommon in Indian industry. They bring home to us a grave weakness in our system of communication with the worker. The definition of 'productivity', its measurement and its economic implications have been discussed at great length in conference halls and training centres; books and treatises on the subject adorn many an executive desk, but I am afraid, the Indian worker knows precious little about the true implications of productivity and has confused higher production with higher productivity.† The very word 'productivity' as translated in Hindi or in any other Indian language is hardly known or understood. How then can we complain that the Indian worker is apathetic to appeals for raising productivity? Let us now explore ways and means of bringing the workers closer to the productivity movement and making them fully aware of their stake in it.

inducting for higher productivity

How can this increased communication

be effected? The process should start right at the beginning when you hire a new worker. Assuming that the employer has taken due care to employ the right man for the right job, the next step is to see that he understands what he is supposed to do and in communicating this information, the supervisor concerned emphasises the value of factors governing productivity such as optimum utilisation of physical and mental energy, attention to correct work processes and cost consciousness. The worker should also be told of his conditions of service and the amenities and facilities available to himalso covered are incentive schemes if any. how they are worked out, and what are the factors which would enable him to earn the maximum bonus. All this is covered under the omnibus term 'induction'. It is true that induction is a technique which was first developed in western countries but there can be no doubt that in view of our conditions, it finds greater application in India than elsewhere. A modest induction programme does not cost much to introduce and can best be administered by a new worker's immediate supervisor and by older workers. It pays tremendous dividends in

^{*}Chief Personnel Manager, TISCO, Jamshedpur †This confusion exists even among the higher echelons! (Editor)

building up a worker who is conscious of his key role in ensuring higher productivity.

on-the-job training

Induction is followed up by a process of continuous training on the job and frequent demonstration by senior colleagues and by supervisors of methods of work for increasing productivity. This was brought home to me while visiting Japanese factories. A foreman in an engineering firm told me: "Finding out better methods of work is a constant challenge to me and to some of the older workers in the firm. Once you have devised such a method, we demonstrate this again and yet again to the newer workers and to other sections." When asked whether this will not take time off from his regular work and affect production, he replied: "It is true that the system of experimentation and demonstration does take some time, but on a very conservative estimate, I would say that for every ton lost we make up later by five times as much, and what is more, ensure our existence in a cutthroat export market.' There is no reason why we should not lay greater emphasis on this facet of training in India. We are mechanising at a very fast pace and education needs must play an ever-growing part as the complexity of mechanical and scientific achievements develop. Our training capacity in formal institutions of training is severely limited, and hence there is greater need to concentrate on on-the-job training.

monetary incentives

Merely training a worker to increase productivity is not enough. He needs an incentive. The incentive is best provided if he is assured of a share in the gains consequent to higher productivity. This brings us into the realm of incentive schemes. The subject is too vast to merit detailed discussion in this context: suffice it to say that incentive schemes worked out so as to ensure optimum equipment and labour

utilisation have proved their worth in increasing production and productivity in Indian conditions. To be most effective, they have to be relatively simple; they have to be explained in detail to each worker so that he understands their working. The scheme has to be administered fairly and objectively by both sides, without taking recourse to solutions based on expediency while facing the many problems of implementation.

rationalisation without tears

We must not forget that when we talk of productivity we should not expect reciprocation and results from the workers merely by working up and playing on the factors of patriotism and loyalty to the firm. He may not say so openly, but the worker will always ask himself, "What is in it for me?", when confronted by anything new. By nature he is suspicious of any attempt to raise productivity through rationalisation which may mean hardship and misery for himself and his family if not for his colleagues. This does not mean that we should continue overmanning industry. The surplus workers could be re-trained for employment in any other capacity either within the organisation or elsewhere. Cases are on record where large-scale rationalisation has been possible: "rationalisation without tears", I would call it, by which surplus hands in one trade have been re-trained and absorbed in other designations. This has actually been done in a large heavy industry in India." which doubled its output without increase in the standard force and without

*The TISCO itself: "It will be pertinent to cite our own example at Jamshedpur, where a doubling of the plant capacity has been achieved without any significant addition to the labour fource. This has very nearly solved the intractable problem of labour surplus which had plagued us for many years... We never contemplated retrenchment to get rid of the surplus, because that would have cut right across our traditional policy. We sought and found a solution in expansion." Sir Jehangir Ghandy, The experience of Jamshedpur, NPC PRODUCTIVITY Journal, Vol. 2, No. 4, page 302

retrenchment, through re-training and reallocation of duties.

increased association of workers with management

Productivity is doubtless a management responsibility but it cannot be achieved without effecting a proper motivation of the Ioint consultative bodies and schemes for closer association of workers with management are excellent vehicles for such motivation. Experience shows that such schemes can best be introduced in an industry where there is one strong recognised trade union collaborating with management in the success of that scheme. It is also necessary that such committees dealing with production, cost, safety and welfare matters should not dabble in matters such as wages and bonuses pertaining to collective bargaining, which falls within the purview of union-management negotiations. In a large industry where such a scheme has been in successful operation over the last five years, 32 departmental councils have so far discussed no less than 2,570 items concerning productivity such as economy, elimination of waste, reduction of cost, elimination of defective work and improvement of quality, improvement of methods/layout/process/procedures, provement of the upkeep and care of machinery, tools and instruments, and improvement of working conditions. Of these, 1,890 (74 percent) recommendations have been successfully implemented.

We are sure, such schemes deserve greater support than they have received hitherto. This would give the worker a sense of belonging and help him contribute significantly to increased productivity. It should be remembered, however, that employers or trade unions alone cannot drag unwilling workers into conditions which offer no new opportunity simply in the name of higher productivity. The workers, the trade union and the employers have to sit together and work jointly on such schemes.

the office workers

A light-engineering works manufacturing components for a highly competitive market found itself in the doldrums. Production and productivity were beyond reproach but red-tape in the office and sales organisation handicapped prompt deliveries. Disgruntled customers sought other producers. Hence, when we talk of the worker and productivity in this machine age, we should not restrict our vision to the worker in overalls, tending machines. A very important complement is the office worker pounding the typewriter or punching the computor. His contribution to productivity - even in the negative sense of slowing up processes and actions - is not insignificant. Employers tend to be lulled into a false sense of security because there are no pressing personnel problems in the office. We forget that the strong displeasure of office workers is not preceded by advanced fanfare as in the case of the factory worker. It is all the more essential to establish a free flow of communication between office workers and their supervisors. This can be done by (a) impressing on them that they are accepted as important components of industry, (b) explaining the Company's policies and practices frequently and individually if possible, (c) consulting them on ways and means of increasing ministerial productivity in (d) keeping them acquainted with the latest in techniques and procedures for increasing efficiency, and (e) setting up a proper grievance-handling machinery.

The last applies to all workers alike in industrial complex. To a worker, his grievance is something personal and important — more important than increased production. Unless he is sure of a system of proper disposal of his grievances, he will not listen to or act on slogans of higher productivity. We should also remember that "justice delayed is justice denied", and a grievance procedure should be aimed at settling a grievance in the shortest possible

time, at the lowest possible step.

worker-productivity alone not enough

We have discussed at great length the role of the worker in ensuring higher productivity. It does not, however, mean that one should use him as a scapegoat to explain away all cases of lower productivity. We should remember that labour productivity is only one of the many factors which contribute to the level of productivity in industry. It is true that the worker holds the key position as producer and consumer and higher real wages for himself would depend upon improving his output but all his good efforts can be minimised by other factors such as capital, fuel and materials. This is strikingly illustrated by some statistics from the British Iron and Steel Industry. Between 1950 and 1960, labour productivity in Britain's iron and steel industry rose by 3.5 percent a year but fuel and materials productivity increased by only 0.9 percent, while capital productivity fell by 1.8 percent. So the net result was that total productivity was "pulled down" to a rise of only 1.4 percent a year. Productivity depends on capital, management and labour, and only the most effective use of all three will ensure positive progress. It is the task of good management to make effective use of all three.

climate for higher productivity

There is yet another extraneous factor which inhibits productivity. The politicoagitational origin of the trade union movement in India has often focussed the attention of workers more on agitational methods and their gains, than on the organisational quid pro quo basis of industrial relations. It takes a long time to live down this legacy. It is, however, a sign of hope that

the leaders of the largest trade unions in India have come out openly against this system. The Industrial Truce Resolution consequent to the National Emergency is also a very happy augury for the future. The workers in the work unit and the supervisors can give of their best only in an atmosphere of physical security for themselves and their families. If grievances of a tew lead to 'goondaism' affecting the many, efforts to be channelised for higher productivity are dissipated in making and breaking group alliances for self-protection. The worker cannot work nor the management manage, if the Government does not govern.

conclusion

It is no good launching the best of schemes for increasing productivity if there is a gulf between management and worker, which widens so that a strong resistance to any change dominates discussions and planning. Rapid growth of industries brings in its wake problems which were previously unknown. The productivity movement seeks to eliminate waste of man-power and material. A programme for higher productivity has no axe to grind. It calls for understanding and close cooperation among education and training institutions, research organisations, managements, trade unions and workers. So far as the latter is concerned, it has been proved in isolated units that given the equipment, motivation and training, the Indian worker is as good as any other. The National Emergency and the Industrial Truce Resolution have evoked tremendous enthusiasm for production and higher productivity among workers. This needs to be harnessed on a permanent basis. For, in peace or in war, productivity is the key to our survival as a healthy democracy.

"A Government, generally speaking, is financed by the annual productivity of the people."

MK Gandhi

(from the Harijans dated June 17, 1939)

^{*}From "Worker Productivity Alone Not Enough," TARGET - November 1962

Production Technology & Worker Productivity

Harry F Evarts*

Two important factors, both of which significantly affect workforce productivity of any manufacturing operation, are (1) physical equipment and (2) wants and needs of workers. This paper is directed toward exploring the effects that both of these factors have upon productivity, and suggesting some actions that will meliorate the former and satisfy the latter.

technology and workers

Although there are some exceptions, it can be generalized that most large-scale manufacturing processes are: massive, with large pieces of equipment linked together; impersonal; not fully understood by workers; sometimes dangerous; not infrequently hot; invariably noisy; often unpleasant smelling; usually mechanized; and sometimes automated, meaning that they are programmed and controlled by a person not geographically close to the equipment itself.

And, although there are some exceptions, it can be generalized that most workers involved in these plants are: unable to see the whole process; not in a position to appreciate the final product function of the material they are processing; untrained in respect to understanding their equipment; usually assigned to stations they cannot leave until relief comes or process breakdown occurs; governed by the machine in so far as individual production rate is concerned; working on short cycles, possibly a matter

of seconds; which are repeated for eighthour shifts; little skilled (because of the short work-cycles) and work on jobs can be learned in a matter of a few hours.

worker reaction to technology

As a result of the nature of today's production process and the consequent situation it creates for workers, what is the impact upon employees' work performances?

Workers complain about their inability to control the speed of their work, since all must work at the same pace - that of the machine. It is quite unlikely that workers like working at a constant pace and even less likely that it would happen to be the pace of the equipment being used. Most people like to vary their work rhythm. They may work fast early in the day and slow down later, experiencing spurts of activity after rest periods and toward the end of the day. The change of pace reduces the boredom of work and allows natural adjustment to fatigue. However. machine-paced jobs do not permit variations in pace to suit individuals. The pace is set by the machine and never altered; thus, the machine becomes an inflexible turant worse than the most demanding supervisor.

Workers also feel little sense of accomplishment. Because they neither comprehend the whole process nor understand the function of the material they work upon, they are denied a sense of completion or accomplishment. People like to set goals toward which they work. If the task is

^{*}Professor of Operations Management, School of Business, Northwestern University, Evanston, Illinois, USA

large, they divide it into a series of subgoals, and they credit themselves with successful accomplishment as they attain each. This is generally denied them in most industrial manufacturing today.

Sometimes workers have a feeling of fear towards the process that so dictates their every move. They are afraid that they may get behind and cause the line to malfunction farther along. They sometimes fear the equipment if they cannot comprehend why it is able to do so many things they cannot do. They have nagging fears that some day as they grow older, they will not be able to keep up with the line.

Workers realize and object to the fact that modern production technology deprives them of their ability to make independent decisions regarding their work. There is little room for using judgment, or even for altering workmethods. Further, workers realize that their short-cycle jobs are unskilled, and that even if they had opportunities for individual decisions that they really do have little experience or skill that would enable them to make good decisions. They feel inconsequential.

Almost all industrial workers become bored with their work, mainly because it is both simple and repetitive. In short, with this type of work all the challenge has been eliminated, and only slight effort is required. Under such circumstances, many workers lapse into day-dreaming.

Other aspects of their work also cause resentment. These resentments are also outgrowths of the production technology. They resent the noise that prevents conversation, assignment to a specific station that prevents movement, or the simplicity of a job that prevents development of a transferable and saleable skill.

worker expectations

Thus far, a production technology and its impact upon the workforce has been

described. The workers themselves and what they want and expect from work are the next considerations.

In attempts to understand and account for worker behaviour, a number of theories of motivation have been advanced. A recent contribution has been made by Maslow. He views man's needs in terms of a hierarchy, certain needs becoming operative only when other needs have been relatively satisfied. Professor Douglas McGregor, who has contributed toward the understanding and popularity of Maslow's thesis, describes the need hierarchy as follows:

physiological needs

Man is a wanting animal — as soon as one of his needs is satisfied, another appears in its place. This process is unending. It continues from birth to death. Man continuously puts forth effort — works, if you please — to satisfy his needs.

Human needs are organized in a series of levels — a hierarchy of importance. At the lowest level, but pre-eminent in importance when they are thwarted, are his physiological needs. Man lives by bread alone, when there is no bread. Unless the circumstances are unusual, his needs for love, for status, for recognition are inoperative when his stomach has been empty for a while. But when he eats regularly and adequately, hunger ceases to be an important need. The sated man has hunger only in the sense that a full bottle has emptiness. The same is true of the other physiological needs of man-for rest, exercise, shelter. protection from the elements.

A satisfied need is not a motivator of behaviour. This is a fact which is ignored

*AH Maslow, Motivation and Personality (New York: Harper & Brothers)

†Douglas McGregor, The Human Side of Enterprise (New York: McGraw-Hill Book Company, Inc., 1960), pp. 36-39. in the conventional approach to the management of people. I shall return to it later. For the moment, an example will make the point. Consider your own need for air. Except as you are deprived of it, it has no appreciable motivating effect upon your behaviour.

safety needs

When the physiological needs are reasonably satisfied, needs at the next higher level begin to dominate man's behaviour - to motivate him. These are the safety needs. for protection against danger, threat, deprivation.... The fact needs little emphasis that since every industrial employee is in at least a partially dependent relationship, safety needs may assume considerable importance. Arbitrary management actions, behaviour which arouses uncertainty with respect to continued employment or which reflects favouritism or discrimination, unpredictable administration of policy - these can be powerful motivators of the safety needs in the employment relationship at every level, from worker to vicepresident ...

social needs

When man's physiological needs are satisfied and he is no longer fearful about his physical welfare, his social needs become important motivators of his behaviour. These are such needs as those for belonging, for association, for acceptance by one's fellows, for giving and receiving friendship and love... When man's social needs — and perhaps his safety needs, too — are thus thwarted, he behaves in ways which tend to defeat organizational objectives. He becomes resistant, antagonistic, uncooperative. But this behaviour is a consequence, not a cause.

ego needs

Above the social needs — in the sense that they do not become motivators until lower needs are reasonably satisfied — are the needs of greater significance to the management and to man himself. They are the egoistic needs, and they are of two kinds:

- 1. Those needs that relate to one's self-esteem: needs for self-respect and self-confidence, for autonomy, for achievement, for competence, for knowledge.
- Those needs that relate to one's reputation needs for status, for recognition, for appreciation, for the deserved respect of one's fellows.

Unlike the lower needs, these are rarely satisfied; man seeks indefinitely for more satisfaction of these needs once they have become important to him. However, they do not usually appear in any significant way until physiological, safety, and social needs are reasonably satisfied. Exceptions to this generalization are to be observed, particularly under circumstances where, in addition to severe deprivation of physiological needs, human dignity is trampled upon. Political revolutions often grow out of thwarted social and ego, as well as physiological, needs.

The typical industrial organization offers only limited opportunities for the satisfaction of egoistic needs to people at lower levels in the hierarchy. The conventional methods of organizing work, particularly in mass production industries, give little heed to these aspects of human motivation. If the practices of "scientific management" were deliberately calculated to thwart these needs — which, of course, they are not — they could hardly accomplish this purpose better than they do.

self-fulfilment needs

Finally – a capstone, as it were, on the hierarchy – there are the needs for self-ful-filment. These are the needs for realizing one's own potentialities, for continued self-

development, for being creative in the broadest sense of that term.

The conditions of modern industrial life give only limited opportunity for these relatively domant human needs to find expression. The deprivation most people experience with respect to other lower-level needs diverts their energies into the struggle to satisfy those needs, and the needs for self-fulfilment remain below the level of consciousness.

ego and social needs

Assuming that the physiological and safety needs of most industrial workers are relatively fulfilled, our attention is directed toward the social and ego needs which are frequently frustrated by today's large-scale manufacturing.

Needs that are primarily egoistic can be described as follows:

- Skill All people like to be known for a unique quality. Each worker likes to believe that no one can do his job as well as he can. When describing his job, a worker likes to elaborate on how difficult it is, how long it took to learn, and the special gimmicks he knows that no one else knows about his machine.
- Importance The need for importance is satisfied when the worker takes pride in the product he makes, and feels pleased about his contribution to it. Other ways of satisfying the need for importance come through helping others or being responsible for the welfare of others.
- 3. Success In order to know if success is achieved, employees must have a way of realizing that they have made progress upon or completed a job. Many industrial jobs today are unsatisfactory to incumbents precisely because

their endless sameness gives no feeling of completion or success.

- 4. Contribution Each worker likes to understand why he does the particular work that he does, and what relationship the object he works upon has to the total product. When the worker does not understand the function of the material upon which he works, he feels it is not important. Under such conditions the job loses its meaning and the worker feels his contribution is inconsequential.
- 5. Independence Most workers desire to be "masters of their own fate." They would prefer to establish their own work-habits, start and stop themselves, and select their own tools. This, of course, is largely impossible today. The technology of modern industry has transferred initiative and responsibility to management.
- 6. Understanding Workers want to know and understand those things that directly affect their lives. They need understanding because only with it, can they mould their future. If workers do not understand the forces and people that affect them, they become insecure, restless and distracted. Worse yet, such a mood feeds upon itself. Where little or no understanding is present, half-truths become monstrous rumours.

Needs that are primarily social can be described as follows:

Friendship – Workers need companionship and association with fellows. They have a desire to make friends and to form lasting social associations that satisfy the

- desire to belong, to be one of the gang.
- Helpfulness Nearly all workers have a strong desire to help others and to be helped in turn. There are few of us who can resist the desire to tell others "how we would do it."
- 3. Fair treatment Most workers ask no more than equal opportunities. If they receive fair treatment and fail, they may not be happy, but they are much less likely to be dissatisfied with their circumstances. However, if they do succeed, they like notice and attention to their accomplishments.
- Appraisal Workers require knowledge of where they stand in the eyes of management. This may be favourable or unfavourable, but they need to know.

management action

Although a number of factors bear upon workforce productivity, it has been de-monstrated that one of the most important is the production technology. Production processes are designed by engineers to most efficiently convert raw materials into useful end-products. Consideration of the workers who operate the equipment is, at most, incidental. However, workers have particular wants and desires and these are often thwarted by the production process. The natural consequence of worker dissatisfaction is low productivity. To combat this situation, management must take action to production technology meliorate satisfy worker wants and desires. are a number of avenues available to management. These are not mutually exclusive, although all of them need not be used in any one situation.

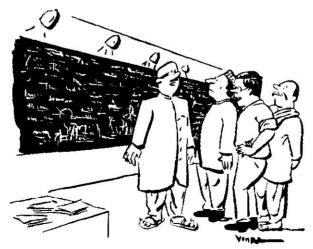
> Make frequent changes in job assignments. — Since most jobs are relatively simple and quickly

- learned, allow workers to change from one job to another. This relieves boredom and gives something to look forward to. It increases the worker's feeling of self-importance.
- Permit workers a voice in the pace at which they work. – This may involve changing machine speeds at different times during the shift. This will conform more closely with the natural rhythm of workers and will tend to relieve tension and fear.
- 3. Schedule rest periods. There are many valid research studies that support rest periods as an aid to productivity. It is sometimes desirable to allow workers a voice in the determination of rest periods. While the contribution rest makes relative to the interest of a management willing to grant rest periods is uncertain, nonetheless, productivity increases.
- 4. Combine small jobs into larger jobs. While it flies in the face of scientific management, this tactic usually results in greater productivity. Work becomes more meaningful as the work cycle time increases, allowing workers to become more interested in making a significant contribution to the final product.
- 5. Set goals.— This will satisfy the desire to have a specific assignment toward which to work. Thus workers respond to appeals to get a particular order out by a set time or to produce a certain amount per shift. They are likely to respond to friendly inter-shift competition when they feel the company needs everyone's top production.

- 6. Keep people informed.—Workers have a genuine desire to know the future so that they may plan their own activities. In most industrial situations they are in no position to observe what will next affect their work assignments. Relief is afforded when a systematic programme is effected to let them know that "the next job will be \$ 18 tin coated deep dip."
 - 7. Publish information on progress.—
 As part of their desire to succeed, workers want information on production, backlogs, reject rates, incentive earnings, and the like. This permits measurement of success.
 - 8. Do not break in on partially completed jobs.—No manager interrupts the production process without good reason. However, workers are often in no position to appreciate "good reason." They do know that their desire to do a complete,

- meaningful job has been frustrated.
- Appraise personnel. In order to satisfy the need of people to know how they stand (whether their standing be good or bad) it is necessary to periodically apprise them of their status with respect to raises, promotions, work assignments. personnel ratings, and quantity and quality stardards.
- 10. In general and to the extent possible, allow people to be the masters of their own fates.—Give them every opportunity to be personally proud of their work and to receive acclaim from their peers and superiors.

There are a number of instances where the above actions have been put into effect and have successfully countered a trend toward low productivity. Production technology is an awesome foe, but its deleterious effects on workforce productivity can be limited by managers who properly gauge the needs and wants of the workforce and take action to satisfy those wants which have been frustrated by technology.



WE'RE STALLED GENTLEMEN-WE'VE RUN OUT OF CHALK

Productivity and Redundancy

GEC Trounce*

It may seem odd to mention Productivity and Redundancy in the same breath: what can they possibly have to do with one another? Redundancy is a gloomy word conjuring up visions of enforced change and inconvenience at best; unemployment and hunger at worst. Productivity on the other hand has a cheerful ring. It suggests an abundance of the good things of life. Yet I hope to show in the next few paragraphs that there is a close relationship between the two: that the happy kingdom of productivity cannot be attained without first charting a path through the perilous realm of redundancy.

WE WOULD AGREE, I THINK, THAT AN IN-CREASE in the supply of goods and services which we all want cannot be secured without the use of human brains and hands. (Automation is not as far advanced as all that). And, as Shakespeare says "...men are flesh and blood and apprehensive"; (women too, for that matter.) So any employer who plans for greater efficiency would do well to take these flesh-and-blood apprehensions fully into account. If he does not, he may find that his schemes for increasing productivity by cutting out this or that operation, or eliminating this or that worker, will result in a series of individual or concerted efforts to frustrate him; efforts springing primarily from fear of redundancy.

y 100 g 15 - 15

. 10

In the industrial world of Britain it has taken a long time to get anywhere near an understanding of the full implications of this redundancy problem and to begin to evolve a policy for solving it. Whenever there is a risk of unemployment a man will cling desperately to his job and resist all efforts to abolish it or even to change it in any material way. He is afraid that when the job goes he will

find himself competing on the labour market for some other post which he is much less qualified to fill. He will recall the years spent in acquiring the special skill which made him a good and capable workman, and may genuinely feel that the community would be poorer for the loss of his craft or technique.

The first step towards overcoming this natural reaction is to teach an entirely new attitude towards redundancy and line it up with the broader question of industrial and technological progress. Working men and women, and those who employ them, need to know and accept the basic truth that nobody has any right to expect a job which will continue unchanged from the day he starts work to the day he retires. Who would really want such a job anyway; what an affront it would be to human intelligence and dignity. In an industrial revolution and we are all living in the midst of one of these recurring phenomena – jobs spring up from nowhere, undergo rapid change through some technological development and then disappear overnight. Whether we like it or not, skills which seem essential one day can be surplus to requirements the next. Where for example is that "old lamplighter of long, long

^{*}The author now working as Labour Adviser to the British High Commission in India; has had a long and distinguished record of service in the Ministry of Labour in the United Kingdom.

ago" whose passing from the employment world was mourned by the songwriter but—so far as I know—by nobody else. One may indeed suspect that the lamplighter himself has no regrets for his transition to a cosy power-house control room, and no wish to return to the long pole and the ceaseless tramping of dark wintry streets. Of course it was necessary to get him used to the idea of the change, and to train him to switch on the electric current instead of pushing his pole against the gas tap. Here, of course, is the crux of the whole redundancy problem—to bring about change without fear of hardship or personal loss.

heavy responsibility rests A management to keep redundancy to a minimum by intelligent manpower planning and anticipation of market trends. Workers should not be engaged beyond the numbers required for orders on hand or confidently expected - unless it is made clear from the outset that employment will be a short-term affair. If there are already too many workers their number should wherever possible be reduced by normal wastage. Managers should feel a sense of shame if they have to resort to sudden and drastic cuts as a result of sheer bad planning. The workers and their trade unions should be told immediately whenever jobs are seen to be in danger and every assistance should be given in the search for alternative work. The order of transfer or discharge on redundancy should be settled in advance as part of the normal contract of employment. This order could be based on length of service with the firm - the usual arrangement - or any other consideration, so long as it is fair and acceptable to all parties. There should be enough goodwill on both sides to allow flexibility in those special cases where the retention of a skilled worker or group of workers contrary to the normal order of transfer would ease the transition period for the rest. If his resources allow, an employer should provide cash compensation for redundancy, varying according to the nature of the employment, its duration and the worker's reasonable expectations.

Some element of inconvenience or even hardship is inevitable in the process of industrial change. This fact must be faced, since the world will not stand still for anyone. A great deal more, however, can be done—and must be done—to ease the process of transition from one job or environment to another and to bring working people to accept the long-term advantages of change.

Until we can succeed in developing a thoughtful, effective—and generous—policy towards the redundant worker he will continue to be a formidable obstacle in our path towards greater productivity. It is for us to decide how long he stays there.



Rationalization and Productivity

JP Saigal*

The national emergency has re-emphasised the need for improving productivity. In his call to the nation, the Prime Minister stressed in unequivocal terms: "We must change our procedures from slow moving methods of peace time to those that produce results quickly ... " How to do things quickly and in a better way is the crux of the problem! This principle can be applied to all facets of our economic life; but it has a special significance for industry, since industry, is the backbone of our national defence. There is no lack of enthusiasm about which people used to complain in the past. A great deal of zeal is noticeable. It was reflected in the Industrial Truce Resolution adopted by the tripartite conference last year. A Resolution, however, is only an outward manifestation of the public will: one has to go to the far away factories, mines and workshops in order to realize the full significance of the efforts which managers and men have put forward. Human relations do not change overnight. They are products of attitudes and traditions. They vary from factory to factory. A generalisation can, however, be hazarded : the national crisis has given a fillip not only to greater all-round effort but has also produced a mood of challenge among the supervisors and the men.

The Prime Minister's exhortation to produce results quickly is not a new idea, although, as usual, it has been clothed in simple and effective language. In the context of national planning and development, it has been stressed again and again that the only enduring basis for a dynamic economy is the rising level of productivity. The Third Five-Year Plan, for example, amplifies that "Rationalization of effort in every direction is the true basis of produc-

*The author has a distinguished record, for nearly two decades, in the fields of Labour and Personnel Management. A brilliant academician, he has contributed substantially to the literature on Productivity, on which subject he wrote a thesis for his Master's Degree, awarded to him by the University of California, where he was Smith—Mundt Scholar. He has played a creditable part in the difficult problem of industrial relations in the Oil industry in India, being intimately associated with employee relations in the ESSO. This article, however, represents his own personal views on the important matters covered by the author's thesis presented here.

tivity." The term 'rationalization', however, has become a casualty of semantics. It connotes different things to different people and if one were to analyse the controversy over this subject, one would come to the interesting conclusion that each party considers rationalization a desirable thing not for itself but for the other party. Management argues that "labour should be rationalized" so that efficiency could be improved. Trade Unionists, on the other hand, draw attention to the mismanagement of industries and maintain that "management should be rationalized". This is an unfortunate state of affairs. It is this compartmentalization of rationalization in the minds of the emplovers and workers which has created a psychological barrier between the two groups. A great deal of education will have to be done in order to remove this

[†]Third Five Year Plan, Government of India, p. 262.

barrier. It is well known that pioneers who thought about rationalization did not take a sectarian view. They looked at the "industry as a whole" and emphasised that rationalization involves "systematic reasoning" in order to solve the problems of industry. As early as 1937 the ILO Advisory Committee adopted a resolution, which among other things, said: "Rationalization in the narrowest sense is any reform of an undertaking, administrative, or other service, public or private, tending to replace habitual, antiquated practices by means and methods based on systematic reasoning".

There is no doubt that the responsibility for rationalization rests with management. Management is in a position to take into account all the aspects of the unit as a whole. Its primary function is to evolve new ideas to maintain and improve the vitality of business. Management alone is in a position to implement these ideas as smoothly as possible after striking a balance between the interests of investors. workers and consumers. Thus it will be seen that rationalization is a comprehensive thing: it covers all facets of management. Attention to all these aspects is necessary for the success of the concern; but certain aspects assume a new significance in the context of the national emergency and therefore deserve more emphasis.

One of these aspects relates to the role of the Manager. It deals with the philosophy of management and the value he attaches to his profession. It is closely linked with his objective, because without a definite objective, an enterprise cannot be a success. We are not talking about objectives in their narrow sense such as elimination of waste, reduction of cost, attainment of production targets. These are important mechanics of management, but we are concerned with broad objectives. This was one of the points underscored by the Prime Minister in his recent address to the Indian Institute of Public Administration, New Delhi. He em-

phasised that it was worthwhile for an administrator to consider what his objective was. He went on to say: "No administrator, I suppose, or anyone else for that matter, can really do first class work without a sense of function, without some measure of a crusading spirit. 'I am doing this, I have to achieve this, as a part of a great movement in a big cause'. That gives a sense of function, not the sense of the individual narrow approach of doing a job in an office for a salary or wage . . . I do not say it is a bad thing to be interested. One is always interested in oneself and cannot get rid of it. Nevertheless, the main thing should be this sense of function in one's job and how we fit in that for the larger objectives you place before yourself . . . if you have got that, then you get a certain special halo around you, if I may use the word, which takes you out of the common rut and your work also gets an element of distinction because of that". Here is an inspiring motto for all business executives which can give them the right sense of pride to meet the new challenge.

The challenge of the present emergency cannot be met unless our managers become 'innovation conscious.' At no time was the need for a climate conducive to innovation in industry more urgent than today. dustry is confronted with various problems: shortage of materials, transport, bottleneck, paucity of foreign exchange, heavy tax burdens, rising cost of living - and there is no doubt that the manager who will lose most will be the one who sits with his fingers A successful manager will be a leader of the innovative process, which is the basis of rationalization. Innovation is not a one-time job; it is a continuing process. Nor is it confined to the manufacturing process only. It is all pervasive, and covers all types of business. There may be innovation in selling, accounting, materials handling, management organization, management methods, utilization of tools, storekeeping, selection and training of personnel. Innovation is not always spectacular, but it is the life blood of a business organization which gives it strength and stamina to adapt itself to changing circumstances.

Industry does not produce goods only but also men. Examples are not wanting when industry has brought forth distinguished and unsurpassed business leaders under the stress of war. This is not accidental. A national emergency calls for imagination and foresight in the training of managers. It gives a unique opportunity to young managers for shouldering responsibility and for gaining invaluable experience. Management training has come to stay in India. The problem is being tackled in various ways by different agencies, educational institutions, training-oriented companies, Management Associations, Productivity Councils and Management Consultants - all are making their contributions. But it must be remembered that there is no substitute for counselling or personal coaching on the job. This can only be done by senior and experienced people in an organization. It requires a broad outlook and insistence on the part of the industry that it will judge the performance of its managers on the basis of the successors they produce.

This kind of training, in fact, is a selfeffacing job. It cannot be imparted through Company manuals or Company policy statements. It calls for faith as well as courage: faith of the trainer in the Company's policy and his courage to allow the trainee to take decisions and still assume responsibility for his actions. Unless this training process is accelerated, it will be difficult to meet the increasing demand for managers in this country. Perhaps it is not fully realized that one of the serious handicaps for this type of training is the feudalistic atmosphere and frustration at the Middle Management level prevailing in many private and public enterprises. Such a situation is not conducive for the implementation of a rationalization plan or for an improvement in the innovatory spirit.

Undoubtedly labour has a stake in any rationalization programme. Its fears are understandable in the context of unemployment and underemployment prevailing in the country. It has been argued that rationalization will not be worthwhile if it increases work-loads to an unbearable extent, prejudicial to the health of the operative. Underlying many of the protests and demonstrations against rationalization is a fear that the workers will be deprived of their adequate share in the gains accruing from rationalization. These are valid points and it should not be forgotten that resistance to technological or economic change is a universal phenomenon. In fact. attempts have been made in India by employers, workers and the Government to cushion the adverse effects of rationaliza-Notwithstanding the prolonged strikes in Kanpur and Nagpur, certain conventions and healthy precedents have grown. It is not without significance that Mahatma Gandhi's three-point programme evolved in connection with the Ahmedabad textile industry has become the core of future agreements. These rules are: no displacement of labour; protection of the workers' health, and fair share of the gains of rationalization. These points have been underlined in the different Five-Year Plans and constitute the pivot of the Government policy. After discussions between representatives of employers, workers Government at different conferences and seminars, a model agreement on rationalization has been adopted for the guidance of workers and employers.* It is high time to have a new look at this agreement and see how it can be refined and how its implementation can be facilitated to meet the demands of the present Emergency. One of the thorny questions in connection with rationalization is the measurement of the gains accruing from it and the identifica-

^{*}Model Agreement to guide Employers in regard to Rationalization adopted at the 15th Indian Labour Conference, July 1957

tion of a fair share for labour. No rigid formula can be laid down for this purpose. Each case will have to be examined on its own merits by the representatives of the workers and the employers. Sometimes, help of technicians and assessors can go a long way towards analysing the issues of rationalization and towards bringing about an amicable agreement.

Labour Union attitudes towards rationalization are influenced by various factors. varying from downright opposition to adjustment. Both Union policies and legal requirements make it obligatory for the employer to virtually obtain the consent of the union before launching any change in his unit. The impact of the unions covers a wide field. They can pursue and agitate about several matters in connection with rationalization: manning of new machines, work-load, transfer, promotion, seniority rules, skill demarcation lines, protection of past practice, wage differentials, additional compensation etc. It will be worthwhile to inquire if the restrictions put on the employer under Sections 9A and 33 of the Industrial Disputes Act, 1947, could not be modified to minimise delays and obstruction tactics.* There are examples to show *The NPC, being a tripartite organisation on the ILO model, is neutral on this point, as also in the matter of wage awards etc. (Editor)

that owing to Union's opposition new machinery has remained idle for a considerable time or not been utilised at all. The system of omnibus industrial awards and even recommendations of Industrial Wage Boards are not an unmixed blessing in the sense that very little distinction is made between efficient and inefficient units in the same industry. Undoubtedly the 'industry approach' has brought about stability but since the scheme by its very nature involves averaging of conditions to a large extent, it restricts scope for innovations in collective bargaining or for the exercise of individual initiative in tackling day-to-day problems for improving efficiency. Finally, it is common observation that the unions' attitude towards rationalization or to any problem for that matter, is conditioned by the state of trade union rivalry. When this rivalry is acute, each of the unions vies with the other to condemn and protest against the rationalization scheme. In such cases the issues are clouded with so much emotion and bickering that no realistic appraisal is possible. It is, therefore, necessary that if the dream of the nation for higher productivity is to be realised, effective steps should be taken to improve and strengthen the machinery for the settlement of union rivalries and disputes.

-AHAHA

"Those who desire to promote changes by an appeal to reason should not assume that all their adversaries are unreasonable. Many may be on the lunatic fringe, but not all. Unless the model builder sees himself and his model as part of the real world, in an environment made up of other people and other specialisms, he will soon join the lunatic fringe too."

Richard Stone at the last Annual Conference of Operational Research Society, at Cheltenham

Human Relations in Industry

Anthony Cekota*

To my mind, "Industrial Peace" resembles the tremendous forces of a huge hydro-electric system generating hundreds of thousands of volts of electricity flowing through the transformers which keep the flow in balance, regulate it into working through the transport it to the final working station. You cannot see the power, you cannot hear it, but you know that it exists and that in order to be useful all its elements and components must be in balance. You know that this system lives only by and through high tension and that it does the useful work only through the balance of forces within it. This is the "Working Peace" of the system. Destroy the balance and you also get peace, but under such peace the burden of making a living would again fall upon the shoulders of man and beast. To my mind, peace in modern industry is therefore a peace of high tension in which many powers and forces, some of them of gigantic proportions and some of them infinitely small, but having the critical effect of a catalyst are held in balance, which mekes it possible for them to work and deliver what is expected.

Some people know it consciously and clearly, while others (the majority) by instinct only, that modern industry is the greatest power in our lives on every continent. This power is the focal point of our lives. It attracts the best brains because it needs them. It attracts masses because it can employ them and requires them. It produces tools and machines for everything. It makes almost everything we need and even if it does not make the food we cat (yet) it transports it, processes it, preserves it and sells it. It pays wages and salaries. It pays, in taxes for most of the cost of everything which makes a civilized life, i.e. education, justice, administration. Its power is decisive for the maintenance of national security and national independence. With all this and more, this vital force, modern industry is not understood by the majority of the people and not even by well-educated and highly intelligent men. Because it is not understood it is being mishandled and abused to such an extent that we should not be surprised that problems and conflicts are coming out of it at the same time as the goods, wages, employment and taxes.

Why is industry misunderstood and mishandled? Because (in my opinion) it has changed the pattern of man's life and with this most of his habits and institutions developed through thousands of years during which he made his living by agriculture and handicrait. The way by which a man makes his living always turns him into the man he is. All the recent

studies in Industrial Psychology reveal that it is their work, their daily job, which had the greatest influence upon workers. Not their families, friends, incomes, entertainment, education, unions, churches, clubs, etc, — it is their work, the particular job they are doing.

Today we know why unions came into industry. Unions have now grown up into institutions, trying to make good use of democracy and the right of an individual to east his vote as he wishes. Every-

gers, and more votes are gained by promises to give more for less. Yet the majority of people have discovered that today's promises are tomorrow's taxes or tomorrow's inflation by which people very heavily pay

where there are more workers than mana-

for what they think they gained. While

^{*}Director, BATA Company, Canada

facing this problem, the main factors in this drama, industry and unions, are either silent or engaged in a mutual exchange of name-calling. Although both live from the same source, in many cases they do not live in peace, but rather in sort of an armistice. This armistice may be agreed upon for a certain length of time by a contract, but even during this contractual armistice, small or large wars break out like bush fires. Any sensible man realizes that this is not the kind of life which should be accepted, but what is to be done in order to establish peace within industry and for the industry?

When we consider the Unions it is necessary to realize that today there are 4 types of Unions in the world. There is one type which I would define by one word "MORE" These Unions have grown up on the North American Continent. I have not selected this word "MORE" by accident. founder, Samuel Compers, when asked 60 years ago what his policy was, said "MORE" and "MORE" it has been ever since. This type of Union never went into politics. Again Samuel Compers' advice to his fellow Unionists in respect of politics, was - "Reward friends and punish enemies". The friends, of course, were those who helped to get "MORE". By this pressure for "MORE" this type of Union has come close to the real function of a Union in industry. This function is the "Opposition". The Union cannot have any other function in industry but that of the "Opposition".* cannot be the government or the management, not even a formal part of it, because all this would make it responsible to all sectors of the industry, i.e. consumers, state, public bodies, managers and owners.

There is nothing wrong with Opposition

and a clear and formal function of the The Opposition of North opposition. American Unions acting as pressure groups had a peculiar effect upon the American industry. It forced industry to seek ways and means to find the money for paying the cost of "MORE". Tremendous development of new machinery and more effective working methods and processes came about as a result of this pressure. Some of this, of course, had a peculiar side effect as well. The more it cost to employ a man, the more desirable and necessary it was to invent machines which did not need a man to run them or which required a fewer men to produce more goods. Still for many years, this race for "MORE" and "better machines and methods" ran neck in neck, until finally the "MORE" outran the "machines". flation set in, the cost of living outran the productivity and the American and Canadian dollar started dropping in value by a tempo of about 2½ percent per year. Evidently the principle "More for Less" is not the answer to industrial problems in our society. Also in many countries where there are more people than in the United States and Canada, and less facilities to make complicated machines, the policy of replacing people by machines would not be the answer to industrial problems.

In order to pursue this policy of "MORE", all North American Unions are basically protectionists. All call for higher tariffs, export quotas and less immigration. However, in spite of all these barriers, goods made in foreign countries are jumping over the wall and coming in. For example, not long ago, in Canada every fourth shirt and every fourth automobile was made outside the country. Not that the Canadian industry and its workers could not make them. They make excellent shirts and cars, but they are expensive. Thus, it is not surprising to see some industries closing down their factories, as happened for example in Canada, where 70 percent of the factories

^{*}It needs to be emphasised, particularly in the context of this paragraph that these are the author's own views, as an industrialist, to which he is fully entitled. NPC, being a tripartite organisation on the ILO pattern, is neutral in the area of industrial conflicts though it is vitally interested in industrial harmony as the basis for higher productivity. (Editor)

in the textile, rubber, footwear business closed down.

England and most of the countries of Western Europe developed a different type of Unionism which could be described as "More with Reason and Mutual Control". This type of Union forms the "Association representing the employees of the entire trade" and deals with the Association of Employers, representing either all or the majority of companies of the entire trade. Men leading both Associations are usually men of common sense, with a great deal of experience. Both of them ceased a long time ago to wage war against each other with the object of eliminating the opposite party. Both know how far each can go so that the business can survive and feed them. They all know that England and Europe have not enough food to feed their population. They know that they must buy this food and many of the raw materials from overseas and that they can pay for it only by their work. Thus they work comparatively in peace. Still, their best men in the Union Associations and Industry know that something more exact than horse trading methods of pressure and lobbying is needed to find out how much should labour get from industrial progress. Several years ago, England set up a Royal Commission to find out such a method. Its studies indicated that the increases in wages and benefits in order not to cause inflation should be tied up with an increase in productivity.

We hear and read a great deal about this subject of productivity. In spite of all studies on it, no one yet has brought up its proper definition or enumerated all the causes which have subscribed to the increase of productivity. Governments of several countries are operating large offices to follow up productivity and its yearly increases in many industries. In the USA this has been going on for many decades. Using as a yardstick the number of men engaged in various industries and the quantity of

goods produced, it was found that productivity was increasing anywhere from 2 to 3 percent per year.

"That's it", said some of the leaders of the "MORE" type Unins. All this increase belongs to labour. However, not only the Union men said so. Mr. Charles Wilson. when he was the President of the General Motors Corporation thought that this was the answer and put it into the contract with the Auto-Workers' Union many years ago. It turned out, however, that this was not so. Someone else found that during many decades in the USA a 3 percent increase in productivity ran parallel with a 3 percent increase of mechanical power generated in the country from coal and electricity. Another made a study that such increases correspond to the increase of graduating students from American High Schools and Universities. No one had figured out how much effect had the work of one man. Thomas Alva Edison and a small group of similar men upon the increase in productivity. It was a French Priest who recently told Americans in his book how much of it was caused by one man, a rather eccentric fellow, Henry Ford Sr. and his mass production, mass sales ideas, put into effect not only in the USA but all over the world.

Out of these studies it appears that the increase in productivity is caused by many sectors of society and that all these sectors should share in it. Labour has a good right for sharing in it, but so has industry, not to squander it, but to invest it in research and better tools, machines and methods as well as for incentive to stir the incentiveness and hard work of men who are its leading elements.

Productivity is certainly the only basis for increasing the share of labour income from industry, but evidently its mathematics cannot bring about a workable peace in industry.

The third type of Union is such which for the sake of clear understanding of its nature I would classify as "To Hell with You" Union. For this type of Union nothing is right in the industry. The fourth type of Unions are the Company Unions. We have very few of them and most of them are weak. Communist countries have Company Unions. But these have their limitations for there is the factory manager with his production quotas etc. In any case, Company Unions are not the answer to industrial problems and can never lead towards real peace.

There are indications that such peace is possible and the principles for it started to be worked out and are being worked out under the influence of the first two types of Unions described here. It is not that these Unions wanted such principles and such approach towards industrial peace. No, all this came out as the by-product of their opposition and their influence as the opposition. I am referring to the great scientific work which is being carried out on the North American Continent and in several great industrial countries of Western Europe and the United Kingdom, in the field of Industrial Psychology, psychology of the industrial worker and manager in the search for the purpose of their life and for the type of industrial enterprise and community they should build together.

This searching and scientific investigation is going on now for decades but it is still carried more on the academical ground, although much of it had already penetrated into the practical life of many companies and their factories. Time is short to permit me to describe to you some of the results of such work. I will mention only one of its most striking examples, the work of George Elton Mayo, Professor of Industrial Research at Harvard University, and specifically his work on what became known as the "Hathorne Experiment". Mayo worked on this "experiment" for several years, from 1927 to 1932, with the workers of the

Western Electric Company in the Hathorne factory. At that time, American industry operated on the basis of principles of "Scientific Management" established by the lifetime work of Engineer Frederick Taylor, Frank Gilbreth and their followers, who cultivated and deepened their principles in the "American Society for Scientific Management" (which has thousands of members). These principles pointed out that man, a worker, can produce the correct amount of work only when he gets the most favourable material conditions for his work such as, tools, machines, lighting, ventilation, heating, humidity, training in movements, proper work planning and a proper degree of material incentives. American industry had tremendous success with these scientific methods, but the number of cases and places were increasing where production was dropping down and trouble growing in spite of all such material perfection. As far as I know, it was Professor Mayo who discovered what was still missing and somehow forgotten in this technological perfection. The forgotten element was a "man" or a "woman", a "human being" who was doing the work.

The management of the Western Electric Company gave Mayo a free hand to do whatever he wanted in the Hathorne plant. He selected a small workshop in which he changed nothing so far as the machinery was concerned. He gained the confidence of the workers individually and as a group and informed them about the work he was engaged in. He changed their working conditions several times, keeping such change always for 4 to 12 weeks. Sometimes these conditions were better (shorter working weeks from 48 hours, then to 40) and sometimes worse (back to 48 hours, no rest periods, poor lighting, etc.). No matter what Mayo did, the output increased after any change, with the exception of one when he introduced 6 rest periods of 5 minutes' duration daily. Then the workers complained that they could not get back into the rythmical swing of work.

During these experiments, Professor Mayo discovered that the factory has two functions. First, to produce the goods. This, he found, was investigated very thoroughly by engineers and industrial managers who equipped the factory properly for this purpose and were clear in their minds about what they should do to keep it producing. The second function of the factory is social. Creating and distributing human satisfaction among the people under its roof. This, as Mayo found, was not being done and the engineers and managers were not even aware that such function exists. Under this situation the factory produced the opposite in its social function, i.e. human dissatisfaction.

In very plain and simple language Mayo discovered in his learned and scientific way that "MAN DOES NOT LIVE BY BREAD ALONE".

Many scientists took over after Mavo (some did it in a sporadic way, long before him). Today, in western countries there are several great Universities with regular courses and faculties teaching "Industrial Psychology". Many excellent investigators and scientists spend their lifetime working in this field. I could refer to the work of Professor Rothlisberger and Dickson at Harvard, Professor Shell at Massachussets Institute of Technology, Professor Milland and Professor Form at the University of Michigan, Sociologist CH Cooley, Kurt Levin of the University of Iowa and ISC Brown, MD who is one of the leading practising industrial psychologists England. There are now many such men in many countries.

I recommend that not only we study their work, but also adapt it to our factories and business and put it to work. When we start with this sincerely, we shall discover that in this field the Union and its best men are our natural partners (unless it is the "Hell with You" Union). The Unions are interested in the welfare of the workers. We are interested in the welfare of the workers as well. The real welfare of the factories cannot be secured by material benefits alone because there will always be a limit to what any industry can pay in material benefits. Such human benefits as "dignity", "friend-ship", "confidence", "cooperation", "good-will", "courage" (with no fear in the place), "mutual respect" and so on, cannot be purchased at any price and they cannot be enforced. They must be sought after knowingly and in this activity our responsibility and duty as Managers is greater than that of the Union.

We are the "Government" and therefore in our hands is the power of initiative. It is we who need to start it and start it sincerely, not as a "technique of handling people". People do not want to be handled. But on the other hand they appreciate help on their way to a satisfactory life, most of which they spend at work. Only we can start actions to give them such help in that particular place where they work and where we as Managers deal with them continuously through the foremen and their superiors. In this field there is no natural conflict between Industry and the Unions. Here we are partners and have to be partners to get along.

In order to accomplish this we need nothing from the Board of Directors and the top management except their blessing. work could be done only by us and our colleagues, production managers, factory superintendents, foremen, departmental managers and by all those in charge of men at work. This is not a work we can do by reading books, listening to lectures and attending or organizing courses. Peace in industry, living peace, not the peace of a cemetery or such as is enforced by the brutal forces of tyranny, will never come without the great effort of men who treat industry as a human institution, probably the greatest institution in our time. Such

men cannot be amateurs. They must be professionals and treat their job as a profession requiring a similar code of honour and sense of duty as the profession of a medical doctor, judge, scientist or army officer. Technical knowledge or running the business is not enough. The desire to make money is not enough and this is not my invention. I do not think that I shall ever forget the statement of Old Thomas Bata, the founder of the Bata Organization, which he made about 30 years ago to his managers: "Whoever chases money will never catch it. Serve. Perform the service with all that is in you and you cannot escape money, it will chase you continuously". When he said this he was already one of the richest men in Europe, but instead of taking it easy he started further work to make shoes for the people of many countries, including India.

The time may come when people will realize that a professional industrial manager must be educated in similar types of Universities and Academies as those turning out doctors and army officers. schools, in addition to technical knowledge the men are brought up to conduct themselves in life and in their profession according to a certain code of honour. Technical discipline and intellectual knowledge are not enough to lead men at work in such a way that they would fight with the problems, obstacles and burden of their work - not among themselves. Words are not sufficient to describe what else is needed except perhaps that what is called character and goodness shown by example.

Several years ago, I spoke with an American psychologist, Mr. Lyle Spencer, who before World War II taught at the Chicago University and who is now managing his own company. He told me about his experience with the soldiers of the American Army during the War. At that time he was engaged by the American General Staff as a psychologist to work in

the Department of Psychological Warfare, searching for principles and instructions to help American fighting men fight. designed slogans, drafted lectures, composed patriotic speeches and songs and made patriotic films and gave all of these to the soldiers. We discovered that they just made fun of them. Then we were sent to investigate why some platoons at Anzio Beach in Italy jumped out from their cover and attacked against the machine-gun fire, and why some of them did just the opposite. In every instance we found that men jumped out and attacked, risking their lives, when their platoon commander jumped out first and attacked. We found that only the example worked", not our draft lectures, slogans or songs.

I often return in my mind to this piece of information and also to the phenomenon that in war, many men risk their lives and limbs voluntarily without material reward. Why is it, that in the midst of such barbaric carnage, men are showing unbelievable examples of heroism and deep friendship? Perhaps it is only hate or love which ties men in strong bonds of mutual support and understanding. Nothing but squabbles and bickering could ever come out among where there is indifference.

Perhaps we have overlooked in our dealing with people in industry that man is not ruled by intellect alone, that on the contrary, the intellect is mostly the executor of his sentiments, wishes and desires, hopes and fears. Maybe it would help us while dealing with a man to look upon his personality as upon an iceberg, one-tenth visible, nine-tenths invisible. Perhaps the artists, poets and philosophers who searched sincerely for the meaning of life could tell us as much about conditions for industrial peace as engineers, economists and business administrators.

Somehow I feel that nowhere in the world the opportunity for this is greater than in India. Nowhere in the world are millions of people with such tremendous hidden assets, potentially more powerful than all your raw materials, the sentiments and strong hidden feelings which are characteristic of the people of India.

How do I know it? There was one man

who went out with a stick in his hand and a spinning wheel and conquered this Continent, winning for its people the freedom to be free. Was it the spinning which did it? Or was it a symbol and the example of one man's life, which mobilized the sentiments of hundreds of millions of people, organising them into an irresistible force!



"If it writes 'To err is human' once more, I'm going to cut off its electricity."

Does Trade Unionism Hinder Productivity

Mary Sur*

Have trade union activities an adverse effect on productivity? How often we hear management complain "We could rationalise our methods of working and cut costs if it were not for the union!" While management may be planning incentives to further production, unions are generally thinking in terms of security for their members. When there is talk by management of rationalisation, the union's reaction is one of fear lest this should result in retrenchment of workers or increased work-loads. In the USA, unions frequently refer to incentives as "rate busters", for they are afraid that an incentive scheme which will lead to increased output may also result in cutting rates for the job. In India, also, incentives are often viewed with suspicion, and the chance to earn more is resisted with arguments that the workers will injure their health if they speed up their working. Unions may encourage workers deliberately to limit production for fear that the standard of output will be raised and therefore the individual work-load. They may bargain for a larger number of workers on a given job than the management considers necessary. This is known in the States as "feather-bedding", that is ensuring a soft job. In India the purpose may be less to ensure a soft job than to increase the opportunities of employment, but the effect is the same, namely to put up wage costs without any balancing increase in output.

TO MANAGEMENT, THE UNION OFTEN appears as an intruding force, encroaching on their prerogatives, interfering with their freedom to introduce new ideas or to bring about changes in methods or modernisation of machinery. The harassed manager, confronted with a union demand to discuss rationalisation, work-loads, number of men on the job, engagement of new labour and so on, is likely to hold his head in despair and cry, "Where will all this end?" And when invited to an NPC Conference on Productivity, he may well say, "What is the use of discussing productivity when I know that the union will resist all incentive schemes and all plans for technological change."

The manager's exasperation is understandable, but he is wrong in thinking that all the opposition to change comes from the union. Has he forgotten that there are various executive staff with vested interests in their jobs who will be just as unwilling to make changes? - the conservative who resist change anyhow; the touchy who judge any new idea by whether it will affect their prestige; the ambitious whose hope of early promotion may be dashed by reorganisation. No management decision can be taken in complete isolation. The manager is not a dictator; his employees are not slaves. He must take into consideration their reactions to change. What, then, are management prerogatives? It may put managementunion relations into their proper perspective if we give further thought to management's relations with other interests, and to this idea of management prerogative.

For this purpose we may usefully draw on the writings of Neil W. Chamberlain, Pro-

^{*} Author of the classic work on Personnel Management in India, written for the Indian Institute of Personnel Management, which she helped to pioneer; wrote for Workers' Education; formerly, Editor Industrial Relations; done substantial work on Collective Bargaining etc.

fessor of Economics in the Graduate School of Business at Columbia University.* Complaint of labour encroachment on management functions is nothing new, he writes, quoting an employer as far back as 1851 who complained that his workers' union were making unjustified demands upon him - "Who but a miserable, craven-hearted man would permit himself to be subjected to such rules, extending even to the number of apprentices he may employ?" Are there limits that can be set to the workers' challenge to managerial control, asks Chamberlain. In 1945, in the USA, a special committee consisting of high-ranking union and management officials was set up to draft principles that would determine the areas of business decision which fall within the scope of the unions' interests and the areas outside that sphere. Agreement proved impossible, the union members concluding that "we cannot have one sharply delimited area designated as management prerogatives and another equally sharply defined area of union prerogatives without either side constantly attempting to invade the forbidden territory, thus creating much unnecessary strife." This led to a re-examination of the whole concept of management and the nature of the management function.

It is usual to define the function of management as decision-making, but this approach is deceptive for it "fails to tie the function of management with the people of management." Unions through collective bargaining participate in decision-making; does this mean that they participate in the management function? Managers on the whole are prepared to concede that unions can legitimately seek a voice in the matter of wages because their interests are deeply involved. But it may equally well be argued that their interests are deeply involved in technological change. Does this mean that the unions are entitled to a voice in these matters also? If so, then decision-making

cannot be held to be the exclusive function of management.

Others have tried to give a legal basis to their definition of management by identifying it as the agent for the owner or shareholders of a business: that is to say, they base management rights on private property. Property rights, however, confer control over things, not over people, and the manager cannot, on the strength of ownership, force workers to conform to his decisions.

Unions have approached the whole question in terms of "industrial democracy", arguing that the making of decisions should be shared in by all whom they affect. Elton Mayo and his colleagues at the Harvard Business School maintained that decisionmaking was actually a group process. It is not merely the management who decide the speed of an assembly line, they argued, but the foreman and the workers who by working it accept the speed suggested. Thus it may be said that the final decision has been shared in by everyone in the process from top management down to manual worker. This is a sound explanation of what actually happens in the taking of a decision and the part that workers play in it, but it still does not give a satisfactory definition of the management function.

Chamberlain points out that all individuals in any business organisation have their aspirations. Many of these aspirations require income for their achievement, e.g. a decent home, holidays and education for children, though there are others of a non-monetary nature such as security and satisfaction in the job. Each individual wants to see policies adopted which will further his own aspirations, and people at various levels in an enterprise have differing ideas as to the action the company "We may should take in a given situation. think of all the individuals within a company, then, as making certain "demands" on that company: demands dealing with its remuneration policy, its sales policy,

^{*}Labour by NW Chamberlain, McGraw-Hill †Italics throughout ours

its production methods," appointment of executives, introduction of new machinery and so on. "Out of all these conflicting influences must emerge one decision" and that decision must be compatible with other decisions. A decision as to the wage structure, for instance, must be compatible with decisions on the organizational structure of the firm and its financial policy. It must be consistent with payments to be made to suppliers and to shareholders.

Take, for instance, a decision to introduce a new product. To many employees the decision may not be important, but the production manager, who will be in charge of manufacturing the product; the sales manager, who will have to sell it; the accountant, who is concerned with financing it, will all have definite preferences, which constitute their "demands" on each other. And so a bargaining situation occurs.

Because there are so many individuals and groups involved, and because the ultimate decision on any one issue must be consistent and compatible with decisions on all other issues, there must be not only "bargaining" with all the individuals and groups, but also a coordination of all this bargaining. In this task—the coordination of the bargains of all those who compose the business—lies the real function of management. The coordinating authority is management:

"The decision-making process is seen as a kind of multilateral bargaining process, involving those whose aspirations are somehow involved in any of the numerous decisions which are constantly being made or re-made. But this decision-making process is not the same thing as management, any more than collective bargaining is the same thing as management. Beyond the terms which are demanded, the bargains which are struck, the decisions which are made, is the inevitable necessity of a coordinating authority who must see to it that the numerous bar-

gains or decisions are somehow made consistent with each other. It is that coordinating authority which is here identified as management."

In exercising its coordinating function management has to observe two conditions if the business is to survive. First "the cost of agreeing on the complex of internally consistent bargains must be less than the cost of disagreeing", and secondly "the total outflows of the firm must be matched by its inflows."

When management is considered in this light, collective bargaining with the union drops into its rightful place as only a part of the bargaining process. It may sometimes be the most difficult part, but it is incorrect for management to think that it is only with the union that bargaining must take place.

This theory also eliminates the idea of union encroachment on management prerogative. The union can seek to bargain on any matter of sufficient importance to its members, provided it has sufficient bargaining power. It is true that the union is seeking a greater measure of control over corporate conduct, but then so are all the other parties in the bargaining complex, and their powers are often as great as labour's, though they may not be so obvious. The union can make the management function more difficult if its bargaining power is great, but it is not attempting to take over the management function. Shareholders can also make difficulties, but that does not mean that they are trying to take over the management function.

If this theory seems to give management a rather thin time, Chamberlain is ready with his answer:

"The real fun in managing a business, it would seem, must lie in projecting one's own creative imagination into realms which none of the participating parties dream of....The managers to whom we tend to give the accolade

MARY SUR 445

are those who can accomplish their functions while still retaining to themselves some room for building into their work a private and purely personal expression, which is the mark of their uniqueness and vision."

But let us return to the question with which we started, namely trade union effect upon productivity. Despite the gloomy picture painted in our first paragraph, if management sees its functions in the correct light, there is no reason why the workers' interests, as expressed through their union, should be inimical to improved productivity. It is no use introducing new methods which will make the workers sulky and un-cooperative. Cooperation of all the personnel engaged in the business is ultimately of more importance than the best of new machinery. If the union brings doubts and suspicions out into the open in the early stages before decisions have been taken, then management has a chance of reaching a bargain which will be satisfactory to all concerned. An attempt to reach a solution after an unpopular step has been taken is almost sure to result in failure or a rather ineffective compromise.

Collective bargaining can actually prove

a stimulant to productivity. The upward pressure on wages, for instance, necessitates managerial efforts to improve methods to offset the cost. Economists call it the "Shock effect". Quality control, materials control and product simplification, by producing greater efficiency, make it possible to meet the additional wage costs without passing them on to the consumer. In the long run this is beneficial to the business. The Americans believe that their practice of firm-by-firm bargaining, instead of national or industry-wide bargaining, facilitates this result. A team of British trade unionists sent to the United States after the war to investigate the role of American unions in increasing productivity, reported that "the American trade unions' major contribution to increasing productivity takes the form of spurring the less efficient companies to increase their efficiency."

Bargaining for security — no retrenchment clauses in rationalisation schemes — from a short-term point of view may be a hindrance to speedy modernisation, but against this must be balanced the long-term factor of improvement in morale and the building up of a team spirit which will bring with it improvement in performance and the elimination of disputes.



PRIME MINISTER'S PRODUCTIVE MIND

"Mr. Nehru pointed to the mineral wealth of Goa and said iron ore was being exported from there. It earned foreign exchange. A better thing would be for Goa to produce steel which the country needed... At Pando, Mr. Nehru addressed farmers. He told them they should increase production by using modern methods of agriculture."

Guidelines to Productivity

Kalathil A Zachariah*

Much is being written and much more spoken about Productivity in this country. The subject deserves the importance it receives. Public discussion of Productivity takes on a fresh significance in a national emergency despite the rather unrewarding result of speeches and writings hitherto. Lip sympathy to a slogan is certainly not enough. Clear thinking, courage of conviction, determination to succeed and real constructive work are the needs of the present day. This article aims to clear the confusion that clouds the thinking on the subject of productivity and thus to pave the way to more effective work in the productivity movement.

Organisation is singly the most vital factor governing productivity of labour. Poor productivity is principally due to poor planning and poor organisation. Contrariwise high productivity is the result of sound entrepreneurship good management. Proper use of manpower is a management function. Training the men and directing them in the performance of duties is a managerial responsibility. It is impossible for an entrepreneur to escape this responsibility. For labour problems are management problems. When interfactoral harmony fails, it is entrepreneurship that fails.

If the rise and fall in labour productivity is the result of entrepreneurial action, what then is the contribution made by labour itself? In view of the complete interdependence of the factors of production, labour is absolutely indispensable, no matter how far and how fast technology progresses. This indispensability gives labour considerable strength when united into labour unions etc. This strength is used by organised labour in collective bargaining over the distribution of the "spoils" of production. Whether through collective bargaining or compulsory

adjudication, labour uses suitable techniques for its own advancement and a larger share of the proceeds of industry.

In this bargaining, labour is exposed to intense political activity. The largest network of trade unions in India is the Indian National Trade Union Congress which is the labour front of the ruling Indian National Congress. Yet, it has to be admitted that the trade union movement is more divided than united. The political parties have divided between themselves the labour movement in India. Inter-union rivalry holds the centre of the stage in the labour movement.

The sad condition of the labour movement is bad enough for the workers; but far worse is the condition of the entrepreneurial class. In fact, the low productivity of the industrial system is due to lack of inter-factoral harmony, making teamwork nearly impossible. This short-sighted entrepreneurial policy defeats entrepreneurship itself; it makes losses for shareholders; it curtails employment opportunities; it arrests industrial growth.

The situation thus created is really so difficult that Government cannot do much to retrieve it. In industrial and labour mat-

^{*} Director, Institute of Management, Bombay

ters, the Government is of course armed with much power; large departments of Government have been established and much moner is being spent by Government in order that the relations between employers and workers are made smooth and cordial. The setting up of the National Productivity Council and the encouragement given to it indicate the keen desire of the Government to boost productivity of labour.

At the same time, the dependence on capital-output ratios for determining investment priorities leads to the choice of less productive technology; here productivity of capital, owing to scarcity of capital resources and general abundance of man-power resources, takes precedence over the productivity of labour. Even in cases where capital-output ratios are attractive, Government is opposed to technological innovations which displace labour, apparently for protecting workers against unemployment.

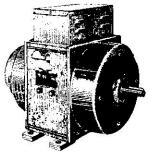
State policy needs to be reoriented along the lines of a proper social security scheme, affording protection against unemployment. What is expected of the Government, in a situation like this, is to create the right conditions for making rapid strides in productivity. When productivity of labour steadily improves, the capacity of industry to pay increases. It becomes possible then for statutory bodies to raise wage rates and the unions to negotiate successfully for enhanced wages. Verily, the worker ought to be happy when productivity trends are upward, whether wage incentives appear good enough or not. Sooner or later, the worker can get better real wages and fulfil the dream of better living. Of all the people in this country, the worker should be the person most enthusiastic about productivity; for productivity holds the key to the prosperity of the working class. It is now time that those who accuse the worker of causing the impasse must look for causes of the *impasse* within themselves.

To sum up, the entrepreneurial responsibility for productivity is supreme, despite the interdependence of the factors of production and the role played by labour. The sad condition of the labour movement, the bad entrepreneurial practices and state policies have together produced a situation of low productivity. Since we have to make much leeway, we cannot afford to let this situation continue any longer. Whether tripartite meetings are held or not, each of the three parties must now weigh all the facts of the present situation, clear the confusion and set its own house in order.

A UNIQUE STRIKE

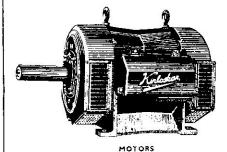
-000-

At 5.00 a.m. on October 4, 1960, three hundred Miami Beach buses manned by "striking" drivers began to roll in what may prove to have been the first "semistrike" in the United States. There had been a three-day walk-out of the usual sort. The agreement which ended it was unique, for it provided: (1) The public would receive free bus service. (2) The "striking" drivers would receive no pay and were not to accept any tips. (3) The Miami Transit Company, the employer, would supply the fuel and maintenance required by the buses.

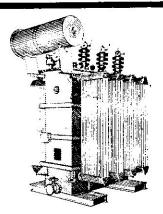


ALTERNATORS





the basic requirements



TRANSFORMERS

For the generation, distribution and utilisation of Electric power, these three Electrical Products from Kirloskar Electric Company form the basic requirements. Experience has proved the outstanding reliability of these KEC products all over the country.







Increase your factory output with MUSIC from a NATIONAL





A National-EKCO Radio in your factory is more than a source of pleasure it's an investment which will quickly pay for itself. And this is why:

- 1. The productivity of your workers will increase substantially if you give them music while they work. This is a principle, tested and now increasingly practised by factories in the West.
- 2. During rest hours, a radio will give added relaxation to your workers...refresh them, give them fuller rest. And the better their rest - the better their work.

So get a National-EKCO Radio for your factory. Remember, one National-EKCO Radio, with its clarity of tone and extension speakers, will help to increase the output of all your workers.

INSTALL A National-EKCO Radio for

- * Employee goodwill
- * Higher productivity
- Higher profits



NATIONAL EKCO RADIO & ENGINEERING CO. LTD.

Ewart House, Bruce Street, Bombay 1

Factory: Shri Shakti Mills Compound, Mahalaksmi, Bombay 11

PUBLICATIONS OF		51 AV EV EV 15 053/95		
THE INDIAN INSTITUTE OF PUBLIC ADMINI	STRA	TION		
		Single copy Rs. nP.	Annual Subscription Rs. nP.	
PERIODICALS				
The Indian Journal of Public Administration (Quarterly)	•••	3.00	12.00	
MONOGRAPHS				
The Communal System of Yugoslavia by B. Mukerji		1,75		
Staff Councils and Associations in the U. K. and India		1.50		
The Development and Impact of British Administration in India-A				
Bibliographic Study by Bernard S. Cohn		3.00		
The Press, The Public and The Administration by V. K. Narasimhan		3.00		
REPORTS OF SEMINARS, CONFERENCES & SHORT-TERM COURSES				
The Pattern of Rural Government (1958)		2.00		
Improving City Government (1958)		3.50		
Morale in the Public Services (1959)		2,50		
Budgeting in India (1960) (Mimeographed)		1.25		
CASE STUDIES				
The Establishment of the Heavy Electrical Plant at Bhopal by S. S.	Khera	5.00		
Cases in Indian Administration (five cases)		7.50		
		(postage extra)		

For detailed information, please write to:

The Administrative Officer, The Indian Institute of Public Administration, Indraprastha
Estate, Ring Road East, New Delhi-1

Where refractories is the problem ISHWAR INDUSTRIES

is the answer

- * Fire Bricks of all Grades & Shapes * Castable Refractories & Cements
- * Acid Resisting Bricks & Cements
- ★ Insulating Bricks & Cements
- ★ Stone-ware Pipes & Fittings
- ★ Fire Clays of Various Grades

can now reach you swiftly from our factories at Ishwar Nagar, New Delhi and Niwar, District Jabalpur

Be 'Quality-sure' Use Ishwar Refractories

The Ishwar Industries Ltd.

ISHWAR NAGAR, NEW DELHI

Phones: 76241, 76242, 76243

With the best compliments

from

The Hyderabad Allwyn Metal Works Limited

P. O. SANATNAGAR, HYDERABAD-18

Manufacturers of:

Allwyn Steel Furniture
All-Metal Bus-Bodies & Fabricated Kits
Refrigerators
Washing Machines
Metal Cutting Band Saw Machines and
Fabricators of Steel Structurals and
Chemical Plants

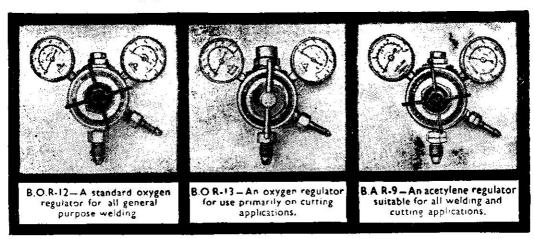
Show Rooms at .

MADRAS, HYDERABAD, BOMBAY, DELHI, CALCUTTA, KANPUR

AND

Distributors in other important cities

for precision welding and cutting 'B' type 2 stage regulators



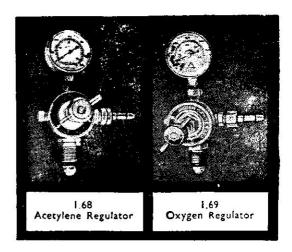
Indian Oxygen offer a wide range of regulators to meet the growing needs of industry.

*B' series two stage regulators are unrivalled for use under conditions demanding close control of working pressures.

"I series single stage regulators are admirably suited for cutting, gouging and heating operations where fine pressure adjustment is not important.

Please contact our nearest branch for further details.

for top
performance
under
field service
conditions
'I' series regulators



INDIAN OXYGEN LIMITED

Workers' Participation in Management

Khandubhai Desai*

Before I deal with the question of workers' participation in management, I would like to discuss what should be the role of the working class in a modern society: a highly complex society of large industrial organisations. This question has been agitating and exercising the minds of thinkers of the world, since the industrial revolution in Europe in the beginning of the nineteenth century.

I need not recount what happened in the 19th century and the first half of the 20th century. Ideas were being assiduously put forth and the actions and reactions of human, social, industrial and economic relations were translated into theories called capitalism, socialism and communism. All the three ideas, either together or individually, tried to solve the inherent conflict in the complex, industrial organisation of modern firms. On a political plane it assumes great importance. Communism has no place for capitalism which and branch must be destroyed root According to socialism, the control of the productive apparatus must pass into the hands of the State and exploitation must cease. On the other hand, the protagonists of the capitalist system are even now saying in America that enlightened capitalism is the last word in industrial relations. This system alone creates an affluent society. I had a number of opportunities to exchange views with the American trade unionists on trade union movement and other allied matters. Many would not even like to discuss in detail about the content of socialism. Their argument is that their society is quite good and contented. I would like to place before the readers of the NPC PRODUC-TIVITY Journal certain ideas which would be good for all types of industrial growth, be it European, American or any economically developing industrial society of the Afro-Asian region. We must first take into consideration the state of affairs - political, social and economic as they exist in each country. I am afraid that it would be very unwise on our part to imitate blindly, what they have done and they are doing, either in the American affluent society or in a European society which has reached a particular level of growth. We in this part of the world are so impatient, and rightly so, that we can't afford to wait for 150-200 years to reach to a stage which the European or the American industrial societies have attained. We have already adopted, whether one likes it or not, a political structure which is by and large democratic in character.

The representative form of government has been accepted in all newly independent countries whether in India or elsewhere. It is generally based on adult franchise, wherein every man and every woman over the age of 21 are entitled to decide for himself or herself the type of government they want. We have this adult franchise for which other countries fought for 50 or 60 years or even longer: we have it from the

^{*}The distinguished author of this article who is a veteran labour leader, had the rare good fortune of working under Mahatma Gandhi. The credit for the long peace in the oldest organised industry—Cotton Textiles at Ahmedabad—belongs largely to Sri Desai, not to mention the Master, or his other disciple, Sri Gulzarilal Nanda.

very start of our political independence. We have to correlate now the economic, social and industrial structure towards this established fact of adult franchise. Exploitation has to cease; but the inevitable class conflict between the "haves" and "have nots" must not be allowed to deteriorate into mutual hatred. It should be mitigated gradually by mutual talk and negotiations or by an apparatus which the government, based on adult franchise, makes available for the solution of the day-to-day industrial and collective problems. Now I would like to forget the slogan of collective bargaining because collective bargaining has already been conceded. Nobody comes in the way in the year 1963 against "collective bargaining". The "right to strike" has also been conceded all over the world. It is futile, therefore, now to shout about them. These rights were meant to safeguard the interests of the working class because they were being exploited in the 19th century. Political freedom having come to every man and woman in the street, nobody is going to question about these fundamental rights. Now the question arises what should be done: the first thing that we should do as trade unionists, is to organise the workers in strong unions. Let the working class in various industries speak with one voice. During my 45 years of trade union work I am too much familiar with these slogans of strikes, collective action, revolution etc. Now we have to forget the western slogans and learn first of all to work in amity at various levels: factory, region, industry and the nation. Let unions be organised for the service of the working class, for the service of the industry and the nation. In our dealings with the employers there should not be any malice and we should never do anything to undermine the industry or the business we serve. Both the capitalist and the communist societies have also come to this conclusion. We must be guided by the experience of the past. Gandhiji in his own inimitable style told us that there are no

employers or employees but both are coworkers and co-trustees of the industry they serve. In the complex industrial organisation, the employers and employees cease to have sectional interests but become coemployees and co-workers in the interest of production. Production is not the end but a corollary and the real owners of the industry are the consumers i.e. the nation. Ultimately the workers and the employers who have invested their labour and capital are equal partners in the production. Gandhiji has put this idea in a different way and he has called them co-owners and coworkers. A psychology should be created among the owners that they are not the sole owners of the industry but that they are the co-workers along with the thousands of workers. On the other hand a sense of ownership of the industry among the workers should also be created. Then comes the question of trusteeship and co-trusteeship. Is it possible? My answer is that it is not only possible but it is inevitable: the sooner it comes about in a democratic society, the better for the society, for production, for productivity and for the good of all.

Then there is the question whether the workers or the unions are capable of participating in the management of industry. Do I call an accountant or anybody else to manage the affairs of my house? I manage it myself. I make my budget every year, every month, every day. It does not require much education. It requires only a robust common sense, which I think the working class have got. If the working class are capable of managing their unions, there is no reason why they cannot manage, alongwith the employers, the production in industry. Conditions of work are decided now more or less by the laws of the land - Factories Act, Mines Act, Motor Transport Act, Plantation Act etc. For these, labour does not have to fight now. Their predecessors in the 19th century in England or America had to fight for such workers' rights but all

these are today available to us by law. What is lacking these days, is production and its equitable distribution. Moreover. the days of colonialism are over and the new emerging countries can benefit from the experiences of the industrially advanced countries. The real crux of the problem is distribution. If distribution of wealth is done through peaceful means instead of by conflict, strike, lockout, it would be a better world. By peaceful means, I mean arbitration, legislation, tripartite wage boards etc. In India, various wage boards have unanimously decided about wages for 5 or 6 years and these decisions now cover 3 million workers; the standards thus set in large organised industries are bound to affect favourably the wage rates in other smaller industries through agreements, conciliation, arbitration, judicial decision. Here would like to strike a personal note. In 1954 as Union Labour Minister I placed before the nation in my broadcast three basic ideas: Workers' participation in management, wage boards and workers' education, which I learnt from Gandhiji. They were embodied in the Third Five-Year Plan, which is now the policy of the Government. It is now being implemented and it is paying a rich dividend.

I do not rule out strikes altogether. If there is injustice done to the working class or peasantry they have a right to resist. But the resistance should be positive and not negative. That is the call of the second half of the 20th century. One thing I would like to say that the working class should feel the sensation of the ownership and participation in the management. It is not money that matters, but it is the feeling of ownership, co-determination, participation workers in management, whatever name you give it. I would like to assert that the urge of our age, be it a capitalist or socialist or a mixed economy, is the desire of the working class collectively to participate in the management along with the employers. to sit with them on equal terms in determin-

ing production, prices, costs, distribution, etc. That must come sooner rather than later.

public sector

As a trade unionist I would like to close my eye to the artificial division that is created between public and private sectors. I consider both the sectors on an equal footing. Management is management, whether it is a government or a private concern. The public sector deals with the working class in the same way as the private sector. Participation of workers in management is, in a sense, more urgent in the public sector than in the private sector. However that may be, it is based on plain common sense. When issues confronting a small society, family or a village are decided, no one orders, but all sit together and decide what is just and right. Industries also should be managed jointly: that is the call of the present age. The earlier this idea is implemented, the better for the industries and the people. We may make mistakes but those could be rectified gradually. I am sure that before long it will be a settled fact and would put an end to all the disputes that arise in society. No industry today belongs to any employer. How does industry grow up in the country? It grows up with the help of the society. Government assist the industries in various ways by import-export policies, subsidies, etc. etc. and the state also shares in the revenues. Profits are taxed which go into the revenues of Government. The character and complexion of private enterprise as it stood in the 19th century has changed beyond recognition.

The working class today is conscious of its rights and duties. And I have no doubt that trade union organisations will continue to guide the working class and educate them of their rights, as well as their duties to society, in the interests of higher productivity, which alone can be the basis of a better social order for workers.

Productivity and the Worker

Michael John*

Productivity leads a country to progress and brings prosperity to its people by ensuring fuller and profitable utilisation of the country's resources to its best advantage. This is very much true in the case of a developing country like ours which is in the process of building up its economic position to raise the living standard of the people—a cause worthy of sacrifice, an objective fit to strive for. No wonder, therefore, that the architects of our national economy engaged in designing the destiny of our country, place so much stress on productivity.

Productivity is the burning topic of the day in the present context of the country's economic development, not to speak of the existing emergency in the country today. So much has been said, written, discussed and discoursed about the subject by various individuals and institutions from different and divergent angles that the subject has almost been treated threadbare. I can, therefore, hardly bring any novelty in its treatment.

Being a Trade Unionist I would prefer approaching the subject from the workers' point of view, without confusing it with the technical complexities of the specialists, the economists, the industrialists etc.

Productivity, broadly speaking, is the pace of production; it is the capacity of the manpower engaged in an industry to get the best out of it in the matter of production through technological and other aids within a given set-up of men, machines, materials and money. This, to me, appears to be the simple, straightforward and matter-offact definition of Productivity.

In the matter of productivity as in everything else concerned in an industry, it is the man-power (workers) and the managements who matter most, as it is they who actually work and wield the remaining four factors of materials, money, machines and the markets involved in any industry. I would, therefore, confine myself to dwelling on these important agencies of industrial productivity.

Productivity, in my opinion, has two contributing sides, one direct and the other indirect. The direct side consists of efforts for increased production through technological improvements in machines and working methods, lightening of work-loads, economising etc., by good and systematic planning of work, technical ability and managerial (administrative) acumen: all of which lie in the region of the management's sphere of activities.

The indirect aspect is the elimination of wastage in labour, materials, etc. These wastages result from bad planning of work, unhealthy labour policy, bad and inadequate maintenance of machinery, accidents, strikes, slow downs, lockouts, etc. It will, therefore, be seen that merely the management or the workers, all by themselves, will not be able to achieve any amount of success in productivity unless there is a concerted and coordinated effort on the part of both as the contributing factors leading to

^{*}Thrice President of the INTUC, Mr Michael John, is a veteran labour leader, known for several decades in the fields of iron and steel, engineering, mining etc.

productivity. It is therefore very much advisable for the industrialists, trade unions and the government to pursue a progressive labour policy to enable association of the workers in management at every stage eliciting from them their free and full cooperation, which would combine the benefits of the valuable job experience of the workers with the management's technical ability and lead to conditions favourable to productivity.

It is very much frustrating indeed to find that even in these days when the concepts of industrial relations have undergone such dynamic and progressive revolution, there are still some managements who have not been able to adjust themselves to the changed times and still cling to the outdated 'master and servant law', treating the labour as a commodity. Such managements believe in coercion instead of cooperation and prefer force to free will and are a definite liability for industrial productivity.

I am also painfully aware of the existence of a section of Trade Unionists who likewise have not been able to keep abreast of times and visualise the role of trade union organisations as mere agitators. They believe that discipline and production are no concern of theirs but are the sole responsibility of the management. This indeed is a

short-sighted policy and has no place in the present times, inasmuch as it is harmful for the industry and the workers alike.

It will be only in the best interests of the workers themselves to cooperate and contribute in the fullest measure to achieve productivity by putting in extra efforts at production, cooperating in the elimination of wastages, accidents and resolving against any industrial actions excepting as a last resort when all other constitutional remedies of negotiation, voluntary arbitration etc., have failed.

A complete reorientation in the outlook of both the workers and the managements towards their respective roles in industry for productivity is essential. It has now come to be accepted in the democratic industrial world all over that the managements and the workers and trade union organisations have no conflicting interests. They are the travellers of the same path with an identical goal - each supplementing and complementing the other in their respective spheres of activities, for the common laudable objective of wielding industry through its productivity in the best interests of the industry, the country and the countrymen of which the workers are but a part and parcel.



Productivity and Labour

Willfried Schaeffer

The author is the Secretary-General of the Confederation of Labour Associations in West Germany: the DGB. The Editor of this Journal met the author in Dusseldorf in the winter of 1960, in connection with the work of the NPC Incentives Team. The discussions with the author had a touching interest and were published in the Editor's supplement to the main Report on Incentives. They have been reprinted* at the end of this article, as they present a particularly graphic picture of the Attitude of Labour to the main problems posed by Productivity. In this article, the author has against "the background of European experience as a whole" jotted down his ideas as an "aid, which might be useful for someone who thinks about the relation between productivity and labour." The author, while he thinks and feels deeply, can express himself in the English Language with the natural difficulty of a good German. Some of the constructions have had therefore to be edited but the style remains broadly unchanged to retain the refreshing mark of German originality.

WHEREVER WE LIVE, WE HAVE TO RECOG-NIZE that the decision to increase productivity in a given economy is a political decision. That is a fact because there is no reason in itself to increase productivity, unless there be a goal behind it. If we do not get a full list of goals, why we do increase productivity in our country and why you should do so in yours as well if you have not done so until now. There is no doubt that there is a very clear point of view of the worker to see his useful goal: that is to increase his private consumption and by this, his overall standard of living. This seems to be very materialistic but it is on the other hand very realistic. No one should expect that a worker could start to think in other categories, if his standard does not fit him in eating, drinking, clothing and sleeping in a way which could be announced as normal or minimum.

There is no point in talking to workers about Productivity, as long as most of them

*The Editor regrets that this Appendix had to be deleted at the print order stage for reasons of space. It can be referred to in the original report, published by NPC. feel that they expect a lot which could be done to reach this normal or minimum standard. We all should recognize that any discussion on the question what this minimum or normal is, is scientific. We should know and keep it in our mind that it is impossible to ask any worker for more work as long as his status does not fulfil the possibility to do so. Therefore let us have a look round, if we could find some measurements which could lead us some steps further on.

II

The fact is that the political decision to increase productivity — whatever goal has been set — affects the workers as consumers. When he calls for more money, that is, in reality more food etc., he has to earn this money by spending his capacity in production. From this point of view we have to be aware that we see his real position, and all the other difficulties.

The following remarks could be only made regarding the German situation, where

we do find a market with competition and a trade union movement which has to bargain for best wages and working conditions. Take it as a fact, that the worker has his doublefolded situation (as a consumer and as a producer), which is a normal development.

Under these circumstances, we find the worker in the plant in the position to fight for the best for him, which normally could and would not be the best for the enterprise. The more wage he demands for his work, the more the employer argues, that this must result in higher labour cost and therefore higher total cost. This is absolute nonsense and should not be discussed further. Otherwise the US-worker, with the highest wage has to have the worst standard in the world because of the highest price level influenced by the high labour cost. But it shows us a part of the different interests between the worker and the employer.

Up to now we have discussed the whole problem as if the worker is only a part of production and consumption. We should keep in mind that he is a participant in political life as well. Therefore every means which are taken into account to increase productivity should be done in front of this fact. In practice it has to be taken into consideration that production takes place under the special conditions of the tradition and all the other factors in a given country or region.

III

What could and should be done in an enterprise on the one side and in the whole economy on the other side? Let us have a look on the small part, the plant and it may be that we could fill up our picture with a view round about in-between. This should not give anyone the opinion that in Germany or in any other country the trade union movement does not and should not

take care of the whole economy and the policy according to which the government tries to do its duty. But it seems to be easier to paint the picture on the relation in the plant because this is a frame which is understandable.

IV

To increase productivity may be to produce more with the same or less input. What could that be "same or less input" if we ask the worker. He would tell everyone that he does not want to work harder or that he wants to keep his human capacity for his whole life. What could the employer do if he is confronted with these limits. Take an example. An unskilled worker was able to transport 10 stones from A to B without any tool in one hour. He could not carry 12 stones by speed up because his physical capacity would be overdone. There would be a transportation tool which could be used, but the worker would need some skill to use it. This skill may be given to him by training without the capacity of knowledge in reading and writing. The output effect may be 20 stones/h. But the worker has to be trained. The same job may be done with a special mechanical equipment where the worker has to read his instructions and has to follow predetermined organisation sheets. This worker must be skilled by school in reading and writing and his knowledge on the job or an occupation must be as good so that he is able to fulfil every position he may have to take over.

My first conclusion is therefore that the enterprise should take over the duty to train and to educate the worker—if necessary on their expenditure—as far and as long as the local or the regional government or any other institution does not or could not do this. We all should believe that decisions and expenditures in this field are worthwhile at every time. This raises the follow-

ing question: what qualification is necessary and it is better to give an overall education before starting the special training. The other question is: if it is wise to train for a job or for an occupation. The background to this is that a skilled worker with a good occupation could take over a lot of jobs if it is necessary. The fact is, that the human being and his work in industry could be analysed from different points of view, but we have to take it as a complex reality which is not divided into these different parts.

On the same level is the question, if and how the introduction of new workers should be arranged. This is on one side a question of training and on the other side, a question in which way the single worker does get contact to his job and the product as a whole. The background to this is the fact that either in a strong divided production every worker should know, what, why and what for his job is carried out.

Last but not the least in this field there is the question of promotion and the possibility for it. That is not only a fact which is necessary but which should be well known to every worker. Every firm should believe that work requires a large amount of qualification from the worker. The employers should take care of it and try to increase it. The question of promotion is not only a question of paying more money for more qualification. The first problem in increased productivity and training is the opinion of the worker that it is worthwhile to follow the line in getting more skill and experience, because they would get sooner or later better positions in the plant. In this case, position means more or less a higher social status in the plant and in the society.

V

THE knowledge and experience through education and training alone would not fit the worker for increase of productivity if the job and its evaluation do not corres-

pond to this policy. To start with, we come back again to the minimum of standard of living for the last nonqualified worker. This minimum has to be seen in relation to the price level of all those goods which are necessary for a human being to do a job, to go ahead with his capacity for such a long time which should be his last age in duty. It seems to be easy to talk about it, but there are a lot of problems in this decision as well.

Just let us take an example from Germany. The Sozial (Social) Insurance says legally, that work in industry should be finished with an age of 65 for men. How could anyone find out, that a given pace and the work-load on a job in given surroundings could be managed by the same worker for more than 40 up to 50 years. Has he enough time of paid leave, of paid rest periods during his shift and some technical aid by the equipment that he would still be healthy when he is 65 years old? These questions exist in an economy with full employment, but no one should believe that unemployment could give us an easier answer to it. The discharge of workers, overloaded in a shorter time than just mentioned is only a way to push the problem to someone else but it is no solution. Every unemployed has to have his social welfare for himself and his family. Everyone who still earns money has to pay and to work for it. Lastly it is only a technical question who pays these benefits and nothing else. The goods which the unemployed needs, have to be produced and given to him as long as there is a social feeling that this is a duty of the society. Who shall pay - a self-governed body, the government or any other institution - is a technical question only.

VI.

We have started to talk about the needs of a single worker – let us keep the family just now in the background – without giving details what he needs, when employed,

unemployed etc. We have put down few words at the beginning when we spoke of eating, drinking, clothing etc. Let us try to find rules what eating and drinking realistic means. For this question there could be no trouble because we know what a human being needs calculated in calories per day for a man or a woman only to keep the body moving. This is on a long run the limit which has to be used for everyone as long as he does not work. If he does work, we do know that in this case he does need more or better food to give more calories to the human body. This is just one point and does not tell us what should be done in relation to clothing and housing. But it seems to be useful to go into details and ask what a single human being does need. It is true that this question is not only a question for the worker, but it is a very hard solution for him if he should work more or harder if he has not had sufficient supply of food.

Now, if we agree that every worker has to earn the so-called minimum, we should keep in mind that this does mean more than sufficient for him as a single person. It does mean supply for a whole family in respect of food, clothing, housing etc. We don't need to try to define what does this mean in particular "a family", because this might be difficult. But we have to agree that last not the least the parents have to stay for their children as long as they could not earn their money alone.

To make it quite clear, let us sum up, that the wage must correspond with the price level which includes enough food, drink, clothing, housing etc. There is no doubt that an under-fed man could not do proper work. This seems to be so simple but it is therefore so easy to miss it that we should think about it more than we are used to.

This, of course, leads us to the main question behind the increase of productivity.

It has become a normal situation in Germany to plan and think in technical and economic categories if any change of production should take place. From our experience we could say that there is a very strong border for everyone in this field which we have to see. That is to think in social categories. This, in the opinion of most people, does not need any planning or preparation. This lack of coordination in a very complex question between the different aspects of it might become one of the heaviest mistakes which could be done. This might increase as a matter of fact that we have got specialists in nearly every field of technical and economic questions. But it is the main mistake of most of these specialists that they do know more and more of less and less. The worker could expect decisions at the plant level not only of specialists but of allroundmen, which do see the complex situation and not only the small part. We have got trouble about that in nearly every industry, but to know about it may be the beginning to look for ways against it.

VII

Fixing a wage on the base of the minimum to exist and in relation to the pricelevel is the first step to make the increase of productivity sure to the worker as well. The next point which will show the worker that it is worthwhile to go on with increasing the productivity is the wage differentiation. As far as there are different qualifications in a given production it is good to differentiate the wage in the corresponding way. This corresponding way may be by wage groups which are defined by different grades of skill and experience in work. On the other hand you could fix jobs and put to each job different wages. Whatever system for this is used the result would be a. wage line in relation to different qualifications. The background to this wage lineon behalf of increasing productivity is the solution to an incentive system.

VIII

A WACE incentive should not only be applied to the qualification but as well to the quantity which is produced by a worker or a group of workers. The first question we have to answer is whether we do so on the base of the single worker or the group. The experience has shown that it is better to take the single worker or a small group only. The main or the small group should be able to see and to calculate their job and the production he or they have done in a shift or even in one hour.

This first question we have put down here does not ask if it is useful to have a wage incentive on the quantity at all. If we take the position of the employer he could tell us—and sometimes he may be successful—that he would get more production without paying an incentive wage. We do know about these technical, psychological and human relations policies to get more from the worker for nothing. But none should expect that this moves on for a long time. Every worker does feel what is going on with him and if he is getting his money for his work or not.

Under these circumstances we have to find a measure and a degree for the performance of a worker on his job. The answer seems to be easy in using the average performance. This is a statistical data which seems to be good. But it is not good because the base of it is not a random but a selection. There is no doubt that this selection of better and best workers brings up a steady change of the result of the average. The result would be brought by selection of the best worker which is the best trained and possible with the best health etc. On the other hand he would be discharged if he is going to miss his capacity because he has been working too hard in the past.

We therefore have to agree to a perfor-

mance which suits everyone who is capable, trained and has got the necessary knowledge and skill. Behind this we have to keep in mind, that the capacity changes by age, and every worker must be able to earn his money as long as possible, in Germany until he is 65 years old.

There is one special problem in connection with performance, training and working condition. Under typical tropic climate we do know that every human being could not train his muscles because his own temperature increases. Therefore he could not work so hard because he misses the training. It may be that an Indian employer who has been for a study visit to Europe expects a performance in tropic climate which is possible only under non-tropical climate. Comparisons of performance levels are therefore under these circumstances nonsense. No one should therefore try to speak of a lazy fellow, because it is not true to do so in tropic climate.

We have seen now that we have to find a performance which takes into account all these questions. We do know that the measurement we have to agree to is non-scientific as the inch or the pound, but nevertheless we have to measure. It seems to be easy if we do that on the base of the time which is necessary to perform a job. This is under different conditions a practical decision if we keep in mind, that the time is only another calculation base for money. Lastly there is a job which is worth a given or agreed amount of money.

That we are not allowed to take the single time of the main operations of the job of the best worker is —

- (i) a question of levelling the performance;
- (ii) the problem to take the time of the whole job; and

(iii) the problem to choose a worker who could represent all workers and not only the best ones.

It is a hard job of levelling the performance and no employer could expect that this could be managed by the way. We don't want to start the discussion in this field now but it is necessary to know that there is a large problem behind it. The other point shows us that we do need statistical aid when we take the time for instance by a stop watch or any other way. If we follow this statistical way, we have to do it properly and could not do it half.

IX

To sum up all, we should keep in mind that

the worker would agree to increase pro-

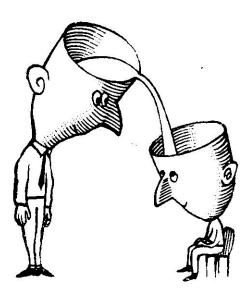
ductivity if he plays the game as well as all the others

playing the game says, that his work, the working condition and his wage are satisfactory for him

the whole picture is very complex and no one should expect positive results if he uses one measure in front of the worker only

the base of industrial and human relations is a good trade union movement for collective bargaining. Therefore no long-run results could be expected if this organisation, its legal position and the practical results are not built up.

Communication



Human Relations in Industry

N Thiagarajan*

Trade Unions in this country are concentrating more on solving problems in industrial relations than taking interest in the promotion of human relations. In factories or establishments where Managements understand the importance of good human relations, it has been found easier to solve industrial disputes, if any. More than Trade Unions, Employers have got a greater responsibility in promoting good human relations. Although much is being said of late regarding this subject of human relations, it may probably be not out of place to emphasise certain simple truths, which if understood properly, may make it easy to promote human relations.

IN A FACTORY THERE ARE VARIOUS categories of workers: fitters, turners. clerks, sweepers unskilled workers etc. In whatever position a man may be in his life, the fact that he is also a human being and a creation of God has got to be recognised. In dealing with him or with his personal problems, what should be uppermost in our minds is not the position he holds in the Company or the wages he earns, but that he also belongs to our race as a human being and should be treated on par with us. If this implication is understood, most of the problems can easily be solved.

The theory that the workers are very materialistic and can be satisfied only by offering more and more wages is not, in my humble view, correct. By pursuing this line of thinking, we are only making the worker an economic animal. There is no doubt that workers should be paid their living wage to enable them to lead a respectable life in Society. It is also a fact that most of us would resign from our jobs if the Company should stop our pay. There can be no serious doubt about the fact that economics plays a large part in national and interna-

tional affairs of any country. Surely wars have been fought chiefly for economic gain and social institutions used for the same purpose. But our question is: is this the whole story? Does it take only some important facts and make them all important and thus neglect other important facts? Actually that is exactly what it does. Surely men work for money, but they work for many other things besides. Surely wars have been fought to gain territory or trade rights or raw materials, but wars have been fought over religious beliefs and ethical ideals too. The trouble with the theory of the economic man is that it takes a half truth and makes it the whole truth.

Many managements have often assumed that if workers are unhappy they want more money; if they do not work efficiently they will have to have more money; if we are to keep them out of Unions we must give them more money. But all the while the workers may really be unhappy because they are not treated with proper respect and dignity or because they get no real satisfaction from their work and work situation or because they believe the bosses cannot be trusted. More wages may help many labour disputes but money won't cure grievances having to do with a man's sense of his worth or con-

^{*}Vice-President, Burmah-Shell Employees' Union, Madras

cerning his moral values. So in every labour dispute, we must ask ourselves, what is the dispute really about? There is an inherent feeling in all of us that we are doing something that to some extent really counts. One of the tragedies of modern industry is that so many workers do not have this sense of making a genuine contribution. The craftsmen of an earlier period had it and also the farmer, professional man and others. But today many jobs have been broken down into small parts and each part is given to a worker as his whole job. The result is that many people have little idea of what they are doing from the standpoint of real relation to the finished product or to the social order as a whole. Under these circumstances, of course, many people work almost entirely for money and are unhappy no matter how much they get, because they see nothing else to work for.

This is a situation which we allow to continue at great risk to our whole society, political, economic and social. People desire—yes, they definitely need something important to work for, something with which they can genuinely and proudly identify, something that satisfies the need to be needed, and a wise Management will do all in its power to help satisfy this need.

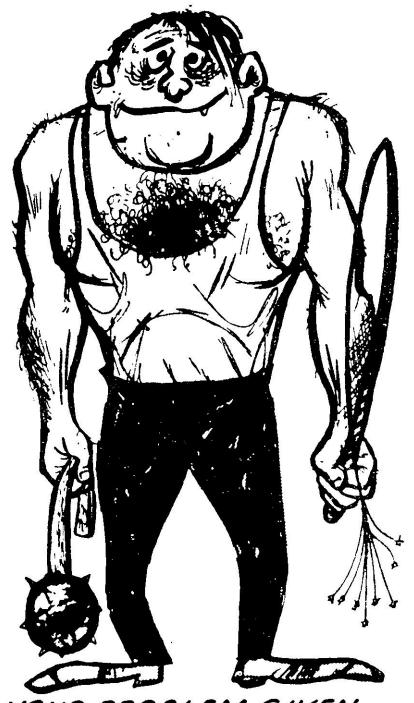
Every leader of the workers should constantly ask himself these questions then: Do my workers really know the meaning of their jobs and the combined results of all jobs in the business? Do they understand and do they accept emotionally the real importance of their jobs? Have I made the mistake of supposing that they want to put in their jobs just as little as they can and get out of them all they can? Have I ever challenged them with a difficult task and enlisted their cooperation in a job truly worth doing? Effective leadership affords people an opportunity to give as well as to get.

Summing up: Workers in this country, as everywhere, work for a variety of things; among them, are their desire for a feeling of the significance of what they are doing, a feeling that they are respected for what they are and not merely for what they can do. I have emphasised the fact that a human being may serve and sacrifice for things with which he identifies and that he does not always seek an easy job or more and more for less and less. Finally, I insist that sound human relations in the work situation cannot be achieved on the basis of trickery or cleverness but must rest on mutual trust and confidence.

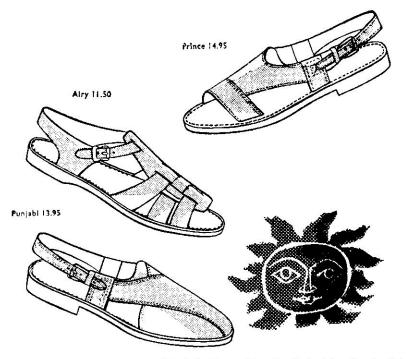
NO END TO ALL I CANNOT DO!

I am a painter who cannot paint; In my life, a devil rather than saint, In my brain, as poor a creature too— No end to all I cannot do!

-Robert Browning



...YOUR PROBLEM GIVEN
DELICATE, LOVING CARE BY
OUR STAFF OF SKILLED EXPERTS...

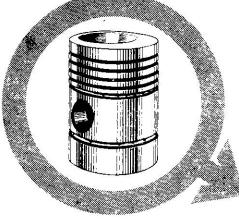


SUN-LIGHTED SANDALS

To bring relief in midsummer boredom, wander where you will, in sprightly go-lightly Bata sandals. Sun-lighted shapes and open mellow leathers, Bata sandals are the pure classic, pure fun footwear that evoke cheer for comfort, praise for taste.



20000000



MAHLE

PISTONS

Known for their reliability, efficiency, durability and high performance

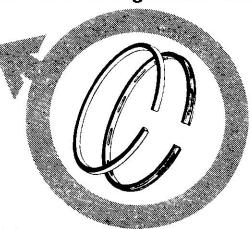
Products of distinction known throughout the world

ORIGINAL

GOETZE

PISTON RINGS

Engineered to outperform and outlast all other rings



Manufactured Under Licence:

Sole Selling Agents:

ESCORTS LIMITED

AUTOMOTIVE DIVISION - NEW DELHI

Distributors for Automobile Application:

Services of the Control of the Contr

Distributors for Tractor Application:

Ossillakumus & Company, 1973. Linghi Cherry Street, Midras (Hassa) and Keralar. Diesel Caron, (Sec'bad) Pvt. Ltd., 143, Rashrsatahi, Rod Secunderatod, Anders A Minters, Seandard Spares & Machinery Cerpon, 103, Apolo Street, Fort, Bonday in Hansahirat, Associated Exports Imports Corpon, 88, Lui Bazar Street, Calcutta (Bengal Binar, Asian & Orsso): Manohar Motors, Kashmere Gase, Delhi (Delhi, Punjab, Mimochai Prodesn, Jammu, & Kashmir Gast, Delhi (Methy Prodesn). Guyta Trading Gerpa, (India) Pvt. Ltd., Kashmere Gast, Delhi (Methy Prodesn)

Distributors for Industrial Engines Application:

Deelipkumar & Company, 12-13, Lingh, Chesty Street, Matras Modios & Kerdioi Diesel Corpin, (Sectibed) Pve. Ltd., 148. Rashtrapath, Road. Secunderabad (Andhri & Mytreet, Elve Business Contacts Corpin, Green Street, (Off Bank Sci Fort, Bombay / Maharathtra / Associated Exports. Imports Corpin, Ed., Ltal. Bazar Street, Calcuta (Borgal Binder Assom & Orsson Gupta Trading Corpin, (India) Pve. Ltd., Kashmere Gate. Delhi (Muthya Prodeth U.F. Rojasthan and Delhi). Manahar Motora, Kashmera Gate, Delhi (Muthya Prodeth U.F.

Gram: Hicables

THE lifeline of a telephone network is provided by underground telephone cables. These are manufactured by HINDUSTAN CABLES LTD.

WE also manufacture other communication cables. Consult us for your requirements.

HINDUSTAN CABLES LTD,

(A Govt. of India Undertaking, under the Ministry of Commerce & Industry)

P. O. HINDUSTAN CABLES, Dist: BURDWAN (West Bengal), RUPNARAINPUR Railway Station.

Let us strengthen Defence

By

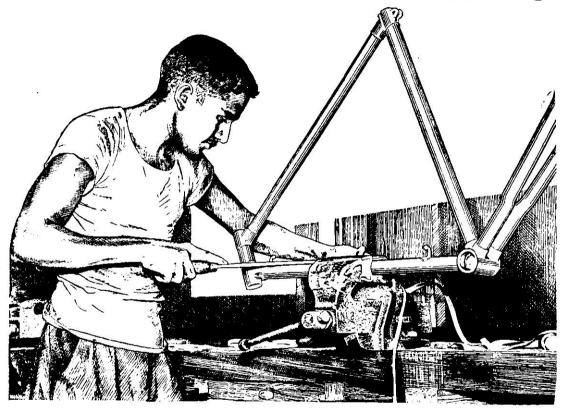
Determination
Dedication
&
Discipline

Space donated by

SREE SARASWATY PRESS LTD.

CALCUTTA-9

STRONG E.R.W. TUBES **MAKE STRONG BICYCLES**



Strong and brilliant in surface finish, our E. K. W. Tubes make the best bicycles. Strict Quality Control at each stage of production ensures that each E.R.W. Tube not only conforms to B.S. 1717, but is the very best in tubes you can get-to make your bicycles strong and attractive.

INDIAN TUBE THE INDIAN TUBE COMPANY (1953) LIMITED

Co-Determination & the German Trade Union Movement

Gerhard Pfeiffer*

BEFORE THE WAR, TO BE CORRECT, BE-FORE 1933, the German Trade Union movement was split up into three large There were the Socialist, the Christian and the Liberal unions which had grown up with different historical origins and which existed parallel to one another. The fact of their extremely close connections with individual political parties prevented a fusion of these organisations. The tragic experiences of the Nazi period had convinced German workers that a trade union movement need not be attached to one or the other political party. It must be kept free of party politics. However, this attitude does not imply political impotence. Organisations which aim at the changing and betterment of social and economic conditions of large groups of people have to interest themselves in political questions, and it would be senseless to ask them to be "unpolitical" in the literal sense of the work. They are, therefore, active in dealing with all political parties of the Federal Parliament in all those matters which directly or indirectly concern the interests of the working people. And they have been successful in enlisting the support of parliamentary groups irrespective of their political and ideological differences.

The new German trade union movement differs, however, in many other respects

*Dr. Pfeiffer is the First Secretary (Commercial) in the Embassy of the Federal Republic of Germany in New Delhi. This is based on his lecture at the Seminar held recently here under the auspices of the ICFTU.

from the traditional set-up and aims of the former German trade unions. Being in a position to build from the ground up, it chose the organisational principle of socalled industrial trade unions as opposed to the old-established one of crafts unions. Convinced that modern industry demands an organisation of all people working in one industry in one and the same union, they abandoned the idea of organizing workers in countless small crafts unions covering many industries at the same time. A'together 16 industrial unions form the Confederation of Trade Unions and all workers, whether manual or white-collar workers of one industry, are represented in one of those 16 industrial organisations. This method proved more suitable to modern industrial conditions and actually has given more strength to each of the individual groups of workers.

One of the successes of the German trade union movement has been widely discussed outside of Germany: The law establishing the right of workers and their representatives to be active partners in industry. What the German trade unions call "Industrial Democracy" is a comprehensive plan to achieve the integration of the working people in industry; to change its position from object to subject and to give

[†]This German idiom has got its own nuance, object and subject having a connotation in German, different from that in English. It means here a change over from the position of servant to that of master.

the workers a direct say in the industrial sphere on which his economic existence and his social security depend.

In this connection it might be useful to explain the reasons and the aims of "Industrial Democracy" as the German trade unions see them. The trade unions, being representatives of the masses of the working people, have as their traditional task the betterment of the working and living conditions of the workers in order to enable them to take a full and active part in the life of the nation. Their demands cannot be regarded as completely isolated from the rest of the population. Their aims must not endanger the security of industry as such and the welfare of the nation as a whole. These responsibilities must be considered in all plans and actions of modern trade unions. If this is true, they have to accept responsibilities which they can only fulfil if respective rights are granted to them. Responsibility and rights are in-divisible. Therefore, the trade unions ask for active partnership and the right of codetermination in all those industrial enterprises which by their importance for the entire population have an unquestioned influence on the whole of economic life of the country. They believe that in that way both the enterprise itself and the people as a whole must profit, because the interests of those whose very livelihood depends on the well-being of the firm are as strong as that of the shareholders.

These are, in general, the reasons and the aims of Industrial Democracy as the German trade union movement conceives them. There are many ways in which one can try to realise them and co-determination is but one of many plans. It is true that these ideas have been and still are criticized by some groups of the German people. It is only understandable that opposition against such revolutionary proposals will be strong and sometimes even violent. However, the majority of Parliament and that means of the nation support the idea as

such, and, even if all laws passed on this subject do not fully comply with the original hopes and wishes of the trade unions, a great step forward in this direction has been accomplished.

The aim of the German Trade Union Movement is to rebuild Germany to be a nation where democracy is not just a form of administration but a way of life. This aim cannot be achieved if we do not succeed in making the workers feel that they are part of the state; that German industry also is their industry etc.

Let me now turn to the different forms of co-determination which have been developed and established in my country during the recent years. At first I want to deal with the so-called works councils.

These works councils were introduced in 1918 and their position became legalized by the Works Council Law of the year 1920. It was 32 years later in 1952 when the experience of the past led to a new Works Constitutional Law. This law forms since then the basis for co-determination in the various fields of our economy.

In all enterprises which normally employ at least five workers a Works Council must be set up which is to be elected by a secret and direct ballot. The Works Council shall remain in office for a period of two years. The Works Council shall elect from its midst its own chairman and deputy chairman. The Employers and Works Council must work together, within the framework of existing tariff agreements and in conjunction with the trade unions and employers associations, for the benefit of the works and its employees, giving at the same time due consideration to the needs of the general public. They must refrain from doing anything which could in any way endanger the productivity or industrial tranquillity of the works. In order to settle differences of opinions between the employer and the Works Council a Mediation Office is to be set up in accordance with the law if the necessity should arise.

The Works Council and the Employers must ensure that all persons employed in the works are treated according to basic laws and practices and especially that no person is given any form of preferential treatment because of parentage, religion, nationality, place of birth, political or trade union activities or beliefs or sex.

The Works Council has the right of codetermination on such social questions as the regulation of hours of work, the compilation of holiday lists, the administration of welfare projects, questions dealing with plant regulations and the compilation of the principles governing compensation.

In addition to this, Works Councils in those enterprises which normally employ more than twenty persons are entitled to cooperate on and co-determine matters concerning personnel. This means the taking on, regrouping, transferring and dismissal of staff etc. Every case of dismissal is to be heard by the Works Council.

The Works Councils of enterprises falling under the Works Constitutional Law have further the right to be kept informed and to cooperate on economic questions. In all enterprises which normally employ more than 100 regular employees an Economic Committee will be set up. Included under the term economic matters as it is used within the meaning of the Works Constitutional Law are such things as manufacturing and labour practices, production programmes, the economic and financial position of the enterprise, the state of production and of sales and of other developments which may materially influence the interests of the employees.

The Works Council shall have the right to co-determine in cases of plant changes which are planned and which could have a negative effect on the interests of the staff. If the interested parties cannot reach a settlement, then either the Employers or the Works Council can appeal to the authorities to act as a mediator.

In accordance with the Works Constitutional Law a third of the members on the Supervisory Board of a Joint Stock Company shall consist of representatives of the employees. The representatives are elected by all of those workers who are entitled to vote by means of a general, secret and direct ballot. If only one staff representative is to be elected then the candidate must be employed in one of the works within the concern. If two or more staff representatives are to be elected to the Supervisory Board then at least two of them must be employees of the firm.

While these regulations on co-determination are applicable to all companies irrespective whether they work in the industrial or agricultural field a special and much more far-going right of co-determination has been established in the so-called basic industries of our country: mining, iron and steel producing companies etc.

The idea behind this special treatment of only a sector of our industry has been the feeling that this section has a decisive influence on many other branches too. Besides this, it has also been the idea to gain experience by introducing a new type of collaboration to an industry which traditionally had already developed in the past a closer cooperation between management and labour force.

By a special law which passed Parliament on 21 March 1951, a co-determination system in the basic industries was introduced under which the workers became equal partners of the owners of the company, this means the shareholders.

The introducing Article (1) reads in the beginning as follows: The Workers have the right of co-determination on the Supervisory Boards and on those bodies formed for legal representation in accordance with the provisions of this law.

Let me now deal in short with the two

bodies, which form normally the legal representation of a joint stock company. The Supervisory Board of a company subject to the co-determination law for the basic industries normally consists of 11 members. Article (4) of the law determines that all members of the Supervisory Board have the same rights and obligations. They are not subject to instructions or directions. Five members of the Board represent the shareholders. They are to be elected in accordance with the statutes of the company by that body—the shareholders meeting—created for that purpose.

The other 5 members of the Board are the representatives of the workers. are selected and elected as follows: There must be one manual worker and one clerical worker employed in one of the works be-These 2 memlonging to the enterprise. bers shall be recommended to the Electoral Body - this is the shareholders meeting by the Works Council, the Trade Unions represented in the works, and by the Central Organisation of the trade unions. purpose of nominating these two candidates the Works Council shall form two Electoral Committees. Each of these Electoral Committees shall then elect by secret ballot the candidates to fill the seat allotted to him.

The names of those candidates shall be passed on to the Central Organisation to which the Trade Unions in the works belong within 2 weeks after the election has been held. Within a period of another two weeks after the receipt of the names the Central Organisation of the Trade Union can lodge with the Works Council a protest against any of the nominations, provided they have a sound reason for thinking that the persons nominated do not offer the necessary security and guarantees that they will work on the Supervisory Board to the advantage of the enterprise as a whole and for the benefit of the entire system of our political economy. If the Works Council refuses by a simple majority vote to accept the protest, then either the Works Council

or the Central Organisation can take the matter to the Federal Minister of Labour whose decision is final.

The other 3 members are nominated to the Electoral Body by the Central Organisations after prior consultation with the Trade Unions represented in the works and with the Works Councils. The rights of the individual Central Organisations to nominate candidates is in a ratio to the extent of their representation in the works. When making their decisions and proposals they shall, however, show due consideration to minority groups amongst the employees.

The Electoral Body of the company — the shareholders meeting — is forced to accept the nominations made by the Works Council and by the Central Organisations. This brings the total number of the representatives of the shareholders and the work ers in the Supervisory Board to ten. What has been stipulated with regard to the eleventh member, the man who obviously holds a key position in the Board in cases when the two groups are opposing each other?

The law determines the special qualities of this eleventh member with great care. It says that this additional member may not be a representative of a Trade Union or of an Employers Association, or of the Central Organisation of any of these movements or have any permanent business connection with them. He also may not have worked in the enterprise either as an employer or as an employee. Furthermore he is not allowed to have any significant economic or financial interest in the enterprise.

The eleventh member of the Supervisory Board will be elected by the Electoral Body on the recommendation of the already elected 10 members of the Supervisory Board. Their recommendation is made as the result of a majority vote taken amongst all members of the Supervisory Board. The person recommended must, however, have the support of at least three members each of the group of shareholders and workers.

If agreement cannot be reached on a recommendation or if a person who has been recommended is not elected, then a Mediation Committee shall be set up which shall consist of four members, two members representing the shareholders and two members, the workers.

The Mediation Committee shall, within a period of one month, submit to the Electoral Body the names of three candidates for election: from amongst these the Electoral Body shall elect one to become a member of the Supervisory Board. If, for reasons of major importance, none of the candidates nominated by the Mediation Committee is elected, and especially in those cases where none of the nominees offer the necessary guarantees that their work on the Supervisory Board would have a beneficial effect on the enterprise, then the rejection must be registered in the form of a written resolution. The reasons for the rejection of the candidates must be contained in the resolution.

The Mediation Committee shall then submit the matter to the High Court who shall decide whether or not the rejection of the candidates for election was justified. If the Court considers the rejections to be justified and upholds them, then the Mediation Committee must submit three more candidates to the Electoral Body for election. If the court, however, decides that the rejection was unjustified then the Electoral Body must elect one of the candidates nominated. If the Court decides that the rejections of the second set of candidates for election was justified, or if no candidates were nominated for election the second time, then the Electoral Body shall elect one of its own members to become a member of the Supervisory Board.

This seems to be a rather complicated system. But the complication is deliberately introduced in order to persuade the parties to find a solution among themselves. Let me now deal in short with companies which are entitled according to their capital equipment

to elect more than 11 members in the Supervisory Board.

In the case of companies having a nominal capital of more than 20 million German Marks, the statutes or company agreement can specify that the Supervisory Board shall consist of fifteen members. In cases of companies having a nominal capital of more than fifty million German Marks the statutes or company agreement can specify that the Supervisory Board shall consist of 21 members. But in all these cases the distribution of power between the shareholders and the workers is regulated in the same way as it has been done in the case of the 11-member Supervisory Board.

While one can really speak of a balanced division of tasks and responsibilities in the Supervisory Boards there has been introduced another construction in the Board of Management, which practically runs the company in its day-to-day affairs.

The appointment and removal of members to and from the Board of Management appointed to legally represent the enterprise shall be made by the Supervisory Board. But beyond this normal procedure in accordance with the German Company Law a Labour Director shall be appointed as a full member of that body. The Labour Director cannot be appointed if the majority of the representatives of the workers in the Supervisory Board vote against his nomination. This also applies in the case of his dismissal.

The Labour Director, like all of the other members of that body, appointed for the legal representation of the enterprise, has to work in close conjunction with the organisation of the company as a whole. Further details appertaining to this point are to be laid down in the regulations of the company.

This means that in true accordance with the German Company Law the Board of Management is appointed by the Supervisory Board. The Labour Director is appointed in the same way as are the other members of the Board of Management. He is a full member of the Board having the same rights as have the other members. He cannot be appointed or dismissed, however, against the wishes of the staff representatives on the Supervisory Board.

While taking into account the overall interests of the concern, it is incumbent on this director to watch over social interests from

the management angle.

The Federal Republic has developed the co-determination to a greater extent than any other country. Today, this statutory arrangement, instituted with the express consent of both labour and management, can already be regarded as an essential component of our social system, though particular stipulations and ideas for improvement can still excite lively discussion, as they do in fact.



Workers' Management in Yugoslavia

At the invitation of the Government of Yugoslavia, the ILO made a detailed and intimate study of workers' management in that great country. The result is an excellent volume* of 320 pages, giving a fairly significant background of the Yugoslavia people, their country, institutions and policies, alongside a fairly detailed review of how the system actually operates at the plant level, the principles, governing the remuneration of labour, conditions of work and welfare facilities, supplemented by a number of very useful appendices. The Book has been summarised below.

THE OBJECTIVE OF THE YUGOSLAV SYSTEM of workers' management, based on a fully socialised economy or at least on a sufficiently extensive public sector, is to group the workers into autonomous units according to the technological requirements of the production process, with responsibility both for production and management and themselves deciding how the income from production is to be apportioned. Management rights are to be shared on an equal basis by the individual "producers" through the fact of their participation in joint production, and each is to be entitled to a reward proportional to the social value of his share in the work of his production unit and to the value assigned by this unit to his post and personal performance. Consumer demand and competition between undertakings are to provide the main regulator. and the function of central authority is to be limited to maintaining a general balance and promoting conditions for sustained economic and social progress. The reforms carried out in order to put these basic principles into practice have affected the status and role of undertakings in many ways, and indeed of all fields of economic and social life in the country. The search for the right answers has continued over the years, but

*Workers' Management in Yugoslavia, ILO Office, Geneva, 1962, price 8 4, 28 sh.

the general features of the system are now fairly stable.

The essential element in the system of workers' management is that no decision shall take effect without the express or implied consent of the collective on its elected bodies, and that there shall be wide scope for initiative on their part as far as legal requirements and the material possibilities of the undertaking permit. At the same time, importance is attached in Yugoslavia to mass participation by the workers (especially manual workers of all types) in the work of the management bodies. Through rapid turnover of membership on these bodies a considerable percentage of the workers hold office each year. The periodic meetings of the workers' councils, general and workshop assemblies, the holding of referenda etc., provide further opportunities for direct participation, while payment according to the undertaking's results and the links between workers' living and working conditions and local circumstances form a pattern of shared interests which may not be realised by all the workers but which affects each one regardless of job, grade or education.

In describing the institutional machinery through which Yugoslav workers' management operates, an attempt has been made to bring out the fundamental changes that it has entailed in the functions of undertakings and in management methods, which have been adapted or invented to meet the needs of the system. The decision to give the workers of each undertaking the right to apportion the results of their production and management has provided the workers' management system with a material incentive influencing the whole economic side of the undertaking. As regards current production, output and productivity, maintenance, modernisation of equipment, employment policy - in all these fields the principle of sharing out the results by those who have achieved them encourages the collective to seek the highest returns for each unit of work. In this respect it seems clear that the Yugoslav undertakings have been sensitive to economic incentives.

Despite the importance attached to the economic aspect of the system of workers' management, however, it would be a mistake to underestimate the social forces set in action. The possibility of determining internal relationships in the collective or work group, and of modifying living and working conditions according to local circumstances and taste, also gives the collective a stake in the undertaking. The great variety of approaches in different undertakings to the practical problems encountered, suggests that there is a wide margin for adaptation to the particular conditions, habits or preferences in each collective.

However much these approaches vary in the technical field, they are nevertheless prompted by the same concepts, chiefly because of their common political environment. It must be borne in mind that the collectives are far from isolated but are greatly influenced by outside institutions and bodies representing the community at large or particular sections of it. This "social pressure" (which can greatly modify the impact of economic incentives) is all the more effective because under a single-party system it operates within the framework of a single ideology whose foundations are not open to question. The system of workers' management now operating in Yugoslavia followed upon a complete reorganisation of the political and economic structure of the country and can hardly be dissociated from it.

From the point of view of industrial relations, the Yugoslav system of workers' management of autonomous undertakings seems in the last analysis to be a vast melting pot for concepts which originated in widely differing economic and social systems and which are often considered to be incompatible. Nationalisation of the means of production, overall planning, industrial democracy, autonomy of undertakings, market competition, remuneration of workers according to production and profits are the main ingredients of a new alloy whose durability only the future can show but whose originality and interest can hardly be denied even today.



"Labour in Ahmedabad is by common consent the best organised in India. If it continues to work along the lines on which it began, it will ultimately own the mills in common with the present holders..."

MK GANDHI (from the HARIJAN, dated January 21, 1940)

RICHARDSON & CRUDDAS LIMITED

ESTABLISHED 1858

STRUCTURAL, MECHANICAL & SANITARY

ENGINEERS.

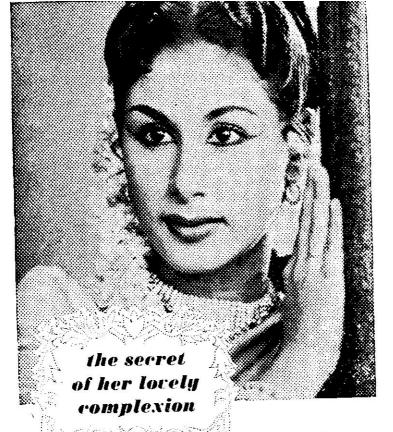
Manufacturers of

STEEL STRUCTURES AND BRIDGES
TRANSMISSION LINE TOWERS
INDUSTRIAL PLANT & EQUIPMENT
SUGAR MILL PLANT & MACHINERY
RUBBER MILL MACHINERY
RAILWAY POINTS & CROSSINGS
SLUICE GATES AND HYDRANTS
CASTINGS



Head Office & Works
BYCULLA IRONWORKS
BOMBAY-8

Branch Office & Works
FIRST LINE BEACH
MADRAS-1



you too can have it

It is the regular use of Kerala Sandalwood Soap that has enabled her to gain and maintain her lovely complexion. The rich and creamy lather of Kerala Sandalwood Soap has worked this wonder with her skin, giving it the sparkle of a lovely complexion.

kerala sandalwood soap



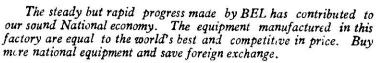
KERALA SOAP INSTITUTE, CALICUT-1.

(A Kerala Govt, Concern)

MORE NATIONAL EQUIPMENT

means

SAVING FOREIGN EXCHANGE



- ★ General Purpose Receiver-RU 536
- ★ Independent Side Band Receiver-RB 501
- ★ High Frequency Transmitter-ET 402
- * 1 and 5 KW SSB Transmitters
- * HF Trans-receiver (Safi-D)
- ★ V. H. F. Trans-receivers
- Air Borne VHF Trans-receivers (Single, Twin and Ten Channels)
- ★ Light-weight UHF Transmitter
- * Broadcast Studio Equipment * Belhaler
- * Hearing aid

COMPONENTS:

- * Quartz Crystals for use in HF and VHF Equipment
 - * Coils, Chokes and Transformers
 - ★ Ceramic and Mica Capacitors
 - ★ Valves ★ Transistors



BHARAT ELECTRONICS LTD. JALAHALLI P. O. BANGALORE—13

SELF SACRIFICE PROMOTES NATIONAL INTEGRITY

RESEARCH & INDUSTRY

(A monthly journal addressed to industry)

Crown 4to (printed area: 203×140 mm.)

Annual Subscription: Rs. 8 (Inland); Rs. 12 (Foreign)

ADVERTISE MENT RATES

Position	One Insertion	Six Insertions	Twelve Insertions
	Rs.	Rs.	Rs.
Full page	80	400	700
Half page: Upright or Ac	cross 50	250	400
Quarter page	30	150	250
Page facing reading matte	r and		
second and third cover	pages	•••	800
Fourth cover page	,	199	1000

PUBLICATIONS AND INFORMATION DIRECTORATE, CSIR

RAFI MARG, NEW DELHI-1

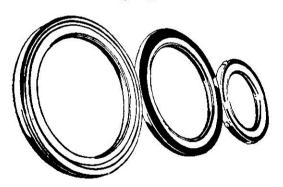
NON-FERROUS



CASTINGS FOR



STEELWORKS



IISCO makes all types
of standard quality non-ferrous
castings required by steelworks.
Some of the items on regular
production schedule are:
MILL ROLL NECK BEARINGS
COPPER BOSH PLATES
COPPER TUYERES
COPPER TUYERES
COPPER TUYERES COOLERS
COPPER INTERMEDIATE CINDER NOTCH
HOT BLAST VALVE SEATS



THE INDIAN IRON & STEEL CO. LTD.

Works: BURNPUR & KULTI

Managing Agents: MARTIN BURN LTD.

Sales Office: MARTIN BURN HOUSE, 12, Mission Row, Calcutta 1

Branches: NEW DELHI BOMBAY KANPUR PATNA

Agents in South India: THE SOUTH INDIAN EXPORT CO. LTD., MADRAS 2

NPC Question-Answer Service



You ask... We answer...



Wilfred Brown states in his book 'Piecework Abandoned': "Instead of optimising production and individual satisfaction in work, the wage incentive and time clocking systems are hindering both." Please comment.

-KK Bhasin Calico Mills, Ahmedabad

The last discoverable edition of this Book was published in 1941! Since then, the sheer quantum of research in Industrial Psychology has been enormous. Our first reaction therefore was that we have been invited to beat a dead horse! Surprisingly, though the Book in question has not been made available, the spate of answers from NPC specialists has been quite an intellectual treat, as, we are sure, it will be to our readers. The answers received are printed in alphabetical order of the experts' names, for experts too are, like all of us, sensitive to protocol!

Prof. RF Bruckart* writes

Unfortunately, we do not have the Book "Piecework Abandoned" by Wilfred Brown in our Library and I have no previous experience with this book, so cannot comment on the short sentence which has been excerpted from this book... Here are, however, comments on the statement as it is... If Mr. Brown means that in his experience he has seen companies in which wage incentive and time clocking systems have hindered production and individual satisfaction, then I can agree, as I also have seen such companies. I am sure Mr. Bhasin may also have had experience with some such companies. To take such a statement out of context, however, and generalise on it is not only dangerous but may misrepresent the intentions of the author. Certainly, it is true that textile mills, such as those in which Mr. Bhasin is employed, require considerably different techniques for establishing wage incentive programmes, because of the semi-automatic operations paced by the machines rather than by the worker.

As far as time clockings are concerned, this seems to be a rather esoteric consideration and few companies pay much attention to the effect of this method of recording and controlling times. Considering the controversial nature of incentives in general, Mr. Bhasin's statement is not particularly severe but should not be taken as a conclusive opinion of all progressive management.

John R Kennedy† writes

In answer to the statement extracted from Wilfred Brown's book "Piecework" I would

^{*}Industrial Engineering Consultant, NPC †Leader, George Fry Team attached to NPC

like to make the following comments:

The statement as listed in the "QUESTION" appears to be taken out of context. I have not read this work. Therefore, I cannot comment authoritatively on the case Mr. Brown was building when he made this statement. I can say that if wage incentive plan was improperly conceived; haphazardly installed and lazily maintained, it would definitely hinder production and cause unrest among the workers. However, if a wage incentive plan is installed properly and maintained properly it will definitely increase production; it will definitely lower costs and the energetic, willing worker will take home a higher pay.

There is nothing inherently wrong with the incentive concept. Failures, when they occur, lie in misapplication of principles and inept establishment of work standards.

Today there are hundreds of successful companies using the wage incentive plans which are properly installed and maintained, and are living proof that the incentive principle is an important and positive force in contributing towards realization of what should be every manufacturer's goal: "A BETTER PRODUCT AT LESS COST".

NV Krishna* writes

I am not inclined to agree with this statement as far as Indian conditions are concerned. So far as my experience goes, even when the standards have been loosely set, wage incentives have increased production and have been satisfying to the workers. At the same time it is true that wage incentives cannot be a substitute for good management. There are plenty of other factors which determine individual satisfaction. But wage incentive is an important factor for workers' satisfaction and has been proved to be so in Indian industries.

SK Lahiri† writes

Certain events are manifestations of the play of only one or two predominant universal forces and allow a master mind to propound a General Law for the whole world, such as Newton's Law of Gravitation. Mr. Brown's experience in the Glacier Metals cannot be called such a general law because it only depicted the results of the actions and interactions of numerous factors in the peculiar circumstances. Generally, it can be said that the Piece Rate System has proved its usefulness.

According to the ILO, in the great majority of cases, Payment by Results has led to increased output, higher earnings, and lower costs. The onus rests on more fundamental premises — namely the effectiveness of Payment by Results as a Motivation for Higher Productivity. Except for the higher income group for whom bread is not the major problem, "Economic motivation is the biggest single incentive so far discovered" (NIGEL BALCHIN). Workers have a strong feeling in relation to their earnings. It has a tremendous effect even on the rate of progress of trainees. Thus Lawshe observed that the performances by trainees under Piece Rate at the end of 30 months were the same as those at the end of 42 months by trainees not on Piece Rate System.

Though we cannot quote exact figures it can be said that performances have improved in plants — both in the public sector and in the private sector — in India, after the introduction of Payment by Results.

Referring to Mr. Wilfred Brown's experience at Glacier Metals

It must be mentioned that this firm had already achieved a higher level of production through the Piece Rate System. Thus a firm which has not yet done it, need not hesitate to adopt it.

^{*}Assistant Director, NPC Regional Directorate, Bangalore

[†]Deputy Director, NPC Regional Directorate, Calcutta

2. Glacier Metals subsequently took recourse to a form of Merit Rating or Grading. But Standards of Performance set by proper Work Study are always more reliable t han such rating.

I think that the best way is to consider all the allied factors together — performance standards based on Work Study, Job Differentiation and Operative Grading — as adopted in ICI, UK.

Further, if Piece Rate System has indirectly led management to become less responsible in a certain factory, will its abolition and recourse to flat Time Rate make it more efficient? Rather than abandon it, it would be better to utilize the underlying principle for better management control and for the best utilisation of our resources. In a group of operatives belonging to the same grade, different persons will score different performances and amounts. This is quite in conformity with natural equity. This system inspires every member to catch up and improve which is similar to "Stakhanov" effect.

On the other hand if someone's performance remains much below the average of the group for over a long period, one need question his being kept on the same job — because his performance is very costly to the management. We in India need to note this very carefully.

To conclude in favour of "Payment by Results" we hold that the successful working of this system need other concomitant management control techniques namely sound Work Study, Ergonomics, good quality control system and easy means of calculation for early payment.

The extra cost and labour are amply compensated by the effects: constant pressure by operatives for smooth supply of materials and instructions, constant effort of the management and supervisors in proper planning and production control, ensuring good maintenance, good forecasting, and more accurate labour control and efficiency control, all these helping the organisation in achieving higher productivity.

MV Venkataraman* writes

I have not read Wilfred Brown's book. But the statement made has a lot of sense; only one has not to stick to it dogmatically. The present system of time clocking for setting wage incentive schemes, however scientific it may be, does not often lead to optimisation of production and also individual worker satisfaction, since this procedure attempts to 'tease' the worker to get 'more money'. Abruzzit points out "One hears a great deal that the present procedures 'work' in practice. The trouble with this notion is that what 'works' here is what management and labour decide will be allowed to work or will be made to work. This does not make the procedure scientific nor does it mean that other procedures will not work much better". It is important to realise that the optimisation of the production of the plant as a whole comes first and innumerable ways could be devised to share the gains of increased productivity. Fortunately there are approaches which look at the problem of the optimisation of production from a "wholistic" approach and at the same time have excellent chances of providing work satisfaction. I have in mind the Scanlon Plan and Rucker Plan. In these plans the time clocking methods become incidental to the main objective of optimisation of production with excellent chances of worker cooperation and participation in optimising production. In this connection I would like to refer to a recent article published in the Readers Digest; wherein "the employees share in the results of their own efficient work on a scale unique in industrial history". The case study narrated refers to the Lincoln Electric Co., Cleveland Plant, USA, where 60 ercent of the employees have income from invested savings. Through the years, thousands of skilled employees have accumulated substantial capital from investments made from wages.

^{*}Deputy Director, NPC Regional Directorate, Bangalore

[†]Work Measurement by Adam Abruzzi, Columbia University Press, New York 53 ‡A Factory Full of Partners, by Blake Clark, Reeders Digest, December '62

M Yoga* writes

Both Wage Incentives and Time Clocking Systems aim at effectively promoting optimum production as well as individual satisfaction in work. These are formalised procedures which are necessary in any well-established unit. Where these systems have been designed carefully and administered properly they have invariably increased production as well as job satisfaction. The possibility does exist that these systems may not yield expected results when there are other factors in the work situation which counter these systems. Of course, the assumption is made that Wage Incentives are introduced after fixing up the work-load on a scientific basis and that wage incentives are super-imposed upon a minimum guaranteed wage. It is also assumed that other management practices such as adequate supervision, communication and control procedures are being effectively practised in addition to and as a support to Wage Incentives and Time Clocking Systems. As such, there is no adequate substitute for these two systems which are capable of promoting optimum production and job satisfaction on a long-term basis.

MASTERS & SERVANTS

-

Hardcastle: You must hear us talk, and not think of talking: you must see us drink, and not think of drinking; you must see us eat, and not think of eating.

: By the laws, your worship, that's perfectly unpossible. When-Diggory ever Diggory sees yeating going forward, ecod, he's always wishing for a mouthful himself.

Hardcastle: Diggory, you are too talkative — Then, if I happen to say a good thing, or tell a good story at table, you must not all burst out a-laughing, as if you made part of the company.

: Then, ecod, your worship must not tell the story of Ould Diggory Grouse in the gun-room: I can't help laughing at that — he! he! —for the soul of me...

Diggory : Ecod, your worship, I never have courage till I see the eatables and drinkables brought upo' the table, and then I'm as bauld as a lion.

Hardcastle: You numskulis! ... like your betters, you are quarrelling for places ... To your posts, you blockheads.

Diggory : By the elevens, my pleace is gone quite out of my head.

Roger : I know that my pleace is to be everywhere.

First Servant: Where the devil is mine?

Second Servant: My pleace is to be nowhere at all; and so I'ze go about

my business.

(from Goldsmith's She Stoops to Conquer)

^{*}Deputy Director, NPC Regional Directorate, Bangalore

Financial Incentives

Russell M Currie

Mr. Russell M Currie, the famous international expert on Work Study, has recently brought out a small but significant study of Financial Incentives*, aimed at satisfying "the widespread hunger of management for knowledge of how such schemes may be soundly based and fairly operated." The Book is remarkable for its practicality and the author has somehow succeeded — probably by his magic of Work Study — in encompassing all that needs to be said — and has been said in several volumes — in a small book of 124 pages. As most financial schemes have broken against the rock of worker resistance, Mr. Currie's work will be found particularly useful because "the types of schemes described in this book have the practical endorsement of progressive trade unionists..." What is probably the most remarkable characteristic of this small book (as of its author) is its level of intellectual honesty: "...We can hardly object when piecework schemes based on past experience and guess-work — many of which are nothing less than bribery and corruption — are submitted to ruthless scrutny". And Mr. Currie does it.

The Foreword contains an adequate justification for this valuable addition to Productivity literature: "It is a matter of some urgency that reliable and accurate information on the devising and operation of financial incentive schemes based upon work measurement should be given. With the growth in industry of the social scientist's habit of querying the whole basis of management's actions, there is a danger that the resultant purging may be followed by a sensation of hunger." The passages quoted below from the text give a broad idea of how Mr. Currie has tried to satisfy this hunger of management for incentive schemes, which aim at satisfying a number of criteria: worker acceptance, adequate motivation, optimum productivity etc.

MANPOWER OF ALL TYPES BEING THE fundamental resource of industry. effective organisation and control remains the prime task of those responsible for production. This may sound a simple project: in reality it is a highly complex matter. It involves the proper selection of people, to avoid square pegs in round holes; having selected people, they have to be trained; once trained, there are numerous problems of how they shall be rewarded, looked after and made to feel that they should give of their best, for the greatest single factor in any production situation is the human will to work. The major problem in maintaining or increasing productivity becomes one of providing motivation which will enable this will to work to be organised and controlled most effectively.

The Prime Requisite for this is Getting the Right Atmosphere. All too frequently the root cause of ineffective application lies in attempts to impose an incentive scheme in an unsatisfactory atmosphere. Money alone will never ensure confidence between man and management. It is important, therefore, that priority consideration should be given as to how a good atmosphere can be established. It is often said that work study is '10 percent technical and 90 percent psychological' and this of itself indicates the degree of importance which is attached to the human factor in incentive situations.

The British Productivity Council description of the purpose of incentive schemes underlines primarily their human aspects: ... On the human side, we believe in the

^{*}Published by the British Institute of Management, 80 Fetter Lane, London; price 21 shillings.

need for full understanding and appropriate incentives of all kinds and at all levels, if productivity is to be increased as rapidly as possible. This means that every individual must know what is expected of him, be able to take pride and interest in his work, and have opportunities for personal advancement and monetary reward. Individual betterment must be based as far as possible, however, on personal merit, and on the contribution of the individual to the collective purpose.'

A human being has two prime motivations. One is the hope of gaining something; the other is the fear of losing something. There can be few people left in British industry who have any real interest in taking advantage of fear, the motivation which draws its power from such situations as mass unemployment.

On the 'gain side', a man's hopes and desires may be summarised in one word: self-respect. It is by respecting his self-respect that management can enlist the man's intelligence, which is the true purpose of incentives in industry. Incentives schemes not so organised can only be the source of industrial discontent, as in fact they are.

If we have the right philosophy and have been able to create the right atmosphere, we are then ready for the application of incentives. But we have to realize that for maximum effectiveness each incentive scheme must be tailor-made for a particular department and indeed for a particular job.

There are three main purposes which may be achieved through financial incentive schemes:

> (a) The improvement of the average rate of working and effectiveness of employees.

- (b) The improvement of methods of working.
- (c) The improvement of cooperation and sense of common interest.

Different types of incentive schemes achieve these results to varying degrees.

There is no simple form of financial incentive scheme which will give the maximum improvement in all three ways. In fact there is no one simple answer to the problem of achieving the maximum overall effectiveness of payroll employees. Individual bonus schemes, while having an immediate strong effect on workers' direct effectiveness, can have a tendency in unfavourable circumstances to discourage detailed method improvement. An individual worker might rather take advantage of his own idea for method improvement in the form of an increase in his own bonus earnings than make the knowledge generally available despite the existence of a suggestions scheme.

When the third objective, the employees' cooperation and sense of common interest, is considered it has to be realised that direct individual incentive schemes may not have influence. The apparent conflict between the possible objectives can only be reconciled by a careful analysis of the circumstances in any particular case and the selection of an appropriately constructed scheme or combination of schemes. It would be wrong, therefore, to discard the possibility of developing other means by which to encourage improved methods and a sense of common interest, after and on top of the application of a direct payment by results scheme. A really effective suggestion scheme may be the best way for getting ideas for improvements and some form of profit sharing may give an increased sense of common interest.

Steel in the Soviet Union

NPC sent a Team to study the Productivity of Iron and Steel Industry in the Soviet Union and Czechoslovakia. Its Report* has been recently published and is worth a study by men of the steel industry, whether in the public or in the private sector. The following extracts have been printed to indicate the quality of the Report and its importance in the emerging steel economy of this country.

Producing less than a million tons of steel in the early twenties, the Soviet Union has emerged as the world's second largest producer today, the output in 1961 being 71 million ingot tons. By 1965, it plans to produce 90 million tons (390 kg per capita) at which time India may have a capacity of about 10 million tons (20 kg per capita). The discipline and drive, which the Team observed, leads it to believe that the reported Soviet steel target of 250 million tons by 1980 may well be achieved, and that the Soviet Union is likely to become the largest steel producer in the world.

The socialist form of Government has undoubtedly made a major contribution to this growth as it has enabled the allocation of funds and priorities to facilitate rapid steel development. The system also permits a new technique, once proved and its economics established, to be unfalteringly applied on a countrywide basis. In India, on the other hand, technical issues — such as the desirability of beneficiating iron eres and agglomerating the fines — tend to be debated endlessly, and often at non-technical levels.

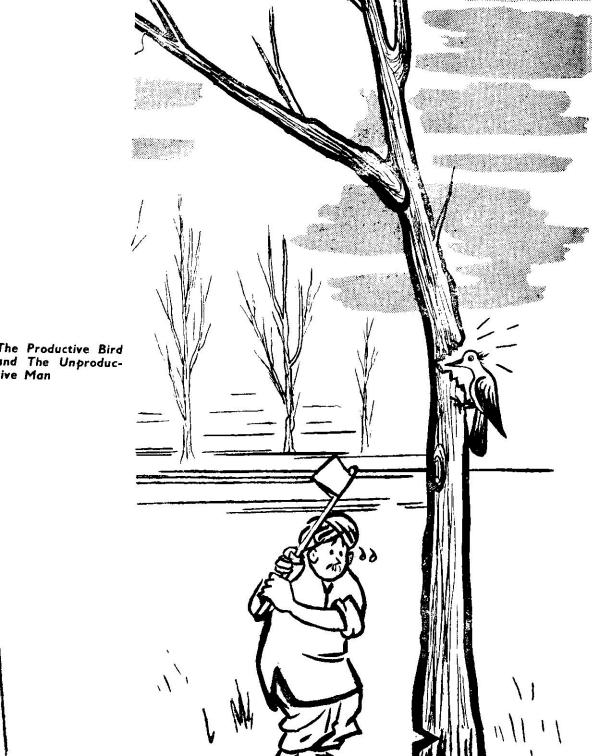
The Soviet example provides convincing proof that a developing country with a vast untapped potential, such as India, has no alternative but to set up heavy basic industries, like steel, power and machine-build-

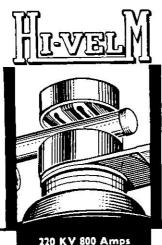
ing, before establishing processing indus-

Some people think of Soviet industry as a vast state-controlled bureaucracy which operates without any competition and produces without giving much thought to costs. In part, this view is not without foundation: the Soviet steel industry still operates under rigid procedures, with many delays in decision-making. The other part of the image is based on misconception: there is considerable competition between Soviet steel plants in matters of output, operating costs and new techniques. Financial incentives and other motivations are positive and well organized. The Soviet steel industry appears to be cost-conscious and to be using extensive cost accounting and budgetary control practices, which permeate right down to the operatives on the shop floor.

In the Soviet steel industry planning is carried out by technical personnel with specific steel plant experience. Not only is the head of a steel plant an experienced engineer with ironmaking, steelmaking or rolling experience, but even the Director of the Sovanarkhoz or Gosplan is a competant technical man who has worked his way through steel or other industrial plants before attaining this post. Consequently, it has been possible for the Soviet steel industry to adopt modern technological developments quickly, once these have been critically studied by the experts.

^{*}NPC has recently brought out quite a number of Team Reports: Industrial Maintenance, Cement Industry, Automobile Ancillary Industry, Machine Tool Industry, Personnel Management, Quality Control and Machine Building Industry.

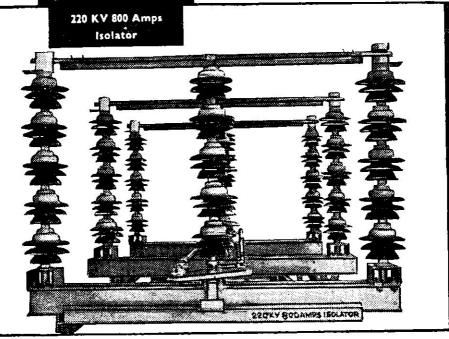




High Voltage Equipment & Line Material

PROUDLY PRESENT 220 KV ISOLATORS & AIR BREAK SWITCHES

ROBUST DESIGN FOR ENDURING SERVICE



From 11 KV to 220 KV • Current Ratings upto 1200 Amps• Interlocked Grounding Blades • Auxiliary Switches Mechanical Interlocks • Electrical Interlocks • Motor Operation • Heavy duty busbar connectors and clamps etc.

Manufactured by:

HIVELM INDUSTRIES Private Ltd., A-5/6, Industrial Estate, Guindy, Madras-32, India.

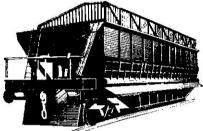
Phone: 80504

Grams: "HIVELM"

INDIA MOVES FORWARD ON

ISW have been manufacturing wagons for nearly half a century and have supplied over 56,000 units of 43 different types to the Indian Railways and industries.

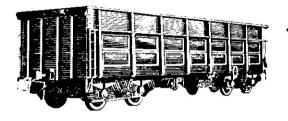
WAGONS



Hot Coke Car for Steel Worlds.

Type BOB Hopper Wagon fitted with Standard Drawgear and Vacuum Brakes.





Type Box mk I Open Wagon fitted with Automatic Couplers, Roller Bearing Axleboxes and Vacuum Brakegear with Automatic Slack Adjuster.

THE INDIAN SYANDARD WAGON CO. LTD. BURNPUR

DESIGNERS AND BUILDERS OF ALL TYPES OF ROLLING STOCK



Managing Agents:
MARTIN BURN LTD.

Martin Burn House
12 Mission Row, Calcutta 1.
Branches:
NEW DELHI BOMBAY KANPUR
PATNA

Kalinga Industries Limited

33, CHITTARANJAN AVENUE CALCUTTA-12

Manufacturers of Refrigerators, Fluorescent Lighting Equipment, Tubular Structures and Producers of Foundry Grade Pig Iron

Light Engineering Works ... Jobra, Cuttack

Tubular Structures Factory ... Chowdwar, Dt. Cuttck,

Low Shaft Furnace

Barbil, Dt. Keonjhar,

Orissa

UPPER GANGES SUGAR MILLS LTD. THE OUDH SUGAR MILLS LTD. NEW INDIA SUGAR MILLS LTD. THE NEW SWADESHI SUGAR MILLS LTD. BHARAT SUGAR MILLS LTD. GOBIND SUGAR MILLS LTD.

Manufacturers of:

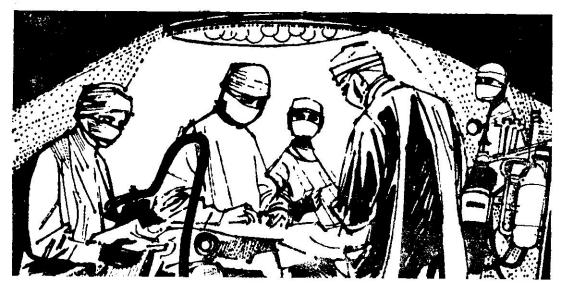
PURE CRYSTAL, CANE SUGAR

Managing Agents

THE COTTON AGENTS PRIVATE LTD.

INDUSTRY HOUSE, 159, CHURCHGATE RECLAMATION.

BOMBAY-1



In Hospitals, Factories, Schools, Public places...

PUT AN END TO THE DANGERS OF

SUDDEN DARKNESS

In hospitals sudden darkness can be a danger to life. Emergency lighting is the obvious safeguard—and that's where Keepalite comes into its own. Keepalite is an automatic emergency lighting system employing leadacid storage batteries which are automatically triggered into operation by the actual

mains failure. Modern methods of control and 'trickle' charging mean that Keepalite equipment has outstandingly long life and requires minimum of maintenance. That's why architects everywhere specify Keepalite as sure inexpensive protection for hospitals, factories, schools, banks and public places.

KEEPALITE

AUTOMATIC EMERGENCY LIGHTING EQUIPMENT—a product of Chloride and Exide Batteries (Eastern) Limited.

Plays on Productivity

The National Productivity Council organised a fairly large-scale competition on various productivity subjects, the main objective being to build up literature for workers and middle management in order to boost productivity at these critical levels. In the literature so obtained, a number of writers attempted Plays on Productivity, which appeared quite a unique development in the line. These, of course, have had to be liberally edited for publication in this Journal, but both in form and substance, the credit belongs entirely to the authors, who deserve congratulations for originality of outlook and for their contribution to the development of a type of literature so much needed for clicking the idea of Productivity at the Plant Level.

The New Dawn

Asok Sen Gupta

CHARACTERS

1. Iashin an old moulder who has seen better days

2. Ramcharan a good lathe-operator, friend to Iashin 3. Saidullah a fiery, discontented youth, helper to Ramcharan

- 4. Seetaram another moulder who wants to go slow but wants more
- 5. Virendra Mehta Manager, son-in-law to Balraj Vat, the Managing Director

6. Balraj Vat the Founder and the Managing Director of the Company

Sudharshan Sharma the new labour officer
 Rajani a woman worker of about fifty, who carries material in the moulding shop. She also runs a small tea shop inside the moulding shop where workers gather to have snacks

9. Prem Khosla a young typist girl, P.A. to Virendra Mehta (the Manager)

Scene I

(Inside the shop, during a midday rest lashin, Ramcharan, Saidullah and others are sitting around the small fire over which a tea-kettle boils. Rajani is busy in serving tea.)

IASHIN Hello, Rajani! Your tea lacks What's happening?

RAJANI Bhaiya, the cost of sugar is on the increase, you know.

RAMCHARAN That's a fact. Everything

is going out of our reach. I think that the old days were better. My pay was less but an anna ran longer than a rupee today.

SAIDULLAH But the tea Rajani serves can be made sweeter at no cost.

SEETARAM How, man?

SAIDULLAH It would be sweeter if she could sing over it before serving.

RAJANI You chicko! I saw your grandmother born...

(General laughter... 'Shabash', 'Shabash'.)

from my great grandfather.

(General shouting 'Shabash', 'Shabash'.)

RAMCHARAN (cries) Stop this please...

RAJANI (muttering to herself) These young ones...

saidullair (aside to Rajani) But you came much earlier than your time to this earth, without asking me. That was your fault. (To Ramcharan) Yes...this present time is pinching us hard. I try to be jolly only to forget that.

IASIIN Yes, there is something rotten somewhere. The times are hard.

SEETARAM Hai Bhagwan! The time is hard and the hearts of our bosses are harder. Kaliyuga is in full swing.

(Enter labour officer Sudharshan Sharma)

are always busy in the other shops and we can rarely get a glimpse of you. (To Rajani) Bahin! please make a cup for Sharmajee and tick that on my account.

(Sudharshan Sharma takes a cup of tea from Rajani and sits down on an upturned bucket).

sudharshan sharma Yes, Yes, a cup that makes you gay. How, what was the uproar for? Something knotty?

SEETARAM No dear, the problem is clear. The past was golden, the present bad and the future promises to be worse. Is this the Swaraj our Mahatma thought of?

SUDHARSHAN SHARMA I agree that we are facing difficulties. But believe that our 'Sarkar' is clear in its objective to gain independence from hunger.

saidullah All bluff! If these fatty bosses can be squeezed rightly we can get enough to make our lives sweet.

SUDHARSHAN SHARMA But when we let loose the hounds of envy and destruction, hunger is not appeased. Our government does not want the bosses to bag more than logical profits. We, the workers, have been asked to bargain with the bosses regarding the distribution of profits, welfare of the company and general policy of management.

IASHIN But are we not working hard to claim more than we get now?

sudharshan sharma Dear Iashin, it is not merely a question of working hard. Can you tell me why last month one consignment of axle-boxes was rejected by the Railways for bad moulding? Our Company lost a contract. This swells losses, not profits.

SEETARAM If bad ingredients and wornout tools are to be used, better results cannot be hoped for.

SAIDULIAH It is none of our concern that the company cannot sell the axle-boxes.

SUDHARSHAN SHARMA Look through it, man. If these are rejected, your company and all of you are dishonoured. If these are used by the Railways, some day hundreds may die due to the dislocation of a train.

RAJANI Oh, me! What disaster may come to peaceful homes.

Lead us, we will follow.

SUDHARSHAN SHARMA I ask you to do two things. Firstly, we must work devotedly. We should then claim our rightful share in the total product of industry. We should form workers' committees in every shop so that in the next meeting of the board some representatives may be sent to the meeting to discuss problems on management and policy. You stand on your own rights and speak from your hearts. The world cannot neglect you.

IASHIN Right from now, this very moment we take the vow.

ALL Go forward brother. We are all behind you.

Scene II

(Manager's room in the factory. Balraj Vat the Managing Director and Virendra Mehta the Manager are talking low. Prem Khosla is typing silently on a table near-by. Sharma enters)

SUDHARSHAN SHARMA Good Morning, Sir (to Managing Director). (To Manager) Good Morning Sir. Good Morning, Miss Khosla.

PREM KHOSLA (feebly) Good Morning, Mr. Sharma.

VIRENDRA MEHTA (angrily to Prem Khosla) Miss Khosla, you may leave the room now.

(Prem Khosla leaves the room, offended, looking back once at Sudharshan Sharma)

BALRAJ VAT Sharma, you are my friend's son. I knew you to be an intelligent and active boy. You are spoiling your future by going against the interests of the company. I was young once and had to work hard to rise.

SUDHARSHAN SHARMA Yes, Sir, I have heard the story from my father, how you laboured hard against odds to turn a small blacksmith's hovel to be the biggest factory in the district.

BALRAJ VAT I am glad to know that my labours are still remembered. I love this concern like my child. Can you not trust your welfare in my hand.

SUDHARSHAN SHARMA I'm ready, Sir, There's only one submission I would like to make. It is not only I, who am your

child. All the workers are your children. They may make mistakes; so do your children. Do you on that account think less of their welfare?

BALRAJ VAT Yes, there's a point in what you say. Of course, the company has become somewhat big; and the children theory may not suit modern times. But the spirit of love is neither ancient nor modern. It is an eternal fountain-spring. Let's tap it.

sudharshan sharma. Sir, you've struck the right chord. I may only ask you to let the workers love this company as their own. Then you will find that they will also compete with each other for the better interest of this company.

BALRAJ VAT I am feeling something like a new dawn. This is an experiment worth the risk. Go ahead, Sharma.

Scene III

(One year after. A joint meeting of the directors and representatives of the Workers' Committees. Balraj Vat in the chair. Present also Sri Mehta, Sudharshan Sharma, Saidullah, Seetaram, Prem Khosla and others)

BALRAJ VAT Friends, you have just now heard the report of the last year. It is glorious and interesting. Not only have we bagged more profit but our standard of production is now exemplary by the Indian Standard Institution mark. This is, as Sudharshan Sharma said, due to the greater sacrifice from a greater number of people. Yes, in this vast project of nation-building even the smallest concern like ours contributes. This is our pleasure and privilege.

raw man and cannot speak well. Pardon my incompetence. I have some proposals to be put before you for consideration. Our

reserve fund should get more of the profit...

SEETARAM ... one testing machine to check the cavities of the mouldings is urgently required. Someone from our shop should also go to a government factory to learn new and better techniques.

WIRENDRA MEHTA (aside to Balraj Vat) I wonder, how they forget claiming a rise in wages.

BALRAJ VAT (aside to Virendra Mehta) They feel like soldiers now. Sharma was right. "Treat a man as a man, and he slaves for you. Treat a man as a slave, and he brings you down..."

prem khosla (to Sharma, aside) A new name to you Sharma. We may better call you - Sharma, the Magician'.

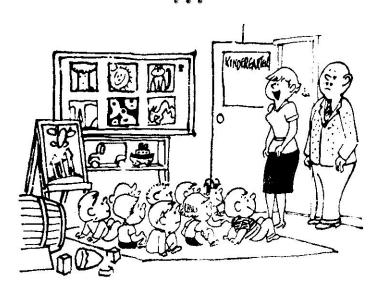
SUDIARSHAN SHARMA No, no, there is no magic; and these are no magicians. There's an old agricultural saying: "Give a man a piece of garden land and tell him that it's not his own and he will turn it into a desert. Give a man a piece of desert land and tell him that it's his own, he will turn it into a garden..."

PREM KHOSLA That's the Magic of Productivity. Let's apply it to industry and our country will flower out into a garden.

ALIBIS FOR LOW PRODUCTIVITY

"... the external difficulties India faces should not be regarded as so many alibis. No one noticeably helped Japan when nearly a century ago, it plunged into break-neck modernization. Yet it grew in record time..."

—Barbara Word in The Financial Express



"Boys and girls, this is Mr. Smythe of the Universal Aircraft and Missile corporation. He wants to tell you about the advantages his company has to offer the graduating engineer."

Land of Milk and Honey

PO Narayanan Nambiar*

CHARACTERS

Gopal a factory worker
 Lalitha Gopal's wife

3. A sage

Scene I

(Gopal's house. In the verandah of the small house, Lalitha is seated on a stool, musing something. Time 5-30 p.m. Enter Gopal with a small tiffin carrier. Lalitha rises up from the stool. Gopal walks, to and fro in the verandah, as if restless.)

Lalitha Why are you so restless today? What happened?

GOPAL What happened? Everything happened! They say there is no bonus this year. The company has incurred a heavy loss.

LALITHA O God! No bonus! All my plans shattered! How are we to pay the. balance amount due for the cow we bought? We told the man to wait for a few days more till you get bonus.

GOPAL What about repairs to the house? What about clothes? What about our dream to see our daughter with a good necklace?

LALITHA All our hopes and wishes shattered.

GOPAL They say, the loss is so much that it would be difficult to cover it even next year. They say there is something essentially wrong with the company.

LALITHA Have the rival companies enchanted ours for failure! God alone knows!

GOPAL There is a murmur to that effect!

LALITHA If our company does not prosper, our fate is doomed! Yes, now I, remember, there is a sage under the banyan tree in front of our temple. I saw him last evening. People say, he has got several 'siddhis'

That is a woman's foolishness! Now you want me to approach him in the matter! There are so many such yogis deceiving poor innocent folk like us!

LALITHA No, this one is definitely not a mere crank. His appearance itself is godly. You need not go. I myself will go and seek a solution. At least I will find out the reason for the failure of the company.

GOPAL Do what you may. I have no objection. Give me a glass of water. (Lalitha starts to go inside the house The curtain falls.)

Scene II

(A banyan tree with a platform around it. A sage, with marks of ashes all over the body, is seated on the platform. There are chains of rudraksha beads on the neck, at the arm-pits, wrists etc. A kamandal 1 ves-

^{*}Trainee, Institute of Cost & Works Accountants, Calcutta 16.

sel and a small wooden arm supporter are on one side of him. He is evidently chanting some mantras since his lips are moving.)

(Enter Lalitha. Lalitha keeps a plate of fruits and flowers before the sage, bows to him and speaks)

LALITHA Pranam, Maharaj! Extend your blessings to me, the wretched woman as I am!

SAGE God bless you! What is wrong with you, my lass?

LALITHA Everything will be all right if only I get your blessings, Maharaj! My husband did not get the usual bonus from his factory this year. They say the company incurred a heavy loss. What is wrong with the company? Will it be in a better position next year?

(The sage closes his eyes and evidently meditates for about 3 minutes. Then he opens his eyes and says)

SAGE Yes. I see! The factory is attacked by several bhootas and pishachas. Unless these are destroyed, or at least greatly weakened in their energy, the factory will be swallowed by them. Then the thousands of workers like your husband will have to wander here and there without employment.

LALITHA Pray, destroy all the *bhootas* and *pishachas*, Maharaj. Be merciful to the helpless!

sage My dear lass! I cannot destroy them. Your husband and his colleagues must destroy them. I am without any enemies. I cannot kill them without direct provocation. I will make you see the *bhootas* and *pishachas*. Undersand and remember them well. Then go home and tell your husband. Let him explain to his colleagues.

Let them fight and kill or weaken the evil spirits. Why I say weaken, is because some cannot be killed so soon and so easily. Now, you close your eyes and see. When you see them, their names and characteristics will also appear before your mind.

(Lalitha closes her eyes, after a while, she speaks out)

LALITHA Guruji, Maharaj! I see the leader of the bhootas and pishachas. He is Decrease-in-Production, trying to swallow the factory bit by bit. Oh! I see his assistants! They are several in number! All are not clear to me. The clearer ones I say... This is Being-Late, this, Idling-Time, this Laziness, that Carclessness, that, there is Wastefulness, then there is Bad-Workmanship. Here again is Pilferage, No-Cooperation, there still is Want-of-Mutual-Trust-and-Understanding-with-Management. This latter destroys physical and mental health of the factory workers, prevents them from securing a cheerful atmosphere inside and outside the factory. Want-of-Suggestions-for-Better-Working-Conditions is lurking in a corner. There are some more shadowy figures behind these. But I am greatly afraid to look at these creatures.

LALITHA Guruji, thousand pranams tothee. By your grace, I am able to understand the evil spirits. Now I will inform my husband and request him to destroy or weaken the evil spirits in company with his colleagues. Then the productivity will increase and we will gain better and better income.

sage So be it, my child! Let the factory prosper, let you poor people prosper! Let the precious sweats of the people change into heaps of gold coins. Let the gold coins convert this our Motherland into a "Land of Ever-flowing Milk and Honey".

[&]quot;You cannot get a Dickens or a Balzac, simply by having right thoughts;" nor can you have PRODUCTIVITY.

This Lecturing on Productivity

BV Padh

Management gave a challenge to workers for record production. Machinery was whirling round and round and the workers were shouting. In this din and bustle, two of the workers Rama and Bhikhu began to talk about what it was all about.

BHERIC Rama, I am amused these days, why we are gathered and given talks on different things concerning us. For example, could you say why the Plant Superintendent told us at the last monthly meeting, that all of us should collectively pick up the challenge for record production? Why should he call on us to do our best? I believe this is his job. We should not be bothered with his responsibilities. What do you say?

RAMA I don't know. Now let us see why are you coming to work?

BHIKHU The purpose is simple. I and my wife and children want to be well-fed, well-dressed, well-educated, well-housed, and all that. Therefore, I should be well-paid.

RAMA Right, you want in short the employer to do his best for you. Why? What about you? For life is a bargain.

викни Oh! Rama, is that so? I never think as you do. Continue, Rama, it is interesting to hear you.

RAMA Now, let us work it out. How do our employers provide for all that we want, unless we create a market by producing more in better quality and at lower cost. It is therefore in our interest to be enthusiastic about the challenge for record production.

викии But I don't think we have anything to do with the Superintendent's res-

ponsibility.

RAMA We are again falling into error? Let us go over and ask ourselves the following questions:

- (a) Are we not interested in good opportunities at work?
- (b) Are we not interested in getting good wages and generous bonuses?
- (c) Are we not interested in better housing, better and prompt medical aid for our families, better study opportunities for our children, and such other facilities?
- (d) Are we not interested in promotion? If the answers to such questions are in the affirmative, then we have to devote all our energies to do the best that we can on the job. Especially, when we are regarded in far better way than some decades ago; we should feel proud of it by bettering our workmanship.

внікни Why then do we have a Superintendent?

RAMA Now, he has many jobs. This is a big company doing a complex type of work. My point is that we don't require someone to "police" our working. When we want to be well-paid, well-fed, well-treated, what is wrong if the Superinten-

503

dent asked us to work hard and produce more?

вніки But, Rama, you are talking of work, work and hard work. If we have continuously to work only, why the canteen etc., are provided?

RAMA You thought the other way, Bhikhu. These recreational facilities are provided for us, because a human being cannot work continuously for hours together. What is rational of us, however, is to take advantage of such facilities, in a reasonable way. It should not be our only motto to consume working hours, produc-

ing as little as we can. If we follow such tactics we are ourselves inviting management to watch our comings and goings.

BHIKHU What about others who are applying such tactics, Rama? Do you say that they should be allowed to continue to be idle while we should work hard?

RAMA This is an age-old question, Bhikhu. Everywhere you go, right from the family to the biggest institutions, you will find this question embarrassing the authorities who are required to get the work done through many people. Let us do our best and set an example.



We Want A System

PV Advant*

(Location: Folding department of a textile mill. A piece-examiner is finding out defects in sarees, received from the loomshed. After some time he finds that headline-strips are woven of dark blue coloured yarn instead of black coloured yarn. He immediately takes out the number of the loom to which the sarees belong and calls the weaver.)

PIECE-EXAMINER Babu, please call the weaver on loom No. 725 and jobber No. 7 immediately.

(Babu goes and after two minutes weaver on loom No. 725 and the jobber No. 7 come there. The weaver is near about 50 years of age)

PIECE-EXAMINER (looking at the weaver) See, is this from your loom? What have you done? All these twelve sarees are spoilt by your mistake. You will have to pay for it.

WEAVER Oh, what has happened? Let me see.

(The weaver looks at headlines and he appears to be terribly afraid)

JOBBER No. 7. (shouting at the weaver) How you have used these dark blue bobbins? Don't you understand the difference between dark blue and black?

WEAVER It has happened by mistake. I was under the impression that I have used black bobbins; I was not able to see that those bobbins were of dark blue colour.

JOBBER O my god, this is funny; you are so old, as not to see the difference between black and dark blue, you had better go home.

WEAVER (with low voice) No-no, Sir, excuse me, I will not make such a mistake again.

(At this time, the Weaving Master, who had recently joined the mill, is passing by that side. He comes in A Supervisor is also with him)

WEAVING MASTER What is going on? Why are you people shouting so loudly?

(The Piece-examiner shows the spoil lot of sarees to the Weaving Master)

PIECE-EXAMINER (keeping his finger on headlines) This weaver has spoilt the whole lot of sarees using wrong weft bobbins. Now he says that he has done it unknowingly and he was under the impression that he was using the right bobbins.

WEAVING MASTER You see, jobber, one thing I don't understand... Is this the mistake of the weaver or of the weft-room boy who gave these bobbins to him?

SUPERVISOR Yes, it is quite possible that the weft-room boy might have given him these dark blue bobbins. Shall I call him?

^{*}A highly qualified statistician, the author was for quite sometime incharge of the SQC Department of the Raja Bahadur Motilal Poona Mills. At present Statistician and Cost Accountant, Indian Cabel Industries, Pimpri.

PV ADVANT , 505

WEAVER No, not necessary. I have not taken the bobbins from him. I had been to the pirn-winding department and from there I picked up some bobbins.

WEAVING MASTER Oh, why did you go to the winding department? Why didn't you take the bobbins from the weft-room boy?

WEAVER No, Sab, I went to the weft-room boy, but he said he had no black bobbins and he had given some bobbins to the jobber already.

WEAVING MASTER (interrupting him) Then why did you not take the bobbins from jobber?

JOBBER (interrupting) I had already distributed all the bobbins to the other weavers in my section. When he came to me. I had no bobbin to give it to him.

WEAVING MASTER Then what happened?

JOBBER Further I don't know.

WEAVING MASTER So this weaver went to the weft-room again and finding no stock there, he went to winding department directly. Is this correct?

WEAVER (hurriedly) Yes sab, it is correct I went to the winding department and collected some bobbins from the doffs.

WEAVING MASTER See, Sri Jobber, now all the responsibility comes to you. You are to be blamed, because you did nothing when this weaver came to you..., now I don't understand how the colour was changed altogether.

JOBBER This weaver has gone old now. He is not able to see clearly.

WEAVER No Sab, not like that, I can see very well, but on my loom lighting is insufficient; out of two tubes, one is not working.

WEAVING MASTER Have you shown this to the jobber?

WEAVER Yes, two months back.

JOBBER Yes Sab, I have also shown this to our Head-Jobber, but he says that this work is to be done by the Engineering Department.

WEAVING MASTER Oh, now, I don't understand how things are going on. This mistake of using wrong bobbins—using dark blue colour instead of black colour—is done by this poor weaver, and you were threatening him to go home. I now find that so many people are responsible for this mistake. If the work is done systematically and everybody understands his responsibility, such a mistake cannot happen...

JOBBER But this weaver should have taken care to see the bobbins.

WEAVING MASTER You see, Sri Jobber this weaver went to the winding department because he was in need of bobbins. He collected some bobbins from the doffs kept in the corner which had insufficient lighting — only yesterday I marked it. So it is quite possible to make a mistake, therefore there should be a system. Weaver should take the bobbins from the weft-room and he should not have to go to another department. Today this weaver has taken wrong colour, tomorrow it is quite possible that he will use wrong count of yarn for weaving which will spoil the texture of cloth.

JOBBER Yes, I understood now. He says, one tube of light is not working; what shall I do? I have asked the wireman again and again; he is not hearing at all.

WEAVING MASTER Actually his duty is to repair the things that are not working, but when he neglects his duty, you should tell our Supervisor. He will take proper action. The wireman cannot refuse instructions from our Supervisor, because he will lose his job if our Supervisor complains against him to the Engineer under whom he is working. So I mean to say everything

should go by system. There is a system of work and all of us have to follow it.

WEAVING MASTER Let it be. Now I wish to see loom no. 725 whether the mistake of fused tube is real or not. Yes, come on.

(Weaver and Jobber go away. Weaving Master and Supervisor go to loomshed. When they are about to enter the shed, Weaving Master happens to see some workers in a corner chatting and smoking. When they see the Weaving Master, they disperse)

WEAVING MASTER (Looking at Supervisor) See, Niranjan Das, these people have left their looms, we are losing production and they lose their remuneration for it.

(In the distance, about twenty workers have come together for tea)

WEAVING MASTER What is happening there, Niranjan Das?

supervisor Nothing Sir. A vendor might have come to give tea to workers

WEAVING MASTER Is he coming at any time in the department?

SUPERVISOR No, in general he comes twice a shift.

WEAVING MASTER All right. But I think this system is very wrong. The workers are making a crowd around him. It is quite possible that some fault will occur at their loom in their absence—and another thing, the whole Section is disturbed by this system.

SUPERVISOR This is just like a bazaar.
WEAVING MASTER I think that vendor should give tea to the workers at their looms.

SUPERVISOR Of course, Sir. We should definitely have it that way.

(Weaving Master and Supervisor go through alleys; at one place they find that a worker has a long stick in his hand and by that stick he is trying to cut the spray of an overhead nozzle)

WEAVING MASTER See Niranjan Das, how this worker is using his stick. Where is the jobber. This is his job.

(Weaving Master calls the weaver and asks him where his Jobber is)

WEAVER (coming to Weaving Master) Jobber has gone home just now. He has taken half day's leave.

WEAVING MASTER Do you know that the Jobber has gone home?

SUPERVISOR No Sir, he has not asked me but he might have told the Head Jobber.

WEAVING MASTER Do you think that he has taken leave for any urgent work?

SUPERVISOR I can't say like that, because here some people have the habit of just going off.

WEAVING MASTER Now, how can we blame the workers. We have ourselves no system and no discipline. Much of our time is lost in small things and small troubles and naturally we lose our patience and cannot work efficiently. How do we expect our workers to have faith in us. We lecture to them on Productivity, but we are ourselves not productive. Let us put our side of the house in order and then invite the workers to contribute to and share in the Gains of Productivity.

NOT THE INTELLECTUALS, BUT THE PRODUCTIVITY EXPERTS

"Intellectuals may think they made the modern world but they did not; nor do they run it."

Why Productivity

RM Patil*

In this drama, the author has composed a running conversation between a fairly intelligent and educated worker, Natrai, and the head of an industrial welfare society, Ganesh. They discuss PRODUCTIVITY up and down and it makes interesting reading:

GANESH Hello, Natraj, how do vou do?

NATRAJ Quite OK, Sir: How do you do, Sir? And how is your social activity progressing?

GANESH Yes, Natraj. I have been able to do some social work for industrial workers only because of your cooperation.

NATRAJ No, Sir, it is our duty and not obligation to cooperate with persons like you who are working in the interests of the workers.

GANESH It is recently that the workers have started realising that something needs to be done for their own well-being. It is probably due to more literacy that workers are becoming more and more alert; they are able to read something about industry, development, other nations' progress etc., so they can now realise where lie their real interests.

NATRAJ Yes, Sir. recently in our Mills, posters of what they call Code of Industrial Discipline have been displayed by our Government and a few booklets have also been distributed amongst us regarding Production, Arbitration, Work-load, Productivity etc. Have you seen them, Sir?

GANESH Yes, Natraj, I have already read

them and they are of very much use to you, the workers. The Government is taking the right steps in educating the workers about their work, their rights, their duties, management's duties etc.

NATRAJ Yes, Sir, but why is nowadays so much being talked of productivity? What is this productivity?

GANESH Very easy and very simple... Productivity means a combined effort from the management and the workers to save time, energy, power and money to achieve higher productions at lower cost. It is a joint venture by the workers and the management: that's the principal point...

NATRAJ Can you kindly explain to me by examples.

GANESH Certainly! How much money and time can you save, if machines were properly spaced with orderly flow of materials, workers properly seated with easy access to materials and tools, so our maintenance arrangements ensuring continuity of work, satisfactory tea, water, lavatory arrangements, above all an atmosphere where you feel like working.

NATRAJ This is wonderful, but is it possible?

GANESH Why not: It is possible but only on the condition that management and

^{*}Factory & Technical Manager, Garden Silk Weaving Factory, Rampura, Tunki, Surat

workers treat it as a joint concern.

NATRAJ But why should we cooperate? After all, why this productivity? What is it going to bring to us?

CANESH A fine and intelligent question ... indicative of your literary thinking. It is definitely a sign of progress that our workers have been keen on knowing things and discussing things. This was actually needed in our country and once this is reached, I have no doubt that there is going to be fast industrial progress in our country.

NATRAJ May I be vey frank with you at this stage. It is our guessing that all these changes and new sciences are brought by the industrialists in their own interests and gaining higher profits by misguiding us.

GANESH Why do you say so! Your statement is very one-sided. You yourself told me that Government posters are displayed in your mills! When our Government is interested in bringing forth these new industrial ideas, don't you think that it must be equally in your interest too? And secondly when the Government today is so alert on workers' future, and Unions are there to protect your interests, how can anybody misguide you.

NATRAJ I stand corrected but not yet convinced. Now tell me, Sir, the various advantages of productivity.

GANESH Firstly the industrialist is interested in Productivity as he gets more production per unit machine, per unit person etc. So he is getting higher production with the same number of machines and men and so his cost of manufacture per yard is reduced and so he earns higher profits. But all this is not for distribution; it is for outlay on better machines, better working conditions, and certainly better wages. And then there is more money for more employment. All your cousins and your nephews and in-laws who hang round here for a badli

chance, will get regular employment with good wages.

Management has duties and obligations towards workers. Sufficient earnings, justified work-load, legal safety to the workers, incentives, higher education and higher posts and higher wages, giving opportunities etc. Our country's industry is increasing for which many more skilled persons are required by the Nation.

NATRAJ This Productivity is now getting interesting. How can we workers help to increase it?

GANESH Workers have threefold duties to be discharged towards their management. Firstly, they must try to understand what exactly the management wishes to do and then do the best they can; they should cooperate to put the new ideas into practice. They must give efficient production, and better quality. Secondly, they should not do anything which will upset industrial peace and thirdly they should not interfere with the business of management as a whole. Last but not the least, we must think of the country, which is in a state of crisis. I mean, all of us, the top management comes first. Its duties must be harder, as it is at the top.

NATRAJ I am feeling happy today and I'm greatly obliged to you for telling me about this great thing, called Productivity.

GANESH One thing, I haven't told you. Government is going to spend Rs. 6 crores on educating workers in the arts of productivity for their own good and for the good of their country.

NATRAJ We are in a good time, sure. We shall help in every possible way to realise the maximum of productivity. Hasn't our beloved Prime Minister said that we in the factory are also soldiers. We are going to be productive on our industrial front and we are all going to gain.

What is this Productivity

HC Sampat*

Electric Train (Suburban) Churchgate to Borivali.

Time: 4-50 p.m. on Monday

Place: Higher Parel Raiway Station [Anand and Buta are waiting for a local train (Trains in Bombay are so overcrowded that it is not necessary to make any effort to get out of the compartment)]

ANAND Here is real productivity: cent percent. This article in the paper says about 'Productivity' getting more out of our resources.

BUTA In our case this is quite the opposite. Increase in productivity means harder work and greater strain.

ANAND Then why this aricle says that it is also conservation of human effort? "Human effort is too valuable to be wasted".

BUTA I do not understand it...just an illusion... simply written so that the hidden trick of getting more work is not exposed.

ANAND Let us see what this article says: Productivity means improvement wherever possible: that does not mean hard work always. Yesterday, for example, I was working on a drill press situated opposite a window, from where the sunlight comes. The direct sunlight hurts my eyes and I use one hand of mine to shut off the strong sunlight. I couldn't really work effectively.

Our General Manager, while on his usual round happened to see this. Next day, he came on his rounds again and he put on my head, a fine light plastic cap with a flap, which shut off the sunlight. My heart jumped at the gesture; and I now work with both my hands and a fuller heart than ever. This is Productivity, so far as I can see.

BUTA Now, I catch it. Like that I gave a wonderful idea to our foreman. In my work on capstan while doing the last operation of parting off, there remained a burr on each piece. I asked our foreman to grind the parting tool in such a way that this burr is avoided.

ANAND So, you eliminated the whole operation of burr removal.

BUTA Now, what will Kan do, who was doing this job? He will have no work—and tomorrow he will be asked to go.

ANAND Why! We have plenty of work. we are in an Emergency. We require a dozen Kans: and we need the burr removal machine for many emergency jobs. Remember, our soldiers are waiting on the front for the things we are producing! And then the whole country gains. "More Production", says this article, "without appreciable increase in cost means cheaper goods. This would mean increased demand for which more production will be the only answer". So, more employment for our brothers and more comfort for our mothers, wives and sisters.

BUTA This is interesting. Let us read

^{*}Works Manager, Vertex Manufacturing Co. Ltd., Andheri (East) Bombay 58

this article further. Now I'm interested. Please permit me to take this paper home so that I can digest this Productivity. Incidentally, whom do I write to, if I want to know more about these magic things called Productivity techniques.

ANAND Oh! You will find it in the article itself. Here it is: This article also

adds that "In our country there is one institute called the National Productivity Council..." It has regional directorates at Bombay, Bangalore, Madras, Calcutta, Kanpur and Ludhiana. And then there are Local Productivity Councils. There is one here and in all the principal areas. It is their business. And it is our business to gain by it.



"I cancelled our order for an electronic brain. Perkins already has one."

How Workers Can Increase Productivity

PK Chalam

Chalam, the author is sitting in a park, when to his surprise an industrial worker, Rao, walks in to him and that on a working day!

CHALAM Hallo, Rao. What brings you here on a working day; are you on leave?

BAO No, I have reported sick; for long I had been trying for leave but I did not get it, so I had to report sick.

CHALAM Reported sick! How about your work?

RAO Hang it! I'm not in the keeping of the country. When did you develop this sort of national conscience about work and this fashionable thing called 'Productivity'. I'm not interested... Do you mean to say in India, that we shall become an industrial country like Germany and Britain.

CHALAM Why not, if you play the game. But if you report sick, while you are alive and kicking and millions of us do what you do then we are doomed.

RAO I don't care but you are my Guru and please do polish up my brain.

CHALAM Well, look here. You need a real dressing down, as being Enemy Type Number One! This our motherland has been blessed by nature with a huge area, with all kinds of climate, with fertile soil and plenty of water, with rich deposits of valuable minerals below the ground and thick forests above it; it has a great civilisation and an ancient culture behind it. India is placed on important shipping and trade routes from Europe, from West Asia, Middle Asia, East Asia and to Australia. It

can easily trade with nearly a dozen countries. India is a country which has somewhere or the other, all the possible materials for making all the things its people want.

RAO Why are we then so backward and why are we so poorly paid?

CHALAM My dear Rao, you have now to look within yourself. How can anything come to fruit, if all you Raos fall sick when work is calling out to be done.

RAO There's a point in what you say. Now I can see why all our plans go awry and we have to lead a hand-to-mouth existence. The fault, dear Brutus, is not in the stars but in ourselves that we are underlings. I must really apologise for my attitude. Now you will not feel offended if I ask you one thing: Though we decide to work well the working conditions are very obstructive; sometimes we don't get correct tools and materials and day to day new methods of working are introduced without proper training; and we are every moment taken to task for not doing our jobs properly. It's all fault-finding. Is this what vou call Productivity?

CHALAM There you are missing the bus. You are expecting some fortune fall right above your back without your least toil to obtain it. Whatever crisis we are facing now is thanks to our inefficiency and in some places, gross mismanagement. Can you claim in all conscience, you are per-

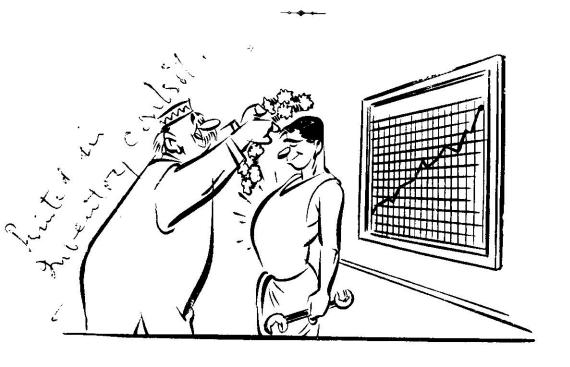
forming your duty in the right spirit. Do you take any interest to increase the quantum and quality of work. If the answer is 'yes' we shall in no time get out of the crisis by magic as it were. There is a proverb that 'Sleeping fox catches no fowl'. May I tell you frankly that with your attitude, we shall get nowhere.

RAO But someone must help us.

CHALAM This is a democracy. Why should anybody help you? You have to help yourself, do the best you can, set an example and then we shall realise the dream of the author of Bande Mataram: really a song of Productivity, we have sung but not practised a bit.

RAO I'm of course convinced that we must change our attitudes, if we want to progress and prosper. Now tell me frankly what's holding us up?

CHALAM I shall be equally frank with you. There are some anti-productivity elements amongst ourselves, holding up production, raising prices, doing various mischiefs leading to strikes and lockouts, spoiling quality of our products. They are the national enemies, for they reduce our markets, our employment potential, our level of wages, our capacity to invest in facilities, machines, our own comforts and the like. They are found in all sections of society. We must make a war on these anti-productivity elements



Value of Time and the Dignity of Labour

HK Ghose*

Two fairly well-educated workers of a railway workshop, Suresh & Rabi, have read the NPC advertisement inviting contributions for literature on Labour Productivity and start discussing what to do about it.

SURESH Do you know that the National Productivity Council has invited articles on subjects of productivity?

RABI Yes, but I don't know the subjects.

SURESH There are 12 subjects of which I prefer "How Workers Can Increase Productivity". Let us discuss the salient features: (1) national consciousness (2) punctuality (3) workers' union (4) honesty and truthfulness (5) dignity of labour etc. etc.

RABI Now, let us concentrate on one of these aspects, which would pay the richest dividend.

SURESH Late Sir PC Ray used to say: "If anyone asks me - what is God's best gift to mankind?" His reply was "The valuable time". So should we discuss the time factor. Lord Morley in his Book entitled "Study of Literature" has described as to how the time should be spent. In England, even an ordinary clerk or a labourer knows the value of time. They do not spend a minute in vain, whereas we offer our explanation for not doing our work for want of time, at the same time we idle away our time by gossiping etc. Let us take the care of our own railways... Railway Guard has to be on duty 45 minutes before the departure of a train, for he has to cross-check the destination of every wagon to avoid any loads being misrouted, check gross loads

of the train and detach loads in excess of the permissible loads so as to avoid a failure of the locomotive to haul the loads en route. In total disregard of this vital point the Guard comes just 15 minutes before the departure of the train, hurriedly signs the Departure Sheet, jumps into the Brake Van and waves his signal to start the train without checking it. In so doing he commits two blunders, namely, there are 4 excess loads which should have been detached before starting the train. Again 2 loads of another direction have been wrongly attached on to his train. As a result after passing two stations the train engine failed to haul the loads on an up gradient obviously due to overload. The train had to be backed to a level track and taken in two portions to the next station... (1) All the trains which were scheduled to start after the departure of the above train were detained one after the other due to the passage being blocked by the preceding train resulting in complete dislocation of train services. (2) The 4 car loads which were detached at the intermediate station, contained coal meant for a firm, working for an Emergency Defence order for urgent supplies to be sent to Front areas. Now what do you say?

RABI I quite follow your idea. What a shame to come Late on Duty!

SURESH That is not the end of the story. I am citing another instance where a worker caused a serious set-back in productivity. A locomotive Driver has to be on duty 2

^{*}Fuel Clerk, Loco Shed, P. O. Anara R. S., Dist. (Purnli) S. E. Rly.

hrs. 20 mts. before the departure of a train. He is paid for these hours. The object of bringing him on duty sufficiently in advance is to give him the entire charge of a locomotive in good fettle. He has to check every part of the Engine and get defects rectified before it is too late. This Driver instead of coming right time comes only half an-hour before the train is to start. He starts his train comprising of Metallurgical Coal for a Steel Plant, eventually gets stuck on a gradient due to mechanical defect in the engine. He backs his train to the station already passed and stables his train as per order of the Train Controller and returns right to Headquarters. The consequences were the same or worse than what we saw in the case of the guard.

RABI Do you think that the employees' union can render assistance in this respect?

SURESH Depends, if our union is constructive. It can do a lot. But if we have politics in our unions, well, we can do no good either to ourselves or to the country.

RABI What do you think of other factors which largely contribute towards increasing productivity?

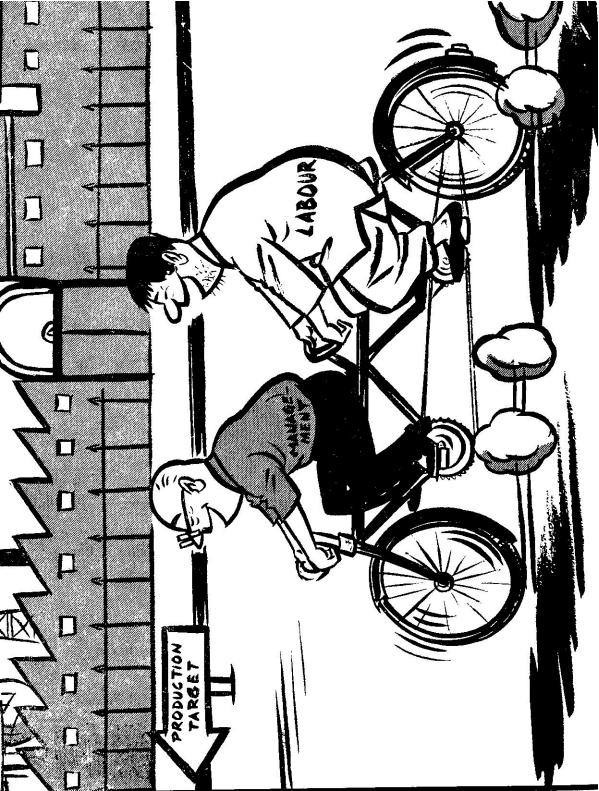
suresh "Honesty and truthfulness" should be the motto of every one in industry. Unless we change our mentality to these qualities we shall be standing in the way of increasing productivity. It reminds me of the good old saying by Pope "He who tells a lie is not sensible how great a task he undertakes, for he must be forced to invent twenty more to maintain that one". Due to this drawback we shall not be able to reach our goal and the Socialistic pattern of Society will remain a far cry.

RABI What do you understand by the dignity of labour in so far as increasing productivity is concerned?

SURESH It is an important question and its solution rests with every citizen of India. The people of our country do not understand the dignity of labour. If we labour we might be ranked low. This idea is fixed in our mind... Our capital for carrying on industry is quite inadequate. We have to work with our muscles for quite a long time. There is no shame in it. On the contrary, it's healthy. This country's day will dawn, only when every one from the highest to the lowest feels a sense of pride in putting his hand to the wheel

"... IMPOSSIBLE, UNACHIEVABLE, VISIONARY AND UTOPIAN"

in 1918, there was trouble in the textile industry at Ahmedabad. The millowners and the British District Magistrate sought Mahatma Gandhi's mediatory intervention. The Mahatma requested Sri Shankarlal Banker to investigate and report to him. The mill-owners' reactions to Sri Banker's Report are worth reading in the retrospect.": "The points mentioned by Mr. Banker are based on false assumptions. He assumes that mills are run out of love for humanity and as a matter of philanthropy, that their aim is to raise the condition of the workers to the same level as that of the employers. We beg to say that his approach in this respect is wrong... Workers are employed with this (profit) aim in view, and therefore employment of labour and conditions of employment are determined purely on the basis of supply and demand and from the point of view of their efficiency... Mr. Banker's approach is impossible, unachievable, visionary and utopian."

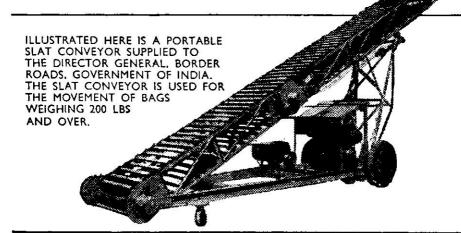


DYNACRAFT

INDIA'S MOST EXPERIENCED MATERIAL HANDLING ENGINEERS

MANUFACTURE:

BELT CONVEYORS, PORTABLE BELT CONVEYORS, STACKERS, AND OTHER MATERIAL HANDLING EQUIPMENT.



For details please write to:

DYNACRAFT MACHINE CO. PVT. LTD.



Juhu Lane, Andheri, Bombay 58.

Sole selling agents for Southern & Western India:

GARLICK & CO. PVT. LTD.

Haines Road, Jacob Circle, Bombay 11.

Sole concessionaires for Central, Northern and Eastern India:

GREAVES COTTON & CO. LTD. 16, Hare Street, Calcutta 1.



For Homes, Hostels, Hotels, Hospitals, Offices & Industrial Establishments

TRISODIUM PHOSPHATE

Crockery

- Cutlery
- Glassware
- Industrial Equipment
- Mosaic Floors, Walls
 Partitions
- Painted Surfaces

Also used in

PAPER, TANNERIES, TEXTILE INDUSTRIES
AND SOFTENING OF INDUSTRIAL WATER

Available Ready Stock

INDIAN RARE EARTHS LTD.

(A Government Undertaking)

Distributors for Maharashtra and Guirat

OFFICE:

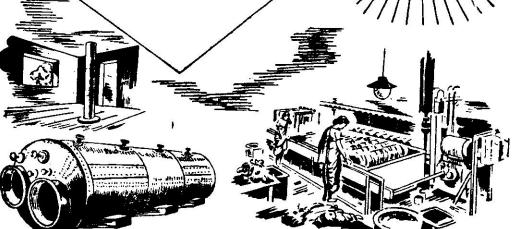
FACTORY:

148, Mahatma Gandhi Roed,

Bombay-1

Udyogmandal, Alwaye, Kerala





THERE'S MORE TO DEFENCE THAN ARMS...

THERE MUST BE INCREASED PRODUCTION

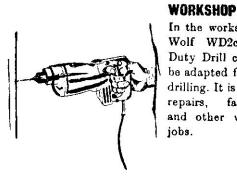


BIRD & COMPANY (PRIVATE) LIMITED

F. W. HEILGERS & COMPANY (PRIVATE) LIMITED

Chartered Bank Buildings,

Calcutta-1.



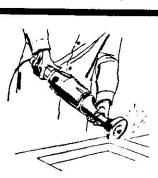
In the workshop, the Wolf WD2c Heavy Duty Drill can easily be adapted for bench drilling. It is ideal for fabrication repairs. and other workshop iobs.

PRECISION! RELIABILITY! **VERSATILITY!**

A WOLF HAS **EVERYTHING**

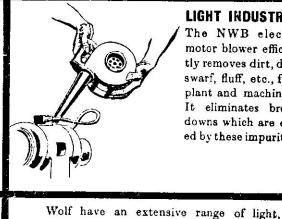
YOU WANT FROM A POWER TOOL

Whatever your business - construction ... production . . . maintenance - Wolf have the very tool to do your job more efficiently. more economically -and faster.



MEDIUM INDUSTRY

Weld dressing and deburring are made effortless with Wolf's superbly balanced portable grinders, such as this Wolf



LIGHT INDUSTRY

The NWB electric motor blower efficiently removes dirt. dust. swarf, fluff, etc., from plant and machinery. It eliminates breakdowns which are caus ed by these impurities.

general and heavy-duty power tools and accessories.

- * DRILLS
- GRINDERS
- SANDERS
- **BLOWERS**



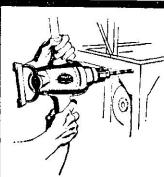
THE FINEST ELECTRIC TOOLS IN THE WORLD

FOR FREE **DEMONSTRATIONS** SALES-SERVICE-Write to

RALLIS INDIA LIMITED

GOL

P. O. Box 166, Bombay 1. P. O. Box 198, Calcutta. O. Box 153, (G.P.O.) Madras. P. O. Box 714, New Delhi.



HEAVY INDUSTRY

Enormous mechanical and electrical strength are combined with perfect balance and ease of operation in the wide range of Wolf heavy-duty drills for all types of heavy construction and production jobs.

A Case for Methods Study

Kenneth C Jasper*

DURING A RECENT COURSE IN PRODUCTION Engineering and Tool Design sponsored by the National Productivity Council at Faridabad, the local plant of the Bata Shoe Company participated in the programme by sending men from its Operations Department. These young men took on the study of the vulcanizing operation as their project during the course, as that was the main bottleneck in expansion of productive capacity, necessitated by increase in demand due to natural growth of population and the greatly increased needs of the defence forces. To meet increased demand, it was first proposed to add a second unit, costing approximately Rs. 1,50,000 but that would not help immediately, as delivery-date was a year or two away. Hence it was thought advisable to study the vulcanising unit for possibilities of improvement in four It was also decided to analyse operational procedures, particularly for methods improvement and for removal of limitations due to design, arrangement and controls: and to examine the methods used in handling the material, in and out of the Detailed methods study and container. time studies were made of the present equipment, methods of operation and controls. The observed data was as follows:

Present Method (Old way) Starting with Full

Vulcanizer	
Operations	Time in Seconds
 Exhaust system 	159
2. Release and open door	80
3. Erect pit bridge	22
4. Fit extraction chain	18
5. Remove load from vulcanizer	150
6. Place new load in vulcanizer	300
7. Dismantle bridge	43
8. Close door and seal	128
Pressurize system up to required	
temperature	
‡10. Cure load	_
	2700
	25

Total cycle, excluding cure time = 45 minutes

Analysis of all the data taken and observed leads to the following suggestions for improvement:

- (a) The exhaust time being controlled by the valve and line size could be reduced by increasing this from 2½ inch diameter to 4 inch diameter to gain an (88) eighty-eight second reduction per cycle.
- (b) The door opening-cum-closing mechanism. The present rachet wrench drive, could be redesigned and replaced by a gear lever mechanism to reduce the time taken to open the door by (45) forty-five seconds, and for closing and sealing the door by (78) seventy-eight seconds or a total

†Decimal Minute watches not available †The curing time is confidential information. Because it was not changed, the time is disregarded.

^{*}Senior Management Consultant, George Fry Team attached to NPC. The author desires to thank Mr. F Staroba, Manager of the Faridabad plant of Bata Shoe Co. for his enthusiastic cooperation during the project and now for his willingness to share the results set out in this case study. Mr. Staroba points out that while the improvements have not eliminated the ultimate need for the second vulcanizer unit, it has set the need back a comfortable two years. The saving in capital expenditure for that period is in itself significant.

of (123) one hundred and twenty-three seconds per cycle.

- (c) The Bridge, now manually erected could be made by redesign into a folding air raised and lowered mechanical bridge, for a reduction in the raising and lowering cycle of (35) thirty-five seconds per cycle.
- (d) The present method of unloading is a combination of mechanically pulling the load out of the unit, while men manually move the loaded trolleys into the cooling area.
- (e) The present method of loading by manually pushing each loaded trolley into the vulcanizer, until it is fully loaded, could be replaced by designing a mechanical unloading and loading unit. By using this device (16) sixteen loaded trolleys are drawn from the unit and (16) sixteen loaded trolleys pushed into the unit, effecting a reduction time for the unloading/loading cycle of (125) one hundred and twenty-five seconds per cycle.
- (f) The pressurizing: up to temperature cycle could be improved using free air at an ambient temperature (normally 70° 90° F), by arranging to use waste steam to preheat the air by passing it through a heat exchanger. The reduction in time will be (180) one hundred and eighty seconds per cycle.

the results

These proposals were submitted to management and were approved for installation on a phased basis. The phase one included those things which could be accomplished at once (and were). They are changing the venting system to four inches and installing the new door opening and closing scaling system.

Phase two included those items which would require sometime for completion and installation, namely: (a) The mechanical bridge, (b) The mechanical loading device (c) The heat exchanger to preheat the incoming air.

The following Chart shows the reduction in time at each phase:

Improved Method (New Way) Starting With Loaded Vulcanizer

Operation		Cycle Time		
	Original	Phase 1	Phase 2	
1. Exhaust system	159	71	71	
2. Release/open door	80	35	35	
3. Erect bridge	22	22	20	
4. Fit extraction chain	18	18	_	
Remove load				
(16 Troileys	150	150	125	
6. Load vulcanizer		7.7.7		
(16 Trolleys	300	300	200	
7. Remove bridge	43	43	25	
8. Close door / seal	128	50	50	
9. Pressurize/bring up to		(Figure	24	
temp.	1800	1800	1620	
Total per cycle Time reduction per cycle	2700	2489	2146	
(Minutes	-	3.51	9.23	

savings and costs

(a) Improved Productivity due to the new method at phase 1 and phase 2 is shown below;

Present Phase 1 Phase 2

Vulcanizer capacity 29,900 32.500 36.400 Percentage gain (100) 109 122 Lesser Investment on Equipment

& Lasts: Rs. 26,300.
Additional Advantage: Reduced manual effort
on the part of workmen
engaged in vulcanising process

^{*}The loading and unloading of the handling device is done during the curing time

A Thought on Low Productivity

SK Lahiri*

It is accepted that on the whole Productivity in our country is much lower than in industrially advanced countries. In the analysis attempted below, the author has sought to explain the position in the Context of the three major factors that determine Productivity: (a) the Human Factor with its physical, social and psychological characteristics like "Aspiration level" etc. of the workforce and of the people in general (b) the stage of economic and technological development in the country and particularly in the industry under consideration and (c) the experience and efficiency of Management, that is the extent of economic utilisation of the available resources by means of proper policies, planning, execution and control of activities.

THE NATURAL CLIMATE AND THE STANDARD of living and poor health in many regions set limits to our productivity. Then, there are certain social factors involved. In certain industries like coal, jute etc. the workforce comes in big groups from certain localities. Thev retain strong social ties with rural areas. In such cases, absenteeism is one of the major hurdles against high productivity. Also the craving for accessories of comfort is indeed very low in such a work-Even monetary incentives have achieved poor success in encouraging them to work harder, as the urge for higher income at the cost of leisure is very weak. In short, such a workforce has a backward sloping curve for Effort versus Income. The position, however, is changing rapidly, particularly in the recently installed engineering industries employing a high percentage of literate and educated persons. The performances of many plants – the Locomotive Works, the Hindustan Machine Tools, the Steel Plants both in the private

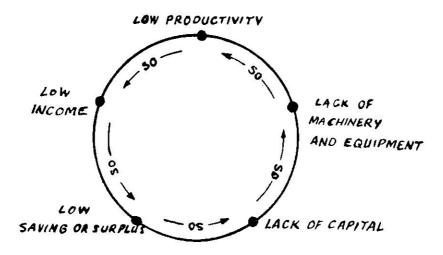
and the public sectors and the high rates of incentive earnings and the tempo of activities in these plants, show that the backward sloping curve does not hold in the new industrial economy. There are, even otherwise, positive indications of a rising "Propensity to Consume" — one of Rostow's six propensities, essential for the take off.

Bare human labour, however, has a limited capacity in any country and in any situation. Other factors remaining the same, it is the equipment that makes the productivity high or low.

Considering the total material and human resources of the country we have great shortage of producers' goods, causing our productivity to be low. The phenomenon can better be represented by a circle, printed on the following page.

We can have capital goods only if our production considerably exceeds our consumption; or from foreign countries, where such surpluses exist. Further, due to considerable unemployment there is a strong feeling against machinery, even if we may, by some means, secure it.

^{*}Deputy Director, NPC Regional Directorate, Calcutta



This, however, is really a mistaken position, for each major plant leads to the establishment of secondary plants at the rate we can work on the former. Similar justification holds in the case of industries producing for exports, so as to enable us to pay for the capital goods we have to import. This policy will indeed create more and more employment with the passing of the years.

More important than modern machinery is modern management. Not having the tradition and long experience in industry we have yet to master the modern tools and techniques of management so as to attain fuller utilisation of our resources. Paradoxically, many responsible persons in the management of industries imagine that the essential staff functions like Standardisation, Industrial Engineering, Quality Control, Costing etc. will increase the cost of their product. They put too much consideration on the salaries of such staff but strangely none at all on the utilisation of the capacities of the plant. Thus they prefer not only to earn less in return than they could, but are also instrumental in wasting our meagre capital resources.

Thereby unintentionally they lower the productivity and the rate of economic development. A typical example is worth mentioning in this connection. In a recent Seminar on Standardisation and Quality Control a reputed industrialist remarked that Quality Control increases the cost of production. The Chairman of the Seminar (Sri Manubhai Shah*) quoted cases and proved that it was in fact otherwise. In one particular case, the original cost of production of Lathe (Rs. 4,300) was brought down by Rs. 1,700 through the introduction of Quality Control; because it helped to reduce wastage, eliminate duplication of operations, reduce inventories and increase the turn-over.

Another significant point is that our management do not encourage or undertake Research and Development to the required degree which keeps us more dependent on import of materials, machinery and technical know-how.

Apart from these factors, small industry is plagued by two wrong practices:
(a) They try to grab as many orders as they

^{*}Formerly President NPC; now, Minister for International Trade

can manage to, without due consideration of the varieties and variations in dimensions of the product. The small volumes of orders do not justify standardisation of methods by means of jigs, fixtures etc. It affects the cost of production due to higher purchase price, large inventories, too much setting time, as also operation time etc. (b) They think it wise to run the plant with low paid personnel of very low level of skill. They are wasting many times the saving by not utilising the capacity of the costly plant.

Then, there are certain fundamentals: the employer, the employee and the public have to choose between (1) exclusively personal gains, and (2) considerable personal gains along with the general rise in the Standard of Living in the country. If the choice is the latter one, the following suggestion becomes a necessary corollary. The aim should be to bring commodities within the reach of more and more people. This is possible only by raising productivity. Help should be taken of the various productivity techniques.

Then comes the question of Sharing the Benefits of Higher Productivity. The practical way is to introduce Incentive Schemes for payment based on performance, wherever it is practicable. While setting standards, however, the general interest of the people must be kept in view. If by the process of bargaining with the workforce from a position of relative strength, a standard is set unreasonably high that is to say, only 5 minutes are allowed where the fair standard time should have been 10 minutes, the workforce is not being allowed a fare share and so is being discouraged from raising productivity. On the other hand, if the Time allowed is 20 minutes where it should be 10 minutes, the product is being kept away from the customers which include the employees of the same plant also. The total welfare will be very much more if the product can reach a greater number of people. The policies of the entrepreneur and of the Trade Unions play the deciding role in this respect.

We can confidently hope that after a certain degree of progress in economic development, many of the measures discussed in this small article will automatically take up their proper place but a little forethought now would help to make use of modern techniques at this moment and would speed up economic development. Along with it, the general standard of living will go up and so will productivity.

The electronic robot is invading the production line at a rapid pace. Already about 200 units of the most popular model, at § 1,470 each, have gone to work in industry helping to make such varied products as clocks, typewriters, razors, candy and business machines. Basically a mechanical hand, the unit can be fitted out to weld, stake, rivet or glue; drill, stamp, forge, bend, assemble, inspect or package. What is more, the robot asks no pay and can do many things humans cannot, such as deep sea diving for specialized underwater operations.

(from Dun's Review)

Labour & Productivity

Kameshwar Nath*

WHILE ECONOMIC PRODUCTION HAS BEEN known to us for a very long time, the concept of productivity is a much later Whereas production deals development. with intermediate or final products for the satisfaction of our wants, productivity deals with the techniques of producing more with given resources of men, machines, and materials: producing more than what we are already doing. This cannot be done through any jugglery but has to be planned for. It needs a technique and a programme, and like any other programme it needs a philosophy. Productivity aims at reducing wastage of men, materials and machines. In every industrial some waste is bound to be there, but we have to examine it, whether it is avoidable or unavoidable. Eliminating completely the avoidable waste and reducing to the barest minimum the naturally unavoidable: these are the ways of increasing productivity. Most of the avoidable wastes occur through bad handling and storage of materials before and after processing. The wastage might appear to be infinitesimal at every stage but when totalled in the overall pattern of production, may attain an alarmingly high figure. The basic fact in making assessment of raw material utilisation is the comparison of actual production with that which should have resulted while maintaining a set pattern of quality.

An assessment has also to be made of the quality which the user needs. A lower

*Deputy Director, Training Division, NPC

quality will definitely not serve his full purpose, and offering a quality higher than what is needed, means wastage of effort in building that higher quality, which was really not needed and remained unutilised.

This takes us into the problem of quality control as a means of reducing waste. Quality Control may not consist so much of detecting defects/defective parts of a product and rectifying them as in eliminating the defects at the initial stages. A reject or a bad product need not necessarily be the result of defective working at the last processing stage. It could be the cumulative effect of defective working at one or more earlier stages. For successful quality control, a knowledge of the entire process of production and its techniques is essential.

These intricacies very obviously necessitate the employment of an adequately trained labour force, if quality products at reasonable costs are to be produced. Such a labour force has not only to be made fully conversant with the best methods of working but has also to be kept fully informed of the complications and problems arising out of bad workmanship. The supervisors and the higher level of management, of course, are there, so far as administration and general plans are concerned, but the plan has to be executed by the labour force employed. Even fully trained supervisors may be able to make no impression on a labour force ignorant of, or

apathetic to change for betterment. A scheme for increasing productivity must therefore hold a judicious balance in the emphasis upon the various levels of human beings employed in the organisation. Workmen highly trained under a proper system of instruction, will obviously respond better to social obligations as against those who do not know the implications of bad workmanship. Probably, if they realised the advantages flowing out of their working better, their psychology of work may change to the benefit of everyone.

In the complex nature of industry, machines can turn out large quantities of products, but quality depends not on the machines, but on the skill and diligence of the man behind the machine. Skill can be imbibed through a regular process of repetition and training but the sense of responsibility is a mental attitude which is to be built up and allowed to grow with the greatest care. Now, when value of materials is very high, reduction of wastage becomes one of the prime responsibilities not only of the management but also

of those who handle such materials. The wastage could be in the form of spoiled raw materials, production of rejects through bad workmanship and in the final stage through wrong handling and storage.

saddest fact of our industrial The economy is the absence among the workers of a feeling of belonging to the organisa-tion and the organisation belonging to them. The responsibility for making workmen conscious of the fact that through the welfare of the organisation alone they can achieve their own welfare, belongs to the management and there can be no shifting of that responsibility. Complaints have often been coming from industry that trade unionism is responsible for most of the ailments of industry, including low production and productivity and consequential higher costs. There are countercomplaints that bad and inefficient management is responsible for the state of industry as we find it in India. We have to break through this malaise of allegations and counterallegations, if this country is to achieve a significant level of industrial well-being.



Noise and Productivity

Developing Workers

JN Singh*

The recent unprovoked Chinese aggression has aggravated the economic situation. In addition to the battlefields, the factories and the farm have now become equally important for the defence of our country. The urgent need at the moment is not only for a large number of workers for the factories but productive workers, fully conscious of their duties and responsibilities and prepared to undertake the challenge.

INDUSTRY IS REALLY A HUMAN SYSTEM performing economic functions. Only technical proficiency would not make a unit successful. In order to make workers productive, one should make them aware of the importance of industrialisation under our planned economy. They should also realise the significant role of workers in our developing economy. The workers should therefore inculcate in themselves a firm faith in education and training and be prepared to avail of such opportunities. Human relations and communication are not only the realms of supervisory personnel. workers have also to play their part in these two-way-processes. People produce but do not know what, why and how of productivity: hence the need for education. There are demands for fair wages but how many of them know about fair work for a day's fair wage. Discipline is imperative but its real significance is mostly not known.

Employers and trade unions cooperatively have to undertake the uphill task of creating a favourable environment for educating the workers and the supervisors through proper training programmes. This nucleus should be extended and multiplied through workers' own agencies. The task is stupendous and needs the cooperation of all concerned. Faith in such programmes and a

*Deputy Director, NPC Regional Directorate, Bombay

genuine desire will have to be cultivated among the workers by their trade unions and adequate facilities for the implementation of such schemes should be provided by the employers.

Men are creative by nature and could be constructive provided suitable opportunities are given and they are properly guided. If we ensure health, welfare and safety of workers and maintain their interest and educate them, they would certainly be able to put in their best for the industry and would be willing to pull their full weight on the jobs.

Employers have an important role to play. They would serve the interest of the nation best if they decide to develop their existing workers as well as the new entrants into a productive force by arranging suitable training programmes and providing favourable environment for their faithful implementation in the plant. vironment, of course, plays an important role in re-rooting the workers. present time is really opportune and favourable when the whole atmosphere of the factories and fields could be reoriented and geared to the call of the Nation. Everybody is now fully prepared to work for the motherland provided the persons taking work or organising schemes or planning are able to give an example of themselves, and create confidence in the people under them for their patriotic zeal and sincere efforts in the cause of the Nation. Productivity techniques could very easily be introduced without any genuine fear of rendering people surplus in view of the ever-increasing scope for employment and diverting the gains of productivity towards the defence of the country without embittering the relations on the much agitated issue of distribution of the gains of productivity. Example is always better than precept. Only tall talks and sermons would retard the progress of the country at this critical juncture.

Let all of us, who are particularly working in supervisory capacities realise the need of human relations in actions and develop our abilities of behaving in a friendly way by accepting others as ourselves and also by learning from our emotional mistakes. We should allow our men to have self-expression. This would better our existing records of achievements. Work is really worship but we also need cooperative effort of all those who are engaged in production. Creativity, an outcome of constant and systematic thinking on the basis of our previous experiences, in the form of valuable suggestions, needs adequate recognition

and reward through incentive schemes. Let us be all alive to the need of industrial ethics.

The development of workers is a three-fold process and should be undertaken earnestly with genuine efforts by SUPER-VISORS, who are in constant touch with the workers for 8 hours on the job; by TRADE UNIONISTS, who actually influence them for the remaining period of the day and stand for their welfare and finally by the WORKERS themselves, who have to strive hard to develop themselves on all these processes. We must start immediately.

Immediate Start is a 'Must'. This is undoubtedly a vast task but a very urgent one. To accomplish this, enormous efforts with full faith will have to be made by all concerned with the industries and the Government. Time, energy and money spent would really be a worthy investment at the moment, as this is bound to bring forth desired, useful and valuable results. Immediate start everywhere in this regard in all the industrial units irrespective of their sizes is imperative. Efforts with confidence would only show us further paths to Productivity — Key to Success.

Time was when economics was an awfully simple discipline, but today a good part of modern economics is simply awful.

COMMERCE (Bombay)

Labour Productivity—its Significance

RS Gupta*

QUITE OFTEN A QUESTION IS ASKED: AMONG all the factors of production, men, machines, materials, land and buildings, which has greater significance in the overall productivity drive? The answer can best be given in the words of the great economist, Professor Alfred Marshall: "Man is both the end and an agent of production". true that in the fast developing countries like ours, where capital is scarce, utmost attention has to be given to ensure the best possible use of materials, plant and equipment. But who is going to ensure that material is not wasted; that maximum quality products are turned out; that machines are run to full capacity, and that quicker, easier and safer methods of work are adopted? Obviously, materials and machines will not operate by themselves. They are important factors of production but their maximum utilisation is dependent on the skill and active willingness of the operatives. Instances are there that with the same material and machines one operator may produce 100 pieces whereas the other turns out 120 pieces. Hence the importance of labour productivity.

This does not mean that the entire responsibility for increasing productivity is that of labour. In fact it is a joint responsibility of management and labour. Unfortuntely, both management and labour look on each other with distrust and suspicion. Both desire to have maximum returns from industry in the form of profits and wages. This slants the industrial

economy towards concentration on consumption rather than on productivity, thus defeating the objectives of both parties, for higher consumption is not possible without higher productivity and prosperity of the undertaking; their interests are common; they represent two sides of the same coin and not two parties with divergent interests. The common interest of management and labour in higher productivity of the undertaking in which they spend a large part of their lives provides a strong basis for labour-management cooperation.

For ensuring effective labour-management cooperation, management and labour both have to discharge their individual responsibility conscientiously. It is the responsibility of management to balance the factors of production and to coordinate the efforts of everyone in the organisation to achieve the best results. The most important and perhaps the most difficult responsibility of the management is to motivate its people, make people want to cooperate and do their best for the well-being of the enterprise.

But management can make no significant headway without the willing and active cooperation of labour in productivity drive. It is their responsibility to do a fair day's work for a fair day's pay. They must ensure minimum waste of material, better quality products, full use of machines and equipment within their control. They should readily accept any changes leading to higher productivity, without affecting their interests.

^{*}Deputy Director, NPC Regional Directorate, Kanpur

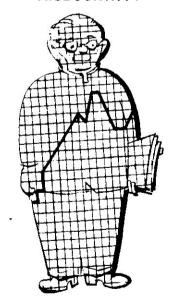
It is also their duty to propagate the concept of productivity among their fellow workers. As the saying goes, it is only the wearer knows where the shoe pinches: operatives on the shop floor can give very useful and valuable suggestions for increasing productivity.

It follows that management and labour have to jointly work for the common cause of increasing productivity and make the enterprise prosperous. Productivity Committees at the plant level provide an ideal answer to foster increased cooperation between management and labour. An effective productivity committee can give a much needed stimulus to greater productivity both by providing the means for the workers to make suggestions for greater efficiency on the basis of their experience of practical difficulties and also by serving to remove grievances and friction which so often result in slowing down the pace of

production. For the workers especially consultation provides a valuable educational opportunity and fuller understanding of the economic problems of industry.

It still remains to answer how management and labour have common interest in increasing productivity. In simple words productivity means provision of more goods and services of better quality and at less cost. This will result in savings. Part of these savings can be deployed to the expansion of industry, thus opening more employment opportunities. Part of these savings can be distributed among workers and consumers, thus leading to higher purchasing power. More provision of goods and services, and higher purchasing power will lead to higher standard of living. Productivity, in fact, starts a chain reaction: the higher and higher the productivity, the higher and higher will be the standard of living.

PRODUCTIVITY!



A Case Study in Joint Consultation

AA Niazi*

"Managements of firms of all sizes have a long standing complaint: Labour is not responsive to the demands of the company for which they work." Labour, on the other hand, complains "Management wants to take work out of labour but is unwilling to share rewards therefrom". All over the country managements and labour are now trying to find ways and means of overcoming the tensions that exist and hamper realisation of their basic aims. There is one such company comparatively new and small in size that has faced a similar situation and tackled it in its own manner. Today the company is on its way to prosperity indicated by the fact that the management are now in the process of opening a new factory.

THE COMPANY STARTED IN 1949 WITH power machines. Demand then was slack and it was producing 550 units per day hours. This production sufficient to meet the sales programme of the company. Gradually the demand went up. In 1956, management was seriously concerned about the production rate. The proprietor visited number of units producing the same product. He ran into a factory at Bombay which had exactly the same number of machines of the same make and type, but producing a thousand units per day. He also acquainted himself about wages paid in this factory and was told that it was between Rs. 3 and Rs. 5 per day depending on the type of machine that the operator worked on.

The proprietor returned and called a meeting of all his workers. He explained the company position with respect to the demand as against the present rate of production. He also told them about the

Bombay factory and then invited suggestions from the workers for meeting the increased demand for products of the company.

Workers suggested that they should not be asked to do miscellaneous work and should be allowed to concentrate on their own work. They also demanded leave with wages and bonus. Management agreed to the conditions. Bonus was to be paid at the rate of a week's wages in a month if the company made profits. Workers agreed to give a production rate of 650 units/day. This rate was sufficient for the company to meet the demand. Soon after, the company got a contract enabling it to work conti-This required a higher rate of production. A meeting was called again. The Secretary of the Union, which had come into existence since then, was invited to the meeting. The proprietor told the workers about the new contract and reminded them that the company was still under-producing compared to similar units elsewhere. Suggestions were invited from the workers.

The workers agreed to give a production

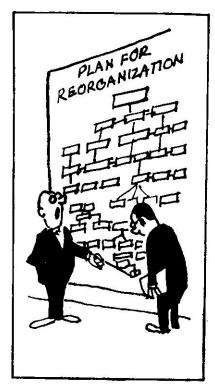
^{*}Assistant Director, NPC Regional Directorate, Bombay

rate of 880 units per day per machine, provided they were paid extra to bring their wages nearer to Bombay wages. Management agreed to give them Re. 1 extra per day as inducement for extra production. This agreement worked perfectly well in 1959. In the meantime the foreman was sent to Bombay to acquaint himself with the methods and also to prove the point to the workers.

In the 1960 season there was still more demand for the products. Management called in the worker-representatives and suggested that workers may work for two hours overtime and will be paid for 4 hours. An option was given that workers may meet the quota of 1,000 units in 8 hours and be still paid for 4 extra hours.

The management now finds that workers are completing 1,000 units in seven hours and the management are able to meet the increased demand.

Over a period, there has been an increase of 82 percent in the production rate, nearly 20 percent in wages, alongside a reduction in the unit cost of production by over 33 percent. This has been achieved through free and frank consultation with labour. Everything done may not conform strictly to the textbook explanation of incentive payment and management practices. Still it is a case study probably indicating what can be achieved when there is an environment of making adjustments for the greater good of all.



We finally found a spot for you, John



Confusion worse Confounded*

Gentlemen:... Our whole office is slightly confused and bewildered! In looking over our account today; we found that the RENEWAL on your subscription to MODERN PACKAGING has not been recorded... One girl thinks she saw it come in the other day and we're turning the office upside down trying to locate it... But is it possible that you overlooked sending it in? For we did send you two previous notices and we sure hope you don't want your subscription to MODERN PACKAGING to expire... Well, we'll find that RENEWAL of yours, if it's here, and it will be a great moment when we do!...But if you haven't mailed it yet, here's another memo bill and return envelope so you can make good your intention to renew — and also put a stop to all the turmoil around here...Cordially, Circulation Director, MODERN PACKAGING, 770 Lexington Avenue, New York 21.

Renew your subscription

for

PRODUCTIVITY

to

ensure your copy

Our stocks of previous issues have been for the most part exhausted

^{*}Gourtesy VK Sharma, NPC Regional Directorate, Calcutta



FORBES FORBES CAMPBELL & CO. LTD.

MANUFACTURERS OF





- Industrial Flexible Shafting for Flexible Shaft Machines and Concrete Vibrators Flexible Shaft Machines Concrete Vibrators Speedometer Cables
- Taximeter Cables Control
 Cables Flexible Electrical
 Conduit



• Special tools, Press tools, Jigs and Fixtures
Manufactured to customers own specifications and drawings.











'BBBB' SPRING WASHERS

Forbes Building, Home Street. Bombay 1. Phone: 268081-9



A pasting problem...

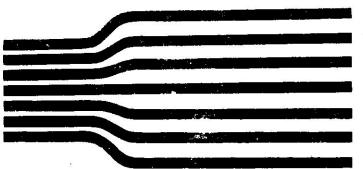
getting you down?
Then switch to the COPROCO range of adhesives—specially created in the CORN PRODUCTS Laboratories to suit modern needs. From labelling to gunnaing—COPROCO has the answer for every adhesive requirement. There'll be no pasting problems—when you switch to COPROCO!

Please and for our booklet

Sticking to Facts' which will
help you greatly in choosing the
right withesive. Please write to:

CORN PRODUCTS COMPANY
(INDIA) PRIVATE LTD.
P. O. Bes 394, Reminy-1

Delton Cables for comfortable, healthier, easier living



LICENCES OF 18:694 AND APPROVED BY THE FIRE SECTIONAL COMMITTEE OF THE INSCHANCE ASSOCIATION OF INDIA, BUMBAY REGION.

DELTON P.V.C INSULATED CABLES ARE ROT-PROOF, WEATHER-PROOF AND FIRE RETARDANT.



P.O. POX NO. 1179, DELHI • TEL: 274414 & 271111

telephones
water coolers
radiograms
radios
refrigerators
automobiles
lights

Today, homes can be made comfortable with many electrical appliances created by this wonderful world of progress. The connecting link is a cable—and DELTON Cables carry the current safely and economically making all appliances work for you.

FOR GUARANTEED QUALITY AND RELIABILITY

Punjab Government
QUALITY MARKED GOODS

produced according to

STANDARD SPECIFICATIONS



For details please contact:

Superintendent, Quality Marking Centre for Hosiery Goods, Ludhiana, for Scientific Instruments, Ambala Cantt, for Sports Goods, Jullundur, for Utensils, Jagadhri, for Light Engineering Products, Malerkotla, Ludhiana, Phagwara, Sonepat and Faridabad, for Machine Tools, Ludhiana and Batala, for Furnishing Fabrics, Panipat, for Dyeing and Calico Printing, Ludhiana, for Leather Goods, Malerkotla, for Textile Goods, Amritsar, Malerkotla and Kulu and for Agricultural Implements, Batala.

Issued by :-



FOUNDRY CHEMICALS

OF PROVEN PERFORMANCE for

- * MINIMUM MELTING LOSSES
- * CLEAN SOUND CASTINGS
- **★ MAXIMUM METAL RECOVERY**
- * DEFECT-FREE SURFACES

Complete Range Available

- FLUXES FOR ALUMINIUM ALLOYS
- SURFACE DRESSINGS
 IRON CEMENT
 - FLUXES FOR COPPER BASE ALLOYS
 - PATTERN STONE POWDERS, ETC.

Manufacturers: PIONEER METALLURGICAL CHEMICALS

(under HARMARK license)

Supplied by

PIONEER EQUIPMENT CO., PRIVATE LTD.

H.O. 139, MEDOWS STREET, P.O. BOX 1909, BOMBAY-1

3. Esplanade East.
Calcutta+1.

36-B, Nizamuddin West, Ground Floor, New Delhi-13.

193, Mount Road, Madras-2.

SOCIAL ACTION

A Monthly Journal

on

Social Trends and Social Change

published by the

INDIAN SOCIAL INSTITUTE

every issue a special issue

WE ARE HAPPY TO ANNOUNCE THE

SPECIAL ISSUE JULY 1963—PEACE IN INDUSTRY

Subscription Rates:

Yearly Rs. 6/- or \$ 2.00 or 10 Sh Single Copy 75 nP

For your copy apply to-

Indian Social Institute South Extension Part II, D-25-D New Delhi 16

NEWSPAPER

is to be printed on special paper called

NEWSPRINT

THE first and only Newsprint Mill of India has turned the corner and is making steady progress from year to year

IN its short life the Nepamills has done its hunble bit in
the service of the Nation by saving foreign exchange
and advancing the cause of the press and education
AS an industry interested in the advancement of the State
of Madhya Pradesh Nepamills is contributing its best for
the Industrial Progress of the State and the Nation

The National Newsprint & Paper Mills Ltd.

NEPANAGAR, M. P.

JOURNEY'S END

• The provision of sufficient quantities of the required products in the right place and at the right time often produces serious problems and to solve these necessitates a careful but flexible organization, an elaborate system of transportation, storage and distribution. There are more than 3,000 Burmah-Shell petrol dealerships and over 1,600 kerosine agencies, besides nearly half a lakh kerosine sub-dealers in India's 5 lakh villages 99

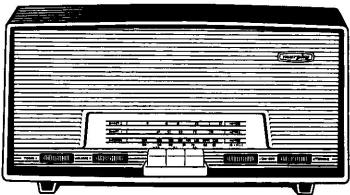


...and
BURMAH-SHELL
deliver the goods

new

Model TA/TU **0552**

All-wave • 3-band • Piano-key switch
AC and AC/DC



The new style "long look" of Murphy Model TA/TU 0552 combines with its superb craftsmanship to add a distinctive dimension to your home decor while raising listening pleasure to new heights. All over India Murphy Radio has become a symbol of gracious living! Let Murphy Radio delight your home. Visit your favourite Murphy Dealer today for a demonstration.



murphy radio Delights the home!

NATIONAL MRI 2155

Distributors :

Western India Eastern India

- · Lakhanpal Private Ltd. 29, New Queen's Road, Bombay-4.
- india Debsons Private Ltd. 2, Madan Street, Calcutta.

Northern India • Lakhai New I

 Lakhanpal Private Ltd. Jeevan Udyog, Asaf Ali Road, New Delhi.

Southern India .

Mahomed Ebrahim & Co. Private Ltd. Madras—Bangalore—Hyderabad.

Labour Productivity: Two Case Studies

Nitish R De*

That higher production in a manufacturing unit gains a purpose and meaning when it is accompanied by higher productivity is now an accepted fact of industrial activity even though in a seller's market a manufacturer may not be interested in the input-output ratio. In the context of the National Economy, however, higher productivity is the only effective road to the goal of higher production and as such the efficient utilisation of men, materials and machines by industrial units is the only rightful course of action. We shall seek to show by referring to two cases, how with sincerity and determination a Manager may gain higher productivity in his unit and that too without causing a major shake-up in the existing production relationship.

Case of a Jute Textile Factory

IN 1955 THE MANAGEMENT OF A JUTE TEXTILE FACTORY CHANGED HANDS. For some time past the mill had been showing indifferent financial results; manufacturing costs were on the rise and the production figure was more or less stationary.

The new Manager took a little over two months to size up the problem in all its aspects. He then launched his programme, the first step being to explain his line of action to the supervisors and the members of the Works Committee. There was no recognised union in the unit.

(a) The next step that he took was to have a hard look at what he saw around himself. The machinery in the factory from preparatory section right up to the looms was old, requiring continuous attention in respect of maintenance. He organised a well-planned maintenance programme, scheduled so as to cause little or no hold-up in production, to ensure quick availability of spares, quick and efficient work by the maintenance gang and lastly, proper handling of the machinery by production workers.

All these measures, obviously, called for some change in the attitudes and work-habits of all the personnel concerned. The Manager, by persuasion, introduction of cash reward system for maintenance workers and stricter supervision, succeeded in the course of a few months in achieving his objective.

(b) He also came to the conclusion that quantity and quality of jute fabrics depended to a great extent on the quality of fibre and the secret of having the right type of fibre for a particular fabric depended on skilful mixture of fibres which is known as "jute batch".

He turned his attention to this aspect, placed an efficient man on the purchase of raw jute and himself took up the responsibility of training some of his assistants in the art of making jute batch.

^{*}Staff Officer, Indian Aluminium Co. Ltd., Calcutta

Once the quality of batch improved, spinners turned out better yarn and looms were fed smoothly. Production workers at all levels were convinced that the management was making all efforts to provide better raw materials. Production improved.

Weavers and weaving sirdars were offered an incentive scheme based on volume of output and machine efficiency.

- (c) The problems of labour absenteeism and employee morale were tackled by improving medical services, better sanitation and hygiene in the labour colony, improvement of canteen services and toning up of grievance-handling machinery.
- (d) The Manager himself surrendered (delegated) the details of administrative and technical problems to his assistants and kept himself free for coordination of activities.

In one field, however, he showed the keenest interest: labour relations. He thought that all his innovations would go to waste unless he could motivate his employees into positive action and carry them along with him in his activities. He himself attended to better lighting facilities in the loomshed. He himself personally attended to the grievances of the workers regarding the staggering of annual leave, cutting out excessive red tapism in the Labour Bureau etc. This yielded results which in terms of worker satisfaction and productivity cannot be adequately described in words. The factory began showing progress and the manager was now in a position to persuade higher management to replace obsolete machinery by modern equipment.

In the second phase he prepared a roster of surplus hands and sought to devise methods of work reallocation so as to absorb the able-bodied surplus workers.

Today this factory is one of the best managed mills in the jute industry, with a capacity to stand the marked fluctuations that characterize the fortunes of jute; and in all this, the workers are the best comrades of the manager.

This illustration proves that with the same labour force one manager failed whereas the other succeeded and that too without any bloodshed or tears.

The Case of Lead-Acid Battery

In 1957, a young production engineer joined a very well known battery-making factory manufacturing a wide range of quality goods. Before he joined, production was the responsibility of the Chief Technical Officer whose area of operation was mainly technical development, research and quality control. The management rightly decided that the production function should be alienated from the technical function and come under a full-time production engineer.

The new engineer came with an excellent background. A mechanical engineer, he had also a diploma in industrial relations and business management. Besides, he had previous experience of working on the shop floor as well as in the Labour Bureau in another establishment. Thus he brought knowledge, experience and self-confidence to his new assignment.

After joining he went through a process of training, on his own initiative, in each department of the factory which took about four months' time. Then, he chalked out his programme:

(a) The market demand for batteries was on the increase. Agents were always asking for more and more. The primary task, therefore, was to increase production.

An incentive scheme was in operation, the basis of which was the outturn of battery from the Assembly Department. So, workers in this Department were most directly concerned with the incentive wage. The new Production Engineer in the first place concentrated his efforts on the Assembly Line. By application of work-study methods, he re-allocated work in the Department, introduced group-work system and picked up light-weight workmen, nimble in movement.

In selecting the groups he left the choice to workmen themselves to choose the team. In the team, each workman was allotted a definite job in the battery assembly work and thus developed a quicker pace of work: the team's output increased. Lunch break was staggered so that continuity of work could be maintained.

The engineer himself set the pace by working with each group by rotation in order to show the correct method of working and also to prove that he was asking for no more than what he could do himself.

In a matter of months, production reached an all-time high level and incentive bonus quantum rose beyond all expectations.

(b) The faster pace in Assembly Department created short-fall in supplies from other Departments and the engineer took up that problem as soon as he was free from the Assembly Line supervision duty.

He introduced an improved system of storing processed raw materials and posted an active supervisor in charge under whom intelligent and literate workmen were placed. So long, this Department had been considered as of minor importance and was the haven for incompetent and indolent workmen.

(c) Work was re-allocated in the processing departments on a more scientific basis as was done in the first instance in the Assembly Line. In the Moulding Department, where physical strength was a necessity, stronger workers were posted.

Workers were specifically told that the high rate of incentive bonus could be maintained by Assembly workers only if the processing workers could feed them with standard materials. Not only quantity but quality are also equally important. Rejections had to be at the minimum.

(d) Production Supervisors were given authority, responsibility, and appropriate salary rise on condition that the test of ability would be fulfilment of target or even an improvement on the physical target laid down. Performance on the job, it was emphasised, would be the only criterion for progress in career.

The upshot of all these measures was that within one year, productivity rose appreciably thereby paving the way for further expansion and higher production.

This instance also justifies the contention that labour productivity is a sum total effect of many factors. The right sort of leadership, as in this case, brought out the best that was in the labour force of this large factory.

"More than once during the reading I had to run back to the title page to see who the devil the author was. When I saw my own name there, in black and white, a feeling of bewilderment, and stillness, and awe, crept into me."

Safety and the Worker

HP Dastur*

TWENTY-NINE YEARS AGO SIR THOMAS Legge, the first Medical Inspector of Factories in the UK, laid down four axioms for effective control of industrial hazards to safety and health of workers.† These axioms are as true today as they were then, though industrial medicine was still in its infancy in Dr. Legge's time.

His first axiom is: "Unless and until the employer has done everything – and everything means a good deal – the workman can do next to nothing to protect himself, although he is naturally willing enough to do his share." The main contents of Legge's "everything" which the employer has to do are management maintaining a safe workplace, eliminating unsafe conditions, and providing protective clothing, and running a training course in job safety, more or less on a personalised basis. But the success of a safety programme does not depend only on management playing its part as it should. Worker's adequate cooperation and full participation are equally necessary. This is often not forthcoming in spite of the fact that the worker's instinct of self-preservation is as strong as that of any other animal and he, in his heart of hearts, does not at all want to hurt himself or others. lack of cooperation is by no means due to cussedness on the part of the worker. He

faces barriers constantly being built within the industrial structure by technology
through its rigid, ruthless, impersonal
methods of mass production. Worse still,
management often falls an easy prey to the
ever-alluring, siren-like songs of technology,
promising future wealth and power, and
thinks more in terms of the swift and easy
way of progress through technological techniques and less in terms of satisfying human
needs of individual workers, for that is a
slow and laborious job, and often a thankless one. This cools down the worker's
inner urge to live and work safely.

The most common barriers that stand between the worker and safe methods of work are: "lack of proper training, unreasonable rules, improper or uncomfortable equipment, and lack of interest in safety at any level of management."

To sell safety to the worker is the most important step in accident prevention and yet most difficult. No worker can become safety-conscious merely through his own efforts without any guidance or training. To give him a book of safety rules, and expect him to study it in his spare time and come to work well-informed of hazards of his work and how to avoid them, is to show scant respect for the working of the human mind. To draw out a worker's interest in safety he must be told not only the "what" and "how" of safety rules, but also of the

^{*} For many years, the author was the Chief Health Adviser of the Tatas; now a veteran Industrial Consultant.

[†]Industrial Maladies—Oxford University Press, London,

[‡]Victor E. Whitehouse—Let the Worker Help—National Safety News of USA, December, 1962.

"why". He needs facts about the causes of accidents and the methods of preventing them. This is only possible through continuous training.

Today the slogan is "Produce or Perish". So we train the workers to produce efficiently, for the worker's productivity depends on his skill in his job. Such training, however, loses almost lifty percent of its value unless it is integrated with training in job safety. And as first impressions take deep roots and last the longest, the worker's training should start on his very first day on the job, while the supervisor who is expected to undertake such training should be told in his undergraduate studies that highrating job skill and job safety are inseparable. And human nature is so frail and forgetful that such training should not be only thorough but also continuous as long as he is on the job, and all possible means like posters, films, leaflets, special courses, safety meetings, suggestion box schemes and safety awards should be used.

Management whose interest in safety is only half-hearted is often inclined to side-track its responsibility of maintaining a safe work-place, and eliminating unsafe conditions by providing protective clothing. The only result that follows such an attitude of management is all round irritation, for the worker will not use the protective equipment, and rightly.

The first essential of tempting a worker to be safety-conscious is to give him as safe a work-place as is humanly feasible within the specific conditions of each job. The second is to accept job safety training as a vital element of the daily supervisory routine of management at all levels, in order to inform the worker and keep him continuously informed of the dangers of the materials he is handling, and of what management is doing to control them and what it expects the worker to do for his own safety.

Speaking generally, protective clothing is more often than not an admission of failure. Yet there are occasions when it is absolutely necessary. Even so, more often than not the worker will not use it. Even a willing and cooperative worker often refuses to use it because of the unsuitable nature of the clothing. To provide a size 12 glove to a worker with a size 9 hand serves no purpose except to irritate him. If the design of the equipment is awkward or inconvenient and if it does not fit with ease or if someone else has already worn it and it has not been cleaned after that, even a worker with a sincere desire to work safely will be sorely tempted to work without it.

The type of the equipment can create its own difficulties if it does not fit the needs of the job. For instance there are many different types of glasses, goggles and face shields. Each is meant for one single specific use, and would be useless, and even dangerous, if put, to any other use. Another example is that of the aluminium hard hat. Useful though it is in several industries, it would be a source of danger in the electrical industry.

Weather conditions must also be considered if protective clothing is to be made acceptable to the worker. Extreme heat or cold can add to the discomfort or rubber gloves. Protective leathers worn by welders in a hot and ill-ventilated room create unbearable discomfort.

There is, however, a type of workman who thinks it cissy to use protective clothing even when absolutely necessary and even though it has been made quite suitable for his wear. The only choice before management in such a case is strict enforcement, failing that, punitive measure. Not to do so is to raise a serious barrier to full worker participation in accident prevention. But a warning is necessary here. To enforce safety

HP DASTUR 545

rules has its own dangers of revolt unless the safety rules are reasonable, and do not cause any inconvenience to the worker and make his work more difficult. But what is more important than anything else for enforcement of safety rules is that every member of the management himself observes and follows faithfully all the safety rules.

Management attitude is the most important. Unless every level of management shows and takes a genuine interest in safety, the worker cannot even think in terms of safety-consciousness. Management has first to prepare the soil, and supply the manure, and then ask the workman to water the plant of safety and tend it.

"... the extraordinarily good taste with which Americans decorate and furnish their houses and the casual, easy way in which they organise the difficult. How, I asked a man in Kentucky, can I get out of this place and into West Virginia? "I'll fly you," he said...... and he did: in a single-engined plane, he just took me over the mountain"...."

(from John Morgan's American Diary in the New Statesman)



Our survey indicates that your retirement is the only way to increase productivity.

The New Class of Productivity Experts

John Morgan

This was originally an adventure in the investigation of the politics of the New Class of Productivity Experts. Desiring to canvass the political support of this new influential class in a developed industrial society, John Morgan wrote out his experience from the point of view of the Labour Party, particularly that of its new leader, Harold Wilson. Originally published in the New Statesman, it really throws a very significant light on the qualities and characteristics of the people who are likely to acquire almost sovereign power in new industrial societies. In the piece reproduced below, political references, particularly of local interest, have been deleted to focus attention on what immediately concerns us: the New Class of Productivity Experts.

WE ARE NONE OF US INTERESTED IN POLI-TICS', they all said at first. 'No party represents what we feel and want.' These were members of the 'new class', young men and women who had attended council schools, grammar schools, and, in most cases, provincial universities, and had taken degrees in physics, engineering and mathematics. Now working in industry, some were on the shop floor, others in laboratories; one was an executive in engineering market research. Their salaries ranged from £900 to £2,100. And, for all protestations of apathy, in no time they were offering precise and remarkably idealistic statements of their view of current political necessities. 'No one talks politics in work', they said. 'It's not liked. Not done, even'. Yet they were capable of aphorisms like: Life is only valuable according to your degree of hope. What hope are politicians offering us ?'

They were puzzled that their incomes were not large enough to enable them to live the kind of life they had been educated to enjoy, even although their salaries were far higher than they ever expected to earn. One of the engineering executives offered detailed evidence of his predicament. He was earning £2,000 a year. He was 30 and

had three young children. He was buying a house on mortgage in West London and a car, necessary if the journey to the plant wasn't to take him an hour a day by public transport. He lived modestly, entertained hardly at all, drank very little: his children went to council schools. He liked music but had bought a tape recorder to save the expense of records. Yet he lived from one bank loan to the next. How on earth did people with less money manage? What was wrong that he seemed to be doing so well, yet was not? He is now looking for a job in the US.

It was, about Mr. Wilson's appeal to them as scientists and technologists that they grew most animated, and this I found the best passage of our conversations. On general political questions, I had all the time the feeling that they possessed little idea of the infrastructure of politics; beyond casting a vote, they had no concept of the relationship of parliament (or the power of political activity) to their own ideas. How different their attitudes were when they talked about their own industry! Here their imaginations were engaged; here ideas could be related to action: power had

meaning. Industry, it seemed, was real life; political government happened to other people. I can't say I found this attitude a shattering novelty. Indifference or hostility to the House of Commons is commonplace; while the fragmentation of old patterns of class and industrial conflict and its consequent dislocation of political alliances has been documented often enough. More importantly, these young people were apolitical, in the narrow sense, without being cynical. They were not 'smart' in the way our fashionable wits are - although attractive and bright enough by other tests. They just could see more clearly how their energies could be better directed within their industries than within political society.

Thus they could recite particular cases of managerial incompetence or indifference; and argue their objections to an industrial landscape in which inventiveness meets hierarchical barriers and staggers back. Each could suggest in detail methods whereby the efficiency of their own firm could be improved, methods which they were not given the chance to offer their employers. Why not? Because the status structure of industry works against enterprise of that kind. Was this, I asked, because there was too much dead wood floating on the surface of their firms? Certainly, that was part of the reason. Was that dead wood there - to pursue another of Mr. Wilson's gambits - because of accident of birth? In some cases. But they had nothing against nepotism if the men were good. didn't care where people came from, so long as they were efficient and encouraged imaginative work. If bringing industry under public ownership would produce efficiency, then let's have public ownership. It was up to If it didn't, then not. Mr. Wilson to show how it could be done.

When you were talking about politics', I said to one chemical engineer, 'You were full of moral principles. When you talk about industry, you talk like a machine'. 'I assume', he replied, 'that the Labour Party has moral principles, but the country has got to be made more efficient. And anyway there are things I care about that should be done in industry to make it more democratic. For instance, take the canteen system. There are five grades of canteen. I'm in the second. They had a long debate grown men, directors of the company about whether I should be let into the first. The same debate goes on about each grade of canteen. Everyone in the place hates the system, but we can't do anything about it'.

This kind of eating arrangement may seem a minor affair but it symbolizes much else. It is universally detested -except perhaps among those who occupy the senior level. It could be that envy prompts some of its unpopularity (though why envy should be regarded as the solitary deadly sin in political and social matters I can never understand. What about sloth?) I suspect, though, that the 'new class' dislike the system from more generous motives. believe in equality of opportunity. Their nonconformity may not express itself in a formal belief that there's a special providence in the fall of a sparrow, but they find plenty that's repugnant in industry's stratification of its workers. They see management's obsession with status devices as a blinding light thrown on closed, small minds. Perhaps, when their arteries harden, or promotion comes, they too will find satisfaction in their canteen's location, or the pile of their office carpet. Meanwhile they are alive - I was going to say 'wild', but wildness, for better or worse, is alien to them - alive with impatience.

Productivity and Labour

Quader Nowaz*

As a result of growing consciousness among the working class, formation of more and strong trade unions and direct intervention by Government in the determination of labour management disputes, wages of Indian labour increased considerably during the first decade after independence. The traditional cheap Indian labour gradually ceased to be so. Wages began to influence considerably the cost of production of all products of Indian industries. Along with the increase in wages, the cost of raw materials and capital goods also increased — the rise in these cases being comparatively more than the rise in wages. As most of the industries could not replace machinery during the Second World War, it became less productive due to age. All these factors contributed individually and collectively towards increase in the cost of production. Indian goods not only became dearer in the country but also in the International markets.

THERE ARE MANY REASONS FOR THIS STATE of affairs. Modern labour-saving (more productive) machinery is more costly than the original plant. Increase in production and reduction in the cost of production by replacing old machinery are therefore not easily possible in a large number of cases.

In their endeavour to reduce the cost of production entrepreneurs give considerable attention towards reduction of labour cost. This probably is considered easier than to reduce either the cost of raw materials or cost of machineries. Greater output may be possible with the same number of men as human beings are more flexible than either the machineries or the raw materials. According to industrialists, the productivity of our working people being considerably less than those of the working people of the industrially advanced countries, the scope for increase in the per capita output of workmen is considered to be substantial. It is also accepted by some industrial tribunals that the productivity of labour even in the same industry within our country is not uniform. Wages of cotton textile workenen in West Bengal have, therefore, not been brought to the level of the wages of textile workers in Bombay.

Apart from these facts, there are some uncharitable people, who consider the Indian worker to be lazy, inefficient, reluctant to give his best and so on. Workers, on the other hand, maintain that they are doing their best in the prevailing conditions: low wages, bad living conditions, absence of security of employment and in many cases having to work with outdated machinery.

The employer thinks that productivity could be much improved under present conditions. The workmen on the other hand very strongly feel that no increase in productivity is possible until proper wages, etc. are ensured. The question is whether labour or industry should receive prior attention. To spell it out, should we first ensure higher wages, better terms of employment and security of employment and then expect higher productivity from workers; or make it clear to the workers that

^{*}Director, Central Board for Workers' Education, Nagpur

these good things can only follow - cannot precede - higher productivity. Industry has to replace worn-out machinery, which should have been replaced much earlier. Even then, the new machinery, with its assured increased productivity, at the same time threatens workmen with retrenchment. Talk of new machinery, better layouts and better utilisation of machinery - all essential for increasing productivity - has disturbed Indian labour mentally. Industrial relations in many cases have been severely shaken and productivity at this stage would not, under such circumstances, bring either prosperity to the workmen or peace to the industry. On the other hand, there are cases where productivity has increased with smiles and not tears. In a Jute Mill in West Bengal, as a result of installation of new machinery, productivity considerably increased along with substantial increase in the earnings of the workers, by a radical introduction of payment by results. In modernised departments, the problem of surplus labour has been solved by reduction through natural wastage and voluntary retirement with higher rates of retirement benefits.

As far as old industries are concerned, it is not possible to so arrange that either productivity or wage increase should precede the other. Both will have to increase simultaneously and wages at a slightly higher speed.

It is necessary to emphasize that replacement of machinery may not always be necessary for increasing productivity although it may be in some cases, specially in the old industries. Even in new industry, with modern machinery, increased productivity may not always follow as a normal consequence unless the following are ensured:

> Proper and adequate training facilities for workmen. A trained person is also a better worker. He not only produces more but also wastes less.

- Appointment of properly trained supervisory personnel. Otherwise, production will suffer both in quantity and quality.
- Proper maintenance of machinery through adequately trained personnel.
- iv. Regular supply of raw materials and ancillary goods of standard quality.

Better productivity cannot be obtained only by trying to get the best from labour. The other conditions must also be appropriate. Industry should ensure that management personnel play their part adequately and effectively.

The most important and vital condition is to maintain appropriate relationship with Machinery can be replaced; better raw materials can also be supplied in place of inferior materials, but skilled personnel cannot be replaced by another group of persons for improving relationship and maintaining industrial peace in spite of the availability of large number of job seekers. Relationship with the same personnel will have to improve and has also to be maintained. Unless relationship is good and cordial and labour understands the problems of industry they will not agree to accept the changes, either in the methods or in the machineries.

Relationship cannot be improved overnight. Good relationship has to be achieved gradually by solving each other's problems. Much depends on how management behaves with labour. In our country, unfortunately, until very recently, the industry was reluctant to even admit that there was any industrial relations problem which should receive their attention. Realisation being late, attempts to build up proper industrial relations commenced late. For reducing the time-lag, emphasis on the follow-

ing is now given by all concerned:

- i. Code of Conduct.
- ii. Formation of Joint Management Councils.
- iii. Workers' Education,

For making the labour conscious of not only their rights but also obligations — obligations to the industry and to the country — Workers' Education Programmes have been undertaken with the active cooperation of industry and labour. Through talks and discussions on Industrial Relations, Trade Unionism, Planning and Industrial Development, Wages and Earnings and Productivity and other subjects of topical importance, the workmen covered by the Workers' Education Scheme are gaining considerable knowledge. As a result of this education they are learning not only of their rights but also of their due obligations. They are thereby becoming better workers and better citizens.

In Japan 600 women employees of a pharmaceutical company went on strike. The union claimed, the owner of the factory was henpecked and could make no decisions without first consulting his wife. The denial of the charge for the firm was issued by the wife.



Absenteeism in Textile Industry

JP Singhal*

The author's analysis is based on long, intimate experience of the textile industry. It is his ground of faith that it is possible to effect a considerable reduction, through continuous, joint (labour-management-government) effort, in the rate of absenteeism, which adversely affects output, wages and productivity. For reasons of space, we have telescoped through the author's graphs and massive statistics to his basic conclusions which are really applicable to all industry.

This analysis accepts as valid the definition of absenteeism of the Government of India in the Ministry of Labour: "...absenteeism rate is defined as the total man-shifts lost because of absence as a percentage of the total man-shifts scheduled..." The facts recorded below have to be understood in the context of this definition. In order to tackle the serious problem of absenteeism, we must know what the facts are. These have been listed below, having been arrived at on the basis of recorded statistics:

- (1) Absenteeism is highest in Sholapur and Nagpur and lowest in Ahmedabad.
- (2) In all the texitle centres, absenteeism reaches a peak level in April to June though in some centres even in the first quarter, it is at a fairly high level. This high rate of absenteeism is due to the harvest and the marriage seasons. Also some of the workers go to their villages for repairing their kacha houses before it rains as this is the only time when they can easily get kacha bricks and mud from drying ponds (Talao). Absenteeism is lowest during July-October.
 - (3) The rate of absenteeism is higher

in the week after the pay day or advance day.

- (4) The rate of absence is higher the day after the holiday. It often happens therefore that Monday is the worst day of the week from the standpoint of absenteeism.
- (5) ** A change in the level of wages makes for increase in absenteeism (absenteeism varies directly as the nominal wage). With the increased earnings, Indian labour does not alter its style of living. The worker is liable to waste his surplus money in ways that make him less regular and attentive to his work.
- (6) Absenteeism is higher in th third and second shifts than in the first shift.
- (7) Workers staying farther from the factory have significantly more absences than those living near it.
- (8) The frequency rate of absenteeism is least among workers coming from provinces other than the one in which the factory is located.
- (9) Workers longer on the job tend to be more regular as they become more adjusted to the job environment and identify

^{*}Senior Asstt. Weaving Master, The Laxmi Vishnu Cotton Mills Ltd., Sholapur

^{**}The author's original mss. does not contain statistics supporting statements from (4) onwards. (Editor)

themselves with the job, which is lacking in people with short service tenure.

- (10) The rate of absenteeism is higher among workers falling in the age-group of 18 to 30 than middle-aged workers. It is more marked among the unmarried than the married men. This is evidently due to the comparatively careless life led by the former group. Absenteeism among older workers above the age of 50 is also greater mainly because of illness.
- (11) The rate of absenteeism is more among female workers than male workers. Women lose more time than men through illness; the periodic cycle has a bearing on the problem. Care of the household and children are added responsibilities.
- (12) There is less absenteeism among educated workers than among uneducated.
- (13) Absenteeism rate is high in middle-income group workers and less in high-income group workers.
- (14) Longer the working hours, the greater the absenteeism.

CAUSES OF ABSENTEEISM may now be examined:

- (1) Sickness is the most important cause of absence which includes physical sickness and tiredness.
- (2) Psychological sickness such as one does not feel like working.
 - (3) Sickness in the family.
- (4) Social calls such as wedding or the death of a neighbour or relative or presence of a guest in the house.
 - (5) Festivals and religious observances.
 - (6) Child-bearing.
- (7) House-work like shopping, supervising, helping in repair or construction of the house.
- (8) Migration to native village for attending to joint family business, harvest etc.
 - (9) Involvement in litigation.

- (10) Bad habits like drinking, gambling
- (11) Employment outside on a job of better remuneration.
- (12) Political causes: attending lectures of political leaders, canvassing for votes, taking part in processions, etc.
- (13) Transportation difficulties due to weather conditions, breakdown of buses etc.
- (14) Miscellaneous: floods, riots, epidemies, sports.

Besides these basic causes, the condition of industry also contains within itself certain significant reasons for higher absenteeism:

- (1) High rate of accidents.
- (2) Higher work-load.
- (3) Improper working conditions like high humidity and/or temperature, improper condition of the machines; insufficient light, bad house-keeping etc.
- (4) Improper treatment from jobber or supervisor, inharmonious human relations, etc.
- (5) Sometime, workers are kept for overtime. This usually makes them absent on the following days.

High rates of absenteeism involve heavy costs for industry and are a major cause of low productivity. Though wages have not to be paid to an absentee however the overhead cost of idle equipment and unused services of salaried staff are a heavy burden on the industry. If an absent worker is re-

*In Germany, and more particularly in Japan, the employer takes a broad social view of absenteeism and pays wages, particularly in case of sickness, for long periods of time. In Japan, some employers pay even incentive wages during absence! The ground for payment, as a Japanese employer put it: "If my worker is absent and I don't pay him his wages for the days he is absent, who will pay his bills for these days; his neighbours, in-laws?... He has a claim on me as his employer." Both in Germany and Japan, the employers are of the view that this attitude does not lead to malafide absenteeism (Editor)

placed by a badli or temporary worker, his output is likely to be less than that of the regular hand and the quality of the product to be inferior because (a) he does not possess the same familiarity with the particular conditions; (b) not being permanent, he has not the same stake as the principal worker; (c) he is less amenable to the control of the jobber.

- (2) There is disruption of teamwork which may in some departments reduce output by more than an absentee's normal contribution.
- (3) The high rate of absentceism dislocates the working of the other departments.
- (4) There is increased possibility of work spoilage and damage to the equipment.
- (5) To meet with the high rate of absentecism, good number of *badli* and temporary workers are recruited. On days of normal attendance these workers go home frustrated.
- (6) By keeping temporary workers, there are more chances of accidents.
- (7) Further, there is the impairment of organizational morale.
- (8) It increases the work of the management as they are required to calculate and record the incidence of absence as also to find out who has come or not come and why, and to arrange for extra workers to meet absenteeism.

Control of absenteeism is likely to lead to a substantial increase in Productivity. In most cases it can be controlled if the following steps are taken:

(1) As stated earlier, sickness is the most important cause of absenteeism, the rate varying in different departments because of working conditions and occupational differences. In textile mills, the diseases are generally of respiratory, digestive and rheumatic type. A move in the following directions will help to reduce sickness absenteeism:

(a) Dust control, vacuum Geaning etc. (b) Check on excessive temperature, humidity

etc. (c) Check on condition of machines (d) Provision of sufficient light and proper circulation of fresh air; the spittoons regularly cleaned; water in fire buckets to be changed before it gets contaminated and departments to be occasionally sprayed with DDT powder (e) Arrangements for good drinking water, tested at intervals by a qualified chemist (f) A good canteen with provision of nutritious and balanced food (g) Proper attention to the cleanliness of urinals, latrines etc. (h) Provision of working class residential family quarters attached with adequate recreational facilities like playground, park, library and a small theatre (i) Arrangements for showing to the workers and their families documentary films on health, sanitation and good habits (j) Arrangement for general preventive medicine, vaccination at the time of epidemic (k) Periodical medical check up of workers; special check for fitness for specific jobs; immediate treatment in case of disease.

I have come across workers ailing for years with no proper treatment given to them by the Employees State Insurance Corporation and the workers are often absent either on sick leave or without leave. In all such cases managements should approach the Employees State Insurance Corporation to get these workers treated properly. Workers and specially the old people found absolutely unfit for the jobs should be paid off with certain benefits after making agreement with their unions.

- (2) All round efforts should be made to minimise accidents.
- (3) Absenteeism is a useful criterion for the measurement of an employee's satisfaction on his job. It may be stated in general terms that whatever improves conditions of work and life for the employees, whatever leads to the increasing adaptation of the worker to his task, and whatever makes him feel contented, will lessen his desire or need to be absent from the factory. Happy relations and settled conditions in the plant will reduce absenteeism. The management

should try to have close association with the workers and their families through all agencies. The General Manager along with Labour Welfare Officer and one or two departmental heads should visit labour colonies sometime on holidays just to see their welfare activities.

- (4) Arrangements should be made for running local municipal buses from all important labour colonies at the time of all shift changes so as to bring the workers to the Mills before the start of the shift.
- (5) In many of the textile mills recruitment of temporary workers and giving them badli is still in the hands of jobbers. This system makes the jobbers corrupt and increases the rate of absenteeism. Such powers should no longer be in their hands. Badli should be given by the assistants and recruitment should be made through Employment Exchange only. Decasualization Scheme as it is in Bombay and Ahmedabad should be introduced in other centres also.
- (6) When recruiting workers for clear vacancies, the following points should be kept in mind: (i) The area from which worker comes (ii) Ownership of land, other sources of income etc. (iii) Medical fitness for the job (iv) Education (v) Habits like drinking, gambling etc. (vi) Family status, whether married etc. (vii) Aptitude for learning new techniques.
- (7) As stated earlier, increased wages have direct effect on the rate of absenteeism. The workers should therefore be taught through labour Union and Government to spend correspondingly more and more on nutritious foodstuff, sanitation, and education to improve their standard of living.
 - (8) A very definite responsibility of the

supervisor is to train, in advance. extra workers for all important jobs in his department who may take up the jobs efficiently when the actual man is absent. For example, in a loom-shed some beam gaiters should be trained to take up the job of jobber, weaver may be trained to work as beam gaiter, some miscellaneous workers may be trained to work as cobbler, carpenter, fitter etc. None of the workers including the supervisor himself should be indispensable in the department.

(9) With the coming in force of Employees' State Insurance Scheme, all workers, whether they fall sick or not, are comsome pulsorily to contribute amount to the Corporation. Those who never fall sick, think their contribution simply a wastage. In order to enjoy some benefit they approach the State Insurance doctor and manage to get sick leave on some pretext without actually falling sick. This goes to increase the rate of absenteeism. To discourage this malpractice the Corporation should introduce some incentive bonus scheme in which those not falling sick at all in a year may get back certain percentage of their contribution.

Shri VV Giri, Governor of Kerala, while inaugurating the 12th Annual Conference of the Indian Institute of Personnel Management at Ernaculam suggested that for reducing absenteeism in industries, workshops and industrial establishments in the country should be closed for two days in a week – Saturdays and Sundays – so that every worker could have complete rest. This, he said, would enable the workers to visit their homes and spend their leisure with their families so that they could, on return, attend to work with freshness.

Productivity and the Worker

YD Joshi*

It is the mistaken belief of many people in this country that an Indian worker cannot be compared favourably with a western worker regarding his capacity to produce. Given the proper facilities, an Indian worker can produce as much as his counterpart in any western country, if not better. Of course, productivity is low because of widespread illiteracy. Further, the Indian worker has not been trained for work. His motivation to work is weak.

IT HAS BEEN THE EXPERIENCE OF THIS AUTHOR that it is neither the lack of ability nor the will to do so, but there are some imaginary fears which come in the way of the workers increasing productivity: (a) Fear of retrenchment, if production is increased (b) Lack of faith in the equitable sharing of the gains of productivity. It should be possible under the present circumstances to remove these fears, for we are now in a position both to increase the volume of employment as also to pay somewhat better.

In a country like India in view of the low national income and in view of the underdeveloped economy of the country, it may not be possible to pay the worker the remuneration which might keep him both physically as well as mentally satisfied and which might also result in increasing productivity. It cannot be denied that by and large workers in India are not getting a living wage at present; in fact even the most prosperous industries in the country are not in a position to pay a living wage. Mere monetary incentives cannot really be of much use in this country, nor could they be effectively introduced in most of the industrial units.

However, one physical aspect has to be taken into consideration: the physical ability and sound health of the worker for increased production. In India, not only the workers but even the educated people do not realise the importance of balanced diet necessary for maintaining the physical conditions, health, morale etc. Large sums of money are being wasted on foods with low or no nutritional value. The same money can be utilised for supplying proper nutritious food which would surely increase a worker's capacity to work. No doubt, the Factories Act makes a provision for the maintenance of canteens at the manufacturing centres. But these canteens, in some cases, even though they supply subsidised food, the same might not be as nutritious as an industrial worker actually needs. I strongly recommend that an intensive programme of education be carried on in order to see that the workers change their food habits. This change can also be brought about by cheap and subsidised canteens used by the workers at their workplaces.

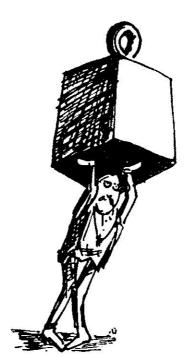
It is also necessary that the worker must be motivated for increased production. As this cannot be done through monetary incentives, it may be tried through what may be called sociogenic incentives. A worker must be made to realise that he is not a lifeless machine in the pro-

^{*}Officer-in-Charge, Bureau of Labour Information, Tata Services Ltd. Bombay

duction programme, but that he vitally belongs to the organization and unless he produces to his utmost capacity he would be sabotaging his as well as the national interest. Man is a social animal and he could be motivated to work provided he is given a befitting social status in the organization in which he works.

It would not be enough to educate the worker alone for increased productivity. It would be necessary also to educate the supervisory staff as well as the top management. Many a time the employer, labouring under a false prestige, refuses to consult his own workers even though such consultations might help in furthering the progress of the undertaking. It would, therefore, be necessary to educate the management and persuade them to consult the workers in their personnel policies as well as try to afford facilities and opportunities to workers for their training and advancement.

Frustration is the greatest set-back to increased industrial productivity. This frustration comes along when the worker finds the spirit of partisanship, partiality and favouritism rampant in the industry he works. He would be motivated for increased production only if a fair policy of recruitment, promotions, transfers etc. is followed by the management. If this policy of fair deal is scrupulously followed, it would not be even necessary to give sermons to the workers to produce more.



Does the tax burden crush productivity?

Workers' Induction and Higher Productivity

SN Sinha*

The method of introducing a worker to an organisation commonly known as Induction with the object of gaining his confidence could very well lay the first foundation to his job satisfaction resulting in higher productivity for the understaking. Also if the new worker is to become an effective member of the working group, he must be able to understand where he fits in, what the Company does, how it serves the country, what the rules and working conditions are and a general picture of the activities of the Company. An Induction Programme would appear to be simple but it could have far-reaching results. If we have not gained the confidence of even one worker, we have lost not only his wages but also the costly machinery with which he is associated.

A SAMPLE SURVEY WAS RECENTLY CARRIED out by the author in the Calcutta area. The ten firms covered included 2 jute mills, 1 textile and 7 engineering companies. including chemical engineering. Only three out of these ten had Induction Course arranged for their workers. This course varied from 1 to 3 days' duration for the programme. Two of the firms used literature in addition to giving information. Only one firm had a separate Induction Course for its managerial personnel. To answer what tangible results were obtained, one of the firms was definite in having noticed greatly improved performances since the introduction of the Induction Course for the Workers.

If we take a representative picture, there would be even less than 30 percent industrial courses utilising such a useful tool to improve their productivity. If we want to make a fuller utilisation of our manpower resources, we must take this preliminary step of inducting our workers into the industrial structure by whose productivity they have to live and flourish. Procedures

and methods will vary according to the size and type of the organisation and nature of the business and it must be tailormade to suit an individual undertaking. We have indicated below a Programme which has successfully been launched for quite sometime now.

In-plant Induction has a four-point plan:

- (i) Visit to the Plant and meet appropriate personnel.
- (ii) First-hand information through meeting, mainly covering (a) Company History (b) Terms of Employment (c) Employee Service (d) General information.
- (iii) Introduction to the Department, which includes Job Introduction, Standard Performance, Workplace and Safety measures.
- (iv) Follow-up Induction: (a) Any question after a week is answered. (b) Some of the Company's policy and philosophy is repeated. (c) Worker's understanding of these is checked.

The above course takes about two days' time and normally wherever possible senior

^{*}Management Training Officer, Voltas Ltd., Bombay

personnel of various departments take care to conduct the course themselves. Of course, first-hand information is always given at the Personnel Department.

This simple attitude-building effort which could be so important a tool for higher productivity is largely missing in our industries. It is high time we take sufficient notice that through so little an effort could we achieve so much. Once this right attitude has been created in the worker, productivity through effective work will be ensured.



Labour and Productivity

Subratesh Ghosh*

In a broad sense, increase in productivity actually means increase in the production potential of the industry at the lowest possible real cost. Since management can be expected to be always interested in raising productivity (excepting in a few cases), the problem boils down into one of making the worker vitally interested in increasing productivity.

LABOUR PRODUCTIVITY IS AFFECTED BY many factors, broadly classified under two groups; firstly, economic and institutional and secondly, psychological. Among the important economic and institutional factors affecting productivity are the size of the market, the level of economic activity, mobility of resources, quality and availability of fixed capital goods and also of materials and fuels, education and training of workers and the taxation policy of the Government.

The market is important, because in a narrow market the scope for specialization, which is an important factor influencing human efficiency, is limited. The employers also are less interested in productivity, if the market is rather small. The amount and quality of capital equipment, the degree of their utilization and the interest taken in standardization and simplification are all affected in a way that does not enhance labour efficiency.

The level of economic activity also naturally affects productivity. During a depression, productivity of resources is low. Industrial equipments that have been designed to produce economically at a high rate of output in the context of a favourable

market, cannot be operated with the same efficiency when the rate of utilisation is much below capacity. Moreover, depression naturally has adverse psychological effects as well because of the state of the market, neither the employers, nor the workers can have any interest in raising productivity.

Mobility of resources, particularly of labour, is highly important. If the resources are not being presently utilized to produce the right things, their movement to more profitable uses should be helpful. This is particularly so, in case of disguised unemployment where transference of a few workers from their present employment would not reduce output (implying thereby, that actually more persons are employed than required for efficient production). Although disguised unemployment is a familiar phenomenon in the agricultural sector of the underdeveloped countries, even in their industries it is not unknown. Transference of people from industries (or units) where they are surplus — where their marginal productivity has fallen to zero – to the places where their marginal productivity would be positive, - itself may add considerably to national output.

Competition is another factor which creates a climate for increasing productivity. Under monopoly or restricted com-

^{*}Lecturer in Economics, Post-Graduate Department of commerce, Calcutta University

petition the management may not be interested in expanding output and hence the possibilities of technical innovations, which so much help productivity, may be limited.

Productivity naturally depends greatly on the amount and quality of capital equipments and materials available for use. Even the best quality workers may not show good performance if they are to work with wormout or unsatisfactory types of machines. Same is also the case with materials.

Although these economic and institutional factors are very important by themselves, in a movement for improving labour productivity their relative significance appears to be lower as compared with the psychological factors. The reason is obvious - most of the economic and institutional factors (excepting a few like the quality and supply of capital equipments, training facilities etc.) are not quite amenable to manipulation by the managements of individual firms, being dependent on wider environmental and macro-economic factors. The psychological factors, on the other hand, are more subject to the control of managements and work of individual firms. Hence, for a productivity drive, a better understanding of the psychological factors is likely to be immensely beneficial.

In this context Management has to consider joint consultation for the purpose of raising productivity not as a concession granted to the workers, but as an opportunity to know the attitudes and difficulties of workers as regards productivity problems and also to derive benefits from their personal experiences in raising productivity by means of minor changes in work-processes or organisation. In more advanced countries, particularly in USA, USSR and the Scandinavian countries, ordinary workers' initiative and suggestions have often been instrumental in raising industrial productivity. In India, also given proper scope and opportunities the workers may contribute a good deal towards the same end.

However, the proper spirit, although im-

portant, is not the only condition of success. It may happen that the workers may be interested in cooperating and the management also may be eager to receive cooperation. But workers with little education may find it difficult to derive any benefits, because of their lack of knowledge and experience ir the techniques of joint consultation. Special training courses in techniques of group discussion and joint consultation may be highly useful in this respect. The managerial personnel also may be given suitable training in the same techniques since in many cases lack of knowledge of these specialised techniques may transform the sittings of the joint committees into one-sided affairs, where only managerial personnel speak and hardly help the workers' representatives to come out with practical suggestions.

In securing workers' cooperation for increase in productivity, one psychological factor is very important; whether they sincerely believe in the possibilities of adequately sharing in the gains of productivity improvements. For this suitable provisions must be made to link up the changes in wage-rates with changes in productivity. However, since in an underdeveloped country like India, it is essential to raise the rate of capital formation, by raising the marginal propensity to save (i.e., the ratio of increase in savings to increase in incomes). Instead of making the rate of increase in workers' earnings equal to the rate of increase in productivity, it should be somewhat less than the latter, the balance being

devoted to capital formation.

In this connection, we may note a suggestion made by some economists who think that instead of allowing money wages to rise with productivity, the benefits of higher productivity should be passed on to the workers, via reduction in prices with the increase in productivity. This, however, is clearly not a practical solution. With the existing industrial set-up in the private enterprise or mixed economy, where monopolistic or oligopolistic market-forms are

characteristic features, prices have become mainly inflexible in the downward direction. Hence the possibility of a continuous reduction of prices with improvements in productivity is almost out of question. Moreover, this would require also continuous reduction of piece-wages in the industries mainly dependent on payment by results systems, creating thereby possibilities of industrial friction.

Thus it may be accepted in principle that money-wages should rise with productivity. However, the question remains whether to link up money-wages with productivity increases in individual industries or that of the average increase in productivity of the economy as a whole. Each of these alternatives has merits as well as shortcomings. If wage-increase is linked up with the average increase in productivity of the whole economy, this would place a premium on efficiency, since the efficient branches of the economy, enjoying a higher rate of productivity-rise than the average will gain thereby, and the industries lagging behind the average would be penalised. This alternative would also help in maintaining stability in the factor-market, since it would not greatly disturb the relative prevalent wages; whereas if wages are linked with the increase in productivity in each individual industry, the relative wage-rates would soon go badly out of alignment. On the other hand, the average linking system has got the drawback that it may tend to raise commodity-prices in the industries where productivity lagged behind the average; thus, the alternative system is superior at least on this count. However, on the whole, the balance of advantages appears to remain with the average-productivity linking.

Creation of proper psychological attitude among the workers for raising productivity depends on the steps taken to remove fears of retrenchment from the minds of workers. In cases, where productivity-increase depends on greater capital deepening, that is the use of machinery involving labour displacement, the resistance is likely to be considerable. In other cases also where the process involves little change in the existing technology, the workers may be afraid of losing jobs, as they fear that with the increase in productivity, the employers would be able to produce the same output with fewer workers.

The latter case may be suitably tackled by means of assurance from the employers and also through better education of the workers as regards the benefits of higher productivity. The former, however, is really based on actual facts, since increase in technological unemployment is likely to result from the introduction of capital deepening types of rationalisation schemes, unless suitable steps are taken before hand. It may be suggested that a special fund be created out of the compulsory contributions of the employers of industries which would derive the benefits of technological rationalisation.

PRODUCTIVITY AT THE POLICY LEVEL

During World War I, an expert proposed to get rid of the German submarine menace in the following manner:

"All we have to do is to heat the Atlantic Ocean up to 212 degrees fahrenheit. Then the subs will have to come to the surface and we can pick them off one by one..... I know that somebody is going to want to know how to warm up that ocean. Well, I am not going to worry about that. It is a matter of detail and I am a policy-maker."

Productivity and the Worker

KS Parameswaran*

PRODUCTIVITY OF A WORKER, as far as my experience goes, depends equally, if not more, on the quality of the work-preparation in its broadest sense which takes place much ahead of the worker himself appearing on the scene. There are limitations to the productivity that a worker can achieve all by his own efforts, since the principal preparation of maximum or optimum productivity, i.e. work-preparation, is beyond him. Low productivity is often attributed to the low efficiency of the workers. A study on this, I am sure, will reveal that in at least six out of ten cases, lapses have been due to ineffective and madequate work-preparation. Overall productivity which alone can contribute to the prefitability of the enterprise should thus be the subject of concern than that of the worker himself which is not denied. ANY JOB CAN BE DONE ONLY AS GOOD AS IT HAS BEEN PLANNED.

Even where productivity in so far as the productive efforts of the workers may be found satisfactory, the overall productivity can still be lower due to bad planning such as overinvestment, inharmonious plant capacity, idle facilities, inefficient layout etc. etc. resulting in wastage of the various factors of production. This can only be achieved by a two-way assault, that is, by educating, training and rewarding the worker with proper incentives and by ensuring that proper and timely attention is given to the very many important aspects involved in the planning or work-preparation in its very broad sense. While talking about the productivity of a worker we are discussing only the short term aspect of productivity; whereas, while talking about the planning we are discussing the long term factors, per-essential to sustained productivity increase. Productivity is semething that has got to be built in rather than something that can be mounted upon.

An Employers' Primer-

How To Increase Production Of Dissatisfaction?

Shobhana Khandwala+

(i) As soon as an employee is hired, leave him to find his own way into the male of your organisation. By not believing in any induction programme, you can teach him the virtue of independence. If he cannot swim, he can sink at least. Will it matter any way to your organisation?

(ii) Rules and regulations are strictly confidential. Never show them to

the employee; otherwise you give him the scope to demand justice.

(iii) Follow your rules and regulations literally. After all human beings are meant for the rules and not vice versa.

(iv) Vary your instructions from time to time. If variety is the spice of life, it can be the spice of your organisation too.

(v) Throw all blame on your employee and never accept any suggestion from him. You can thus show him who is the boss.

(vi) Never appreciate his work lest he be spoilt and your ego be undermined.

(vii) Divide and rule is the best policy and please remember that if discipline is to be meted out, presence of other employees creates the best foreground.

^{*}Factory Administrator, Philips India Ltd., Poona

[†]Bombay Textile Research Association

Mr. Al Foil Protects

Pharmaceuticals

Whether capping for bottles or phials, tagger for metal containers or unit strip packs for tablets, Aluminium Foil gives product protection, promotes prestige and prevents adulteration.

FOILS
FOR
PACKAGING...



(Incorporated in Great Britain)

Calcutta Bombay Madras New Delhi



FACT has a host of products to offer

... in the service of agriculture

Factamfos, (Ammonium Phosphate 16:20)

Ammonium sulphate, Super phosphate and

NPK fertiliser mixtures

... in the service of industry

Anhydrous ammonia, Sulphuric acid, Sulphur dioxide and Ammonium chloride

In 1960, the company completed the first stage of its expansion programme involving a capital outlay of Rs. 3 crores. And quickly, in its wake, followed the Rs. 2 crores—second stage which has, also, been completed—the highlight of which is the installation of a 'Texaco' oil gasification plant using naphtha as feedstock. Now the much more ambitious third stage involving an outlay of around Rs. 12 crores is on!



THE FERTILISERS AND CHEMICALS, TRAVANCORE LIMITED

Regd. Office: Eloor, Udyogamandal P.O., Kerala State.

Ready for Sale

DIRECTORY OF SMALL SCALE INDUSTRIAL UNITS

A Directory of Small Scale Industrial Units containing valuable and useful information to the Small Scale Industrialists has been brought out by the State Department of Industries and Commerce, Madras. The Directory which is priced Rs. 4/- only (Postage Extra) contains 360 pages giving information about 3,000 Industries in the Madras State. Copies are available for sale with the Manager-cum Editor, Technical Information Section, Industrial Estate, Guindy, Madras-32

DIRECTOR OF INDUSTRIES
AND COMMERCE
MADRAS-5

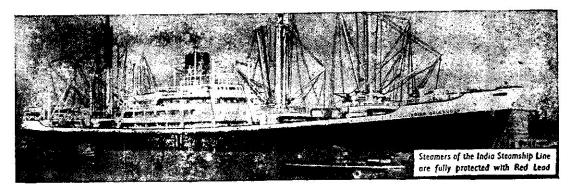
Grade I Lathes & Planing
Machines

THE
BATALA ENGINEERING CO., LTD.
BATALA (Pb.) India

Sole Selling Agents:
Jayems Engineering Co.,
WARDEN HOUSE, SIR P. M. ROAD,
Fort. BOMBAY-I

FULLY PROTECTED AGAINST CORROSION

Because Red Lead is on the job ... day in and day out, year after year, it safeguards metal against the insidious attack of corrosion. Experience of a hundred years has taught engineers that there is no better protection against rusting than Red Lead. Ocean going steamers, heavy metal structurals and railway wagons the world over rely on this hard-wearing priming paint which needs so little maintenance.



IN A COLOR DE LA C

Griffin Brand Red Lead pigment is produced in India by

D. WALDIE & CO. (LEAD OXIDES) LTD.

GILLANDER HOUSE, NETAJI SUBHAS ROAD, CALCUTTA-L

Secretaries & Treasurers : GILLANDERS ARBUTHNOT & CO. LTD.
CALCUTTA BOMBAY MADRAS NEW DELHI KANPUR

In every modern industrial enterprise, there is a man who specialises in buying. He is a man of experience and is constantly posted with information on the performance of the products he buys. He demands an uncompromising standard of quality—whether in machinery, raw materials, accessories or other equipment.

Dunlop products are sure to interest such a discriminating buyer.

Tyres and Tubes for automobiles, aircraft, earthmoving and construction equipment, tractors, animal drawn vehicles, trolleys, barrows; Accessories, repair and retread materials; Cycle Rims; Conveyor, Vee and Transmission Belts; Braided Hoses; Industrial Adhesives; Dunlopilló cushioning.





The Jeep Universal is at its best when the going is the toughest. That is why the Jeep Universal is relied upon in exploration.

When personnel and equipment have to be carried through mud, sand, swamp or other impassable parts of the country, the Jeep Universal moves about easily with the extra traction of its 4-wheel drive and special low gear range. On normal roads it shifts easily to conventional 2-wheel drive.

Jeep Universal - the world's biggest little vehicle



This is the sign of your Jeep Dealer who is specially trained to solve your transport and maintenance problems. He is equipped to supply you with factory approved genuine spare parts throughout the life of your Jeep.



MAHINDRA AND MAHINDRA LIMITED

Bombay • Calcutta • Delhi • Madras

Authorised dealers

AUTOMOTIVE MANUFACTURERS PVT. LTD., S. em ferabad * CAMA MOTORS PVT. LTD., Ahmedabad * CENTILAL AUTOMOBILES, Enjour (M.P.) * GARAPATI GARAGE (1959) Vijayawada * GHATAGE & PAPIL, Kolhapat * HHRAKUD AUTOMOBILES, Sambalpur (Branch: Rourkela) * INDIA GARAGE, Bangalore * INDIA GARAGE, Madras * JADWET TRADING CO., Port Blair (Andaman & Nicobar Islands) * JAMMU & KASHMIR MOTOR CO.PP., Jamous-Tawi (Kashmir State) * LAWLY SEN & CO., Patoa * METRO MOTORS, Benbay * METRO MOTORS (KATHIAWAR) PVT. LTD., Rajkot * NARAIN AUTOMOBILES, Lucknow * Senbay * METRO MOTORS (KATHIAWAR) PVT. LTD., LTD., LTD., Cuttack * PROVINCIAL AUTOMOBILES CO., PVT. LTD., Nasphedpur * PATNAIK & CO., PVT. LTD., Cuttack * PROVINCIAL AUTOMOBILE CO., FVT. LTD., Nasphr * SANGHI BROS., (INDORE) PVT. LTD., Indore * SANGHI MCFORS, Nov Delicitorach (Chandigath) * SILVER JUBILEE MOTORS PVT. LTD., Poona * T.V. SUNDRAM IYENGLE & SONS PVT. LTD., Madrai * TASHI COMMERCIAL CORPORATION, Phuntsoling (Bhutan) * TENZING & TENZING, Sikkin * UNITED MOTORS OF RAJASTHAN, Jaipur * VISNUM V. CAMOTIM TARCAR, C. Indo De Goa, Goa * WALFORD TRANSPORT LTD., Calcutta (Branches: Dibrugarh & Sülguri)

BUY NATIONAL DEFENCE CERTIFICATES



TOSHNIWAL INSTRUMENTS (MADRAS)
Industrial Estate, Guindy, Madras 32.

Selling Agents: TOSHNIWAL BROS. PVT., LTD.

198, Jamshedji Tata Road, Bombay-I.

Branches : AJMER ● CALCUTTA ● NEW DELHI ● MADRAS

Also other Laboratory Instruments such as Stirrers, Heating Mantles, Multi-mantles, Microwet Grinders, Flask Shakers, Pipette Shaker, Rotap Sieve Shakers, and many more to suit your requirements. If
You want to increase your
PRODUCTIVITY

Read the NPC Journal

PRODUCTIVITY

"., an imaginative magazine"

-Stanford University

"...worth more than any comprehensive text-book..."

—Financial Express

"...a wealth of material."

-Economic Times

"...outstanding even by European standards."

—Dr Merani

Emergency Production Committee

"...quite interesting and thought-provo-

king..."

—Dr VKRV Rao Member Planning Commission A HEALTHY
NATION
HELPS
PRODUCTIVITY

We Serve the Nation with

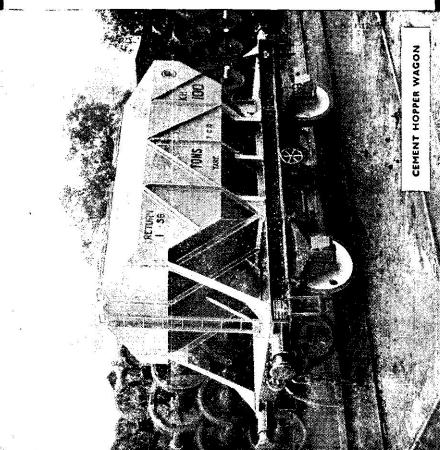
DDT

Hindustan Insecticides Ltd.

(A Govt. of India Undertaking)

Industrial Area, NEW DELHI-15 Udyogamandal P.O. KERALA STATE





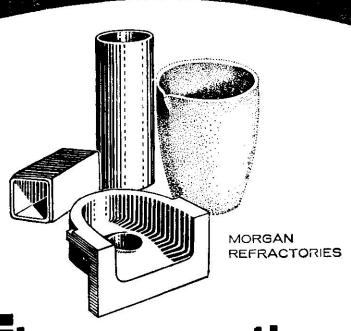
THE THINGS WE MAKE..

ROLLING STOCK & COMPONENTS
POINTS & CROSSINGS, STRUCTURAL STEELWORK
PRESSED STEEL TANKS
STEEL, SPHEROIDAL GRAPHITE & GREY IRON CASTINGS
MACHINE PARTS, COMPONENTS & GEARS
FORGINGS, STAMPINGS & PRESSINGS
SLUICE VALVES & TWIST DRILLS
CRANES & PULLEY BLOCKS

W R A H W C

Managing Agents
MARTIN BURN LIMITED
MARTIN BURN HOUSE
12 Mission Row, Calcuttav1

Branches New Delhi Bombay Kanpur Agents in South India The South Indian Export Co. Ltd., Madras 2



There was a time...

When furnaces could be simple affairs, because QUALITY was unimportant. But modern industry changed this. Today's complicated furnaces need protection from corrosion and must be well lined for ECONOMICAL operation. MORGAN REFRACTORIES provide just this protection to ensure a steady, impurity-free economical out-put with a minimum of repairs and wastage.

GREAVES COTTON & CO. LTD.

BOMBAY CALCUTTA MADRAS NEW DELHI BANGALORE AHMEDABAD COIMBATORE KANPUR RANCHI ASANSOL GAUHATI BHUBANESWAR

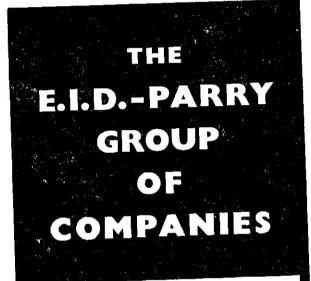


(A Trusted name)

E. I. D. - PARRY LTD.

(Incorporated in England — The liability of members is limited)

AND PARRY & COMPANY LIMITED





Estd. 1788

Sugar

Carbonic Acid Gas

Industrial Alcohol

Heavy Chemicals

Fertilisers

Fungicides & Insecticides

Engineering

Confectionery

Liquors

Pharmaceuticals

Ceramics

Fine Chemicals

Essences

Food Colours

Packaged Consumer Goods

Shipping & Transport

E.I.D. - PARRY GROUP

Dare House, Madras

IBCON CONSULTANTS



The industrial consultancy services offered by the group fall under the following headings:-

IN THE PLANT-

- PLANT CAPACITY AND LAY-OUTS
 - STORES ORGANISATION RAW MATERIALS CONTROL
 - TRANSPORTATION METHODS
 - PRODUCT QUALITY CONTROL
 - WORK STUDY
- PRODUCTION PLANNING AND CONTROL
- CONSUMABLE STORES CONTROL
- FUEL AND STEAM UTILISATION
- MECHANICAL HANDLING
- OPERATIONAL RESEARCH BUDGETARY CONTROLS

VALUATION OF PLANT & BUILDINGS

DESIGN AND ESTIMATES OF EXTENSIONS

ON LABOUR-

METHOD AND WORK STUDY

TIMEKEEPING SYSTEMS

- 10B EVALUATION PERSONNEL RECORDS
- HUMAN RELATIONS
- REORIENTATION LECTURES
- PRODUCTIVITY INDICES
- WAGE PAYMENT SYSTEMS
- WAGE STRUCTURES LABOUR POLICIES
- COMMUNICATION
- FOR LABOUR AND SUPERVISION

IN OFFICES

MANAGEMENT ORGANISATION

- EXECUTIVE LEVEL WORK
- CLERICAL PROCEDURE
- MANAGEMENT CONTROLS
- WORK MEASUREMENT
- BUDGET FORECASTS

LAYOUT, COMMUNICATIONS AND EQUIPMENT

AND

THE SETTING UP AND TRAINING OF THE CLIENT'S OWN INDUSTRIAL ENGINEERING DEPARTMENT MARKET RESEARCH

PLANNING FOR MODERNISATION AND EXPANSION OF INDUSTRIES TECHNOLOGICAL STUDIES IN RAW MATERIALS, PROCESS AND PLANT PERFORMANCE

IBCON PRIVATE LIMITED

5 Russel Street,

Head Office: ADELPHI,

Brady's Building,

CALCUTTA 16.

119, Queens Rd., BOMBAY I.

M. Gandhi Rd. KANPUR

George Oakes Building,

85-A Ward Place,

Sri Narasimaharaja Square, BANGALORE 2

COLOMBO, CEYLON

Also in :

U. K., PAKISTAN, BURMA, IRAQ, CHILE, ARGENTINA, BRAZIL, MEXICO, AUSTRALIA, HONG KONG.

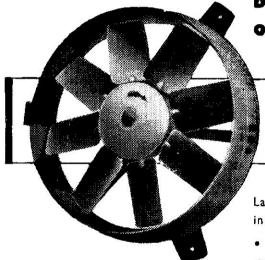
Productivity and Progress go together to produce . . .

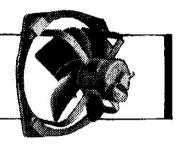
WIDEST RANGE OF EXHAUST FANS

EVER MANUFACTURED IN INDIA

(INCLUDING ACID FUME PROOF & HIGH TEMPERATURE FANS)

DIRECTLY COUPLED OR BELT DRIVEN





Large variety of application in the field of Industrial ventilation

- Prompt deliveries
- Certain sizes available ex-scock

CALCUTTA

HEAVY DUTY

EXHAUST

CALCUTTA FAN WORKS PRIVATE LTD.

Pioneers and Experts in ventilation Engineering

Head Office: 30, Chowringhee Road, Calcutta-16

City Sales Office: 19B, Chowringhee Road, Calcutta-13

EP/PA/3-61

Printed and published by Sri DH Butani for the National Productivity Council 38 Golf Links New Delhi at the Delhi Press, Rani Jhansi Road, New Delhi