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October 1967 Issue of Vijnan Karmee will be a **Special Issue** incorporating the full proceedings of Prime Minister's Round Table with the scientists. This issue has been priced at Rs. 2/- per copy.

Editorial

Indigenous know-how and Foreign Collaboration*

There has been a wide spread feeling that India has depended far too much on foreign collaboration. Repeated collaborations have been resorted to for the same process or product in a number of cases. Sufficient effort has not been made to develop process/product and design know-how even in areas where requisite talent and adequate information and resources are available. This attitude ill-accords with the accepted policy of maximum self-dependence. It was with this background that the Government of India set up a Committee under the chairmanship of Sir A. Ramaswamy Mudaliar to recommend guidelines regarding utilisation of indigenous know-how and the types of cases in which foreign collaboration may be allowed. The Committee was required to examine the extent to which import of technical know-how from abroad could be dispensed with, examine conditions subject to which indigenous know-how could be deemed to be capable of commercial exploitation and suggest general guidelines regarding the types of cases where foreign collaboration may be allowed. Notwithstanding the several valuable suggestions of the Committee to which a reference will be made later, the general tone of the Report appears to be a defensive justification of the extent to which foreign collaboration has been resorted to so far. Perhaps it is calculated to dispel any exaggerated apprehension in the mind of the industry that the government or

the research organisations were pressing for a complete stoppage of all types of collaboration. This is as well, because at times chauvinistic and patriotic emotions over-ride rational considerations even in cases where foreign collaboration would be of advantage to the economy of the country. The Report appears one sided presumably because the Committee mostly invited representatives from Chambers of Commerce & Industry and individual industrialists but did not interview representatives of the research organisations and other scientists concerned. Most of the industrial firms in this country are in the process of change over from trading to industrial activity and are naturally reluctant to undertake research and development of their own. Nor have they the necessary appreciation of the significance of research to be able to utilise it when carried out in the State sponsored laboratories.

Not even the most rigid opponent of foreign collaboration would dispute the fact that in areas where fast developments based on research are taking place, it would be disastrous to ban import of sophisticated know-how. It would be against the interests of the country to block the channel of communication with sophisticated technology in the advanced countries. However, this should not be made an argument for continuing repeated imports of the same technology or refusal to invest the requisite effort and resources in adapting the technology once

* Report of the Committee on foreign collaboration, May 1967, Ministry of Industrial Development and Company Affairs, Government of India.

imported, to local raw materials, resources and working conditions. It would defeat the very purpose of foreign collaboration if the research organisations and other centres capable of making further advances are insulated from contact with the imported technical know-how. Once the know-how has been imported, there should be a policy of simultaneous association of the research organisations for further development. The positive role of foreign technology is the saving in time and investment to acquire the advances that have taken place in other countries over years. The developing countries therefore can have the hope and advantage of catching up with comparatively lesser expenditure. It would be completely wrong to try to redevelop technology which has already been developed elsewhere and when it can be obtained against reasonable payments. However, it would be disastrous if no arrangements are made to avoid repetitive and continuing import of technical know-how.

It is to rationalise the system of selective import of know-how that the Committee has made some significant suggestions. They have accepted the recommendation made by the First Get-together of Research & Industry organised by the CSIR that each Development Council should set up a technical committee consisting of scientists and technologists from the industries, research laboratories and universities to determine in advance, areas where import of know-how should be freely permitted and those where it could now be excluded. The Committee has appropriately transferred the problem of identification of these areas to be determined by scientists and technologists. The Committee has also recommended the strengthening of the National Research Development Corporation of India (NRDC), a State agency for promotion of development of the laboratory and bench scale

research to the stage where it could be taken up for commercial development. The Committee has recommended provision of larger resources and broadening the scope and activities of the Corporation. Unfortunately, the Corporation in spite of its commendable aims and objectives, has not so far been able to fulfil the role assigned to it. It was to provide a vital link between laboratory and pilot plant research and the stage of its commercial utilisation. Design engineering, market surveys etc. were to be part of its activity. In the light of the Committee's observations unless this Corporation fulfils its functions, the requisite conditions for utilisation of indigenous know-how would not be obtained. The Committee would have done well to draw the Government's attention to the fact that the rules and procedures in regard to import of essential components, capital equipment and raw materials would have to be greatly amended if indigenous know-how is to be utilised. Under the present conditions it is far easier and quicker to set up an industry with foreign collaboration even when comparative technology is available within the country. Steps to cover the handicaps should have been thought out and spelled in greater detail. If indigenous know-how is to be exploited by the Indian industry then the enterprising entrepreneur must be given incentives and support to cover the handicap. The committee could also have dilated upon the type of machinery that could be set up by the Government on the pattern of Japan's Ministry of International Trade and Industry, which filters all cases of foreign collaboration and has successfully put Japan on its industrial feet. The Committee could have elaborated on the methodology adopted in Japan and how it could be adapted to function under Indian conditions.

The tragedy of most reports of such com-
(Contd. on page 5)

Letter to the Editor

The most urgent problem that is facing the scientific workers in a monopoly industrial town like Jamshedpur, is accommodation where private houses are scarcely available and that too at an exorbitant rent. On the other hand the chances of getting a quarter by the NML staff can very well be understood from the ratio of the strength of staff members and number of quarters which is about 1200:300 i.e. one fourth.

The construction of two multistoreyed buildings (flats Type IV and Type V) in the Agrico area started early in 1964 with an understanding with the contractor, M/s M.L. Dalmia & Co., to finish the construction within 12 months. Initially the work started with right earnest and the progress of work was satisfactory. Just after one year the rate of progress started decreasing. In the month of February, 1965, this fact was brought to the kind notice of Hon'ble Shri M.C. Chagla, Vice-President, CSIR, when he visited NML. Shri Chagla assured us that he would look into the matter.

It is a very sorry state of affairs that even in the later part of 1967 these constructions are not complete. The structural parts of the buildings were completed one year back and are waiting, since then, for minor works as, for example, electrical fittings, white washing, distempering etc. which will hardly take a couple of months.

It may be mentioned here that the construction was being done under the direct supervision of NML and CSIR. There is some misunderstanding between the contractor and the NML (CSIR) authorities and the contractor is sitting tight over it. The work is virtually stopped for the last few months. Both the parties are blaming

each other for the delay.

Several times, this was brought to the notice of Scientist-in-Charge, NML and Administrative Officer, NML but upto now no purposeful positive steps seem to have been taken. The NML authorities are shirking their responsibilities by shifting the whole matter to CSIR office. This considerable delay in the completion of the above staff quarters is delaying the allotment of the quarters and placing the NML staff into utter difficulties. The need and the plight of the NML staff have gone to such an extent that the scientists are prepared to occupy the quarters as such and in unfinished condition if the houses are made available.

The delay in house construction is not only putting the NML staff in distress but also is causing a heavy monetary loss to CSIR, which has already amounted to Rs. 50,000 and it is losing revenue regularly at the rate of Rs. 4,000/- per month. This kind of financial loss cannot be tolerated.

In addition, CSIR will further be benefitted because it will not be paying the house rent allowances @ Rs. 7.5% to the staff who are getting it now, if these staff is provided with official accommodation.

The matter was also represented to the Director General, CSIR. The Central Office is sleeping over it. Even after repeated reminders nothing is forthcoming.

The reason of focusing the above facts in V.K. is to draw the attention of the scientific workers of India about the condition under which the scientific workers in NML are carrying out the research work. We are sure that under the above state of mental condition good research work cannot be expected.

A Scientific Worker

Material gain from Science and Technology

NAUNIHAL SINGH*

The present scientific and technological position of this country has been nicely highlighted by Dr.D.S. Kothari in his address delivered on the Founders Day of Shri Ram Institute for Industrial Research.

As explained by the speaker, the situation as it exists, is in a state of chaos. It is the natural consequence of closely following, in science and technology, the fashion as set by the advanced countries. We have been trying to duplicate by thought, action and speech the methodology used in advanced countries for our material gain and have faced an utter failure. It is due to the untiring efforts of the advisers and experts whom the government employs and pays to advise it.

The government made and appointed scientists (or technologists) cannot advise the government with a clear conscience on science policy or technological advancement. The so called top scientific advisers are interested in their own career-making and individual gains. They do not enjoy the confidence of the science community. They do not hold an eminent position in science accruing as a result of their own contribution. Who and where are such eminent men of science, with independence of thought and action, to play the role of advisers? If a few do try to be honest and truthful in their comments or advice, their recommendations are not considered or implemented because in the present democracy the majority carries the day.

Our present scientific and technical education has been un-planned and hence ill-

suited to the national requirements. It has been implemented and imparted by the present universities and technological institutions under the control of men educated here and abroad. The present generation is the product of institutions where teaching and research has been flourishing in combination and to lay emphasis on the strengthening of these institutions is to put off the solution for our national problems of existence. Who is to be blamed—the universities, the scientists or both? The scientific contributions made have not matched with the requirements of the country. There is not enough and suitable employment for the scientists or the research workers. Men of science and technology are misplaced and displaced in employment, irrespective of their learning and research.

As it is, the universities no longer form a part of the community. They have been established as isolated centres. They are irresponsive and insensible to the present day requirements of the community, state and the nation. The university-men keep shrouded in a false 'academic atmosphere while the students and the research workers keep on moving as if in a stream, aimlessly and hence carelessly. The combined teaching and research institutes, established quite some time ago, have not produced the quality of men who could have raised our hopes or check the present trend of unproductivity. The present educated man is "floating" for opportunities only and enjoys neither the confidence of the community nor of the state.

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These universities and high level teaching and research centres have not yielded any substantial material as "ports of commerce", in importing or distributing the needful manpower to ensure increased production and in plenty. Our men of science and education (with a very few and fortunate exceptions) have formed into a community themselves and do not care to have any contact with the other people in spite of the "humanities" taught and practised in the campus.

Our needs of the day should be assessed and acclaimed. Universities should primarily do the teaching of pure sciences, imparting of knowledge and sharing of experiences. The application of scientific knowledge requiring management and handling of manpower economically, should be left to the technological institutes.

The requirement of men of letters or technology should be periodically studied and em-

phasis placed on universities or techno-institutions accordingly. The best is always not needed. Both the depth and width of education and technology are needed for the requirements of our self-sufficiency and better living standards.

The 8-point programme for reconstruction of education, deserves simultaneous implementation throughout the country and an appraisal/evaluation after a 10 years period. Let the state and private institutions agree to implement it in a competitive spirit and show the better way of managing the science and technology in the country. Self-sufficiency in food and agriculture should be attempted first, followed by increase in our industrial and consumer goods production. "Regenerative" programmes should be implemented for increasing our education and production, enabling us to keep a close watch on "effort" and "effect".

(Continued from page 2)

mittees is that they lie in the shelves of the Ministries gathering dust till they are forgotten. The labours of the Mudaliar Committee would have been amply justified if its positive recommendations viz., the setting up of technical committees of the development councils and active functioning and strengthening of activities of the NRDC, could be ensured through appropriate administrative measures. The Government should also ask for a further examination of the machinery to be set up for screening of

foreign know-how and technology which should be allowed to be imported in national interest. Enough harm has been done by indiscriminate and unhampered import of technical know-how and capital equipment from abroad which has not helped growth and development of industry to the extent it could have if a wiser policy were followed. May we expect that the positive recommendations of the Mudaliar Committee would be given effect to without delay !

A Report on Organisation of Research Work within the Laboratories

P. C. SEN*

1.0 Shri M. C. Chagla, Vice-President, Council of Scientific and Industrial Research, in his address to the Directors of the National Laboratories at Lucknow in December, 1964 reminded them of their greatest responsibility to not only give the lead to junior scientists but also to encourage and inspire them to give their best. He further added that it is not merely the work of the Director as such which ultimately matters, but it is equally important 'how many talented scientists have come out of his laboratory'. He stressed that sufficient encouragement, facilities and right atmosphere should be provided to young scientists and their work should receive proper appreciation (CSIR News 14, No. 24, December 28, 1964). ASWIJ fully shares the views of our Vice-President and in a discussion held on 5.2.1965 with him, one of the points raised by the Executive Committee of the ASWIJ, under the heading Recent Designation Changes and its Implications was "Recent Changes in the Designations of Deputy Directors, Assistant Directors and Scientific Officers to Scientists have not helped yet to reduce the bureaucracy in technical administration, since nothing else except mere designation has changed. We feel that the remedy lies in implementing the spirit behind these changes by introducing more democratisation, more freedom in scientific research and defining the responsibilities of each scientific worker to bring out the best of his creative energies". Shri Chagla

fully agreed with these views and wanted ASWIJ to give concrete suggestions for his consideration. It was therefore decided by ASWIJ, to work out detailed suggestions for reorganisation of scientific research in the National Laboratories in general, so as to improve the research activities and output.

ASWIJ is fully aware of the fact that the Governing Body of the C.S.I.R. is the supreme body to lay down policies to be followed in the laboratories of the C.S.I.R. It also recognises that the Executive Councils of the Laboratories should approve of the details of the work to be taken up in the concerned laboratory and lay down policies for each of the laboratories within the framework of the decisions of the Governing Body.

1.1 The present report is mainly concerned with the formulation of certain guidelines and detailed suggestions for work within the laboratories so that the existing maladies in the laboratories (given in detail in Appendix 'A') may be removed and the best of the creative energies of scientific workers may be brought forth for furthering the cause of science and technology. Our views for the reorganisation of scientific research in the laboratories are given below:

1.1.1 Reorganisation of the activities of the laboratories on a project-oriented basis, limiting the number of projects to three or four for any single scientific worker to be associated with, at a time, and

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equitably distributing the projects to scientific workers in the laboratory so that their energies may be concentrated only on those projects with which they are actually associated.

- 1.1.2 Formation of Divisional Committee (Discipline Committees) (D.C.) consisting of scientific workers of certain qualifications and experience which will form the base of research work, with a convener.
- 1.1.3 Formation of a Research Council (R.C.) mainly consisting of the conveners of all the Divisional Committees to act as an Advisory Body for the research activities of the laboratory.
- 1.1.4 Reorganisation of equipment and service facilities (Appendix 'B').
- 1.1.5 Providing incentives for good work (Appendix 'B').

2.0 REORGANISATION OF ACTIVITIES OF THE LABORATORIES ON PROJECT ORIENTED BASIS

The existing system of working within the laboratories has not been able to create an atmosphere suitable for more research output. To overcome these defects the activities of the laboratory should comprise of research and development work, both fundamental and applied formulated as "Projects" having the following features:

- (a) A defined aim to acquire new information over the existing ones in fundamental science and/or in applied technology, or, to develop existing scientific knowledge; or to confirm the existing information where the confirmation is warranted.
- (b) A defined point of starting the work with foreseeable detailed steps of work expected to culminate in reaching the aim with a time schedule and target date.
- (c) A group of workers participating actually in the project along with the

leader of the group, who will be known as project leader. It may be clarified that participants in the project including the leader may be of any rank from more than one division, or discipline, and their official ranks will not stand in the way of participating in any manner. While all the participants will be responsible for the success, progress or failure in the execution of the project, the leader will be responsible for guiding the work at all stages inclusive of the collection of data and publication.

2.1 While the staff members should be encouraged to take initiative in proposing projects, a project may also be sponsored by the industry, Executive Council of the laboratory, R.C. & D.C. for implementation.

2.2 After the constitution of the group, its leader will submit a detailed proposal to the D.C. of the division or discipline in which the major part of the work connected with the project would be carried out. The D.C. in consultation with the R.C. would examine the merits of the project and decide whether or not the project should be taken up. After the project is approved, the work would be taken up. The leader will keep the D.C. informed about the progress of work through purposeful monthly reports.

2.3 No single scientific worker should be associated with more than 4 projects at a time and the projects should be equitably distributed amongst the scientific workers.

3.0 REORGANISATION OF DIVISIONAL ADMINISTRATION

3.1 Existing divisions (or disciplines) in the laboratories or institutions will continue to stay except such changes that may be decided by the R.C.

3.2 Each division will have a permanent continuing body called Divisional Committee consisting of the following:

3.2.1 Members

Membership will be held by the staff of the division having any of the following qualifications:

- (i) The designation "Scientist" with three years of experience in scientific and technical work as "Scientist".
- (ii) M.Sc. or Engineering Degree (B.E.) or equivalent with three years experience in scientific and technical work after obtaining the degree.
- (iii) Doctorate degree in any branch of science and engineering.
- (iv) B.Sc. degree with eight years of experience in scientific and technical work.

3.2.2 Conveners

- (i) Seniorsmost members of D.C. will hold the position for one year; at the end of this period the next senior member would become the convener and this process of rotation would continue in cyclic order.

3.2.3. Functions of D.C.

- (i) The D.C. should meet once a month normally or earlier if necessary.
- (ii) Scrutiny of proposals for projects arising from the divisions; recommendations to project leaders; approval of the proposals; recommendation of interdivisional projects to R.C. for approval.
- (iii) Scrutiny of proposals for project referred to the division by R.C.; arrangement for their implementation.
- (iv) Scrutiny of research papers, reports, patents, etc. for publication and recommendations to the authors, who would not necessarily be bound by the recommendations.
- (v) Review of monthly progress reports

on projects submitted by project leaders; non-obligatory comments thereon.

- (vi) Preparation and submission of quarterly divisional progress reports to R.C.
- (vii) Forwarding of proposals for tour to participate in symposium, annual gatherings of learned societies, training facilities, etc.
- (viii) Proposal for the creation of new posts, filling up of vacancies formulation of matter for advertisement of vacancies, surrender of posts, promotions, etc. to R.C.

3.2.4 Functions of the convener

- (i) To preside over the D.C. meetings;
- (ii) Attending day to day administration of division with divisional office facilities.

4.0 RESEARCH COUNCIL

4.1 Each laboratory will have a Research Council (R.C.) consisting of the following:

(a) Members

- (i) Conveners of all Divisional Committees
- (ii) The Director of the Laboratory
- (iii) Scientist 'F'
- (iv) The seniorsmost member of the divisional council who has to become convener in the coming year from each division.

(b) Chairman

This post will be held by the director of the laboratory in ex-officio capacity.

(c) Vice-Chairman

This post will be held by the second seniorsmost member of the laboratory.

(d) Secretary

Members of Research Council will elect one Secretary each year from among the members of Research Council.

4.2

(i) Functions of Research Council and frequency of meeting

- (a) Scrutiny and arrangement for implementation of projects referred to the laboratory from outside.
- (b) Arrangement of interdivisional co-ordination of work on projects referred to by the divisions.
- (c) Consideration of quarterly progress reports from divisions.
- (d) Maintenance of record of publications from division.
- (e) The R.C. should meet at least once a month.

(ii) Functions of Secretary

The Research Council will exercise its authority through its Secretary who will have a secretariat to carry out the duties entrusted. The secretary will perform the following duties, but not withstanding what is said herein, the power of Research Council will remain supreme.

- (a) Control of the service equipment, maintenance thereof and control of the staff engaged on service equipments.
- (b) Taking decisions on proposals initiated by Research Council itself or forwarded to it by divisions relating to creation of new post, surrender of posts, transfer of staff, advertisement of vacancies, formation of selection committees.

APPENDIX "A"

There is a strong feeling in a section of scientific workers that there is lack of freedom for individual scientific workers in choice of the problem, in planning, execution and publication of research work and results.

There exists a situation wherein one section of the scientific workers exploit another section by virtue of either their seniority or status or both irrespective of their actual contribution to the research work. Some of these irregular and unhealthy practices existing

in the present set up of working system are as below:

- (a) The novel and creative suggestions put forth by a junior worker are not entertained at first and later claimed by the heads as their own ideas.
- (b) In certain projects the head of the division merely acts as a liaison between higher officials, director and other divisions without participating in actual programme of the work and by virtue of this advantage of communication he becomes the principal author.
- (c) Sometimes review articles and popular articles are written by divisional head by utilising the data and information collected by the junior workers without recognising their contributions.
- (d) Regarding the publications, authorship and patents, the worker who has contributed the maximum amount of work in the planning, execution and interpretation of the data, does not get due credit.
- (e) Cases are known where the research reports based on the work of a scientist had not been allowed to be sent for publication and certain projects had to be given up since the divisional heads were not interested in it.
- (f) In the case of outside training or tour, or deputation or attending conference a person who is not concerned direct with the particular job is sent frequently thus depriving the actual worker who could contribute more to the progress of work on that project.
- (g) At present it is generally difficult for a junior worker to take a problem in which his Divisional Head is not associated.
- (h) In the present system unnecessary delays in publication of research reports have put a restriction to the initiative of a worker leading to frustration.

There are lots of other maladies which are not discussed here. The Scientific workers are forced to accept this as they are completely dependent on the head of the department for their future prospects. Such a situation in a research organisation is demoralising to the less privileged groups of scientific workers, with the result that a high calibre of scientific talent has not even built up in the National Laboratories.

APPENDIX 'B'

5.0 ORGANISATION OF EQUIPMENT AND SERVICE FACILITIES

5.1 The R.C. shall prepare a list of such equipment, and instruments (a) services of which are generally essential for metallurgical research in different divisions; (b) duplication of which is not advisable or possible on account of cost, foreign exchange or scarcity. The list should be reviewed every three months for new additions.

5.2 The equipments and instruments in the above list would physically remain with the relevant divisions, but they will be approachable by all project group leaders equally and directly for the purposes of obtaining their service facilities in connection with definite projects.

5.3 The listed equipments and instruments will be placed under the charge of qualified technicians, capable of operating and maintaining them. Their duty would be mainly to operate and maintain the equipments, under the supervision of the R.C.

5.4 The R.C. may advise appointment of some "Scientists" in connection with service equipments for the purpose of:

- (a) Development of indigenous equivalent to imported specialised equipment or parts thereof.

- (b) Development of improved techniques in the use of the equipments.

- (c) Giving expert interpretation of the data from specialised equipment as service to various project groups.

6.0 INCENTIVES

6.1 Publications and patents: (a) After completion of work on a project, the group leader would compile the results for publication in the form of a scientific research paper, or a patent specification or a report for limited circulation. Only the participants in the project would be the authors of the publications. (b) The drafts of the publication complete in all details should be submitted to D.C. and R.C. simultaneously for comments. Leader of the project group would then finalise the draft if necessary in the light of the comments and take steps for publication in journals considered suitable by the project group. In the case of patents, the matter should be taken up through conventional channels. (c) Financial benefit arising out of patents or projects sponsored by outside parties should be shared equally by the participants in the project. (d) Technicians and other auxiliary staff should be given suitable acknowledgement for their contribution.

6.2 Participation in symposia, seminars, and annual meetings of learned societies:

- (a) Proposals for participation as above should be on the basis of presentation of research papers only and concerned authors only would be eligible to participate in the above.

- (b) The proposals should be processed through D.C. to Director.

6.3 Recognition and appreciation of good work should be done by way of promotion, awards and giving increments.

Recruitment and Promotion of Scientific Personnel

R.K. SRIVASTAVA*

(a) The present note on Recruitment and Promotion of Scientific Personnel is one of several periodic essays in this field by ASWI and other bodies. The stated or implied purpose of such notes and the discussions that centre about them is to assure the scientist of at least reasonable service satisfaction and thus avoid the frustrations from which scientists in this country suffer. The word 'scientist' in this context includes technologists and engineers employed in teaching and research organizations ; it appears that those in industry are satisfied, at least, financially.

(b) I do not agree with the postulates of the above note. My reasons follow:

Premises

1. In any research institute the number of higher posts are obviously limited; that is to say there cannot be unlimited expansion and growth has to stop at some stage.
2. This implies that a large number of those who enter service at any level will sooner or later, perhaps sooner than later, find avenues of progress closed to them because there just are not that many posts to satisfy everybody's needs in the Institute.
3. Even taking all the likely avenues of employment for scientists into consideration, e.g., CSIR, Defence, Railways, Industry etc. etc. it is obvious that for

the majority the dead end will come at a fairly low level. As things are at present, a few may rise to the higher echelons in the organization which they first joined in a reasonable period, a few others can achieve the same objective by changing organizations but most will be bogged down.

4. Among those who are bogged down, the person with higher qualifications is more easily the victim of frustration because his expectations (financial, intellectual etc.) are higher.

Conclusions

The premises lead to the following conclusions:

1. Frustration for the many is unavoidable.
2. This is due not to any system but to the existing conditions in the country viz. the extremely poor rate of economic growth over the last 20-25 years as a result of which jobs have not been created at a rate sufficient to provide opportunity to the educated.
3. This is supported by the rise in educated unemployment and under-employment; M.Sc's have applied and been selected for posts of JLAs for which the minimum qualification is I.Sc. with 2 years' experience or B.Sc.
4. In the absence of rapid economic growth, scarcity conditions prevail, i.e. there is a dearth of jobs and a glut of job seekers.

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5. If employers are considered as sellers (of jobs) and job seekers as buyers (of these jobs), it is a sellers' market with the buyers scrambling for the few jobs available; they are willing to accept lower jobs than warranted by their qualifications and ready to try every underhand and unethical means in the process exactly as happens in the buying and selling of scarce commodities.

6. As blackmarketeering, profiteering etc. flourish in scarcity conditions, it is not surprising that unethical practices are resorted to for getting a job or a promotion. It is only under these conditions, that an influential second class M.Sc. can, for example, be selected as SSA by the same selection committee which sees nothing unusual in offering a mere JRF to a first class but uninfluential candidate.

7. The situation can only be improved when the economy becomes dynamic and jobs are created faster than the educational institutions can turn out qualified people to fill them.

8. In the current context the rate of producing scientific and technical graduates is completely out of balance with the requirements of the economy thus aggravating an already desperate situation.

9. In the absence of at least as many suitable jobs in the country as there are qualified job seekers, it is evident that both recruit-

ment and promotion are not so much methods of assessing fairly the merit of a candidate as a cover for doling out patronage. It is axiomatic that under these conditions all the evils that flourish presently in our recruitment and promotion, are inevitable.

10. The opposite situation is seen in Europe and the USA for example.

11. In the absence of comparable conditions, suggestions for improving recruitment and promotion procedures are ignored.

12. The only reasonable solution would appear to be to do away with the multiplicity of grades that exist at present. There could be just one or two scales into which every one would be fitted according to his qualification and experience and nothing else. For example: B.Sc. 300-600, M.Sc. (or equivalent in engineering) 500-1,000, Ph. D. 700-1,500. A few with exceptional abilities would go to the highest echelons of service but the majority would be assured of satisfactory wages and, constant preoccupation with financial problems having been eliminated, they could settle down to pursue their scientific and technical interests. There would always be some rotters and shirkers who would think that now that the financial future is secure why work, but their number would be too small to cause any serious problem: the majority have their hearts and minds in the right places.

Obstacles to Availing of Study Leave by Scientific Personnel and their Remedy

Memorandum submitted to D.G.S.I.R. by the Central Food Technological Research Institute, Mysore Branch of Association of Scientific Workers of India, on August 1, 1967.

1. Introduction

In the interests of efficiency of work, scientific productivity and improved utility of employees to an organization, it is logical that study leave should be liberally granted to scientific and technical personnel. The Second Pay Commission recognized this and recommended that study leave should be liberally granted to such staff and that they should even be encouraged to avail of such facility. The Government of India accepted the recommendation.

Unfortunately, the provisions for study leave in Government rules have, for the most part, remained on paper. The fact, for instance, that not a single person was granted study leave by the Central Food Technological Research Institute, Mysore during the past several years, is evidently not an isolated situation. This appears to be the situation prevailing in all the laboratories of CSIR and elsewhere.

The chief reason of the above is the existence in the Study Leave Rules of certain faulty provisions which, along with their faulty interpretation, tend to defeat the very purpose of the rules. The following analysis seeks to point out these defects and to suggest remedial measures:

2. Defects in the Rules and their remedy

2.1 Restrictions about —‘academic subjects’

2.1.1 The first provision in the rules that merit our attention states, “Study leave shall not be granted unless it is for prose-

cution of studies in subjects other than academic or literary subjects”.

2.1.2 It is difficult to understand from this phraseology what exactly are the types of training where provisions of study leave rules are sought to be inapplicable. One can hardly think of any subject of study or training which cannot be defined as ‘academic’ *per se*, nor can it be contended that courses of study in pure sciences like Chemistry or Microbiology connected with an employee’s nature of work, are so academic that they will not directly benefit his capacity to be useful to his organization and will not be of definite advantage from the point of view of public interest.

2.1.3 In practice, however, the words ‘academic subjects’ have been interpreted to mean study courses leading to University or other degrees, so that study leave is refused whenever the intended study leads to a degree. The fallacy of this argument is obvious. It cannot be contended for example, that subjects like Agriculture, Pharmacology, Chemical Technology or Food Technology, which are becoming justifiably subjects of university degree courses, and training in which would be otherwise desirable, would become ‘academic’ whenever training in them is conducted as part of university degree courses but would be ‘unacademic’ otherwise.

In this connection, it is interesting to note

in the provisions of the rules that it is required, while applying for study leave, to specify the "...courses of study contemplated and any examination which the Government servant proposes to undergo...". Also, "on completion of a course of study, a certificate in the proper form together with certificates of examination passed....." have to be submitted. Evidently, undertaking an examination (and presumably passing it) is not considered objectionable. Clearly then, any degree that accrues from it should also be unexceptionable. A degree, moreover, is nothing but a "certificate of examination passed." The widespread practice by administrators, while considering the admissibility of study leave, of judging a course of study as academic or otherwise by the criterion of whether it leads to a degree or not, is therefore quite fallacious. Apparently, this originates from a confusion about the true intent of the phraseology 'academic subjects' which, as mentioned earlier, is not at all clear and has never been clarified.

It must also be remembered that this interpretation, fallacious as it is, becomes in actual practice a handy tool for refusing study leave, for specialized courses other than leading to university degrees hardly existing in the concerned fields of study.

2.1.4 Finally, it is paradoxical to note the following justifiable provision in the study leave rules: "Study leave may also be granted for a course of training or study tour in which a Government servant may not attend a regular academic or semi-academic course if the course of training or the study tour is certified to be of definite advantage to Government from the point of view of public interest and is related to the

sphere of duties of the Government servant".

By clear implication, study leave is normally to be granted only for attending a regular academic or semi-academic course, whatever that may mean. The only apparent distinction between this and the earlier provision is between an academic 'subject' and an academic 'course,' the meaning of which is known only to the framers.

2.1.5. In view of what has been said above, it is necessary that Government should clearly define the exact scope or interpretation of the phraseology 'academic or literary subjects' and specifically clarify that the widespread interpretation of the term 'academic' as a course of study leading to a university degree, is incorrect. Alternatively, or additionally, Government should omit this provision in respect of scientific and technical staff:

- (i) as one way of giving effect to the following recommendation of the Second Pay Commission accepted by the Government of India, "Study leave should be liberally granted particularly to scientific, technical and administrative staff, and that, in suitable cases, the staff should even be encouraged or advised to have such leave", and
- (ii) in view of the fact that the following provision is sufficient to ensure the usefulness of the study leave to the organization granting such leave: "Study leave shall not be granted unless it is certified by the authority competent to sanction leave that the proposed course of study or training shall be of definite advantage from the point of view of public interest".

2.2 Restrictions on non-gazetted staff

- 2.2.1 The second provision in the rules that concerns us states: "Study leave shall not ordinarily be granted to a Government servant who does not hold a gazetted post under Government".
- 2.2.2 There may or may not be justifiable reasons in granting study leave ordinarily to gazetted staff only. In the case of scientific/technical personnel, however, it is the Junior staff whose need to improve their qualifications, is more and even imperative in terms of their eventual usefulness to the organization, employing them. The CSIR and other scientific organizations should, therefore, omit this provision in respect of scientific/technical staff as yet another way of giving effect to the recommendation of the Second Pay Commission quoted above. The word 'ordinarily' appearing in the provision, is not enough for this purpose, because of the well-known tendency of the administration to give more weightage to restrictions than to facilities.
- ## 2.3 Restriction on duration of study leave
- 2.3.1 Another relevant provision of the study leave rules states: "The maximum amount of study leave which may be granted to a Government servant shall be (i) ordinarily twelve months at any one time which shall not be exceeded save for exceptional reasons, and (ii) twentyfour months (inclusive of study leave granted under any other rules) in all during his entire service".
- 2.3.2 These provisions would normally appear to be unexceptionable, but actually preclude certain legitimate needs from coming under the purview of study leave. It is known that a very large proportion of the scientific and technical staff employed by the scientific

organizations of the country, are only B.Sc.'s (a recent study had placed the figure at nearly 50% for CSIR). From what has been said earlier, it is distinctly desirable that opportunities should be provided for these persons to improve their scientific and professional qualifications by grant of study leave to undertake university post-graduate courses or its equivalent. But, undertaking post-graduate courses on study leave, is precluded at present, apart from other reasons, by the above provision of the maximum amount of study leave being restricted to one year at any one time. The scientific organizations of the country should, therefore, omit this restriction also in respect of scientific personnel and permit study leave up to two years at a time.

3. Conclusions

Although the recommendations of the Second Pay Commission quoted above and accepted by the Government of India relating to granting study leave liberally to scientific/technical staff, is a very laudable one, there seems to be no specified machinery by which this principle will be given effect to. CSIR and other scientific organizations should consider this matter and devise concrete provisions of giving effect to this recommendation.

At present, this recommendation not only remains unimplemented, certain unreasonable restrictions and certain confusing phraseology in the rules and their faulty interpretation, as cited, actually impede the utilization of the provision for study leave. This should be remedied along the lines suggested.

References

1. Compilation of the Fundamental Rules and the Supplementary Rules
(Contd. on bottom of page 16)

Need for abolishing the grade of Scientist A/A1, Junior Scientific Officer/Technical Officer

Memorandum submitted to D.G.S.I.R. by C.F.T.R.I., Mysore Branch of Association of Scientific Workers of India

It is understood that in a conference of the Directors of CSIR Laboratories at the end of October 1963, it was generally recommended that the post of JSO/JTO (Scientist A/A1) be abolished and the existing posts of JSO be gradually converted into the two categories of SSA/STA and SSO-II (Scientist B). The recommendation was apparently accepted and put into action, for there appeared, since then, few advertisements, if any, for Scientist A/A1 from the CSIR laboratories (none from CFTRI, Mysore). Also, since that time till date, there have been several batches of interviews and selections in the CSIR laboratories involving SSA's, in most of which all the successful candidates were promoted directly to Scientist B, bypassing the grade of JSO. (For instance, in CFTRI the 18 SSA's that were promoted by selection during this period were all promoted to Scientist B, and none to Scientist A/A1).

Meanwhile, as the 5-year assessment for promotion rule came into operation in CSIR, it was expected that the SSA's by the above token, would, if found eligible after assessment, be promoted to Scientist B. However, it now transpired that the earlier decision was merely a recommendation and that the post of Scientist A was not in fact abolished, because of which, by the promotion rule, SSA's could be promoted only to Scientist A. This has indeed happened recently in all the CSIR laboratories. (For

instance, in CFTRI, 10 SSA's recently promoted, by this rule, have been all placed as Scientist A/A1).

This, by any account, is a most regrettable and reprehensible situation. The legal validity of the situation cannot indeed be questioned, but morally it must be condemned. SSA's for whom suitable vacancies could be found, got promoted to a higher grade, Scientist B, through a selection board after as little as 2 or 3 years of service as SSA. For instance, out of the 18 cases thus promoted in CFTRI during 1964-67, mentioned above, 8 were in SSA post for 3 years or less, 6 for 3-5 years, and 4 for 5 years or more. But the 10 eligible SSA's (whose eligibility was subsequently proved by the assessment) who had to wait, for no fault of theirs, in that grade for a *longer period* (over 5 years) because of the absence of a suitable vacancy, got promotion only to a *lower grade*, namely Scientist A/A1, after the assessment. The situation in other CSIR laboratories is similar, but is not cited here because of the absence of accurate statistics with us.

To rectify this discriminatory situation, it is essential that the earlier proposal should be accepted and the post of JSO abolished forthwith. It is also essential that those SSA's who were recently promoted to the post of Scientist A/A1 by the 5-year rule, should be elevated to the Scientist B grade with retrospective effect.

(Contd. from page 15)

- 2nd. Edition, 1963, pp. 179-180, 551-558.
2. Notes on Financial Rules, Secretariat Training School, Ministry of Home Affairs, Govt. of India, May 1966, pp. 37-42.
3. Report of Commission of Enquiry on Emoluments and Conditions of Service of Central Government Employees, 1957-59, Ministry of Finance, Govt. of India, pp. 430-432.

ASWI ACTIVITIES

Mysore Branch

Evolving a Rational System of Recruitment and Promotion for Scientific Personnel

Till August 1967, about 50 answers to the questionnaire on this subject, issued in the middle of the year, have been received; at least 25 more are expected as judged from our correspondence. Considering that this is not an opinion poll but request for very comprehensive and highly specialized suggestions, the response has been satisfactory. Several directors and other important persons are among those who have responded. Many valuable suggestions and several highly illuminating and critical discussions have been received.

Meanwhile, a comprehensive letter informing about our effort with full details, and requesting for cooperation and assistance, was addressed to the Prime Minister, the Education Minister, the Scientific Advisory Committee to the Cabinet, the Parliamentary and Scientific Committee, the Cabinet Secretary, the Indian Science Congress, the Indian Academy of Sciences, the National Institute of Sciences, the Administrative Reforms Commission, Editor, Science & Culture, Editor, Journal of Scientific & Industrial Research, etc. On a request from the Cabinet Secretariat in response to this letter, 25 copies of all relevant papers have been forwarded for study by the Members of the Scientific Advisory Committee to the Cabinet.

Other Studies

Following from the meeting of the Branch delegation with Dr. Atma Ram, DGSIR, on 24 March 1967 (see report in *Vijnan Karmee*, Feb.-March 1967), the Branch had undertaken very objective study and analysis of several issues raised with the DGSIR. Studies

on the following two items have been completed :

1. Study leave for scientific personnel
2. Abolition of Scientist 'A' posts.

Detailed Memoranda on the items (see pages 13 to 16 in this issue) have been recently forwarded to the DGSIR. The memorandum on Study Leave has also been sent to the Administrative Reforms Commission, and will be sent to the Union Government and other science agencies in the country as well. Study of the other issues raised with the DGSIR, is continuing. In addition, the Branch is presently conducting careful study of the following topics:

1. Suitability of the Confidential Report system as a means of assessment of scientific personnel,
2. Problems of temporary Scheme personnel,
3. Problems of Research Fellows.

Analysis of the first two of these items are nearing completion.

Amending the ASWI Constitution

This subject was referred back to the Branch by the 20th Council, for further study (see *Vijnan Karmee*, Feb.-March 1967). On careful examination by a small study group, it has been felt that a much more extensive revision of the Constitution than previously envisaged, is called for. The work is almost complete and the revised draft will be ready shortly. In view of the extensive revisions involved, it is felt that printing the original as well as the revised draft, side by side, will be necessary to enable the Branches as well as the members to consider the changes carefully.

Letter to Prime Minister

In view of press reports that the Prime Minister intended to meet 'younger scientists' to discuss the country's scientific problems, the Branch addressed a letter to her indicating its stand on the issue. The main points impressed were: (a) it is not 'younger' scientists as such that is important but active and socially conscious scientific workers; (b) obstacles to the establishment of science should be the immediate topic for consideration rather than planning, priorities and organization; and (c) a better course would be to call a national symposium of scientific workers to discuss the problems of science in the country, which the ASWI (Mysore Branch) would be glad to organize if assisted financially.

Meetings News

The Branch Executive Committee met six times, till August, this year. One general meeting was arranged.

Sixteen members passed the post-graduate Certificate Course in Russian Language of the Mysore University, classes for which were arranged in the CFTRI through the effort of the Branch.

Jamshedpur Branch

The following members have been declared elected as the Office Bearers of the Executive Committee of Association of Scientific Workers of India, Jamshedpur Branch, for the year 1967.

<i>President</i>	Shri P.K. Gupte
<i>Vice-President</i>	(i) Dr. J.K. Mukherjee, (ii) Dr. Ved Prakash
<i>Secretary</i>	Shri P.C. Sen
<i>Jt. Secretary</i>	Shri S.P. Das Gupta
<i>Members</i>	1. Shri S.C. Aush, 2. Shri S.P. Bhadra, 3. Shri B. Chatterjee, 4. Shri B.M. Dutta, 5. Dr. A.K. Lahiri,

6. Shri S.B. Mondal,
 7. Shri Narinder Singh
 8. Shri K.S. Rajan,
 9. Shri K.N. Rakshit,
 10. Shri P.R. Shastri,
 11. Shri C.R. Tiwari,
 12. Shri A.N. Sinha,
 13. Shri B.V.S. Yadavalli,
- : Shri S.K. Ray

*Treasurer***Hyderabad Branch**

In the General Body Meeting held on July 27, 1967 the following were unanimously elected for the Branch Executive for the current year.

- | | |
|----------------------------------|-----------------------|
| 1. Dr. E.R. Saxena | <i>President</i> |
| 2. Shri P.S. Kolhatkar | <i>Vice-President</i> |
| 3. Shri Sirajul Husain | <i>Secretary</i> |
| 4. Shri P. Jagan Mohan Reddy Jt. | <i>Secretary</i> |
| 5. Shri J.P. Misra | <i>Treasurer</i> |

EXECUTIVE COMMITTEE MEMBERS

1. Dr. Kameshwari
2. Shri A. Upendra Rao
3. Shri Sunderamiah
4. Shri Murlidhar
5. Dr. K. Narainswamy
6. Dr. M.A. Sivasamban
Ex-officio member
7. Dr. H. Dakshinamurty

—do—

The following procedure was laid down for the revival of the Branch activities and for its effective functioning:

1. To draw a detailed but foreseeable and realisable schedule of activities for a period of one year.
2. To widely publicise the objects of ASWI through a brochure.
- 2.1 To circulate a short historical note highlighting the past activities of the Branch.
- 2.2 To arrange talks by senior members who have had a close association with ASWI.
3. To enrol members in a large number through personal contact.

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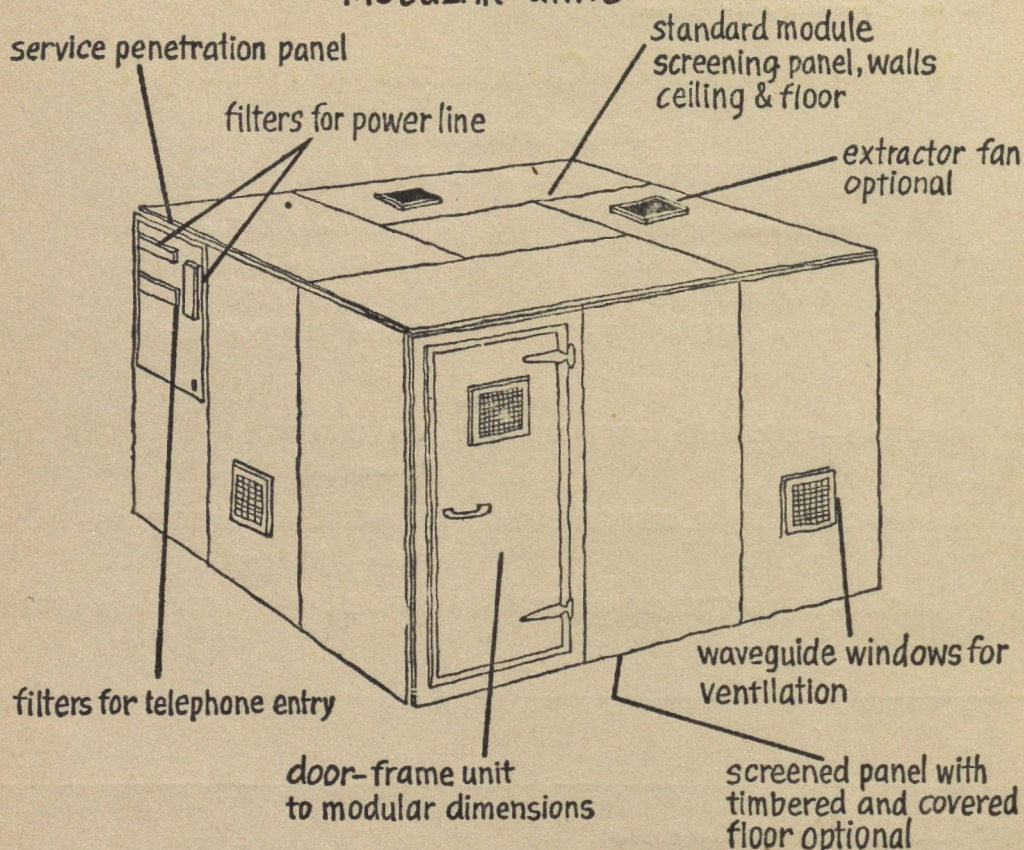
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