

If the efforts are not observed in working movements but in the small movements of everyday behaviour as in the way a person sits, stands, or the odd movements a person might show in his or her facial expression during idleness or conversation, one will find the same contrasts. One individual may fight against and the other indulge in all the motion factors. The personality expressed will be quite different in the two cases. The person with free flowing, light, sustained and flexible muscle movements will be quite different from the other who shows controlled flow of motion together with strong, quick and direct movements. To call one gentle and the other energetic is a very poor rendering of the real facts.

It seems that the only thing one can do is to renounce all psychological terms, especially as there exist an almost infinite number of combinations of every degree and shade. This makes clear the advantage of using the compound signs with the great variety they can show rather than verbal descriptions. Words cannot express the precise degree to which an individual neglects or prefers the different motion factors.

The personality value of the characteristics shown in everyday behaviour has, however very real significance if we want to assess the ability for intellectual work, work which consists of mental exertion, as for instance in administrative activities in business or artistic occupations. The 'indulger in' all the motion factors will have a greater ability for delicate mental operations, while the 'fighter against' all the motion factors will be able to deal with mental work in which quick decision and accuracy are demanded. Yet one must never forget that these absolutely fundamental types do not exist; they are illustrations only of the two basic compound symbols.

Notes

- 1 *E*, Chapter 3, pp. 14–24.
- 2 *Ibid.*, Chapter 4, pp. 25–42.
- 3 *Ibid.*, Chapter 5, pp. 43–50.
- 4 *Ibid.*, Chapter 7, pp. 62–75

Chapter fifteen

Answers to Ten Questions on Industrial Rhythm (early 1950s)¹

1. WHAT IS THE MAIN PURPOSE OF INDUSTRIAL RHYTHM?

To introduce Rhythm Study into industry as a simple and efficient instrument of control and production and of welfare during work.

2. BY WHAT PRACTICAL STEPS DOES INDUSTRIAL RHYTHM HOPE TO ACHIEVE THIS AIM?

Through a special method of movement observation yielding exact characteristic of the capacities needed for each job or activity occurring in an enterprise.

The same method of movement observation serves also as a testing method without instruments for selection and assessment of effort.

The method of movement observation makes it further possible to determine the best cure for personal deficiencies as well as to detect inadequacies in the material rhythm of any working procedure.

Instruction and training of newcomers and apprentices can be shortened and intensified by taking the results of the job movement observation into account.

Where rehabilitation services are introduced, the study of job rhythm can be of great help in several respects.

Specific ways of occupational therapy through movement training can be detected and the progression from job to job according to the improvement of the functions can be rationally regulated.

3. IN WHAT WAY DOES THE MOVEMENT OBSERVATION OF INDUSTRIAL RHYTHM DIFFER FROM THE USUAL FORMS OF MOTION STUDY?

In emphasising the study of rhythm.

Utilising an original form of recording, the analysis of the observation is simpler and less expensive than the usual forms of Motion Study because it requires no instruments, laboratory tests, films, etcetera, and because it can be effectuated without disturbing the observed persons at their job.

Industrial Rhythm records the full activity of the operator when handling specific objects and using specific tools.

If it is possible to record with the same notation the efforts of persons engaged in non-operational activities, for example, activities of office personnel.

4. WHAT ARE THE ADVANTAGES OF RHYTHM OBSERVATION?

In *Rhythm Study* much more than only series of single movements is observed. The investigator endeavours also to trace the relationship between the movements, because a harmonious coordination of movements is the first condition of skill and efficiency and for the decreasing of unnecessary and harmful exertion.

While *Motion Study* is usually only concerned with average skilled performance and does not allow for above average potentialities, *Rhythm Study* can and must take into consideration all such potentialities. It aims at increasing the skill of the below average worker as well as that of the average work to a higher level.

5. HOW IS INDUSTRIAL RHYTHM INVESTIGATION CARRIED OUT IN A FACTORY?

An observer visits the factory in order to assess the characteristics of the capacities needed in each job or operation in a given department. This is done by comparing the individual effort-rhythm of the present personnel.

The time needed for this investigation depends upon the kind of work, the number of jobs and the number of persons engaged.

The observation is unobtrusive and does not in any way interfere with the normal flow of work.

The progress of the investigation is discussed at regular intervals with the leading executives. Finally a definite list of job characteristics, together with recommendations for measures of ensuring the rational expending of efforts, is handed over to the management.

6. HOW CAN PEOPLE BE INSTRUCTED IN THE RATIONAL EXPENDING OF EFFORT?

By making them aware by discussion of operational details and, if necessary by movement training of the importance of harmony and rhythm as a means of achieving better and easier performance and of avoiding strain and fatigue.

Standard methods elicited through movement observation are not rigidly imposed. The individual optimum of performance will be best decided by mutual discussion and trial.

7. IN WHAT CASES IS MOVEMENT TRAINING NECESSARY?

Movement training is used mainly for female workers and boy apprentices, as an instruction for newcomers, as a compensation for one-sided strain, as a remedial measure in rehabilitation, and in other cases where physical capacities, for example, lifting power are not equal to the task.

8. ARE INSTRUCTIONS AND MOVEMENT TRAINING CARRIED OUT IN WORKING HOURS AND, IF SO, HOW MUCH TIME IS NEEDED?

Instruction and training must definitely form a part of the working day. Time needed depends on the individual cases.

As an example, one could say that apprentices should receive daily training. Compensatory training time will vary according to the degree of strain, while as a remedial measure training should take place in slight cases twice or three times a week, in more serious cases daily.

The average training time per session will vary between thirty and forty-five minutes.

9. WHAT WILL BE THE REACTION OF THE PERSONNEL TO THE INTRODUCTION OF RHYTHM AND HARMONY INTO THEIR WORK?

It will be necessary for everybody to understand that even in highly mechanised enterprises the real basis of industrial efficiency is well-balanced human effort and collaboration.

It must be further understood that any action has a definite rhythm. In skilful performance the single parts of the action are harmoniously connected and follow each other in easy flow.

True automation, an important feature of skill, is only pos-

sible where the rhythmical qualities of the action are perfectly assimilated.

Work requiring free decision will also be best done by people who are able to coordinate rhythm and harmony in their efforts.

This refers to handwork and brainwork equally.

In giving to everyone concerned the opportunity of experiencing the physical and mental benefits of effort regulation in work, a favourable reaction can be expected, provided sufficient support of the management is given to the scheme.

10. COULD INDUSTRIAL RHYTHM BE CALLED A BRANCH OF WELFARE?

Yes and no, because if the striving for rhythmical perfection is fostered, both the enterprise and the individual collaborating in it draw equal benefit.

Rhythm in industry is an essential element of welfare as well as an essential implement of production control.

Note

- 1 In JHA, Box 24, Folder 18, Item 11f [photocopy of a four-page typescript].