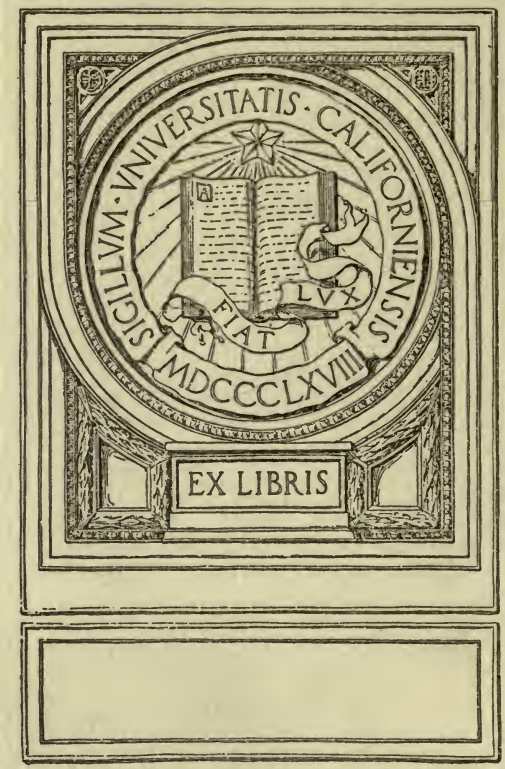
STUDIES IN COMMERCE—I.

THE TRUE BASIS OF EFFICIENCY

DICKSEE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London School of Economics & Political Science
(University of London)

STUDIES IN COMMERCE

Editors: Sir W. H. Beveridge, K.C.B., M.A., B.C.L.
and Professor A. J. Sargent, M.A.

Volume I.

THE TRUE BASIS OF EFFICIENCY

The True Basis of Efficiency

BY

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Prefatory Note

to the first volume of "Studies in Commerce."

Some addition to the specialised literature of Commerce is the natural and inevitable outcome of the institution by the University of London of the new degree in Commerce. The syllabus for the degree involves both the development of new subjects and the re-shaping of material already available but ill-adapted for the special purpose in view. The adequacy of the syllabus to the needs of the student provides one measure of the value of the scheme; a far more important measure is to be found in the facility with which the student can grasp the matter dealt with in the syllabus. The most perfect syllabus, on paper, is of small value in the absence of the proper equipment for its handling. Such equipment, on the academic side, consists in the main of lectures and books. A good text-book provides a framework around which the complete structure can be erected. Without such a frame, the pressure of time reduces criticism and explanation to a minimum; a lecture, at the best, tends to become a mere lifeless recapitulation of those essential facts which are far better studied in more permanent form in print. The student, too, who must perforce devote much of his scanty working hours to laboriously chasing information through scattered sources, has little energy left for thought or under-

standing of the real problems with which he is faced. Time spent in the unnecessary collection of data is time wasted.

It is, therefore, essential to the complete success of the scheme of Commerce Degrees to provide not merely text-books, but text-books specially adapted to the various parts of a somewhat elaborate syllabus.

On some subjects, a literature exists sufficient in quantity, though not always in the form most suitable for the student of commerce; in others there is nothing whatever which can be used as a summary or working basis. This is notably so in regard to the trade and the local economic organisation of many countries or areas within the scope of the syllabus, while there are also wide gaps to be filled in the literature dealing with special aspects of industry, trade and shipping. To fill such gaps is one purpose of the series. There are other purposes, however, almost equally important.

The series may be regarded as an offshoot, a development on special lines of the existing series of general studies in Economics published by the School, the limits of the offshoot being laid down by the syllabus for the degree in Commerce. Within these limits there is a wide field, and the provision of text-books, though important, represents only one side of the work to be carried on. The formal text-book is necessary, but tends in use to produce mechanical methods. Such tendency may be corrected in lectures, but there is room in a series of text-books for occasional studies of wider or deeper range, on special problems, or for a critical treatment of existing literature as a guide to methods of study. Here, too, the written may supplement the spoken word; it may take the place, among a wider public, of the lecture or discussion. The main purpose of such studies must not be so much to inculcate facts as to produce an attitude of mind, to encourage sounder and deeper thought in the handling of existing material.

The term efficiency has become a catchword; the problem of efficiency pervades both industry and trade. It is essentially modern and up-to-date. Moreover, it possesses a literature amply furnished with pitfalls for the unwary reader. The need is not so much for text-books as for criticism of text-book learning. It is into this class that Professor Dicksee's volume, the first of the new series, falls. It is hoped that others of like kind will appear from time to time as the pile of the more formal volumes increases.

W. H. B.

A. J. S.

To the millions of Mothers of Britain,

Who for four long years or more

Steadfastly endured

The almost unendurable,

I dedicate this book.

Teach its message to your children—to those of them who survive:

"God is Light, and in Him is no Darkness at all."

"Ye cannot serve God and Mammon."

"Work while it is day, for the night cometh when no man can work."

"He that endureth to the End, the same shall be saved."

Contents

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Preface

The object of this book is to suggest that what we do is primarily the result of what we are, and that, therefore, the efficiency, or otherwise, of our actions will be determined in the main by what we are ; that the habit of Right Thinking must be formed before we can expect Right Doing ; that Character and Vision are the Bed-rock of all true Efficiency.

The book comprises four lectures delivered by me during the session 1920-21, reproduced very much as originally delivered. I put forward no claim to have exhausted the subject ; I think it best first to see whether we can agree as to what constitutes " The True Basis of Efficiency " before proceeding to elaborate in detail as to how that state may best be attained. To the objector, who thinks that he has disposed of my case by pointing out that I have mixed up religion with business, I would say : " Are you so satisfied with things as they are that you find it impossible to believe that we may have been travelling along the wrong road ? " We have had plenty of materialism in the past, but it has not led us within sight of True Efficiency. Is it too late to try " A More Excellent Way ? "

LAWRENCE R. DICKSEE.

11*th November* 1921.

"A Scorner seeketh Wisdom and findeth it not; but Knowledge is easy unto him that understandeth."

Introduction

EFFICIENT ADMINISTRATION.*

"Your heavenly Father knoweth that ye have need of all these things. But seek ye first the Kingdom of God and His righteousness; and all these things shall be added unto you."

The choice of the subject of my lecture to you this evening has been that of your Chairman, and I am particularly glad it has been so, because it struck me as being one of the most useful subjects for a single lecture, where the aim is necessarily not so much to convey exact information as to inspire interest in a course of study. Our present subject—the vital importance at the present time of efficient administration—is a particularly happy choice for those studying accounts, because there is rather a tendency on the part of those in charge of the accounts of an undertaking to adopt the attitude of the disinterested spectator. This attitude is quite a proper one for accountants from one point of view, but the tendency is rather for the accountant to regard himself as

*A lecture by Professor Lawrence R. Dicksee, M.Com., F.C.A., at a meeting of the London Branch of the School of Accountancy Students' Association, at Essex Hall, Essex Street, Strand, London, on Thursday, 16th September 1920.

someone cut off from the actual business, instead of being a co-worker. The place where the accountant does his work is called the office. The place where the outside people do their work is called the warehouse, the works, or the factory. In South America, the name given to the works or factory is "officina." The words "office" and "factory" really mean the same thing—the place where the work is done; but the fact that we use the words "office" and "factory" as implying two quite different things shows, I think, that we have got in our minds a sort of close partition between the accountant's work and the work of the practical business man. Few people realise that "office" is really the same as "factory." It is, therefore, worth our while now and again to get more closely into touch, in mind and in spirit, with the workers.

Efficient administration, as suggested by the title of my lecture, is a prime necessity for Britain's economic recovery. The use of the word "recovery" suggests that one has to recover from something; that there has been ground lost, and that we have got to win it back. We all know that that is so, as compared with 1914. There has been great wastage of property, many persons have been diverted from production, stocks of essential commodities have been brought low, credit and exchange disorganised, transport facilities rendered inadequate, and, worst of all, the morale to-day can only be described as deplorable. It may seem out of place, now that the war is over, to hark back to it and call up painful

memories by use of similes suggestive of war. I will come to that point later, but at the moment I may say I am doing it deliberately, because I think it the only useful way to approach our subject.

When the Armistice came, the idea, as put forward in the newspapers, was that the men should come back and get to work and achieve the economic recovery that we all felt was necessary. They came back—all but the best of them—but they have not done much else. The appeal made to them to get to work and repair the wastage of war was not so very absurd when we bear in mind the claim put forward for some years before on behalf of organised labour, as being the sole producer of all the wealth in the world ; but we have to take things as they are. Whatever our precise shade of political views may be, we must admit that efficient direction is not now conspicuous among the workers. If labour was now trying to do its best towards economic recovery, it might be reasonable to admit the claim that labour is the source of all wealth. But what at the present time is organised labour doing ? To a very large extent we must all agree that it is using its organisation to withhold production, with the result (whether it is intended or not) of creating a further shortage. The appeal to labour to repair the wastage of war has so far had no good effect. My suggestion to you this evening is that to a large extent the failure is due to the appeal having been made, I will not say to the wrong parties, but in the wrong way—direct to labour, instead of being made through

administration. Labour can do great things, but little or nothing without guidance. That guidance it is the function of administration to provide.

If we pause to consider for a moment what the word " administration " means, we find that it still further reinforces that idea. To administer is to render aid or service. Such administration will be efficient when it achieves a desirable result, and it will, in the main, consist of doing the right thing, in the right way, at the right time.

It seems to me that efficient administration has two aspects, material and spiritual. In each of these aspects it should be educative rather than directional. It suffers very often from the wrong assumption that authority of itself gives knowledge. If we take the view that administration represents the leading force in connection with all useful work, we shall see that it cannot be effective if it always operates from the rear. One can drive from behind, but one cannot lead from behind ; and, in so far as leadership is necessary, the rank and file, no matter how able they are, can do very little without leaders. Here you see I come across the military simile again. It is difficult to speak on the subject in any other way. Perhaps some of you may wonder why I use terms recalling these unpleasant things. It is because I think it is essential to Britain's economic recovery for us to remember that we are still at war, and that we shall always be at war so long as the world lasts. If we are not warring against one thing we are against another. Just now we are at war against ignorance

and sloth, and without that kind of war there can be no progress.

If administration represents enlightened leadership, it may give very good value to the rank and file by enabling them to concentrate upon their own particular job. We all know that there are men in a small way of business who are never free from worry, who never make good ; men who would be far better off as employees, simply because they have no administrative ability. If we were to abolish administration, all employees would be in that position, save the few that had administrative ability.

One of the functions of administration is to find a job suitable for each member of the rank and file. By that I do not mean to find a job in the sense of creating positions that are paid for whether there is any use for them or not. I mean, considering the work that has to be done, resolving it into its constituent parts, finding out the qualities required for the performance of each separate part of the work and distributing that work among the workers in the best possible way—staff selection it is sometimes called. And hand-in-hand with staff selection goes, or should go, staff training.

The old-fashioned method of managing a business, I need hardly remind you, was—and to a large extent it still is—to call out for qualified workmen, and then to grumble at those who offer, and complain that they are deficient. The last thing the old-fashioned administrator ever thought of doing was to train his

staff; he expected them to come to him ready trained. If it were possible for them—I do not mean exceptional individuals, but as a whole—to train themselves in the best possible way, that would be reasonable, but a little enquiry into facts is sufficient to show that it is not possible. It is only the exceptional man that can achieve any reasonable standard of competency by being self-taught in whatever line of activity we may choose to think of.

Being self-taught means picking up your ideas as you go along by observing others, and, in the vast majority of cases, without the possibility of observing the best people. It is a system which, under the most favourable conditions, serves to perpetuate mediocrity, and very often it does much less. That is what, as a nation, we have been very much in the habit of doing with regard to those kinds of things that, after all, make up the prosperity of our country. How little in our heart of hearts we believed it to have been an efficient system is shown by the fact that we never think seriously of adopting that method in connection with our games. Boys at school do not pick up cricket and football; they are taught them. The man who wants to play bridge without losing his money takes lessons. If a man wants to excel at golf he takes lessons from a professional. We always appreciate the importance of training and teaching in connection with our amusements. Directly the matter is in any way within the range of athletics we realise that training is something rather apart from teaching, and perhaps even more

important, and we recognise that good results cannot be produced unless we live the life that makes it possible to produce good results.

Then another point. Directly we want to achieve something more than the mere passing of the time by these recreative pursuits, we take—and young people come to it instinctively—a very great interest in records. The average schoolboy knows a great deal more about the statistics of cricket, and attaches a great deal more value to them, than the average business man knows of statistics in connection with his own work. Of course, everything can be overdone. We can devote so much attention to burying our heads in figures and statistics that we really have no time left to look up and see what is going on ; but it is very important that we should study what is happening, because only by that means can we possibly tell what it is reasonable to expect.

You will, I am sure, all bear me out, when you come to think of it, when I say that there is a general tendency for us all to be too easily satisfied with our achievements—not perhaps all our achievements, because we most of us probably have some particular thing that we are careful of and doubtful about, and perhaps that is the very thing we do best ; but with regard to most of the things we do, or ought to do, we are quite satisfied that we do them well.

There are various ways, of course, of testing whether a thing is done well or badly. Some are

easier than others, but just as an illustration—and only as an illustration—let us try the test of speed.

In connection with practical business it is obvious that in the long run the remuneration of the worker has to be provided out of the work produced, and it is clear, therefore, that speed of production is a matter of importance. It is not a matter we can afford to overlook, although, like everything else, it is an idea that can be overdone. In regard to this question of speed—because it is the one aspect of the matter that I can put before you in a more definite way than any other—I should like to draw your attention to a few figures. Men employed in shovelling coal from one place to another were found to average, doing it in their own way, 16 tons of coal per day, but when they had been taught how to do it they were able to shovel 59 tons per day with less exertion. Bricklayers, left to their traditional methods, were in the habit of averaging 120 bricks per hour, but when taught how to do it they could readily lay 350 per hour. Compare that with the number of bricks laid *per day* in this country at the present time.

Now let us get on to something perhaps more within the practical experience of many of you here this evening. Supposing someone is regarded as a competent typist ; that very likely means he, or she, could average on fairly straightforward work from 40 to 45 words per minute. That is not bad typing. At the present time, to the best of my knowledge, the world's record is 143 words per

minute. In shorthand, the shorthand clerk varies his speed more than the typist ; it may be anything from 80 to 120 or 130 words a minute. The world's record is 322 words per minute. I am not suggesting for a moment that every worker could achieve a world's record ; that would be as absurd as to suggest that everybody could run 100 yards, or a mile, in the record time ; but beyond doubt a knowledge of what has been done by others is a most useful spur, and a very good corrective of that self-complacency we are all very apt to fall into.

I will give you another illustration which you can test for yourselves. Most of you shave in the morning ; the probability is that the great majority of you have never counted the number of strokes you make with your razor in the process. The number of strokes you make is not necessarily an index of your ability—that is to say, the smallest number is not conclusive proof that you do it better or quicker, but you may be sure that the number is as large as it is mainly because you do not think beforehand what you are doing, but you just go on with a sort of reflex action of the hand without thinking what you are doing. Try the experiment next time, and count how many strokes you make ; then make up your mind that that number can be reduced by half in a fortnight, and I am perfectly certain you will find you can do it. I have tried that with a number of students, and have never known it otherwise. In my own case I found I took as many as 320 strokes, which is certainly a large number. I

got it down to 112 quite easily. Then the first time I put it to a body of students I found that, compared with their experience, 112 was quite a large number, their best being 52. That was rather a shock to me, but I was not to be beaten, and I got down to 52 within a week. From 320 to 52 is a big difference. The funny part about it is that if you do not count for a week you will find the number going up again. That is typical of everything ; if we are not always on our guard, we find that we are always slipping back.

But administration, of course, does not consist in forcing the pace : speed, and nothing else. In so far as it is possible to increase speed it does so, in the main, by studying precisely what motions are performed in the fulfilment of the task. Cutting out useless motions diminishes fatigue. In this matter we have been greatly assisted by the camera. We can get instantaneous photographs of the most rapid operations, and throw them upon the screen to get the general effect of how the thing has been done, or should be done, as the case may be. We can then reduce the pace at which they are thrown upon the screen, so that the movements may be analysed exactly. It is not to be expected that those who have been aiming at a high rate of speed in the past have accidentally stumbled upon the best possible method. Good results come only as the result of careful study. In the illustrations I have given you we have seen that there is scope for very considerable improvement. That is, scope for still further study.

Administration, again, does not consist merely of staff training so as to speed up results ; it also involves study of the psychology of fatigue. This is very necessary if we are going to maintain these results, so that we may find out the conditions under which work can best be done. The average individual rank and file worker knows little about that. He is in no danger of smashing himself up by neglect of the necessary rests ; but on the other hand there are casualties every year, probably every day, from this cause, and these casualties in the nature of things often occur in connection with the most promising of workers. There is great scope for further inquiry in this direction, although during quite recent years a good deal of pioneer work has been done.

But we have to take a much wider outlook yet, before we can really claim that we have been administering to the needs of the worker. It is not enough merely to watch the individual worker at work and instruct him in the best way. We have also to see that he is supplied with the conditions that make for good results. This is classified to-day under the heading of Welfare Work. In all the large factories to-day are welfare workers, whose functions differ very materially according to the circumstances. The welfare worker may be anything from a domestic factory inspector on the one hand to a games master on the other. Very often the welfare worker has the engagement of employees. Looked at from this point of view, we are dealing with what we

may call the personal aspect of employment, and the aim is to supply that human factor in connection with employment which was formerly crowded out in large undertakings when the number of employees became so considerable that the management lost touch with the employees as human beings. There is much room for development on these lines, and much scope for administration ; but nothing, it seems to me, can take the place of some sort of human intercourse, however slight, between the individual workers and the chief. My experience is that the more works managers, or managing directors, are able to keep in personal touch with all their workers, the better. They should not only know them by name, but be able to talk to them. We might regard that as one of the tests of administrative ability.

But that is not all there is to be said. There is such a thing as suitable housing, and provision for suitable recreation, and education, and so on. And as regards housing, we have also to consider the actual position of the worker while at his work. If we are expecting from A. and B., two workers, a similar output in quantity and quality we are manifestly unreasonable, unless we not only give them similar tasks to perform but also give them similar means of performing them and similar conditions. If we want to get the best results we must supply the best conditions for the production of them, and it is up to the administration to do that. In the ordinary course of events it is not reasonable to

expect good results in the absence of suitable equipment, suitably placed.

It is up to the administration also to provide continuity of work, and that can only be done by very careful planning, which often involves thinking a long time ahead. We have got to consider, when we are deciding whether to take a particular order or not, how we are to carry it out.

In so far as it is the function of administration to guide, it can only guide, as distinct from driving, by pointing out the way—and pointing out that it is the right way—and keeping the rank and file informed of what they are doing. We want to be continually comparing what is with what should be. Competition has its uses in this regard, as was proved by the competition amongst rivetters in shipbuilding during the war, when one yard was competing with another as to the number of rivets that could be driven in a given time.

A very common criticism of any attempt to centralise administration is that it makes work monotonous. Don't believe it. The really monotonous or uninteresting job is always the job that is indifferently done. Whatever it may be, if it is really well done, you may be quite sure that it is not uninteresting to the man who does it. If we can get workmen to take a really living interest in what they are doing they will never complain that their work is uninteresting.

But above all, administration means the inspiration of uplifting ideals, that brush away of all clogging doubts and distrusts and banish fatigue. It must be upon the right lines materially, because it has to deal with material things ; but at heart it is essentially a matter of the spirit. Nothing can permanently succeed, if done in the wrong spirit. It is for the efficient administrator to renew a right spirit within us, so that we each no longer seek the welfare of ourselves, our families, or even of our class. So that we may strive in work not only to find our own soul, but also the great One-Soul of all our race. Then, and then only, shall we be irresistible—because Efficient.

Do the Right Thing, in the Right Way, at the Right Time.

"Life is like a Bag, in which each Moment we place a Unit of Value or of Rubbish, and our present and future Happiness depends upon the contents of that Bag."

"For as he thinketh in his Heart, so is he."

Chapter I

TRAINING.*

"For the body is not one member, but many."

Efficiency is a subject about which there has been a great deal of talk for some years past, but a subject which really, when one comes to read the books that have been written upon it, seems to mean something quite different in the case of almost every authority. We have the one word expressing many different kinds of things, if we may judge by what they say; and, if we are to infer from what they say what their ideals are, it would still seem that there is a great deal of difference between their methods of approach—to a large extent at least, because they seem to be trying for essentially different results. I want to put the matter to you from yet another point of view. In that respect I am hardly doing anything different from what everybody has done up to the present. I want to put it from a point of view, however, which is radically different from all the others, because it aims at getting deeper down to the causes of things.

*A lecture delivered at the London School of Economics and Political Science on 1st June 1921.

'Efficiency," as the term is ordinarily used both in this country and in the States, seems to amount to very little more than a scheme of doing things which will, in the American phrase, "get there"—a way of getting things done. The best that they have to say for it in the most favourable circumstances, apparently, is that it represents the study, as applied to a complex business organisation, of the art of "making good." We need not, perhaps, quarrel with that particular phrase, if we put into it all that the expression "making good" is capable of; but we are so little likely to do that that I would sooner express it in the more old-fashioned phrase "well-doing," which although it means nothing more, regarded as mere words, yet certainly does imply a great deal more. And we want it to imply a great deal more, in that schemes of efficiency conceived solely in the interests of those who are concerned with profits will never be able to put forward any stronger appeal for support than we could expect where all that we have to offer in exchange is mere money.

I do not want to minimise the importance of money—we all know it is an exceedingly important factor in life—but those who have had much experience as employers also know perfectly well that you cannot as a rule get better results than those which you are at present getting merely by offering people higher pay. The offer of higher pay appeals to one aspect of their character, and only one, and that not the highest. We have got to remember, further, that

there is no finality to be reached on those lines. If you offer employees, say, 10 per cent. increase of pay, from the time they have received the increase they are 10 per cent. better off, and for a time they appreciate the advantage of being 10 per cent. better off. That advantage very soon wears off; but the appetite for being 10 per cent. better off does not die so quickly, and can only be satisfied by a further increase. Simultaneously, the fact that large numbers of persons are in receipt of higher rates of pay, and, therefore, have more money to spend, naturally brings them into the market as purchasers to a larger extent than before, and this increases the demand for certain kinds of goods, with the inevitable tendency to put up prices, so that the whole 10 per cent. advantage is not permanent. That only tends to accelerate the date when the contented effect of the advance will wear off, and a further increase will begin to be looked for.

The principle upon which F. W. Taylor started out to evolve a better system of works management in the United States under the title of "scientific management" was to increase the productive power of the worker by training him in a more scientific way of performing his work, thus increasing his earning capacity, and also increasing what the employer could afford to pay him. Taylor never used the word "efficiency" as far as I know; it seems first to have been used by Harrington Emerson (another American), who has written two quite interesting books upon the subject, one called

" Efficiency " and the other called " The Twelve Principles of Efficiency." I do not think we need worry over-much about Emerson's twelve " principles "—at all events, not beyond the first two, which are respectively " clearly defined ideals " and " common-sense." If we take them as our foundation, we may very well let him keep the other ten, because they do not really add anything fresh. But although Emerson uses the term " ideals," when we come to examine what he writes upon the subject, we find that he is certainly not using the word in the sense in which it is used in this country. What he means is rather what we should call " ideas," and it is at least open to question whether that is not where he falls short. His objective is not on the highest possible plane. But he has at least a clearly defined objective, and that must always be the starting point of any attempt to improve upon existing conditions. We want to see clearly what it is that we are aiming at. But we may just as well realise—for it is true, whether we realise it or not—that, unless we aim high, we shall in all probability miss the target altogether by firing below it.

Now, chiefly because I have only four evenings in which to talk to you about efficiency, I am dividing the subject up into four groups. I am not going to call them " principles," but simply " groups," and I am going to suggest to you that our subject is capable of being dealt with—in so far as a matter of this kind is capable of being sub-divided at all—under the headings of " Training," " Equipment,"

" Leadership," and " Morale." This evening I want particularly to talk to you about Training.

Do not let us make the mistake that is so often made of starting with the root-idea that what we are out for is simply a way of getting " workers " to achieve better results, using the term " workers " in the ordinary, popular sense of the term, as being more or less the rank and file of the industrial army. There is not really any room for non-workers anywhere. If we assent to the proposition that everybody who is worth a place in the team is a " worker," then we have only to concern ourselves with " workers " ; but there would be very little, indeed, gained by effecting considerable improvements in the rank and file, if there were no improvement whatever in the organisation under which they are necessarily obliged to work, and in those who are responsible for the administration and practical working of the organisation. All equally are very far from being perfect at the present time, and if there is scope for improvement in the direction of training, you may be quite sure that that equally applies to all.

When we come to the question, Who is to give the training ? we must realise, of course, that we cannot get far until we have decided what the nature of the training is to be, because, whatever the training, it should be given by persons competent for the purpose. The attempt has sometimes been made, and sometimes (but very rarely) made successfully, to get the workers (whom I prefer to call, as being more definite,

the rank and file) to initiate all improvements for themselves. In the ordinary course of events I think we may say that all the profit-sharing schemes that have ever been put forward—all the schemes for paying the rank and file upon the basis of improved results—when we come to look into them, are based upon the suggestion that if we leave the rank and file to do the work hitherto done by the administration, we may get very much better results—or, anyhow, that it is worth trying. If we really could get the rank and file to manœuvre perfectly without any officers at all, it is clear that a considerable amount of expenditure is wasted upon the remuneration of officers ; but there are very few cases that anyone could point to where a scheme of the kind has proved successful, even where the administration have not abdicated, but have merely shown themselves as being very amenable to suggestions on the part of those in closer contact with the practical side of the work. A good deal, of course, depends upon the intelligence and reliability of the rank and file as a whole. If they are highly skilled workers, the probability is that they are persons of some education and some general ability, and in such cases it is only reasonable to suppose that, as a result of experience, they may have suggestions to put forward which are really valuable ; but the lower the intellectual grade of the worker, and the lower his moral grade, naturally the less likely it is that he will be able to help us much in this respect, and the less likely is it that he will be willing to do so. We do

not want to hamper ourselves at the outset by any fixed idea as to the particular quarter from which the best training can come.

A good deal has been done during recent years in the matter of speeding up work as the result of training, and the speeding up has been brought about by a study of the nature of the work, the separation of it (as far as may be convenient) into a larger or smaller number of successive processes, and allotting those processes to different workers so that they may each specialise within a comparatively narrow field, thus aiming at further speeding up on the lines of what is called " motion-study," by examining precisely what physical movements are essential in connection with each particular piece of work, cutting out all waste movements, and generally working upon what is really very much the same principle that the performer on a musical instrument works upon when he first begins to learn it : First of all finding out the simplest—and therefore the best—way of doing each possible movement that may be required, and, having found out the best way, always doing it that way if possible. If in a particular case that way is impossible, by reason of what goes before or after, then finding out the second best way, and so on. But always, when the work is a mere repetition of something that has been done before, doing it in exactly the same way. By that means, and by that means alone, can we get a really high rate of speed. What can be done in that direction is shown by the extraordinary reduction

in the time allowance for certain different standard kinds of work to which motion-study has been systematically applied—results which I think we may fairly say would seem incredible, if we did not know that they had actually been achieved. Motion-study is in its infancy, in the sense that it has only been applied to a very small minority of the things to which it can be applied.

But speed is by no means everything, and in many cases it is by no means the most important thing, for often the quality of the work is far more important than the speed at which it is done. We find that out at once, directly we think, not of work accomplished in a factory, but of work accomplished in an office. We can apply the idea of speeding up to all the more usual and more mechanical operations in an office, such as shorthand, writing, typing, and addition of columns of figures, the filing of papers, and so on ; but we have accomplished nothing whatever unless those operations are performed accurately. If we are going to have an advance in speed of even 50 per cent. as a result of an increase of 10 per cent. in inaccuracy, that emphatically is not worth while. We must always be prepared, therefore, to keep in mind the relative importance of the speed of the work, and of the quality of the work ; but the more we are able to divide the work up into small parts, upon the lines of specialised work, the more practicable shall we find it to speed up, because in a complex operation we often find that it is only at one point that care is all-important, and

that at other points no particular difficulty is observed in getting the required quality plus speed.

If we increase rates of pay as a compensation for those who take the trouble to learn, and to give us consistently more speedy or better quality work, we are naturally making it more likely that we shall get the result that we are aiming at ; but, in general, I think we may safely say that the improved results will not be permanent if the work, as reorganised, imposes any undue strain on the worker.

That brings us to the next question, the question of what is usually spoken of as Fatigue Study. The general conclusion that seems to have been come to with regard to fatigue study is that all really satisfactory workers require to be restrained, and that if they are left to themselves, with the incentive of the possibility of increased pay which a reasonable scheme may be assumed to provide, they will tend to " race " like an engine without a governor, and in the long run the result will be bad for the worker and bad for the work. That is to say, without some restraint imposed from without the individual worker, we shall find that we cannot achieve any permanent improvement upon these lines. We can be quite sure that where the worker is over-driven, whether the over-driving force comes from within or without, the result cannot be permanently satisfactory.

However, we can, I think, very easily get too frightened about this suggestion of over-driving ; we want to remember that what we are doing here

is in the nature of training, and that it must necessarily be governed by at all events much the same laws as training in athletics. Two of the most important laws here are : (1) that we must not train too fast. If the improvement is to be permanent it must be gradual, because a real improvement can only be the result of an improved physical and mental condition, which necessarily can only be built up slowly. (2) That we must recognise that what we want done—which in the main is a matter of muscular movement (controlled, of course, by a mind)—cannot be accomplished without any regard whatever to the material that we are working upon—that is to say, without any regard whatever to the mind and body of the individual worker. Even although we aim at specialisation, the training must be general, at least up to a point. When we are talking about athletics, we know that "going into training" involves, to a greater or smaller extent according to the circumstances—but always to a quite appreciable extent—a life of self-denial while it lasts. We shall never get any great results in athletics from those who will not undergo proper training.

But I do not want to exaggerate the importance of that in connection with practical affairs, because we want to remember that we are not aiming here at turning out prodigies. The supreme effort that may be essential for the purpose of beating a world's record is not essential—or, at all events, not in the same degree—for the purpose of achieving a very high standard of form. We must not attempt to

put our ideal too high, because, if we do, necessarily the results will not be permanent. We know that no one can always remain in what athletes would call " perfect condition " without suffering in health. It is not a permanently healthy state for anybody, although it may be the proper state for an isolated occasion, or over a comparatively short period of time. It is not a condition in which one could go on living. We must not, therefore, press the idea too far ; but it has at least this obvious bearing upon our subject, that those who want to conform to a reasonably high standard that is quite within their capacity will never get there unless they realise that what they do outside their working hours has a very distinct bearing upon what they are able to do inside their working hours.

If we have not a good mental and muscular basis to build our training upon, we, of course, run the risk of simply smashing up our workers—provided they will let us. Nothing could be more extravagant —to put it at the lowest possible standpoint. But if we " hasten slowly," and take care that our gradual increasing of the severity of the task does not proceed faster than the development of the worker makes possible, we can go a very long way. That applies to tasks that are simply tasks of muscular strength ; it applies to tasks which are tasks of muscular neatness as well as strength, and also to tasks that bring the mind into play as well as the muscles.

One of the commonest forms of waste is misapplied energy. I think we might safely say that

hardly anybody can exert one quarter of the physical strength that he is capable of exerting until he has been taught how to do it. That is certainly the case, for instance, in connection with such operations as boxing. Until a man has been told how to hit, there is certainly not a quarter of the strength in his blow that he is capable of putting into it with skill. As regards weight-lifting, again, with proper training, practically anybody who is physically fit can be taught to lift at least twice the weight that it would have been wise for him to attempt before being taught how to do it. These are illustrations of things that almost everybody starts by thinking he knows all about ; things concerning which nobody can teach him anything. When we go into the matter we find that there are very few exceptions to the general rule that the self-taught person does not know so very much after all. The trouble, of course, is that the self-taught person is not as a rule the most teachable person.

Of course, it goes without saying that all persons are not equally apt at responding to the same kind of training. That is really only another way of saying that the whole object of dividing the work that has to be done into different tasks, and allotting different tasks to different workers, is to recognise that it is practicable to train specialists within a comparatively narrow field, so that they may excel over the all-round person, and the aim of training is to create such specialists out of suitable material.

Everybody is not suitable material for every kind of purpose. An essential part of our programme, therefore, is the selection of the right material for our purpose. There is nothing to be gained in the long run by spending time and money upon training persons to perform work at which they are not able to become skilled. To a very limited extent—that is to say, while only a very limited number of business houses are attempting to work upon these lines—it may be easy to secure the desired number of workers in each different department that we want to train workers for, because we have a very wide field to select from, and it is thus mainly a question of whether we can or cannot out-bid other people in order to get the pick of those available ; but it is a short-sighted policy to try to organise our undertaking upon the basis that it is going to be a vast assembly of picked workers, because we know perfectly well that all the work in this country cannot be done by picked workers, because the whole of the population is not " picked." We should be on a sounder basis —we should be nearer the ground, and less up in the clouds—if we tried to frame a scheme upon the lines that the tasks we want performed are capable of being performed by quite average persons, if properly trained. As a rule, there does not seem to be any particular difficulty about that, so long as we provide them with the proper equipment. There will doubtless always be a certain residuum who do not come up even to that level, and they will always present difficulties to those who are concerned with the social welfare of the country as a whole ; but, even so,

the more we specialise the more likely we are to be able to provide a means of absorbing the actually unfit. That applies not merely to those who are unfit physically, but also to those who are unfit mentally or morally. The whole object of specialisation is to provide a job for the individual that calls for fewer different qualities upon his part than does unspecialised work. By specialisation, therefore, it should be possible to find jobs for everybody who has even one good quality capable of being further developed.

But, if we are going to work upon practical lines, it is particularly important for us to realise that nothing can be more extravagant than frequent changes in our personnel. That applies even where employees are not trained by us. It has been calculated—and although the calculation is only a rough one, I think we may take it as being approximately correct—that every time there is a change of a worker, the loss to the employer (direct and indirect) as the result of the change, will be something between one and three months' pay for that particular kind of work. If we take the lower of these figures, just think what it amounts to, when you bear in mind that it is not a very uncommon thing in many kinds of industry to find that the " labour turnover " in a year is more than 100 per cent.—that is to say, on an average, the worker remains less than one year at a job. That represents a very appreciable increase in labour costs, none the less real because the accounts do not show it under that heading.

"The things that are best worth having are the things that money cannot buy."

Chapter II

EQUIPMENT.*

"Plan your work. Work your plan."

By the term "Equipment" I mean not merely machinery, but everything with which we surround the worker—everything that goes to make up the conditions under which the work is done. If we confine ourselves to anything short of this, we certainly are not dealing with the subject as a whole.

We all know, I suppose, that we have got beyond the days of craftsmanship into the days of mechanics, and that, accordingly, our problem will always require us to consider, not so much what mechanical aid we can best give to the workers in order to produce the results that we want, but rather how much of the work that we want done we can get done by mechanical means, and how much of it we must leave to be done by the human worker. It sounds, perhaps, a little revolutionary—and the matter is not always put quite so bluntly—but I think we may be quite sure of this, that we are not upon the

*A lecture delivered at the London School of Economics and Political Science on 8th June 1921.

most efficient lines possible so long as we are considering the matter primarily from the point of view of finding employment for the largest possible number of persons, and only considering secondarily the equipment that we are going to provide them with, to help them to do their work in the best possible way. We must reverse the process, and consider the work itself as being more important than the worker; as being really the matter of supreme importance—more important than anybody connected with the work, in whatever capacity he may be so connected. In the past, the general tendency—of course there have been numerous exceptions—has been rather to think of introducing mechanical equipment only when one found oneself compelled to do so as a means of reducing costs, and always to be content with costs higher than they need be, so long as one could get other people to pay the price. When we come to think of it, that is a very low ideal for a producing house, and I do not think that we ought to allow the fear of causing wholesale unemployment to dismay us, because we may be quite sure that the only real remedy for unemployment is increased production. Everything else is a mere palliative. Even where we find machinery in use, we very often find that the power by which it is driven is human power, and that is a point upon which a good deal of equipment might be modernised. Human power is certainly the most expensive form of power that there is, and, generally, it is not so well under control as mechanical power.

We must, of course, have quite clear ideas as to the nature of the work we want done before we can consider what is the most suitable equipment for the purpose ; but there can, I think, be little doubt as to the desirability of employing a standardised form of equipment as soon as possible, so that we may have only one type of equipment in use for each particular purpose. As soon as we have found out what type is the best, we may be quite sure that it is the only one that we ought to have ; but, apart from that, I need hardly point out to you that it is not fair to individual workers in charge of equipment, if we expect similar results from them and give them dissimilar equipment to work with. Whilst matters are still in an experimental stage, and it has yet to be determined what is the best type, we must, of course, be trying more than one type in order to find out ; but the sooner we can get the point settled, and the sooner we can standardise our equipment, the better we shall find it from every point of view, and particularly from the point of view of setting an equally fair task to each worker—thus making it possible for those who supervise the workers to perform their duties fairly.

One danger about standardisation—and about all kinds of uniformity—is that it has a tendency to keep things as they are. It is, of course, a much more serious matter to change the whole of an extensive plant for something newer, or better, than it is to acquire one or two of the latest machines and use them side by side with those we already have

that are still in quite good working order. Accordingly, there is a danger in connection with standardisation of keeping to what we have got, rather than breaking through the standardisation. But we have to remember that the rule about standardisation only holds so long as we are satisfied that our equipment *is* the best possible. We must not let the standardisation idea interfere with our continual search for something better. When we come to think of it, it is really very improbable that the existing equipment will never be improved upon.

One point where, at all events until quite recently, the American manufacturer had a decided pull over the British manufacturer was that in the designing and construction of his equipment he never attempted to build for eternity, whereas the traditional British practice has always been to construct equipment upon the most solid and permanent lines possible. Unless we are quite satisfied that the design we have is so incapable of further improvement that there is no risk of it becoming obsolete before it is worn out, the common-sense course would certainly seem to be to encourage ingenuity in the direction of designing plant that will serve our purpose for a limited time only, at the smallest possible cost consistent with doing its work thoroughly within the time-limit.

Turning to another point: Hardly any kind of equipment is entirely automatic. To a greater or smaller extent, practically all equipment has to be tended—or supervised, if you like to call it so—by a

human worker. The manner in which the machine-minder does his (or her) work will certainly have a definite bearing upon both the quantity and the quality of the work, whatever the machine may be. That being so, we cannot afford to disregard—even if we felt disposed to do so, which would certainly be unwise—anything that makes for putting the worker into the best possible conditions to do his (or her) best ; and we shall probably find that the difference between good and bad conditions is often a neglected matter. It is care that is required far more than capital to make all the difference one way or the other. For instance, in the nature of things, workers are not all of the same height, and all have not the same length of arm. Accordingly, whatever the precise type of machine may be, it is certain that, if no adjustments are possible, it cannot be operated with equal ease and comfort by everybody. There must be a capacity for adjustment somewhere, or somebody will be working under uncomfortable, and, therefore, unsatisfactory, conditions. If a worker has to keep his arms above the waist-line for any appreciable length of time, the position is very fatiguing ; if a worker has to keep his hands too far away from his body for any appreciable length of time, the position is very fatiguing ; and, if he has to keep his body bent forward for any appreciable length of time, the position is also very fatiguing, because in all these cases the worker is being called upon to sustain weights—even although they are weights of parts of his own body—which

in a position of greater comfort would not fall upon the same muscles at all. To a very large extent these unnatural and uncomfortable positions can be avoided : how, will depend, of course, to a large extent upon the precise nature of the machine. When the work has to be done standing, if the worker stands upon a platform that can be raised or lowered, it will naturally make all the difference between comfort and discomfort. If the work can be done sitting—and we may be pretty sure that for the great majority of the workers it would be better done sitting than standing, provided the seat is a comfortable one—we should remember that no seats can be equally comfortable for all workers unless they are adjustable in height, and commonly they will not be comfortable unless they provide some support for the back. In exceptional cases we may find that these things are impossibilities, but in the vast majority of cases they are anything but impossibilities, and would represent an actual cost of a few pence a day only.

The effective tending of a machine almost certainly involves both seeing and hearing. We must therefore pay attention to these matters also. Under modern conditions it is probably the rule rather than the exception to find that equipment is well lit in the daytime, but it is commonly very badly lit when daylight has gone. It is certainly not always possible that all work should be done by daylight. The problem of providing artificial light for the benefit of the worker is really a perfectly simple one, so

long as we realise that its function is not to illuminate the whole works, but to illuminate that particular point—and it is rarely much more than a point—which the worker has to watch, and that, therefore, the lighting cannot be effectively provided by one or two huge arc lights in the roof. We must have scattered lights—light intelligently directed where it is wanted, and intelligently shaded from where it is particularly not required, namely, in the worker's face. If we pay attention to these matters we shall probably find incidentally that we effect a saving of at least 60 per cent. in our lighting bill. Some general illumination will, of course, be required, but very much less than is commonly provided.

Then we come to the question of hearing. A worker can rarely tell whether his machine is working as it should, unless he can hear it. The more delicate the machine, the more important it is that he should be able to hear it. But, clearly, he cannot hear it properly if he is surrounded by other noises, particularly if they are very much louder. We cannot cut out the question of noise altogether, because some noises are absolutely incidental to the work, but in these days a good deal can be done in that direction. For instance, we have already on the market a noiseless typewriter, and motor omnibuses and aeroplanes are much more silent than they used to be. The question of noise can at all events be considered to this extent; by grouping our equipments we can at least avoid the very frequent mistake of having some of the least noisy

machines entirely drowned by others in their immediate vicinity. Also, by grouping, we can materially add to the comfort of the workers who are not attached to noisy machines.

Another important factor in connection with comfort is the question of heating and ventilation. These matters are to a certain extent studied under modern conditions, because they have to be under the Factory Acts; but they would probably be studied to better advantage, and better results would be secured, if it were always realised that there is a certain amount of similarity between the way in which the human worker operates and the way in which a machine operates. Nobody would expect to get any considerable pressure of steam out of a boiler unless there was an adequate draught in the furnace, but many persons certainly do expect the human machine to be able to function when there is not a sufficiency of ventilation to enable it to do so.

Reverting to the question of watching the work, by means of sight, while it is being done, and after it is finished while it is being inspected, or " viewed " as it is sometimes called, for the purpose of seeing whether it is what it should be. This, in the nature of things, will never be done satisfactorily, unless the conditions provided are such as to enable those who are looking really to see what they are looking at. What they have to watch is commonly the outline of an object. To some extent they make tests by measurement, and then to some extent they may be able to work by a sense of touch, but still to a

very large extent they must always depend upon the eye, and the eye will be apt to mislead them unless we provide it with a certain amount of assistance. We are not providing any reasonable amount of assistance, unless we provide some colour contrast. If you are looking at a grey object against a grey background, you will never see the outline of the object as clearly as you would see it against, say, a white background. Whatever the colour of the object to be seen may be, the background should be such as will show it up. If we cannot provide a natural background that is sufficiently contrasting, we should provide an artificial one, and, after all, that is very easily done directly we realise its importance.

In matters that come under this heading of consideration for the comfort of the worker, and also to a certain extent in connection with the type of equipment to be employed, we shall find that we can almost always get some help from workers themselves, when once we have got them to believe that we are anxious for their suggestions, and are quite prepared to consider them on their merits. In some cases it may be found that workers are diffident in putting forward suggestions and disclosing their identity at the same time. We can readily imagine, for instance, a diffidence on the part of some (not all) workers to suggest that seats should be provided where hitherto they have never been provided. Such a difficulty can be—and sometimes is—very easily got over by getting the workers themselves

to appoint a Suggestions Committee, and arranging that the suggestions should in the first instance go before that committee.

For what we may call ordinary suggestions as a rule nothing very extensive in the way of prizes is necessary ; but suggestions may be anything from an idea that is perhaps just worth adopting, up to a new invention which may entirely revolutionise methods of production. A very large proportion of the most noteworthy inventions in engineering have been made by those who are actually connected with the work. A 5s. or 10s. prize is clearly not adequate as a reward for a suggestion of this kind. If we want to encourage workers to invent, we must at least do the fair thing by them when we adopt their inventions and the result is highly profitable. One of the reasons why some houses find it difficult to retain their best workers is that they treat them so shabbily in the matter of inventions.

It has already been pointed out that equipment will naturally be very much more effective if it be run by mechanical power rather than by human power, but we can very easily get a serious loss of efficiency through waste in mechanical power. For instance, supposing our power is steam, and supposing the steam is generated (as it commonly is) from coal, manufacturers generally place their contracts for coal on the basis of a price per ton. They commonly invite quotations per ton from various sources, and usually give the contract to the lowest quotation. That would be a perfectly reasonable system, if it

were a fact that the steam-producing power of all kinds of coal was equal, or even approximately equal ; but it would certainly not be over-stating the case to say that there is more than 30 per cent. difference in the heat-producing qualities of different kinds of coal bought by manufacturers in this country. It may very well be, therefore, that those who are paying the lowest prices per ton are paying the highest price per unit of power. Then there is another point (I do not want to be over-technical, but it is essential to illustrate one or two technical matters, so that you may realise how important they are in practice) : Wherever we have steam, it has to be conveyed by means of pipes from one place to another. If it is simply a question of conveying steam from the boiler to the engine that is to generate the power, clearly the shorter the communication the better ; if it is a question of using steam as a means of heating, then, of course, it is essential that the communications should be lengthened. But in either case the main point to remember is that there will be a loss of heat (and, therefore, a loss of power, as compared with the units of fuel consumed) if any heat radiates through the connecting pipes, save at points where one wants it to do so, e.g. at radiators. That waste can to a very large extent be overcome—never entirely, but to a very large extent—by a proper covering up of the pipes. There are still in existence works that are losing 40 per cent. of the heat they generate through having uncovered steampipes. The cost of covering them would be saved in a few months.

Then, again, when we are working through a central power—as is certainly usual where the power is steam or gas—the power has to be conveyed to the actual places where it is wanted by means of shafting and belts. There must always be some slight loss of power in the process, but the loss need not be anything like as large as it commonly is. If belts are properly looked after, and shafting properly placed and designed in the first instance, there should be very little slipping. That is to say, the number of revolutions of the two wheels which are connected by a belt should differ hardly at all from what one would expect having regard to their respective diameters. It should be almost the same as if the two shafts were connected with cogged wheels and a chain. But there will always be a slight slip, and we want to keep the slip down as low as possible, because naturally the output of the work will depend upon the number of revolutions run by the machine in a given period of time ; and if we have slipping, we shall not have the right number of revolutions in relation to the power consumed. I came across a case about a year ago of a works that was losing £40 a day in output on a single machine through the unnoticed slipping of a belt. You may look at revolving wheels, and may have had a good deal of experience in doing so, and yet not notice small differences in the number of revolutions if they are not continually being tested. It is only by testing them daily that we can see whether belts are as efficient as it is possible to make them.

Then comes another point : If we have central power sufficient to drive all our power machines, and they are not all in use, for the time being we have more power than we want. That is not necessarily all dead loss, because we may be able to economise in the central power ; that is to say, the cost of keeping our engine going is not always constant, regardless of the load. But we may be quite sure that the cost of power tends to increase in proportion as our equipment tends to be infrequently used. We may find that this reaches to such an extent that we should be better off if we decentralised our power. That, of course, is a purely technical point ; but it is such a very common view that there should *always* be a centralised power, and the engine house is so very often the " show place " in a factory that it is certainly worth mentioning that, before we decide to have a centralised power-house, we should make sure that it will be the most economical way of getting power in our particular case. If power is only wanted very infrequently, we may quite likely find that we can get it more economically by decentralised electric motors instead of central steam, and, if we do that, we can cut out an enormous amount of shafting and belting.

Of one thing we may be very sure, that, where every possible attention is being paid to these matters, the general effect will be, among other things, to improve the performances of the workers. Apart altogether from the fact that everyone is keyed up to do his best where all the conditions surrounding

him are favourable, whereas nobody is when he is fighting a losing battle against bad conditions, we can rarely expect good quality work from poor equipment, even if we have got what we are not very likely to have in those conditions—first-class workers. With really suitable equipment we shall find a material improvement in quality, and we shall find a material reduction in the waste arising from defective work.

What may constitute " defective work " depends entirely upon the nature of the work itself, but we have got to remember that in most kinds of work a very little thing, which occupies perhaps only a few seconds, may spoil something that took hours, or even weeks, to do. A great deal of ingenuity has been developed during recent years in devising schemes for the remuneration of workers so that they shall be provided with an incentive to increase the quantity of work produced. In quite a number of cases the quantity is, of course, all-important ; but, for all that, in a very large number of cases the quality is infinitely more important than the quantity. It is not very easy for a theorist, sitting in an armchair, to devise a practical scheme for the remuneration of workers on the quality basis, but the problem is not really at all difficult when approached by a practical man familiar with the particular kind of work, if once he gives his attention to it. We have got to remember that in the case of many kinds of articles it is only first-class work that is really wanted, and yet a very appreciable percent-

age of second-class or third-class work is regularly made, apart from what is actually rejected as spoilt. These second and third-class qualities are little more than by-products, and often have a marketable value amounting to little more than the cost of the materials of which they are made. If we bear that in mind, we realise what a heavy burden is thrown upon the first-class goods that have to pay for second and third-class work. Anything that can be done to multiply first-class work, and reduce the percentage of seconds and thirds, is almost certainly very well worth while, and good equipment and good conditions will go quite a way in that direction, if coupled with a system of remuneration that makes it pay the worker better to turn out only first-class work than it does to turn out a large quantity of work with a high percentage of seconds and thirds.

The more we are working upon progressive lines, in the nature of things the more frequently shall we be calling upon workers to do something different —whether greatly different or only slightly different— from what they have already done. If we are concentrating upon quantity of output, all these alterations are exceedingly vexatious to the worker, and will seriously reduce his earnings unless we find a way of compensating him. Yet we can, I am sure, over-stress the idea that we want our workers to carry the idea of specialisation to the utmost possible extreme. We have to remember that every kind of specialisation is, in principle (although it may be so only to a microscopical extent), a deformity, as

being a departure from the perfectly normal type. We can carry specialisation so far that our workers cease to be adaptable at all ; and unless we are dead certain that there will never be any alterations that we are going to call upon them to make, that means that we may carry it too far in our own interests, apart from the fact that we are taking it much too far in their interests. Although specialisation is an excellent thing, a certain amount of change of occupation is also an excellent thing. There is not really in the long run, I think, anything lost by encouraging a reasonable amount of versatility. We are not really out to train workers in the performance of world records. What we want to aim at is to train them to a very high average standard of performance, and that is not at all inconsistent with a reasonable amount of versatility. As an illustration—it is only an illustration, but it is an illustration which, I think, has a definite bearing upon the subject—take the question of music. It is a quite possible thing to get a very good standard of performance on the part of an individual upon three or four different musical instruments, and, as you no doubt know, a very large number of professional musicians do play two or more instruments. If our idea of what we expect from a professional musician is somewhere about the standard of one of the best that the world has ever known, it may very well be that a lifetime devoted to one instrument is all too short ; but if we simply want a very capable performance, we need not be afraid of a reasonable amount of versatility. The Royal Academy of

Music *requires* all professional students to take up a second " subject."

It is a very simple thing, if one wants to do so and is not afraid, to find out exactly what is the capacity of the individual worker on an individual machine (that is to say, the ordinary machine, where we are able for all practical purposes to test what we want by the number of times that machine has operated within an hour) ; the output during that time, and the percentage of first, seconds, thirds, and " spoils." There is no difficulty, of course, in counting the output, and we can very well count the number of operations performed by a machine by a device of which I have only seen one example in this country, but which I believe is quite common in the United States, called the " Productograph." The Productograph looks rather like a self-registering barometer. It has a metal cylinder covered with paper, which revolves at a very slow rate and is marked by means of a pencil. In the self-registering barometer the pencil is connected with the mercury, and moves as the height of the mercury varies ; in the case of the Productograph, the pencil is connected electrically with the machine, and registers a short stroke upon the revolving drum for each operation that the machine has performed. Every tenth stroke is rather longer than the other nine, and thus one can get a very large number of strokes into an inch, and yet they can be very easily counted. A limited number of recording drums is sufficient for all practical purposes, because they can be switched from one machine on to another in turn. The

Productograph not merely counts the number of operations that have been performed during the hour (or other time period) ; that, of course, could be done mechanically in other ways—much as it is done on printing machines by means of a numerating attachment. But the Productograph shows gaps wherever the machine has had a standstill, even for the fraction of a minute. One is able to tell by looking at the graph whether the machine has been working steadily or whether it has been liable to interruptions ; whether it has been working at a uniform rate or at varying rates, and so on. This graph will enable a manager, without leaving his office, to find out a great deal that he probably would never find out if he was on his feet in the factory all day long. Apart altogether, however, from its possibilities as a driving force upon the workers, the Productograph has, I think, even greater possibilities in the direction of enabling the one whose duty it is to determine who shall do what, to see exactly what are the difficulties encountered by each individual worker in handling different types of work and different types of machine, and in that way to find out which of his workers has the greatest aptitude for certain specified processes, instead of having to rely upon a general impression gathered while they are working under observation. He can thus secure real data, sufficient in quantity to make the impression a reliable one, and in that way it becomes possible for him to deal fairly by the workers, and to allot to them those kinds of work for which they are respectively best suited.

"Whosoever will be great among you, let him be your minister; and whosoever will be chief among you, let him be your servant."

"The hireling fleeth, because he is a hireling, and careth not for the sheep . . . . The good shepherd giveth his life for the sheep."

Chapter III

LEADERSHIP.*

" Follow me."

It is often thought that a leader is merely someone who has been appointed, or who has otherwise acquired power, to lead or direct others ; but that is a very restricted view of leadership, if it is not an entirely erroneous one. We have only to look back to the origin of the word itself to get the key to what leadership ought to consist of. The word is directly akin to the word " lode " in " lodestone " ; and the central idea is accordingly magnetism—personality—without which we may very well say that there could be no real leadership. At one time it was thought, even as regards the purely physical world, that the quality of magnetism was limited to iron ; but it is now very generally recognised that the same quality exists (although to a far less degree) in a very large number of metals, if not in most ; and, indeed, it is at all events possible that it exists in all cases, even although perhaps its presence

*A lecture delivered at the London School of Economics and Political Science on 13th June 1921.

has not yet been detected. If we take the wider view of magnetism, and use the same word to imply that in the personality of another which either attracts or repels, I think we may very well recognise that there is probably some magnetism even in the most neutral of personalities ; but for leadership we want very much more than a trace of it, and we must realise that the law which holds good with regard to electrical magnetism is probably equally true as regards human magnetism, and that attraction and repulsion are apt to go hand in hand.

It is certainly not enough to possess the power of attraction and leave it at that. The power, being possessed, has to be used in a way that will further efficiency, or it is useless as an aid to efficiency. That is to say, a leader must have quite clear ideas of the direction in which he proposes to lead. There can be no effective leading without a very definite plan on the part of the leader. If there are any perceptible signs of hesitation on the part of the leader, we shall probably find that his powers of attraction have entirely ceased, and that there will, on the contrary, very likely be a tendency to break away—a reaction not altogether dissimilar from the phenomenon of repulsion in connection with electrical magnetism. What we are looking for here is the power of attracting others for a purpose ; and while, of course, the precise methods cannot be determined without regard to the psychology of those whom it is desired to attract, I think we may very safely say that we are much more likely to be upon sound lines

if we aim at attracting by an appeal to the good qualities that we find in those whom we are attempting to influence; recognising that it is far more important to search out their good qualities, and to appeal to them (however difficult the task may seem to be with unpromising material), than to try the negative course of finding out first of all the weak points of the other side and then striving to keep clear of them.

Very obviously, leadership, properly exercised, calls for a great sense of responsibility and a great sense of duty on the part of the leader; but if we have anything approaching the right elementary qualities with regard to the leader, I do not think that we need as a rule worry ourselves in advance as to how he is going to persuade the others to be led. The true leader will never lack followers. The true leader will necessarily possess self-confidence; he will not be exhibiting self-confidence if he is always doubtful as to his ability to lead. The great majority of persons are not really self-reliant, even although they may not be prepared to admit it. A very large number of persons do not go out of their way to seek positions of high responsibility, but are only too pleased to leave them to others; and almost everybody is quite susceptible to the heartening and encouraging effect of good leadership. A little while ago a sales manager of considerable experience mentioned to me that the principal part of his work consisted of "reinflating" his subordinates when they came back from their journeys, and that his

function was in the main to hearten them, and re-equip them mentally and morally to go out and take the road again with confidence. We may be quite sure that if that be true of salesmen in general, in varying degrees, according to circumstances, it is very largely true of others. Those who are not susceptible to this process of reinflation on the part of a good leader are not suited for good team work.

In connection with business affairs, we very often make use of the term "confidence." We do not, perhaps, always stop to consider quite what we mean by it. There may be confidence of all sorts, and probably all sorts are necessary for good results. We must have a sufficient amount of confidence in ourselves, and we must have confidence in our leaders, particularly if we have to work away from their heartening influence; and we must also, before we can really reasonably expect good results, have confidence in our cause—that is to say, in the work that we are doing. Having confidence is, of course, exactly the same thing as having faith. It is not the fashion in these days to talk very much about Faith, but after all it is an old-fashioned word that expresses a good deal. It is worth while remembering that without faith of a sort each one of us would be practically paralysed. Without faith we should find, for instance, it was impossible to turn in bed: that is, without confidence in our ability to do so, we should find it impossible for our will to exercise the force required to get the muscles to act. Confidence is at the root of all action, and, if we lose

confidence, action is bound to suffer, even if it does not stop altogether.

One of the great paralysing forces, in connection with humans at least, is fear. That is another thing which we are not very much given to talking about, and should be very much disinclined to recognise as having any possible effect upon ourselves ; but a good deal depends upon what one means by the word. It is impossible to carry on business at all without realising that from time to time things do not happen according to plan, and if their failure to happen according to plan is going to be inconvenient, or serious, or disastrous, in varying degrees (according to the seriousness of the failure and according to its probability), we must, from time to time, have passing through our minds emotions which are in the nature of fear. The great thing is not to give way to them, but simply to regard them as reminders that all possible precautions have to be taken.

One of the functions of a leader is as far as possible to take all these fears upon his own shoulders, so that those under him may do their work unafraid. You may express that in more business-like language, and say that it is the function of those occupying the most responsible positions to do the worrying ; but I do not know that that way of expressing it really gets as near to the bottom of things as to talk of " fearing," instead of " worrying." If we were not afraid of using the term " fear " we could readily realise that it is when we are alone that fear is most likely to overtake us. One of the functions of leader-

ship is to provide companionship, so as to dispel the sense of loneliness and its undesirable results. Companionship is a word that we very frequently use, again without thinking overmuch about what it means. If we go back to the origin of the term, companions are those who break bread together. There can be no real companionship unless there is some kind of community—some kind of human link—and there can be no leadership without humanity.

Think of it from yet another point of view, and you will find that we shall come to very much the same conclusion in the end. Not only modern business, but practically all business as we can understand the term under modern conditions, is based upon credit. Not only business, but all organised effort is in a sense based upon credit ; upon belief in the good faith and trustworthiness of others. Where that belief does not exist there can be no business relationship between strangers, let alone any effective team play between those who are working together as members of an organised body in connection with business. The word " belief " again has an old meaning which possibly many of you may have forgotten. The person believed in is the person beloved. There is no difference whatever between the roots of the two words. So we get down to this, that no business relations are possible without the right kind of brotherly feeling between those who are seeking to establish those relations. There is no other way of getting credit ;

no other way of getting confidence. You may get a state of affairs that masquerades as credit, but which is not built upon this sure foundation of brotherly love and esteem ; but it will not stand the strain when any strain is put upon it. You may try in all sorts of ways to eliminate what some may call the metaphysical and keep to the " facts," and you will find that the problem does not work. We know, of course, that business is frequently interrupted in one way or another by wars, strikes, lock-outs, litigation, and what not, and in each case the root cause is the same—absence of belief in the other side. It is no good reckoning that we can build up a science of business on " facts," using the term in its ordinary sense, and ignoring all that, by way of contrast, you may prefer to call " fancies," because you will find that in times of stress those so-called fancies are far stronger than all the so-called facts put together. This must have been very well realised by those who made up our language in the past, or we should not find this more than remarkable coincidence that the words in common use, such as " confidence," " credit," and " belief," all tend in the same direction.

Leadership, then, I think, we must school ourselves to realise, even although the idea may seem fanciful at first, is the attraction exercised by the beloved leader ; and very obviously it is much more difficult for the leader to keep up while going through the monotony of the daily round than it is to inspire in times of great excitement and stress. But it

has got to be done, because we must have the right state of mind—or state of heart, as it really is—between the parties so constant as to become a matter of ingrained habit before we can really rely upon it at all times. The common idea of leadership is, of course, that the leader is one for some reason or another—good, bad, or indifferent—empowered to issue orders, and entitled to expect that they shall be obeyed implicitly. In some cases implicit and blind obedience may be essential to efficiency, but it is not an essential part of the idea of leadership. While it is perfectly true that knowledge is always power, the converse is not true ; power (or authority) is by no means always knowledge. Power (or authority) exercised without knowledge is sure to lead to a breaking point before it has gone very far.

In the nature of things we cannot expect all desirable qualities to be centralised in any one human being. If we are picking out our leaders for their power to attract, and to secure a loyal following on the part of the led, we shall probably find that those leaders are very deficient in many of the qualities which naturally one would wish to attach to leadership. The mere giving of orders is, after all, nothing but a means to an end. The true functions of a leader, I think, we may rather put down as teaching, correcting, encouraging, and generally influencing in the right way ; and for the purpose of teaching at least—and in a lesser degree for all the other purposes—we shall want to link up with the leader in one way or another a considerable amount

of expert and technical knowledge. Otherwise, our leader will by no means always be leading in the most desirable direction.

When business management was looked upon from the point of view of an " owner " assisted by " vassals," it might very well be regarded as being beneath the dignity of the owner to seek advice in any way ; but we have got a very long way from that state of affairs in connection with business, and, therefore, this problem—which was a very real one, perhaps, one hundred or two hundred years ago—is of little practical interest to-day. Those who are leaders in business to-day are not the owners. They may—but by no means always do—have a proprietory interest in the undertaking. (That is to say, if it be a company, they may be shareholders. It may even be an essential condition that they should be shareholders ; but, even so, the amount of capital that they have at stake in the undertaking is in practically every case a mere trifle of the whole capital adventured by all the proprietors as a whole.) It is quite absurd, therefore, for the ordinary person connected with the management or administration of a business undertaking—whether he be chairman or managing director, or what not—to regard himself as being the owner of the business. He will certainly be much more accurate if he describes himself as the servant of the proprietors ; and unless he looks upon himself in that capacity, and as one who, although having authority, yet in his turn has to yield to higher authority, he will never get the true perspective of his own position.

If we could once get this idea widely recognised, particularly among the rank and file of employees, we should probably have made a very large advance towards industrial content, because we should have killed that vicious fallacy that industrial disputes are disputes between " Capital and Labour," whereas they are never anything of the kind. Capital, as represented by the shareholders of an undertaking, is in present conditions a helpless spectator ; not so organised as to make it possible for it to take any effective part in the disputes which take place between management on the one hand and the employed upon the other. Whoever's fault the dispute may be, you may be quite sure it is not the fault of the shareholders ; but, whenever the management and the employees do contrive to adjust their differences, it will almost certainly be found that they have done so at the expense of " capital." We might look a long while for an example of an industrial dispute settled as a result of the management's agreeing to forego, or to submit to a reduction of, their remuneration. They may have to submit to a reduction of remuneration, in so far as it is dependent upon profits ; but the financial sacrifice, wherever there is one, falls almost entirely upon those who took no part whatever in the original dispute and had no power to bring it to an end—the so-called Capitalists.

We might get a better understanding with regard to the rank and file of employees, if we recognised that there were three types of organisation at work,

all going to make up a business house : Labour, Management, and Capital. Further, a recognition of this fact is absolutely essential before we can really expect that either Labour or Management will reach its full level of efficiency. By recognising that there are other factors besides their own, and that it is not a question of pleasing themselves, or of issuing orders on the one hand and expecting them to be obeyed ; and, on the other, of determining whether they will, or will not, obey those orders. In each case it is a question of belonging to an organisation, by virtue of which they have certain rights and privileges, and also certain duties and responsibilities. It is, of course, an axiom that there can never be rights without responsibilities, but we all tend, naturally, to claim the one and to neglect the other. Now, there is above all things the necessity of carrying on the work. If the work is not carried on there is a failure on the part of all, but particularly on the part of those whose fault it is that the stoppage has arisen. So long as the view is almost universally held that people go into business simply for the sake of the amount of money that they are able to extract from the business, it is useless to expect any very strong sense of duty or responsibility on the part of anyone connected with it. We must get a much clearer idea than that as to what we are there for, before we shall get a glimmering of what it is up to us to do in the way of " carrying on."

There is, of course, no perfect institution in this very human world of ours, but it is at least possible to point not merely to individuals but to whole groups of individuals who for a very considerable number of years past have contrived to work upon these lines—that the work is the all important thing, and the wealth that they get out of it a matter of secondary importance, which will follow. (That, again, is a question of having faith.) We can point to such examples, and, that being so, we can well ask ourselves why they should not be extended. In most of the professions we find that there is some such ideal operating with the vast majority of those who follow the profession, and probably we shall find that the percentage of those who are true to such an ideal is highest among those who are following an artistic profession. We do not as a rule find that those who are most true to the ideal are those who make the least out of it. However that may be, we may be quite sure of this, that whether or not they are as wealthy in proportion to their skill and opportunities as those who follow business as a career, they are infinitely happier and more contented, and it is a very open question—and I should imagine that a great many working people are now regarding it as more than an open question—whether an increase of wealth always means an increase of happiness.

However that may be, we cannot reasonably expect to put back the hands of the clock, and, that being so, as regards those who have to make their

living out of industry, not by means of their brains but by means of other hands, they have got to face the fact that unless they are content with a very small income indeed their work will have to be done for them largely by means of machines of a highly specialised character, which involves their concentrating their life's work not upon "things," but upon minute parts of things to a very large extent. It is not to be expected that the individual worker can get quite the same satisfaction out of making parts of something which he perhaps has never seen as a connected whole, as the old-world craftsman might have got out of constructing an entire article from start to finish ; but the modern worker may secure a good deal of that satisfaction if—and only if—he concentrates upon doing the work that he has to do to the best possible advantage in the best way of which he is capable, and one of the most important and most arduous of the functions of leadership—we might almost say the most impossible, in present conditions—is to get the rank and file to appreciate that as a living truth ; that they have responsibilities, just like everybody else, and that satisfaction with their condition in life is not to be expected until they are really trying with all their power, using every possible opportunity of keeping their end up. That is to say, the real function of the leader, when we get down to bed-rock, is to inspire loyalty.

Here, again, if we get back to first meanings, we shall find that it clears up a good deal of misunder-

standing. Loyalty does not mean doing work in a satisfactory way for somebody who takes no interest whatever in us, and recognises no duty whatever towards us. If the word means anything at all, the idea it conveys is the idea of being true to one's King—and a king is an entirely different person from an emperor as far as words go. The word " emperor " simply means the man who gives orders—the man who can give orders and must be obeyed ; that is, the ruler of a conquered race. The king, on the other hand, is the head of the clan, or family ; one who is akin to all his people—the one to whom naturally they owe fealty. In being true to him, they are simply being true to their own selves, or at least to the best part of themselves. There is no loss of self-respect whatever in an unreserved loyalty to one's own family.

It is not by any means an impossible ideal, however difficult it may be of achievement, to regard all of those who are associated together in any business enterprise—whatever it may be, and however large it may be—as having in one sense become members of the same family, " members of one body," each having duties to all the others, and to the body as a whole ; but on the condition that every other member of the body equally has duties to them. That is to say, they have got to pull together, and realise the idea of companionship. If once we can get that ideal at work, we shall find that really without any particular effort upon anyone's part Efficiency will follow.

This is not altogether a wild dream; it is not something which has never happened in this world, and in all probability never will. It is the kind of thing that has been accomplished in the United States at any rate in some dozens of cases. It is not, perhaps, anything like such an accomplished fact in this country, but we have got very near to it in some cases, and probably we shall get nearer. So far as my experience goes, it is only upon these lines that one really approaches the real efficiency of combined effort, and it would certainly seem to be only upon such lines that we can expect that any scheme of organisation that we may build up will stand the strain of continued bad times.

"Fear not: believe only."

"Only believe, and ye shall see."

Chapter IV

MORALE.*

"Let not your heart be troubled."

It remains for us to consider the bearing of what I have called "Morale" upon Efficiency. In general terms, what we mean by Morale is the manners or customs of any group of persons, large or small, and there may be either bad or good Morale. But although that is so, and although also the Morale of any particular group may very well be modified from time to time, Morale is something quite different from mere mood. It is something very much more ingrained. We might almost regard it as comprising the qualities of the inner self; the qualities that provide a power of resistance against outside forces that it is determined to combat. Morale is accordingly a matter of paramount importance in connection with Efficiency, and it is of paramount importance that we should establish the right type of Morale, or we shall find all our efforts to attain Efficiency absolutely unproductive.

*A lecture delivered at the London School of Economics and Political Science on the 22nd June 1921.

The morale of a group of individuals (which we may regard as their collective morale) may, I think, to a large extent be regarded as some sort of crystallisation of their collective thoughts and feelings. It is partly inherited and partly acquired from teaching, but in so far as it is taught, it is very much more than discipline. "Discipline" is a word which implies something acquired as a result of teaching; but discipline may be, and very often is, nothing more than a habit of mind that tends in the direction of doing what is expected or desired—a habit of conformity, which by no means necessarily is thoroughly ingrained in the individual, and has therefore become an essential part of his character; whereas morale is very much more the real person. It may be, of course, that the real person is unknown to the individual, and the revelation of the real person may—and in moments of stress quite often does—come in the nature of something very like a great surprise. It is one of the functions of a good leader not to be taken by surprise at any manifestation of morale. It is his function, I think we may take it, to see that the morale takes the form of a preparation to provide an effective resistance against the undesirable that may happen from without: a condition of affairs that will ensure that the fruits of his leadership may be reaped, whatever happens.

In so far as morale is inherited as the result of racial instinct, we may be quite sure at least of this, that it is far less likely to change from time to time

than when it is the result of training. The racial instincts will always be those that are most deeply ingrained. Arising out of that, it is open to question whether it is reasonable to expect real efficiency when one is dealing with groups of individuals of mixed races. The mixing may be, and very often is, unavoidable ; but it is a source of weakness. It is not the habit of business men as a rule to take into consideration at all the question of race in the matter of deciding what positions shall be filled by different individuals, but it is certainly interesting to bear in mind that F. W. Taylor speaks in one of his books of considerable success having attended experiments in the direction of dividing workers into groups (where it may be practicable for such a division to take place) according either to their nationality or their religion, and then putting it up to them, as homogeneous teams, to compete with other teams. The results, he tells us, were entirely satisfactory. The experiment would, of course, by no means always be possible, and it does not follow, on that slender evidence alone, that it would always work equally well ; but, in so far as we are going to rely for efficiency upon effective team work, it is clear that we must consider the question of nationality. Any sort of cross-current that tends to divide humanity into groups is something that we cannot ignore—something that may seriously interfere with our team work.

In so far as morale is the result of teaching, we have to remember that we cannot begin to speak of

it as morale, as distinct from training or skill, until it has become a distinct habit of mind and of feelings ; a habit, therefore, likely to be sufficiently permanent to be regarded as something that we can rely upon for our purpose.

However nebulous it may be, I think we may take it that, deep down, everybody has some objective in life, although on the surface we may see perhaps very little evidence of it. So, in connection with this question of morale, we may appropriately review the question of objective, and I think that we shall find that we may look at it broadly from the point of view of someone passing down a road. He may walk on either side of the road, and may readily cross over from side to side ; but after a time the road forks, and then if he finds that he is not in the turning in which he wants to be, he has either to go back or else, with considerable difficulty, to find some cross-cut leading from the wrong road to the right one. On the one hand, before we come to the dividing line, we may very well say that one definite objective in life is represented by the term " individualism." Individualism has many advocates, and at all events in the first stages, one can have nothing but praise for it. The first stage of all, perhaps, is the recognition of one's responsibilities, and of the fact that one has got to bear one's own responsibilities or burdens in this world ; that it is up to one to look after oneself ; that we must first make ourselves fit before we can reasonably hope to help others. If we concentrate upon that too much,

however, it necessarily follows that we are so busy bearing our own burden that we think very little about the burdens of others. Forty or fifty years ago there was a very widely read book called "Success in Business"; one of the maxims in that book was, "Have nothing to do with an unfortunate man." That is a perfectly logical statement of one of the ideals of individualism—to cut out of one's life all that will interfere with its progress. But what an objective in life! At the present time we hear, perhaps, little about Self-Help, but a good deal about "Self-Expression." Every individual, no doubt, has the right, if he can, to express himself—that is to say to leave his mark in the world as an individual, and not merely as one of a crowd; but self-expression can lead to all sorts of excesses, and at all events in some cases it does. It leads some people, for instance, into the writing of books that ought to be burned; it leads other people into the Divorce Court, and so on. Then we have Self-Interest—the keen appreciation of the main chance, and what is going to help one and carry one along. If we concentrate upon that too much we naturally—by the law of nature which tends to atrophy everything that is not used—take less interest in the welfare of other people. We then come to what may be frankly called Selfishness—Self-Absorption—a really hardly sane frame of mind, in which one seems to regard oneself as the only living being in the Universe, everybody else being more or less a mere shadow. That is to say, we are on the one side, and everybody

else is on the other side. You have only got to look at it from their point of view to recognise that you are, from their point of view, without the pale—an outsider. Surely this is not the way to get effective team-work ?

Let us now see where the other road might take us. We start with the idea that it is not good for man to be alone, and, therefore, that there has got to be in some kind of combination. The word " combination " means, of course, " two together," but we are not necessarily limited to two, and as ordinarily used, the word does not express merely the combination of two, but of a number of persons. We get a very intimate or personal aspect of combination if we speak of it as companionship, or comradeship. Companionship is really the sharing of bread together ; comradeship is literally the sharing of a room together. But, curiously enough, both these relationships do not depend upon there actually being anything to share. There may be companionship among those who have nothing to eat, and there may be comradeship between those who have no roof over their heads. There was certainly a fair amount of both in the trenches. Along this road we realise that, by uniting together, we can become far more formidable for any kind of combined effort, whether it be for attack or defence, and, of course, in business nothing upon a scale worth speaking of can ever be achieved by a single individual working alone. In some branches of activity, perhaps, more may be possible than in others, but

nothing really worth regarding as considerable is ever possible to one human being unaided. If, for that reason alone, we seem, therefore, to be very much more upon the right road if we keep to this side of it.

Combination leads naturally, if we combine with Intelligence, to Organisation—that is to say, to the formation of a combination which aims at encouraging, as far as may be desirable or necessary for the work in hand, specialisation in different kinds of functions, but specialisation which will never lose sight of the importance of the interplay of a team. In that way, and upon those lines, big things in every sense of the word can be accomplished, because we have got big ideas instead of belittling ideas.

This reflection has nothing whatever to do with the view that has sometimes been expressed that "Labour" (meaning manual labour) is the sole source of production of wealth, and that everybody else is a mere parasite living upon Labour. It does not mean that at all; but it does mean that where there is combination in the proper sense of the term, of working in a team (the team may, of course, be sub-divided to any extent), we are excluding the other possible idea (or objective) of looking at life—or for that matter at business—as a form of war. For purposes of efficiency we have clearly got to root out the idea that there should be, or must necessarily be, a state of war between those who are members of the same business house. We can go further than that, and say that there is not the slightest reason

why there should be a relationship akin to war as between business houses, even although they may be what is called competitive. Take the case of a Public School. For convenience of organisation, the boys of a public school are divided up into "houses," and in the same way the students in a university are divided up into colleges. For the purpose of encouraging efficiency—sometimes in sports alone, and sometimes in work also—these houses are put into competition with each other. It is not only possible, it is a common thing, for a very lively state of competition to exist between the houses without anything approaching feelings of enmity. There is really not the slightest reason why competition, properly carried on, should produce feelings even approaching enmity; and it will not, if we are able to get what it seems to me is a proper conception of the true unit in business life. I shall come to that in a moment, but there are one or two points that I want to bring before you first.

First of all, there is the idea that there need not be enmity between competing business houses, and, still more, that there need not be enmity between a business and its customers, from whom it draws its livelihood. That idea is not mine (as a matter of fact I do not think that any of the ideas which I am putting before you in connection with this course originated with me, although, perhaps, I may be collecting them together for the first time). The idea that business can best be conducted on what we might call non-warlike lines is the keynote of

that very large group of business men throughout English-speaking countries who are members of the different Rotary Clubs. As I daresay you have noticed, a delegation from the Rotary Clubs in the States is at present* in this country; but there are Rotary Clubs here, too, and have been for many years. The motto of a Rotary Club is "Service before Self." That is to say, the *primary* object of the business house is not to take money out of its customers, but to provide them with something they want. That idea was certainly not born of individualism.

On the other hand, by way of trying to keep the balance fairly, I should like to mention that, in support of individualism, it is often said, and very rightly said, that the true source of wealth is the brains of the good employer—the man who by his knowledge, skill, and research ascertains what is wanted and the best way of providing it, and is thus able to give employment to others who could never have ascertained those things for themselves, and would not have known what to do with the knowledge if they had got it. There is a great deal of truth in that, but it is simply another way of saying that no highly organised body can live without its head. It all amounts to nothing that need worry us at the present time, if we adopt the view that all those who are pulling their weight in the boat—no matter how—are co-workers, and that the efficient cox is a co-worker too. If we take that

* In June 1921.

view, then clearly those co-workers are the source of all wealth, and we may be quite sure that their productive capacity will depend partly upon the skill of those connected with administration, partly upon their credit (which enables them to obtain the necessary supply of capital), and partly upon the support they are able to get from the rank and file, which support will depend partly upon their ability as leaders and partly upon the worthiness of the led. But it is not until they have all been welded into one effective body that we shall find that there is much for anyone—certainly not anything like as much as there ought to be—and, of course, where there is less wealth produced as a result of effort than there ought to be, naturally there are likely to be differences of opinion, and heartburnings, as to how the wealth ought to be shared. If production were enough, then clearly, if all were reasonable, the division would be a comparatively simple matter.

Good Morale, in effect, I think we may take it, is Efficiency based upon good training, by wise leaders, in an uplifting cause. And in proportion as the intelligence of the general body of workers increases, so will increase the importance of the cause being a sufficiently uplifting one to produce good Morale. When we find that Morale is not merely what we may regard as a favourable atmosphere to work in, but a real driving force, it is clear that it must have been kindled into something like enthusiasm, and for that purpose we shall want something which, if we do not fight shy of the expression, we

may perhaps best describe as " hero-worship " ; and it is probably where we are not frightened of using that expression that we are most likely to find that such a state of enthusiasm exists. I really do not know why anyone should hesitate about using the word " worship " in this connection. It is not really in any sense an exaggeration, if you bear in mind what the word means. Worship is really nothing more than an acknowledgment of worthiness, and is so used in connection with such a title as " His Worship the Mayor," or " The Worshipful Company of Painters." But, if the use of the term is unobjectionable when we bear in mind how comparatively colourless it is at root, it has at least this advantage, that we have come to regard it—it is perhaps one of our racial instincts—as involving self-surrender. And forgetfulness of self is essential for a good morale, which, in its turn, is essential for efficiency.

The advantage of a frame of mind like this is that it makes it easy for us to realise what the rank individualist would never be prepared to concede : that self is not the important unit—that the individual is not the unit at all, but that he is a part only of an organisation without which he cannot exist, and in which he is—or should be—an essential part. It makes it possible for us to realise that the world is not a fortuitous collection of individual independent beings. When we have once come face to face with that we shall find that it is not an assertion that stands alone, uncorroborated by anything

else observable round about us. It fits in with what we know to be a scientific truth : that a living being is not merely one person, but contains within his body enormous numbers of other living bodies, each of which in its turn contains other life, and so on, apparently, to infinity. In the purely physical sense of life within life, we are able to say (or we think that we are) that we stand at the top, and are not atoms within a bigger physical life ; but we do see that when we are working together efficiently in teams, although that state of affairs does not give rise to a superior, containing, physical body, it does give rise to at least a conception of a body, of which each member of that team is a member—a very real body, which we sometimes express as being " the house," sometimes as " the trade," sometimes as " the country," sometimes as " the church." It is a conception which we may all recognise, that when a sufficient number of persons pull together in a particular direction, they build up into what we may, for want of a better term, describe as a spiritual body, within which they all dwell, and which—to put it at its lowest—assists in their well-being so long as they assist in its.

If we realise this, it gives us, I think, a far better idea of the importance of effective team play than we could get by any other means, because it puts before us, so to speak, a superior ideal—not merely our own welfare, but the welfare of something better than ourselves. At times like the present it is, of course, very uphill work—everybody finds it so—

to keep morale even where it stands, and almost impossible to improve it. That is apparently due to a very widespread feeling, for which, clearly, there is abundant cause, that those who have gone through the trials of the war, and 'done their bit," have earned the right to rest. I think we must all admit that, so far as the right goes, there is probably a good deal in that contention ; but if everybody who had done his duty during the war were now to sit down and take his rest, I am afraid that those who did not do their duty during the war would be found quite insufficient as regards both quantity and quality to keep the world going. So that, however desirable that state of affairs might be, it is frankly impracticable.

But, after all, while any of us are here, can we really think that we have "done our bit" and finished our work ? When that time does come, surely "our numbers will be up." While we are here, we may take it, I think, as very reasonable to suppose that we still have work to do. In this work that lies before us, of building up this country in such a way that all may not merely understand, but may actually realise, that they are parts of a very much larger and very much more important body, clearly all can help, and equally clearly all can mar. I think we may take it that there can be no real Efficiency save by general consent. Efficiency is not a state to be brought about by any small number of enthusiasts, but must be a state of heart generally assented to. We must want

to be efficient before anybody can make us efficient by any formulæ. Can we yet honestly say that we want to be efficient? The demand at the moment seems to be rather for prophets than for mere system-mongers.

"I am the Vine, ye are the branches: He that abideth in Me, and I in him, the same bringeth forth much fruit: for without Me ye can do nothing."

Appendix

"UNREST" AND ITS CURE.*

Fidgeting and Brooding which is without Dignity of any Sort.

By John Murray, M.P., for West Leeds.

For some time now Mr. Murray has been engaged in a series of public debates with leaders of Labour, Socialism, and Communism round London.

Unrest, of course, is one of the great modern discoveries, the fruitful subject of much talk and lecturing and writing and debate. Half the country is in the grip of unrest, and the other half searches earnestly for the cure of that unrest. Thus the two halves, each performing their due part, exhibit the great principle of the division of labour.

But the unrest abates nothing. It even gathers force and confidence from recognition. It feeds on the very solicitude and all the inventive thoughtfulness of those who would fain cure it. Unrest is,

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wives, bad husbands, bad children, bad friends—anything, in fact, that can be bad. All spleen and spite, all weaknesses, all the dulness of despair, vent themselves in industry. Capitalism, as a system of co-operation, is not very different in spirit from those who work under it.

People who make Difficulties.

The Socialists blame the Capitalist system with sublime naïveté. The system has its faults. But much of the blame lies with those who wish the system ill, who embitter its working, who are so constituted that they would impede the working of whatever system they were born under. There are always multitudes of people who can only make themselves felt by making difficulties, and their ambition has to be satisfied.

So many outward conditions contribute to unrest that the complete cure of it, through treatment of these conditions, must be inconceivably difficult. Pending that remote and unthinkable triumph of human ingenuity in the manipulation of what cannot be manipulated in the sense in which Socialists think it can, let us consider the inward conditions of the cure.

Much unrest is mere fidgeting, and without dignity of any sort. Much is brooding, and contrary to good sense. Much of it is lack of self-control. It is a very unhappy and unfortunate state. But very often the wisest and kindest thing that can be said to the sufferer is, "Rise up and get out of it."

Serenity about the Old Earth.

A much better cure than Socialism for unrest would be serenity. Several Socialist audiences have taken this suggestion from me rather badly. Nevertheless, I believe it is almost the best that can be offered to them.

No one has a new Heaven and a new Earth to hand to them, complete, over the counter. These things come piecemeal, in very small pieces and exceedingly slow. In the meantime, there is a gain in cultivating serenity about the old earth we have to live on.

That serenity offers no spectacular victory over the environment or the system, and no outward pomps of success. The gifts of spiritual control are impalpable and unheard.

Others know of them only by their fruits; only by a revivification of charity, by the forbearance and the toning down of crude egoism that sweeten and lighten the whole movement of life.

The speeches of Socialists begin, usually, with respectful obeisances to brotherhood and the golden rule, and from thence advance at a bound to the fierceness of class-egoism and the mad hope of making everybody happy and good by prodigies of thoroughness in changing the system and the machine.

They think themselves a salutary tempest, and will not listen to the small still voice. They pay lip-service to moral and spiritual things, yet sow the ambitious bitter seed of unrest and forget that the beginning of improvement is that a man should keep the peace of his own soul.

"This is not the End."