

BRITISH BROADCASTING CORPORATION

MUSIC
WHILE YOU WORK

A summary of research on
Music in Industry

by

WYNFORD REYNOLDS

Music is a mental stimulant. It has a humanizing effect which helps to counteract the evil effects of the mechanization of the worker. This indirectly is a decided benefit to production. (MEDICAL OFFICER)

It is one of the finest things ever introduced into industry for the benefit of the workers. (SHOP STEWARD)

For an hour or an hour and a half after a programme of music production is increased by 12½ to 15 per cent. (MANAGING DIRECTOR)

The right music is a mental tonic and is especially appreciated by those engaged on monotonous and repetitive work. (WORKS MANAGER)

Please may we have more music? In this cold weather music helps us to forget the cold, and so we can do more work.

(A FACTORY WORKER)

PRICE TWOPENCE

FOREWORD

Frequently I am asked the question 'Who first thought of "Music While You Work"?' Well, we all know what the question 'Who invented the tank?' has led to in the way of rival claims and arguments. I feel it is safer to say therefore that, broadly speaking, no one person was responsible for the invention of 'Music While You Work'. Like Alice in Wonderland it just grew and grew. Certainly in our museums we can find many examples of early Grecian art portraying men and women working to the accompaniment of flute and lyre. 'But,' you may say, 'how and when did it start in this country?' Again I will avoid being dogmatic and simply quote from one of the reports that has been brought to my notice. 'The employees of an important engineering firm had to march up and down at four miles an hour, for two hours at a time, testing breathing apparatus. In order to break the monotony the management introduced a gramophone and played such stirring marches as "Soldiers of the King".' When did this take place? Thirty years ago, and, as the report goes on to say, 'the effect on the men was so marked that the works have had music ever since and now every shop is linked up with radio'.

This brings me to what we know of the radio development. In 1936 installation firms were testing the reactions of works managers and executives throughout the country to the introduction of music in factories, and at that time the response was not too encouraging. In many quarters, indeed, the idea was regarded as fantastic and 'pampering'—a matter not to be associated with serious work at all. By 1937, however, the idea had taken root, and installation firms were receiving an increasing flow of orders and enquiries. Managements had at that time to rely on their own programmes of gramophone records, as the average broadcast programme was not suitable for the working conditions.

It is 23 June 1940 that stands out as a landmark in the history of the development of 'Music in Industry'. On that date, and after consultations with industrial and welfare organizations, the BBC inaugurated a series of programmes intended to meet the special requirements of working conditions, and these programmes were given the title that is now familiar to every working man and woman—'Music While You Work'. The programmes were broadcast daily from 10.30-11 in the morning, and from 3-3.30 in the afternoon, and they were at that time supervised by Dr. Denis Wright and Mr. Neil Hutchison, whose pioneer work during those early experimental days was of great value. With their many other duties, however, it was only possible for them to devote part of their time to the work of supervision and consequently, in May 1941, I was

invited to join the BBC staff as organizer of the 'Music While You Work' programmes.

In sketching briefly my work in this capacity, I may say that I have found it to be of absorbing interest, embracing, as it does, three subjects of particular interest to me—music, social welfare, and production. I have visited factories up and down the country covering processes ranging from the production of sausages to the building of tanks. Valuable information was obtained from an experimental week organized in July 1941, during which factory managements were invited to send reports to the BBC's Listener Research Department on the programmes broadcast during that week. A number of factories have continued the good work by sending me weekly reports on specified programmes. I have had, also, innumerable discussions with health and welfare officials, managements, and workers, installation firms, and others interested in the subject. From this varied research I have been able to build up some knowledge and understanding of the many problems involved in the application of music to industrial conditions. One result of this research has been the introduction on 2 August 1942 of a third programme session at 10.30 at night for night workers. To-day 'Music While You Work' is heard in thousands of factories throughout the country, and every week the number is increasing. I hope that this booklet will be of some interest and help to all who are concerned with 'Music While You Work'.

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WYNFORD REYNOLDS

MUSIC WHILE YOU WORK

The importance of music in industry is being appreciated to an ever increasing extent by all those who are concerned with the betterment of working conditions and the stepping-up of production. Managements who are using music wisely and intelligently are convinced of its value and have not the slightest doubt that, directly or indirectly, music increases output. Research has proved conclusively that music acts as a mental 'tonic', relieves boredom and encourages the tired worker, promotes happiness, improves health, lessens nervous strain, and gives increased production. The BBC's programme policy is based on the opinion that 'Music While You Work' should not be considered as a means of increasing the rate of working during a programme period, but should rather be looked upon as a tonic which will so improve the morale of the workers that output will be stepped up during the whole of the work spell.

With a recognition of the tonic properties of music it will be realized that before applying music to industrial working conditions a careful study should be made of the subject. Much harm can result from lack of knowledge of certain fundamental principles, and the Corporation hopes that the following summary of the main findings, coupled with certain suggestions, may be of some assistance to those seeking information or advice.

PRINCIPLES OF PROGRAMME BUILDING

Programmes should contain as much variety as possible. Although dance music is the most popular—and it is true that it can most easily create an atmosphere of cheerfulness and gaiety—there is no doubt that the too-frequent repetition of certain dance tunes may result in irritation and annoyance. There is a big demand always for other types of music such as Viennese waltzes, selections from light opera and musical comedy, marches, and intermezzi. It has been found that, in general, men and women workers have similar tastes. It is natural, however, that certain differences should be found in the preferences of age and youth. Young people ask for more dance music, whereas older folk wish for something more solid. Young or old, however, there is the same desire for 'singable' melodies. Another point of interest is that workers engaged in heavy industry generally want music of the more robust type, whereas those engaged in light industry, and especially repetitive work, show a preference for dance music.

Up to the present, reports have shown that the following is the order of popularity for broadcast purposes:

1. Dance Bands and Novelty Combinations (of the Accordion, Mandolin or Banjo Types)

As has been explained, dance bands provide a successful medium for creating a spirit of cheerfulness and gaiety, and the novelty combinations, with their different instrumentations and tone colours, are welcomed for their musical variety.

2. Theatre Orchestras

The title 'theatre orchestra' almost explains itself. It is the type of orchestra that one associates with the theatre or music-hall. Orchestras of this kind possess a versatility of performance, combining certain dance-band features with those of a light orchestra, and this enables them to play programmes of dance music interspersed with light orchestral items. This variety in their programmes, added to their bright music-hall style, makes them popular with both managements and workers.

3. Light Orchestras

These orchestras play what may be called 'straight' programmes, consisting of selections from light opera and musical comedy, Viennese waltzes, intermezzi, etc., and such programmes help to break the monotony of too much dance music. Their style of playing being lighter than dance and novelty bands, they are more satisfactory in shops where there is a minimum of machine noise.

4. Military and Brass Bands

These bands are popular with older workers, and especially with men engaged in certain branches of heavy industry where the initial exhaustion is physical rather than mental. They are less popular generally with young workers or in light industrial shops where the tasks are repetitive. Many factories have their own bands and, therefore, have a special interest in brass and military band music.

5. Gramophone Records

Gramophone record programmes form an essential part of 'Music While You Work' if only for the fact that most managements consider it necessary to supplement the BBC's programmes with their own programmes of records. The records must, however, be chosen with great care, and the requirements essential for 'Music While You Work' observed. It is advisable for managements to appoint a responsible person as Programme Supervisor, whose duties should include the choosing of records and arranging of programmes. The supervisor would be in a position to deal with suggestions and criticisms and would form a liaison between management and employees. It is usual indeed for many and varied requests to be received from the workers, but, while managements will always take into account the wishes and welfare of their employees, no requests should be granted that may be detrimental to the primary consideration—production. 'Music While You Work' should be an incentive without becoming a distraction.

PROGRAMME ESSENTIALS

The Corporation has found that the following essentials are necessary for programme building and playing.

Familiarity

Workers want tunes that they know, and the most popular and successful programme is one that enables them to 'join in' by singing or humming. If for any reason the workers felt it necessary to stop work to listen, there would be a slackening of output. Unfamiliar items are never therefore completely satisfactory.

Melody

Numbers that have no melody or that are so orchestrated or played that the melody is lost are unsuitable. The melody should be clear and well defined. The

workers want to hear the 'tune', and this tune has to 'ride over' any machine noise—music that becomes involved or rhapsodical has a tendency to sound blurred and meaningless when amplified for factory conditions.

Constant Tone Level

The tone level or volume should be constant. A disparity of volume may hardly be noticeable in an ordinary room, but in a noisy factory it becomes exaggerated. Some gramophone records vary to such an extent that parts of a record may be inaudible while other parts are distressingly loud. This drawback should be taken into account, not only when choosing records but also when arranging a balance of programme items. Obviously a bad effect will be produced if a record of a small string combination is followed by one of the massed bands of the Guards.

Rhythm

Some industrial psychologists are of the opinion that a rhythm should be chosen that is slightly in advance of the normal working speed of the operators, their contention being that such a rhythm will increase the rate of working. This theory is unsound. In all factories the processes are many and varied, and the working speeds of the operators vary accordingly; also, experiments have shown that the rate of working of the naturally slow operator cannot be stepped up to that of the naturally fast operator. Again, the maximum rate at which an operator can work is often governed by matters completely outside his control and may depend upon the machine and its particular cycle of operations.

It will be seen, then, that rhythm or tempo should not be thought of in terms of 'working speeds' but rather should be considered as a means of creating a spirit of cheerfulness and gaiety that can be of benefit to operators engaged on any and all processes. Dance bands are able to supply suitable rhythms for creating a bright and cheerful background to work, but all types of bands or orchestras may be satisfactory from the point of view of rhythm if the programmes are well chosen and played in a cheerful, bright, and liting manner.

Extremes of tempo should be avoided. Slow items may act as a soporific; fast items as an irritant. The rhythm should not be too strongly accented—drum solos can sound like machine-gun fire when amplified—'hot' rhythms may give a confusion of sound. Any numbers that depend for their effect on strongly accented rhythm rather than melody are unsuitable.

UNSUITABLE PROGRAMME MATERIAL

Vocal Items

The Corporation has found that vocal items are undesirable—they become intrusive and tend to distract the attention of the worker. For the same reason it is advisable to avoid broadcasting speeches during working hours. They invariably act as a distraction to the detriment of output. It may be necessary to broadcast special messages or calls but no inessential announcements should be delivered 'cold'.

Organs

Programmes played by cinema or church organs are unsuitable for amplification in factories, as the notes of an organ have a tendency to thicken and 'boom', so adding to the existing noise. Also, the dynamic range of the instrument is so wide that there are often considerable variations in the tone level. These faults are particularly noticeable in noisy shops. The melody is either lost altogether in the quieter movements or, on the other hand, there is a 'blasting' effect when the full organ is used.

Hot Music

Any music that can be termed 'hot', either rhythmically or melodically, is unsuitable. Deviations from the melody, such as is usual in stunt choruses by solo instruments, should be avoided. The melody should be clearly defined and the rhythm clear but unobtrusive. Lack of a melodic line, involved harmony and complex rhythm, all tend to create a confusion of sound under the test of factory amplification.

PERIODS OF MUSIC

It is important to recognize that a musical tonic diminishes in effect if applied in overdoses. It is better to give too little than too much, and for a normal working day two and a half hours should be sufficient. The BBC's specialized 'Music While You Work' programmes are broadcast daily from 10.30-11 a.m., 3-3.30 p.m., and 10.30-11 p.m. The majority of factory managements use their own gramophone records for other periods. Programmes of records have proved to be extremely beneficial when played as an antidote to nervous strain after air raids or at the beginning of the day's work when employees are depressed by bad news or weather conditions; or, again, when played towards the close of a particularly tiring day—in fact, at any time when a tonic is necessary.

EFFECT ON WORKERS

Monotonous Labour

It has been found that the workers who benefit most from musical programmes are those employed on monotonous and repetitive tasks. This class of worker can reach an acute state of boredom with a consequent relaxing of effort. Especially does this apply to female labour. Thousands of women have been drafted into industry and have undertaken jobs that are largely repetitive and monotonous. The use of music is of great importance as a means of helping these recruits to settle down to their new occupations. Music helps to break monotony and relieve boredom.

Skilled Labour

Workers employed on tasks requiring skill and mental concentration can derive considerable benefit from musical programmes, but it is especially necessary to ensure that the programme material, style of playing, and reproduction are satisfactory. Mental concentration can easily be disturbed, with resulting irritation, by unsuitable programmes or bad reproduction.

Executive Staff

Generally speaking, for executive and office staff music is unsatisfactory. The normal routine of an office cannot be conducted successfully against a background of music.

SOUND INSTALLATIONS

Installation and maintenance of sound equipment are of such importance that it is advisable to consult firms who specialize in this work. There are many problems that require the most expert consideration and advice. It is only the specially trained engineer who can have the necessary experience and understanding of factory noise conditions and their bearing on acoustic effects. Sound reproduction should be treated in just the same way as any other works service, such as lighting, power, and heat; in other words, as a service which has to be arranged to suit the actual work in progress. To mention one or two points: loudspeakers have to be so placed that there is an even distribution and diffusion of sound. It is usually preferable, for a large area, to have a number of small speakers placed at frequent and correct intervals than to attempt to cover the area with one large speaker, each small speaker being so adjusted that the volume is suitable for its particular position. It not infrequently happens that a service falls short of success entirely because the whole nature of the work in progress, and the grouping of the operatives, have been changed since the original installation was completed. When changes of this kind or structural alterations such as the building of blast walls are made, it is necessary for the factory management to consult their own suppliers to discover whether it is desirable to change the position or modify in some way the original sound distribution arrangements. The factory's Programme Supervisor should be responsible for reporting any alterations or faults that affect the proper balance and diffusion of sound, and these reports should be passed to the Installation Company's Sound Engineer so that he may make the necessary repairs, modifications or additions.

The right type of musical programme can be heard in the noisiest of shops if the right types of speakers are properly placed and adjusted.

CONCLUSION

This brief sketch of a large subject cannot tell the whole story. 'Music While You Work' requires continuing study, and research into the subject still goes on. There remains, indeed, much to be learnt, but one thing is certain. Music in Industry has come to stay.

Already some thousands of factories are using programmes of music during working hours, but it is safe to say that this is only a beginning. The movement is spreading rapidly and it is possible to foresee the day when every up-to-date factory will carry out its work to the accompaniment of music. 'Give us the man', said Carlyle, 'who sings at his work! He will do more in the same time—he will do it better—he will persevere longer'.