

tive occurred in United States ship building activities during the recent war. Most of you, doubtless, recall the manner in which individual riveting records bounded up as soon as newspapers throughout the country began broadcasting the various scores. I believe that by publishing the successful suggestions and exceptional outputs of workers in a shop, an improvement both in morale and productivity must logically follow; *provided that this is done at the instance of the workers themselves through their representative shop committees.* If high achievement in any line of activity is recognized as a pathway to honor, there are few human participants who will not strive for such attainment. This is a legitimate form of incentive appeal, because it awakens the impulse to honorable achievement for its own sake, which I am sure slumbers in most men.

It is often claimed that certain types of work are monotonous in the extreme, inherently uninteresting, and that the only possible stimulus to the worker engaged in such employment is the prospect of relatively high earnings. My answer is that industry has largely neglected, thus far, the important problem of making work interesting. Attention has focussed on increasing unit output and reducing unit cost, without reckoning the fact that the *subjective* interest of the worker is an essential condition of any genuine or permanent progress in these directions. I believe that there are few kinds of work that cannot be made interesting to the worker. With such expedients as frequent rest periods or, as I have heard suggested, teaching the operator of monotonous work a second somewhat different operation so that he can alternate from one operation to the other; and with the representative, sort of shop organization that I have emphasized, I am sure that an atmosphere of interest can be developed around most of this so-called uninteresting work.

The bonus incentive stimulates only a part of the worker's mental "surface," and I do not think that it is the best or most effective part. Also, if human beings actually possess any such instinctive pattern as that of acquisitiveness, which seems to be debatable,<sup>12</sup> its manner of influencing performance must be both artificial and indirect. Psychologists tell us that *curiosity, constructiveness and imitative-*

<sup>12</sup>Everett Dean Martin, "Psychology" (Lectures in Print), pp. 96-97.

ness are all included in the category of human instincts clamoring, presumably, for expression. These might, I think, be regarded as creative and constructive instincts and more legitimate media for incentive appeal, for by their direct play men learn and achieve.

"Subjective volition . . . it is," said Hegel long ago, "that sets men in activity; men will not interest themselves for anything unless they find their individuality gratified by its attainment." Mr. Smith has emphasized the fact that no incentive methods thus far devised have proven truly satisfactory, I am convinced that they will continue unsatisfactory until they have as their foundation a recognition of the fact that the real incentive to productivity is the worker's spontaneous interest in his work: This sort of interest is little influenced by the prospect of a bonus. It springs rather from the worker's inherent fitness for a particular kind of work, and from the opportunity for creative self-expression that the work affords. Artists, writers, inventors, mechanics, musicians, from time immemorial, have starved in garrets rather than forsake their creative opportunity. A means of subsistence was highly important in all such cases, but it was casual and in the nature of a right; something, as I have mentioned, to be taken for granted. I believe this to be the proper attitude toward wage payments. Psychology must tell us more than it has done about the nature of the stimuli that control human interest. Vocational guidance still has far to go in assisting the worker to his proper work. Industry must further develop its experiments in co-operative group activity. When more progress has been made in these directions new incentive methods will be found to have emerged, and I am sure they will be more vital and comprehensive than any piece work or bonus system thus far contrived.

Robert T. Kent.<sup>13</sup> I am inclined to disagree both with the author of the paper and with Mr. Wolf. I believe that both of them have made the mistake of arguing from the particular to the general, and whenever this is done false conclusions are very apt to be derived.

There is a place in industry for the financial incentive; there is a place in industry for the

<sup>13</sup>General Manager, Bridgeport Brass Company, Bridgeport, Conn.

non-financial incentive. Sometimes a financial incentive is applicable and not a non-financial. In other cases the non-financial incentive will achieve results where a financial incentive would be of little or no use. Still other cases arise in which a combination of both financial and non-financial incentives will best serve the purpose. No hard and fast rule can be laid down.

I have the highest respect for Mr. Wolf's achievements with non-financial incentives, and I appreciate the high motives and ideals which have inspired his work. Nevertheless, I believe his idea that the non-financial incentive will achieve all that it is desired to achieve by the use of the financial incentive is not based upon facts.

I recall an incident at the plant of a well-known manufacturer, which was inclined to do a great deal of so-called "welfare work." The impression got abroad that the expense of this welfare work was being carried by means of deductions from the payroll; in other words, had the company not engaged in such work it could have afforded to make a considerable increase in wages. One of the workmen was talking to the Works Manager about this and said, "Never mind the welfare work: you put what it costs in the pay envelope and I will do my own welfareing."

During the past three years it has been my good fortune to supervise all of the industries in the New York State prisons. Prominent among those industries was the manufacture of automobile license plates. At the time that we took hold of the industry, the production was limited by a self-imposed task on the part of the convicts to sixteen hundred pair of license plates per embossing press per day. A brief study showed that at a conservative estimate not less than twenty-six hundred pair could be turned out in the prison working day of six hours. The prison officials assured us that any attempt to increase the output of the presses beyond sixteen hundred pair per day would result in an actual decrease of production, that the two crews who operated each press would refuse to make more than eight hundred pair each. The theory was, that when they had finished the eight hundred pair per crew, all the time saved belonged to the men and that they could amuse themselves in various ways as best suited their own convenience. This idea had tacitly been accepted by the prison officials and the limi-

tation of output had come to be regarded almost as a vested interest by the convicts. As a consequence of this attitude on the part of the prison officials and the convicts, the various crews on the embossing presses would finish their task at from one-thirty to two o'clock every afternoon and the presses would remain idle until quitting time. The situation was an extremely serious one for the reason that the buildings had reached the limit of their capacity for the installation of new machinery, while the demand for license plates was increasing at the rate of about fifteen per cent per year. A temporary solution was reached by adding a third crew to each press, and allowing them, for the time being, to continue at the same rate of eight hundred pair of plates per crew. This immediately raised the output to twenty-four hundred pair of plates per day.

Shortly after the addition of a third crew to the working force, a piece work system of wages was introduced into the prisons. The amount of wages paid was small—the maximum being in the neighborhood of fifteen cents net per day per man. Instead of paying each of the three men on each crew, the wages were paid to the press on the basis of twenty-four hundred pair of plates per day and the crew divided the earnings among them. Shortly after the institution of the wage system, a delegation from the original crews of the press inquired as to whether or not they would receive the same amount of money for embossing twenty-four hundred pair of plates if they dispensed with the third crew. They were told that not only would they receive the same amount if the work was done with two crews, but if one crew found that it could handle the work alone it would receive the same money that was being paid to the three crews. We were paying for output and not for time. By means of the gentle diplomacy, known to convicts, the third crew was eliminated from the presses within a week. After a brief period of operation at the rate of twenty-four hundred pair of plates per day, to ascertain whether there was any catch in the arrangement, production began to creep up, until toward the close of the manufacturing period, we were obtaining twenty-six hundred, and in some cases, twenty-seven hundred pair of plates per press per day.

The incentive in this case was purely financial; non-financial incentives would not have served.