

the primary products while other chemicals, drugs, dye-stuffs, etc. could further be extracted.

The gravity of this situation and public responsibility in the matter will only be met when the facts become generally known and appreciated. Already a certain number of progressive concerns, employing expert advice and organizing their power production along more intelligent lines, are eliminating this wanton waste.

One of the reasons why the general and immediate enforcement of so obviously urgent an economy lags, is to be found in certain aspects of the present system of financing industrial corporations. Paradoxical as it may appear, it is nevertheless often true that a private company wasting fuel does not suffer appreciable loss thereby, and succeeds not only in transferring the expense of such waste to the public, but moreover, often charges the same public with the interest thereon. To illustrate, without being specific, many public utilities companies petition the public service commissions to permit the advance of rates for electricity or fares. The public service commissions, in granting such petitions, act on the presumption that the efficiency of plant operation in the plant concerned is as high as the state of the art permits, which, in point of fact, is far from being the case.

In view of the fuel famine which the country is facing, according to all indications including the present coal shortage of 144 million tons, and the general industrial and labor crisis sure to result therefrom, and speaking from constant practical contact with the power problem, *we respectfully beg to submit* for the consideration of *The Secretary of the Interior*, the following suggestions of alternative methods of amelioration that could be employed without delay pending, and preliminary to, the more radical measures which the Secretary of the Interior is evidently laboring to bring about, but the installment of which will require considerable time:—

(A) Either by supplementing the present powers of every public utility commission, or by creating a federal power commission, to provide the necessary authority and means for determining by experiment and research the maximum allotment of fuel per unit of electrical output or per minimum thermal efficiency, in regard to each individual plant. Data so ascertained is to be used as a basis for the determination of the maximum charge permissible for the electric current generated in each plant. Such a course will render unprofitable the toleration of preventable

wastes, and the whole mountain of present public loss included in that avoidable waste. Incidentally, it will also tend to lower the cost of electric power.

The electrical authorities should require, as a means of keeping in touch with actual progress of the elimination of this waste, a simple chart—to be kept and reported weekly or monthly to the power bureau—showing on a percentage scale the relations between the coal consumed and that allotted.

(B) Or the Nation may take over the management, operation and distribution of electrical power supply, beginning gradually with the largest establishments, securing the holders of all stocks, debentures, bonds, etc. of such public utility corporations by means of a single bond issue with fixed interest. The officials of the managing power commissions—operating the plants—to be appointed; one-fourth by the government, one-fourth by labor, and the remaining one-half by the recognized national engineering societies;

(C) Or, as in the case of minors, incompetents or wastrels, the power plants under incompetent management and wasteful operation should be placed by courts of justice or public service commissions under the trusteeship or guardianship of competent management engineers associated with representatives of the Government and of Labor.

It is pointed out that the operation of any of the above alternatives does not call for the installation of any added machinery or other plant equipment,—a not unimportant consideration.

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EXCERPTS

ONLY a little while back the workers could conscientiously, and actually did, hold back on production. "Soldiering" on an essentially international basis was practiced pending the time when labor could measurably control the division of the proceeds of a more efficient industry. But the balance as between the employers of the world and their employes which has resulted from the war has so altered this situation that in every direction we see indication that the workers of the world—organized or unorganized—are coming to feel some measure of responsibility for pro-

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duction and are manifesting an increasing interest in the principles and mechanisms through which production may be increased. We need constantly to remind ourselves, however, that the employing class has been guilty of many varieties of sabotage as, for instance, when consciously placing in executive positions those not fitted properly to carry on their functions. If the employers under the new dispensation are to have a right to call on their employes for full performance, the latter certainly have the right to demand competent leadership. The day does not appear to be far distant when this right will be exerted. (Morris L. Cooke in *The Annals*, No. 174, p. vi).

A STRONG argument in favor of opening an employer's accounts to his employes is that through knowledge of the accounts employes gradually learn that new capital is frequently needed, and that in most businesses money has to be borrowed at some peak of business; so that the employer must have credit at the places where money can be borrowed. A curious illustration of this point came to light this Summer in a canning establishment in the Middle West, which has a strong peak lasting from three to four months. The business is really managed by a mixed committee containing manager, directors, and foremen or heads of departments, all of whom are profit-sharers. The company is new, and has no credit as such, the borrowing power lying with the manager. Knowing that a considerable sum of money would have to be borrowed in order to carry on the business during the peak, the managing committee insisted that the life of the manager should be insured for an amount which would cover the habitual borrowings of the peak. The managing committee took this action because it wanted to be sure of the money necessary to carry on the business, in case the manager should die before or during the peak. These profit-sharers had learned in a few months much about the proper coöperation between capital and labor, although the plan of profit-sharing under which they were working was a defective one. (Dr. Charles W. Eliot in *The New York Times*, Sept. 21, 1919).

ANY kind of profit-sharing will succeed which appeals to the fundamental motives that have for centuries past induced men, rising out of barbarism, to be industrial and frugal, and to keep their promises and contracts. These motives are love of home and its surroundings, and of parents and brothers and sisters in the first home of wife and children

in the second, the desire to have steady employment and to accumulate property for the sake of home and descendants, and the hope of freedom from the dread of disabling sickness or accident, or premature death, and a forlorn old age. Free Governments give these motives play, and a democratic administration of business will do the same. Genuine partnership between labor and capital will develop and satisfy these motive powers in both the partners, because every good profit-sharing scheme turns out to be for the advantage of both parties. . . . It follows from these considerations that a democratic organization of industries need not be dreaded by anybody, provided that the human motives for steady, faithful work, for habits of saving and accumulating, and for unselfishness in individuals, families and classes be not only preserved, but reinforced. Whatever doctrine impairs these motives, like socialism, drawing-room or Bolshevistic, or the labor-union teachings which would bring about diminished productiveness, is to be dreaded and resisted by lovers of liberty and justice for mankind. (Dr. Charles W. Eliot in *The New York Times*, Sept. 21, 1919).

MEN are of two broad types, namely: the engineering type and the executive type.

The engineering type of man works for the solution of a single technical or engineering problem and is concerned with the determination of the solution rather than the application of that solution to practical activities. The true type has the capacity to concentrate continuously on a single problem until the solution has been reached. He is interested in the determination of cause and effect and of the laws that govern phenomena. He is disposed to be logical, analytical, studious, synthetical and to have an investigating turn of mind. The predominating characteristic that distinguishes him from the executive is his ability to concentrate on one problem to the exclusion of others for a protracted period, to become absorbed in that problem and to free his mind of the cares of other problems. He does not submit readily to the routine performance of a given quantity of work. He deals with laws and abstract facts. He works from text-books and original sources of information. Such men are Edison, Steinmetz, the Wright brothers, Curtiss, Bell, Pupine, Fessenden, Browning. These men are the extreme of the engineering type, they have enormous imagination, initiative, constructive powers. Mr. Taylor was in reality an engineer rather than an executive. He applied his