

# MACHINERY AND THE VALUES OF LIFE

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*We are producing more than two-fifths of the world's supply of gold, about seven-tenths of all the petroleum, practically all the natural gas, and more than one-third of the water power.<sup>1</sup>*

WITH this commanding strength in the essence of industrialism, the United States achieved between 1922 and 1927 *annual* increases approaching 2.5% in primary production, 4% in manufactures, and 4% in ton miles of freight. To-day, alike in agriculture and industry, the problem is not that of increasing production, but that of securing markets for the produce. This industrial growth has been achieved by the aid of three things: standardization, simplification, and interchangeability. The result of these devices is to save both time and labour. Production is now a continuous flow. Though buying is to an ever-greater degree "hand-to-mouth-buying," this is evidence not of diminishing consumption, but of improvement in the technique of distribution. The flow through the factory is continued in the flow through the distributing channels. Just as factories are growing in size and range, so also are the units of distribution, as seen in the giant strides of the mail-order house and the chain store.

These results within and without the factory have been attained only through revolutionary changes in the nature of management. The capital embarked in industry per man constantly grows, and so also does the management per man. There are, as Marshall has pointed out, two sides to management: management of men and management of markets. And this broad division has been supplemented by the growth of "functionalization"—involving new departments of planning, sales promotion, budgeting, forecasting, etc. For the element of unity secured in the old days by single ownership, has been substituted control in the hands of one or few, supplemented by co-ordinated planning, and conferences between the different arms (to use a military metaphor). The final issue of this technical advance, acting on abundant natural

1. *Recent Economic Changes in the United States*: Report of the Committee on the President's Conference on Unemployment, 1929. Vol. 1, p. 79.

resources, is mass production; but mass production without mass consumption is useless. It is mass consumption which makes mass production both possible and profitable. And this mass consumption carries with it a new body of doctrine which is both alluring and tyrannous. For it claims Infallibility.

How has the worker fared in this new revolution? (For the pace at which progress has been made since the war justifies the term *revolution*). The handloom weavers and the framework knitters of 19th century England are classical instances of the discomfiture of man-power. But although the technical changes of the 19th century were constantly ousting man-power, yet on the whole, owing to the increase of industry, labour-saving machinery was job-making machinery within the field of production. There are signs that this is no longer true. In agriculture fundamental inventions, like the combine harvester, ensure increased production with decrease of man-power, so that already in Canada the harvest excursion from East to West is spoken of as an institution that is no more. Between 1920 and 1927 the number of persons employed in manufacturing in the United States fell from 9.7 to 9.1 millions; and in coal mining, from .59 to .49 of one million. Had these been the only sources of industrial employment, unemployment would have assumed alarming proportions in view of the fact that the population at the same time was increasing. But this did not happen. Employment was greater in 1927 than in 1922, and the percentage of persons unemployed shows no trend of increase. Though, in the absence of general unemployment insurance, the percentage is not clearly known, yet it is believed by the authors of *Recent Economic Changes*<sup>1</sup> that it moved between 1922 and 1927 as follows:

1922.....	12.1
1923.....	5.2
1924.....	7.7
1925.....	5.7
1926.....	5.2
1927.....	6.3

The people thus excluded did not go back to the farm. On the balance, between 1920 and 1927 there was a decline of more than three millions in the farm population.<sup>2</sup> It was absorbed in general industrial employment outside of the factory and the mine, and in particular in mercantile and miscellaneous services, which

1. *op. cit.* II. 879. Review by Wesley C. Mitchell.

2. *ibid.* II. 594.

grew from 3.2 millions to 4.6, and from 5.8 to 8.3 respectively. Thus the machine is not taking the place of man to the extent of allowing him no work to do. But it is forcing him to move elsewhere. Machine production calls for more elaborate distribution, more elaborate clerical work, and a great array of ancillary services connected with works-planning, welfare and research.

If machinery is to be considered as a danger, it is not in its aggregate effect upon workers in general, but rather in its individual effect on those whose skill it kills and whose livelihood it sometimes takes away. Samuel Butler, the author of *Erewhon*, was perhaps the first to point out the nature of the peril. The machine created to serve man ends by dominating him. Stated technically, invention transfers skill from the human hand to the tool. The highest degree of skill is demanded in machine invention, and there is still a great call for intelligence in the minding of many machines. Few are fool-proof. Nevertheless, the trend is in the direction of automatism. Varied handicraft tends to become monotonous repetition. Mr. and Mrs. Lynd describe in *Middletown* how a maker of automobile parts three times a minute, nine hours a day, goes through one complicated process. Undrilled rings are brought to his elbow, and drilled rings are taken away. That is his life work. It has therefore been the purpose of management to introduce variety, which is often unwelcome, because often at the expense of earnings. Psychologists, greatly daring, have tried to distinguish among types of workers; between the day-dreamers who, when they have mastered the process, have most of their thoughts elsewhere; normal workers who, while resenting the monotonous and warping character of their work, find compensation after the working day in sport and other things; and rebels to whom the life is a permanent irritant, and who because of this very fact are fit for higher things. But all alike are faced by the danger that the machine specialises them to tasks out of which it may throw them by its own improvement. And so in Middletown, even in the boom years after 1922, unemployment was, we are told, a constant spectre. In a sense, capital governs by means of it. Why do they work so hard? "They don't know what for. They're just in a rut and keep on in it, doing the same monotonous work every day, and wondering when a slump will come and they will be laid off." (R. S. and H. M. Lynd, *Middletown*, p. 75). And outside the factories on the skeletons climbing skywards in New York, where risks are heavy and wages high, "the sole noon-hour topic in the shacks that nestle on the second floor of the skyscrapers is 'When do we get it?' And by 'it' is

meant the lay-off, the 'crash,' the 'walk'." So writes onewho at the end of three years found himself out of a job, with three bandaged fingers, and \$40 in the world." (*Atlantic Monthly*, November 1929, Dean Chamberlin, "High Wages and Short Jobs"). Thus the process machine industry, which technically is characterised by continuity, brings to the worker insecurity of tenure, at the same time that it robs him of direct satisfaction in the completed job. Many workers, doubtless, are loyal to their firm, but it is not easy to see how any worker can be loyal to an infinity of nuts and table legs.

The worker is also a consumer. As a worker, he defends himself by union organization. And how greatly this has weakened in recent years in the U. S. A., is known to all Americans. As a consumer, he has rarely availed himself of the means of defence so familiar to the old world, the co-operative store. He has tried it indeed, but failed before the psychology of a new country and the impetus of private salesmanship. Not that the consumer is neglected! He is intensely studied, as a citadel to be entered by assault. "Increasing consumer demand" is a familiar phrase, and there is one newer and more significant, "Breaking down sales resistance." The devices whereby the simplicity of the farm wife is overcome, when it is desired to sell to her Books of Useful Knowledge for the Children, have been described more than once in autobiography and novel. One of the latest attachments to the battering ram is medicine. The consumer is said to exercise preference. He was formerly coerced into it by fraudulent promises; he is now advised into it by the prescriptions of medical specialists, until with some the act of eating and drinking becomes a source of mental anxiety and professional fees. This, however, is no great social harm. It corrects itself as people become wise. It is very different from that more pernicious form of salesmanship which is known as instalment selling, and it is disturbing to know that this device has received the endorsement of leading economists. It is argued that, just as for the convenience of the small purchaser the shopkeeper buys goods wholesale and retails them in small quantities, so also the automobile agent by selling on instalment puts the poor consumer into contact with enjoyments bit by bit. The latter need not wait until he can buy what to him is a whole-sale good. But surely the error of this is clear. The man who has bought one ounce of tobacco need not buy the other fifteen ounces in the pound. But the man who buys an automobile on instalment takes upon himself a debt for the purchase of the whole. He cannot return the car unless the agent is willing to take it. It is a debt upon his small estate, enforceable like any other debt.

No doubt the mid-Victorians exaggerated the value of thrift, but the instalment philosophy runs to the opposite extreme. People buy what they cannot afford, and buy recklessly. The glitter of the big wholesale good overwhelms their prudence.

That there may be cases where instalment buying is legitimate, is not disputed: for example, in the case of young married folk who, having saved some money, wish to make the home complete for habitation. But marriage (at any rate in civilized countries), is not a frequently recurring event. One of the first industries to feel the shock of the stock-exchange collapse of 1929 was the automobile industry, and they helped to bring it upon themselves by their immoderation. They forced consumption beyond the ordinary. The same spirit of reckless purchase has been infused into that comparatively new form of buying, namely, of stocks and shares on margin. Here also the buyer is flattered by the sense of owning more than he can legitimately afford, and out of his paper profits he embarks upon a scale of life which he cannot maintain. If he had sold out and then bought that new house, all would be well. But more often he has placed upon it a heavy mortgage, believing that the automatic rise of his stocks would clear it before long. It was a delusion not less gross than that which blinded the people of England in the days when Pitt's sinking fund was believed to be repaying the national debt by the mysterious operation of compound interest.

It is not easy to say what constitutes a high standard of living. Is the American standard, class for class, higher than that of Canada or England? I tried to think this out during a summer month in California. The cost of living there in fuel and automobiles is low, and the standard of diet is simple; not indeed cheap, but certainly not gross. Many of the pleasures which in the old world are expenses of consumption in the new world are practically expenses of production. You take your pleasure at conventions, as delegate of a business organization; and most of such conventions, besides their regular business, accomplish the incidental purpose of inculcating loyalty to the established order. But the cheapness of fuel, food and pleasure is counterbalanced by the dearness of land and house room. In a new state, which is moving over to industrialism or to intensive agriculture, the land owner is the residual legatee of society's progress. He draws social rent. And at the margin is the great mass of workers competing furiously for a livelihood, and by their scramble for employment they increase the value of the land on which they must build or rent their home. It was not by chance that Henry George's *Progress and Poverty* was

written in California. On the other hand, California has a superb climate and unusual opportunities. The standard of health is high, and in the economic field those in front of the general flow from East to West reap the advantage of first comers. The late comers are known as "suckers", and the crop is lush.

A nation cannot live upon its material future without endangering that future. That is the basis of the Conservation Movement, and it is equally necessary to peer with wary eye into the social future. We need a social Babson. The stock markets broke in late October 1929, to the surprise<sup>1</sup> of every astrologer on this continent save one, and if that one now does but frown, millions vanish between ten and three. The break when it came was as unexpected as August 4, 1914, or the Russian Revolution of 1917. In the Report which prefaces *Recent Economic Changes* there is one small reference to speculation. Issued in the spring of 1929, it says; "During the past few years equilibrium has been fairly well maintained. We have not wasted the hours of labour by strikes and lockouts. Until recently we have not diverted savings from production to speculation. There has been balance between the economic forces—not perfect balance, but a degree of balance which has enabled the intricate machine to produce and to serve our people" (p. xxi). When forecasting becomes a business, only the most cautious economists can safely occupy the stage. In such hands it may be of eminent value, but much of the energy put into this business of late could have been employed at compound social interest in reflective anticipation of the social future, with an eye upon the conservation of natural resources, and the reconciliation of political democracy with the encroachments of speculative finance.

We taunt youth with much pleasure-seeking, but we prepare youth for it by our own gain-seeking, which is their apprenticeship to the values we advertise in our lives. When we think of the propaganda by which we endeavour to persuade the workman that capital is his friend, or of the "Ads" which assure the consumer that we exist for his service only, we seem to be dwelling in a world of humbug, and have little right to complain if the youth believes that our religion and our morals are humbug also. The idealization of material progress, and the *ravification* measurement refined of it by charts and curves, upset all true aesthetic values. Perhaps we may put it best by humorous contrast.

1. e. g. United States (Harvard Economic Society) Letter of October 5, 1929. "Nevertheless we believe that such a decline will not inaugurate a prolonged period of liquidation, but will prove intermediate, like all other recessions in stock prices since 1921." (Royal Economic Society: Issued by arrangement with the London and Cambridge Economic Service: Memo. No. 18, p. 4).

A thing of beauty is a joy for ever, said the poet Keats. That is bad economics. For economic progress prescribes a new model every year as soon as the old one has been paid for, if not before.

"Le style est l'homme même," said Buffon. But of style merchandising and ladies' garments, not a word. Step into your rayon, lady, for we are honest men. "In 1921, 1922 and 1923, dozens of trade associations adopted ethical codes" (*Recent Economic Changes*, II, 496). In 1927, furthermore, "a discussion of the need for 'sincerity' in advertising was begun among advertising men, which holds large promise for the future as a means of increasing the effectiveness of advertising expenditures" (*ibid*, I. 420). Thus do we take "resistance" by force.

Diana of the Crossways drove through gale and storm, seeking to wash away the memory of her treachery. Well, for goodness sake, say we, where was her windshield wiper? *Nota bene*—The sales of electric washers in the U. S. A. rose from \$65,000,000 in 1922 to \$118,500,000 in 1927 (*ibid*, I. 325), and it is believed that saturation point has not been reached in the line of general washing equipment. In 1928, fewer than one-third of wired homes had electric washing machines.

The poet of Lake-land writes:

What wonder then if I whose favourite school  
Hath been the fields, the roads and leafy lanes,  
Look on this guide with reverential love?  
Each with the other pleased, we now pursue  
Our journey, under favourable skies.....

But, do you *know*, Stranger, that from 1920 to date "a marked increase occurred in the number of roadside stands for selling fruit and vegetables, or candy, soft drinks and lunches; and in the number of scattered gasoline filling stations"? (*ibid* I. 331). And do you *know*, Stranger, that there are "some 40,000,000 motor tourists who use more than 2,000 tourist camps"? (*ibid*, xvi). So I guess you'd better scrap that shack back home, and step on the gas out here in your next *Excursion*. For, "we have communications to speed and spread the influence of ideas." "We have an educational system which is steadily raising standards and improving tastes." "Our situation is fortunate, our momentum is remarkable." "We seem only to have touched the fringe of our potentialities." Signed by sixteen industrial leaders, in the year of Our Stock Market Collapse, 1929.

From childhood I have had a sneaking dread of Paradise, and now I confess to it openly.