

The TECHNOCRAT

PUBLICATION OF TECHNOCRACY INC. • LOS ANGELES • CALIFORNIA

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NEWS
MAGAZINE

Whole No. 212

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The TECHNOCRAT

DECEMBER, 1964

Who Shall Decide?

Technocracy holds that all decisions pertaining to the functional operation of the society — the production and distribution of goods and services, research and governance — should be made by technical men and women.

In a social group, be it a family, a village, or a nation, decisions must be made which will result in actions and affect circumstances. Who shall make those decisions? This question always comes up whenever any discussion of social planning is suggested. People with different backgrounds and varying social outlooks present different answers, and each tends to distrust the answers proposed by the others. Conflict and indecisions regarding the proper answer to that question have often been major factors in frustrating social action.

Many believe that decisions should be made by some constituted authority — a monarch, a magistrate, a priest, a general, a 'czar' or other form of boss. Others prefer that the decisions be made by a council or tribunal, fearful of placing their full trust in a single personage. Others favor a congress or parliament made up of selected representatives of the people. And there are those who think that social decisions should be made by a popular referendum of all the people. These are all forms of decision by opinion. They have all been tried to a greater or lesser extent, and in no instance have the results been outstandingly successful in terms of lasting human benefits.

Of course, there are other forms of decision-making which are even less intellectual than decisions by opinion, among these are decisions by oracle, by chance, or by intuition. These forms are often employed by individuals, usually by the uneducated but not always so. They are also em-

ployed extensively by various cultist groups. And, on occasion, they appear at the highest levels of government.

Decision by oracle may be arrived at by reference to such things as the arrangement of the stars and planets at a given moment, a look at the intestines of a freshly-killed fowl, or the speculative interpretation of a dream; or one may consult an ouija board or a divining rod. A great many people still consult a horoscope or some other oracle as a guide for their actions.

Others rely on intuitions or hunches. They trust how they feel about something rather than what they think about it.

Decision by chance has the particular virtue that it is impersonal and non-mysterious; while it is non-intellectual, it avoids subjectivity. It is relied on heavily in gambling. Even the government uses it at times, such as when it selects names for the military draft. It is also used frequently in making minor decisions, such as flipping a coin to decide who shall pay the dinner check, or who shall take a certain risk, or for breaking a tie score in a game. Artillery commanders sometimes use chance to select the sequence of targets during a barrage rather than following an intellectually logical scheme (which might be deciphered and evaded by the enemy).

There are times when decision by chance is as useful and effective as any other means, and it is an expedient way to avoid deadlock. We cannot

accord the same validity to decisions by oracle or intuition; they are too slippery in their approach and too much influenced by subjectivity.

Different personality types have different attitudes toward the making of decisions. The strongly opinionated type wants authoritative decisions firmly made and tenaciously adhered to; he tends to become the diehard defender of fading causes or ways of life. The opportunist thinks in terms of immediate personal gain or advantage; he favors decisions by whatever means that are likely to bring him, or his side, those benefits. To the opportunist, a majority vote is a fine thing — if he is on the winning side. Chicanery, force, and violence serve his purpose when other means fail. The opportunist is without scruples and often reaches a high pinnacle of success — for a while.

The liberal is unable to decide who shall make the decisions, being uncertain what decisions should be made or how they should be arrived at. He is afraid of anything that is decisive. So, the liberal ends up by deciding not to decide and loses out by default.

Historically, most decisions have been in the form of authoritative decrees. This form has prevailed on all levels of decision-making. The authority making the decisions may be self-sufficient and arbitrary in his power; that is, his word is law. Or he may be guided by some code, which may circumscribe his authority, more or less, while at the same time it may reinforce his power. The code may be in the form of ecclesiastical commandments, a book of laws, a list of military regulations and directives, the profound pronouncements of past leaders, or traditions arising out of past customs. In any case, the immediate authority in power makes the decisions and usually there is no provision for dissent or appeal. Most people in the world today, as has always been so, have their lives governed by the decisions of various authorities, and regarding such decisions they usually have no safe choice other than obedience. Authoritarianism has traditionally prevailed at all levels of decision-making.

In the family, there was an authoritative voice, usually that of the male parent or patriarch, and this voice demanded unquestioned compliance.

On the job, there has been a boss who made the decisions and issued the orders. Under certain circumstances, one had the choice of obeying those orders or quitting the job, but such a choice is more likely to be recent than to be traditional. A stint at the whipping post was often the penalty for dis-

obedience on the job.

In military formations, authority has always been rigid and stern. Disobedience has often proven fatal.

Most churches have been highly authoritarian, and this authoritarianism has penetrated into every phase of private and public life. The decisions of ecclesiastical authorities have usually had the implied direction, or at least sanction, of the prevailing deity or deities. These authorities have often possessed stern means of effecting obedience, even to punishment by burning alive.

The communities — tribes, villages, landed estates, and such — have had their authorities in the form of chiefs, burgomeisters, feudal lords, and war lords. Even today in many places, authorities of this sort make decisions and issue them in the form of decrees to their subjects. Police forces remind the people that they are not free agents.

The nations of the world have had their rulers, who often governed as despots, at best as benevolent administrators; and these rulers made many authoritative decisions affecting their people, but without the participation or consent of those people.

Decisions affecting life and death, peace and war, favor and punishment, fame and dishonor, fortune and poverty, salvation and damnation have been decisions of authority. No matter how stupid or demanding were the decisions of the authorities, it was usually safer for the subjects to obey them than to dissent. Authoritarians have always dealt severely with dissenters.

The most 'colorful' periods in history, when viewed in retrospect anyway, have been those centered in certain dynamic personalities who, by one means or another, worked their ways into positions of sovereign authority under propitious circumstances and fomented a great to-do in their respective areas. Among the more prominent of such personalities, we might mention: Rameses II, Cyrus the Great, Alexander the Great, Attila the Hun, Mohammed, Genghis Khan, Peter the Great, Napoleon Bonaparte, Adolph Hitler, and Josef Stalin. It also happens that these personalities usually gained their fame through, or in association with, military conquests and massive slaughters of people.

Parenthetically, we might mention that these 'colorful' periods of history were not a complete loss to mankind. The social dynamism and technology that were developed to advance power and conquest sometimes were adaptable to constructive

uses afterward. Further, these events usually disrupted the status quo and caused events to take a different turn. Sometimes, out of the adaptation that followed, came social advancement.

Even in modern America, we are conditioned in many ways to acknowledge authority and to subject ourselves to it. We begin with parental authority in the home; then, we meet it in many other forms — in school, in church, on the playing field, on the streets, on the job, and perhaps in military service. However, in America, we tend to be lax in our respect for authority and, on many occasions, to accord it only nominal recognition. We are constantly seeking ways of evading its decisions, defying authority or otherwise frustrating it. Because of this tendency, our society is accused by some of being afflicted with moral decay.

Another form of social decision has been achieved through a council of authorities rather than by the will of one authority. This procedure is primitive in its concept and application, and it was often used among the early tribes. It has been applied, off and on, by modern nations and institutions. The authoritative councils have normally consisted of the aristocracy or the more privileged members of the social group, hence it represented the interests of a small elite minority.

The decisions of councils are often the result of a compromise among several opinions of what should be done or not done. Consequently, they are usually more restrained than the decisions of a single authority and tend to be downgraded by compromise. Only under circumstances of emotional excitement or severe emergency is a council likely to become dynamic in its decisions.

In recent times, there has been a tendency among nations to decentralize their decision-making. A parliament, often composed of hundreds of members, is selected to present, debate, and vote on proposals for action. This has proved to be a long, laborious, frustrating process. Such decisions, when they are not completely stymied, usually are of a very low order. There is also a tendency among the factions to make deals, to exchange favors. A quick decision can be made only under the duress of a *force majeure* or an enthusiasm for war.

A more diffuse form of decision by opinion is that of a popular referendum — a democratic decision. An issue is put up for vote by those who are interested enough to qualify for voting and to go through the ritual of voting. One serious handicap to this process is the strong urge on the part of the voters to turn down any proposal for social im-

provement which threatens to cost them money. However, this procedure is seldom as democratic as it would appear on the surface. The wording of the question is usually rigged by a minority interest and presented at a time when the outcome of the vote is fairly certain — a trick means of gaining popular approval for something already decided on by a few.

In the United States, it is generally assumed that the people vote for the kind of government they want, but that is not exactly true. Technically, they do not even vote directly for their president; they vote for electors who, in turn, are tacitly committed to vote for indicated candidates, the exact rules varying with the different states. Moreover, the public has little voice in choosing the candidates; it usually ends up with their having a choice between two men chosen by the respective political party 'machines.' And they have less choice concerning the policies of the president. Once elected, the president is under no real obligation to heed the desires of the people and often acts contrary to his campaign promises.

Decisions by oracle, by chance, by intuition, and by opinion have had a recognizable effect on the superficial aspects of human history; but nothing profound or lasting can come from those sources. All that can be seriously claimed as progress in man's way of life has been the result of decisions of quite another kind — decisions imposed on man by objective factors in his environment. The physical needs, comforts, and conveniences of mankind have compelled decisions that were useful albeit not always in conformity with prior opinions and beliefs.

In agriculture, animal husbandry, mining, transportation, health care, and other departments of practical activity, man slowly learned that the decisions had to conform to certain objective principles and facts. Although the factual information was often intermixed with opinion and superstition, nevertheless it was the factual knowledge that prevailed in the end. Slowly, very slowly, factual knowledge gained preeminence while opinion and beliefs faded away. It is gradually being learned that man has no right to decide by opinion that which can be determined by facts. The modern agriculturist of today, for example, does not consult oracles as to when and how to sow his seed; rather, he relies on his knowledge of soil, moisture, weather, pest control, and fertilizer to provide him with good crops. He no longer makes sacrifices to the gods nor beats the drums for rain.

More and more, man's decisions are being taken out of the realm of opinion, intuition, hocus pocus, and authoritarian decree. They are being made in accordance with facts pertaining to the environment and with accumulated scientific knowledge and technological know-how. Man is beginning to understand what he can do within the framework of his physical environment with the knowledge and equipment he has at hand. When his knowledge in a given area is deficient, he now seeks more facts rather than consults opinions or occult revelations.

It is the man who has command of the technical information who makes the real decisions in the functional phases of modern life. He is the only one who understands what needs to be done and how to do it. The politicians and financial manipulators who pretend that the right of decision is theirs are helpless without the technical men. In belated and reluctant recognition of this situation, the president of the United States recently appointed a scientific advisor to his staff.

We hear propaganda uttered to the effect that technical men are all right in their specialized fields but that they should be kept away from the councils where decisions pertaining to human relations and human values are involved. It is argued, when issues pertaining to government, education, social programs (such as population control), and morality are discussed, the scientist should be kept in the background as a mere consultant, not take a hand in making the major decisions. Presumably, the making of such decisions is to be the privilege of the hocus pocus artists — the politicians, the financial promoters, the witch doctors, the lawyers, and the guardians of ancient traditions.

Up to date, such people have held the privilege of making the major decisions and the results have been tragic. Their mistakes have accumulated to the point where mankind virtually faces annihilation at the push of a button — or what might be worse, be catapulted into a prolonged social debacle brought on by irresolvable conflicts within his society.

Technocracy holds that all decisions pertaining to the functional operation of the society — the production and distribution of goods and services, research, and governance — should be made by technical men and women. This does not mean that the technical people should leave their technical positions and go into politics, law, business promotion, public relations, and moral philosophy. Rather, it means that the scientists, technologists, engineers, and technicians shall continue to operate as such and that the decision-making of the society be moved into their functional realms. The public relations people would then have a secondary role, that of explaining to the people at large the significance of science in words that they understand.

Politics, legal hocus pocus, magic, and philosophy have no place in the human use of this materialistic world in which we live. No other 'world' is of any use to us, except possibly as a subjective titillation of the imagination.

All of man's gains in standard of living, in health and longevity, and in control of matter and energy have come through knowledge and application of observable data. Science continues to point the way to the future.

All scientific indicators point to the probability that the next social state shall be a Technocracy.
—Wilton Ivie

Small Business Trouble

Cleveland: The purchasing department at Thompson Ramo Wooldridge's Valve Div. said last week it has begun limiting competition for the supply of a large number of stock items to vendors with Data-Phones, and will be giving priority to suppliers with the most data processing capability. The firm expects to drop 400 suppliers from its approved vendors list in the wake of this according to Purchasing & Traffic Manager Joseph H. McDuffee.

"The suppliers without this type of equipment will be in trouble in the near future," McDuffee said. Within five years, he predicted, his company will be buying everything except special items by Data-Phone.

About 3,500 items, including most maintenance parts and standard tools, are bought through the system now, and cards are being made and ordered every day for new items. Every item of a standard nature already had been coded and classified for easy identification. . . .

—Purchasing Week, Sept. 7

Things That Need to be Done

Excerpts from the Commencement Address to the Class of 1964 of Radcliffe College, Cambridge, Massachusetts. Address given by John Fischer, Editor-in-Chief of Harper's Magazine.

. . . Here in America . . . we have too much poverty and ignorance and general backwardness — but in our supposedly affluent society the reasons for them are not always clear, and the possible remedies are . . . subtle and complex.

This does not mean, however, that our American problems are insuperable. It only means that they have to be tackled with ingenuity and persistence, in addition to youthful zeal. It means that idealism and good will are not enough. They are essential, of course, but by themselves they are not likely to accomplish much. They have to be used in combination with a good deal of foresight, careful planning, originality and patience . . .

. . . It seems to me that even the most unpromising sectors of American life are not closed to talent, and are not beyond the possibility of change. Change, in fact, has become the dominating characteristic of the whole American scene. I am convinced that we already are deep in a process of change which in any other country would be called revolutionary — an irreversible current which is transforming our institutions, habits, social structures and the landscape itself, more rapidly and more drastically than in any period of our history. To some people — your Belmont neighbors of the John Birch Society, for example — this is a terrifying thing. To younger and bolder spirits, it is an opportunity; for it enables them to accomplish within a few years tasks which normally would take generations.

The best analogy I can think of is a New England logging drive. Thousands of logs which have been frozen on the river bank all winter suddenly start to move on the spring flood. They cannot be stopped; they can only be guided. The lumberjacks who try to guide this mass of heaving timber, jumping from log to log with their heavy hooks, have a dangerous job, since any man who slips or gets caught in a log jam will be ground to death. But their job is anything but dull, and it does move a lot of timber in a hurry.

The currents of our time are just as impossible

to dam up, because they spring from elemental sources — among them, the growth and shifts of population, a worldwide political upheaval, and the explosive development of modern technology. The events which flow on this current cannot be checked — but they can be guided by people trained in the exacting skills which the job demand. . . .

. . . American cities are changing with bewildering speed, whether we like it or not, and most of us don't like it. Already more than half of all the people in this country live in fifteen huge, misshapen and still-swelling metropolitan areas. (One of them is the super-city of which Cambridge is a small part: the nameless metropolis which stretches from Bangor, Maine, to Norfolk, Virginia.) Within the next few decades all fifteen of these monstrous growths will have to be largely rebuilt, simply because they are fast becoming uninhabitable. Consequently, anybody who has a useful idea about how to guide the growth of our cities, and to reshape them into an environment fit for human beings, is in urgent demand.

This is only one item on the American agenda. The others are obvious — or should be — to all of you. It is no secret that our educational system is not working very well, and some of our best minds (including a former president of Harvard) have decided that this is too important a business to leave in the mediocre hands of the professional educationists. Already some first-rate talent from other fields is being enlisted to reorganize curricula, invent new teaching methods, write better textbooks and train better teachers; and a lot more of such talent is needed.

Again, we have a rate of unemployment — nearly five and a half per cent — which the nation cannot tolerate for very long. Somebody quite soon will come up with ideas on what to do about it; and they are likely to be bad answers, as they were in Hitler's Germany, unless the trained minds of the country can produce good ones.

At last, after a century of unforgiveable delay,

the American people have about decided that we will have to integrate our Negro citizens into the rest of the community. But we have not even begun to figure out how this can be done, or how to change the deep-rooted emotional attitudes of both races so that the process of integration will not rip up our social fabric.

Another job which has been neglected far too long is the rebuilding of our governmental machinery, from the village level right up to Congress. It cannot be avoided much longer, simply because the country has outgrown the constitutional clothes which the Founding Fathers tailored for it nearly two centuries ago. They have become as anachronistic, and as impractical, as a Pilgrim's costume on an astronaut. The country where I live, for example, was admirably designed for an eighteenth century farming community; a citizen could travel by wagon from the most distant farm to the county seat, and home again, in a single day. Ninety per cent of all governmental business was then handled at this county seat. The state capitol was far away, and Washington was unimaginably distant — and unimportant. Today you can drive

across the county in twenty minutes; you would never see a farmer; and most of the residents probably don't know where the county seat is. In short, as an instrument of government the county no longer makes much sense. Yet so far only one state — Connecticut — has got around to abolishing counties. The rest of the country is stuck with some three thousand of these colonial relics — nearly all of them outrageously expensive, and an obstacle to the rational management of the metropolitan areas where most people now live. The other parts of our governmental apparatus, from the state legislatures to the Congress itself, have become almost equally obsolescent. Within the next generation, I suspect, they are all going to be drastically rebuilt to meet contemporary needs. The reconstruction will not be easy — it will be bitterly opposed by the political rats who lurk in the crannies of our present ramshackle system — but it will be interesting and it will demand a lot of first-rate intellectual leadership. I hope some of you will take part in it. . . .

—Edited by Edith Chamberlain, 11833-2

There Ought to be a Law

Dear Senator:

I was very disturbed by the political campaign this fall. They kept telling us to vote on the issues, but nobody told us what the issues were. All they seemed to do was tell us how terrible the other fellow was. After listening to what awful scoundrels were running for president, it made me ashamed to vote for either of them.

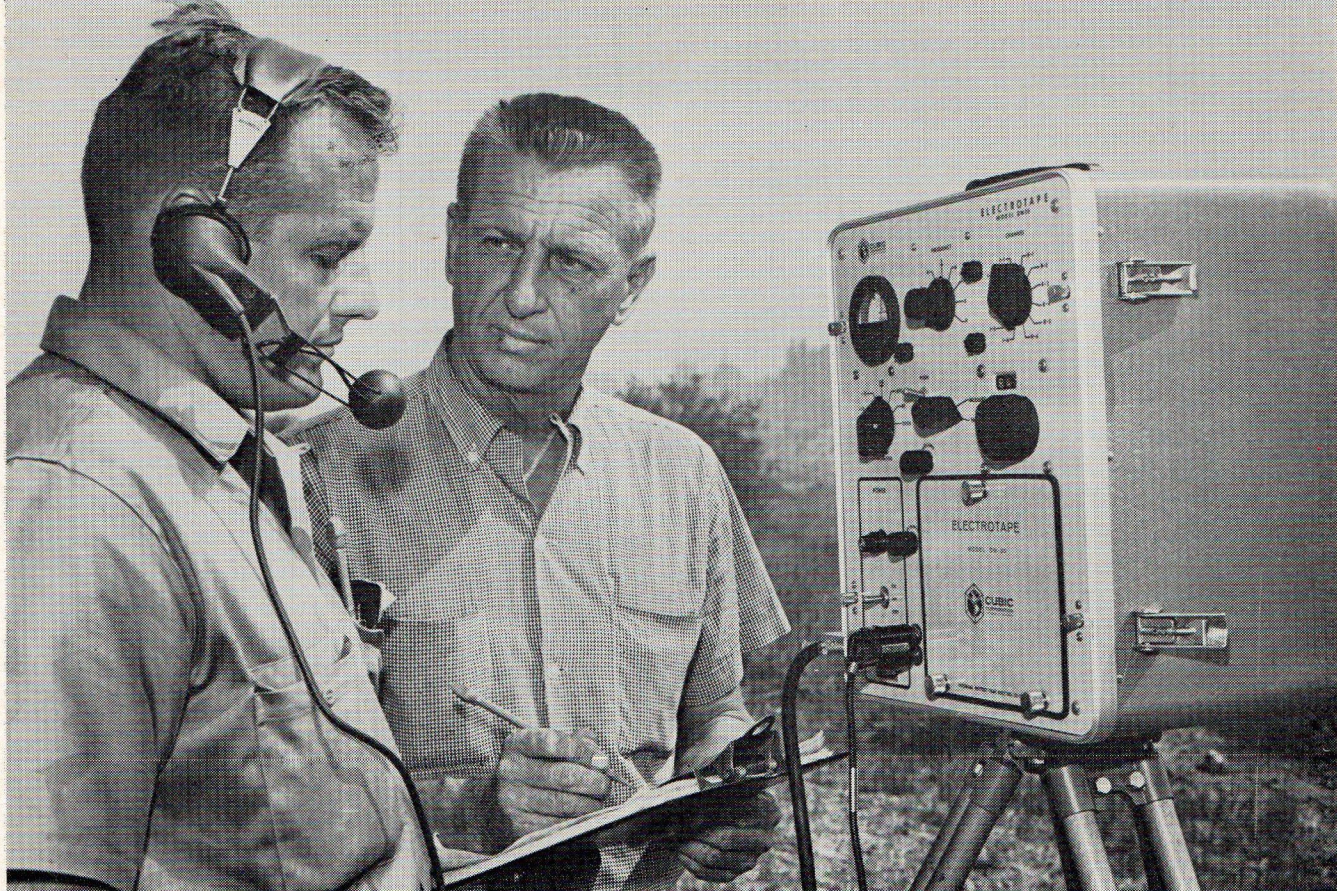
I have an idea which ought to be of some use next time. I think you should pass a law which will require every candidate running for president to write up a pledge telling exactly what he will do about the ten most im-

portant issues if he is elected. And he should sign it under oath. Then we will know where he stands.

Just to make sure he isn't kidding us like so many candidates do with their campaign promises, I think he should also pledge to resign from office as soon as he breaks any of his promises. So, if he promises to reduce government spending, then doesn't, he should get out. The same thing if he promises us peace and then gets us into war.

Sincerely,

BEETAL BRAYNE



**COVER AND ABOVE PICTURE
ELECTRONIC MEASURING DEVICE**

The Metropolitan Water District has put into use on surveys a unique electronic distance-measuring system that provides accurate measurements between points 100 feet to 30 miles apart. Called an Electrotape, the precision device applies the accuracy and time saving advantages of micro-wave techniques to the field of land surveying.

Operating on principles similar to radar, Electrotape determines distance from the time required for a radio wave to travel (at the speed of light) to and from the point being measured. It differs from radar in that it derives its great accuracy from measuring transit time as phase delays at several ranging frequencies.

It consists of a pair of identical instruments mounted on conventional tripods. The Electrotapes, aligned to reference points by standard plumb bobs, are set up at opposite ends of the line to be measured. Because the instruments are identical, measurements may be made from both ends of the line and each unit can provide instant on-site accuracy checks.

After a series of simple operations, the distance is obtained numerically in centimeters directly from a counter on the face of the device.

A self-contained two-way FM radio system provides direct contact between operators.

Each instrument weighs 33 pounds with battery and the electronic circuitry is all transistorized.

Courtesy Aqueduct News, MWD Southern Cal.

Traffic Deaths Set a Record

Chicago (UP) — Traffic accidents killed 4,410 persons in July, a toll which exceeds any previous month in history, the National Safety Council said Tuesday.

The July toll broke the old one-month record, set a new July record and helped set a new high for the first seven months of the year, the council said.

The July deaths were 11% more than the previous high of 3,970 of last year and 9% more than the previous one month record of 4,310 set in August, 1963. In the first seven months of the year, 25,630 Americans have been killed in traffic accidents — an increase of 11% over the previous seven-month record.

—Long Beach Independent, Sept. 2

What Do You Do For a Living?

Few records were ever made of the technology extant in the early centuries. We have records of the deliberations of philosophers, the military, the political and the ecclesiastical big-wigs of the past. Little was ever said of the workers and artisans of the times. Yet there were men and women who were skilled in the crafts, as is evidenced by the artifacts which have been exhumed from ancient diggings or reclaimed from the sea. Glassware and silverware of those times have rarely been surpassed by any modern artisan. Everything that was made in glass, metal, wood, fabric or leather had one thing in common. Each was the product of hand tools and human toil.

It is true there were some crude machines but the power to operate these machines was still supplied by human muscles.

In England, in the late 16th century there began to be substituted for human and animal power, the power of falling water and wind. In the early 17th century the power of steam was introduced, used principally for the purpose of removing water from the mines and quarries. Soon, however, it was also applied to factories, and great textile mills came into existence.

Previous to this the fibers were carded and spun into yarn and then woven into cloth in the homes and cottages of guild workers, all powered by human muscles, but now for perhaps the first time in human history, muscle power was in competition with power supplied by energy other than human, and they were forced to realize that they could not so compete.

The reaction was violent.

They must destroy the machines.

So we read that gangs of the former carders, spinners and weavers demolished as many of the machines as possible. They added a new word to our vocabulary, the Luddites. But the use of extraneous energy was here to stay and what is called the first industrial revolution was on its way. It was perhaps the first recorded instance of technological displacement.

As the efficiency of the application of extraneous energy to the production of goods increased, more and more industries were invaded, and while each machine required one or more operators, there was always a chronic scarcity of goods. With an expanding population, the constant opening of new land, the impact on the economy of the greater production per man hour was absorbed by the expansion and the effect was obscured.

In America it was even less apparent because of the rapid expansion of our territory and population.

With the advent of World War I, it was necessary to produce more goods and food as well as military hardware to supply our armies, our allies, as well as the civilian population, and a great impetus was supplied to the productive process. New processes and machines were rapidly developed and in many cases the machines were made automatic so that the skill and strength of the operator need not be of a high order. But, the production was vastly increased.

By now almost every field of production had been invaded. Farm production soared, manufacturing potential was astronomical, so that when the demands of war ceased and the economy resumed its time honored way, it was only a few short years until the increased output became embarrassing and markets and warehouses were filled to overflowing. It was no longer possible to depend on the Price System, which always depends on a scarcity, to cope with the increasing flow of goods produced. Our economy floundered. Millions of Americans were without jobs and thus without a means of livelihood. Some answer had to be found.

We did not destroy the machines as did the Luddites. No, our solution was much more intelligent. The reasoning went something like this. If the Price System only works with scarcity, let's create scarcity. So in the "Dirty Thirties" that is what we did. We killed cattle, sheep and pigs. We filled canyons with the finest of apples, pears,

peaches or left them on the trees to rot. We used wheat, corn and other grains for fuel. We dyed potatoes after they had been duly certified as number one grade. We sprayed whole mountains of oranges with diesel oil while keeping armed guards on hand to keep hungry people from filching any part of them. Oh yes, we were much more intelligent. And to compound the intelligence our political leaders dreamed up the final absurdity. The government paid our farmers, not to produce more but to curtail production, to keep part of their land unplanted and if by chance more was grown than the market could absorb, to store it at taxpayers' expense and let the mice and weevils make it unfit for human consumption.

The industrial entrepreneurs were in a more fortunate position than the farmers, they simply shut down the plants and laid off the workers and tried to sit it out.

The collapse of the Price System was almost total.

This was the time Americans should have recognized the futility of trying to maintain an obsolete system, a system which at best only worked spasmodically. This was a time when as intelligent Americans we should have seen the possibility of an abundance for all on the horizon and set about changing our concepts and institutions. Instead, we allowed our political leaders to lead us into another blind alley by bailing out free enterprise.

With the advent of World War II, followed by the Korean police action, the consequent spurt in business brought a simulated prosperity which has blinded almost all of us to the defects which were so glaringly apparent.

During this war activity, free enterprise went ahead, just as it had done before. The technologist developed even newer and more automatic machines and processes and by incorporating computers into their design they have come up with plants and factories which operate with only a minimum work force. Now we have to go through the same process again, but let us hope that we do not follow the same kind of leadership. We have more competent men to follow as well as a blueprint of a design offered by Technocracy which meets the specifications necessary to produce and distribute an abundance to all.

Whereas the first industrial revolution displaced the crafts and guilds with their human toil and hand tools, and the automatic machines and processes of the second industrial revolution took

out most of the physical labor of the production processes, now we have entered what may be called a third industrial revolution relieving most of the human element in the production process of the mental effort necessary, and true abundance is definitely in sight. Competent authorities estimate that in the future from twenty to twenty-five per cent of the population will be able to produce all of the goods and services for the entire population.

Should we then continue to expend so much effort to maintain a system which can only lead to greater catastrophes? Even now the dislocation is becoming intolerable.

It used to be a common statement of the skilled craftsman, "They'll never get a machine to do what I do." Now there have been developed machines which do things that the most skilled of craftsmen can not do and do it faster. More and more mechanics, laborers, farmers and craftsmen are finding out that any repetitive operation which requires volume production can be done better, faster and more economically by automatic methods.

It was a matter of pride, when asked what one did for a living to answer, "I'm a machinist," or a miner, or a logger or a farmer. Now the answer is as apt to be, "I used to be a machinist," or a miner, or a logger or a farmer. The inroads which automation is making into the ways in which each of us make our living are tremendous even now, and the pace is accelerating. The smugness of the blue collar worker is being replaced by fear.

Many of the white collar workers retain their smugness, particularly the middle executive class, but it is an 'ostrich-like' smugness. They seem to feel that if they don't pay attention to it, the problem will go away. It won't. With the installation of computers systems whole categories of office workers are being displaced. Management is rapidly finding that the human being is much too slow to keep pace with the decisions which must be made and that the machine can make them faster and more accurately.

Technocracy made an exhaustive survey of the application of modern technology on our social system which accurately foretold the results, over thirty years ago. Having determined the effects, they then designed a system which would operate under the conditions which technology brought about.

These conditions were (1) as more and more production was required, fewer and fewer human

(Continued on page 26)

RESEARCH BULLETIN

Items culled from the Price System Press and which are usually buried in the inside pages. Items which have a social significance and are seldom read or are ignored by the average reader.

Junior Executives See a Dark Cloud

Dallas — A new computer service designed to automate much of the carrier paperwork involved in motor freight billing and to cut errors drastically was demonstrated here by Datamax Corp., a subsidiary of Maxon Electronic Corp.

The system is now being programmed, and is expected to be in operation by late 1965.

It is designed to furnish instant freight rates, extensions and totals on standard freight bills and is geared to reduce errors in freight rate computations from an estimated 5% to less than 1% of the bills handled each day. It also has message switching, revenue accounting and statistical report capabilities. . . .

. . . The Datamax system involves a sending and receiving keyboard unit, which also serves as a billing machine, at the freight line's terminal. These units can be either specially-designed Friden "Flexowriters" or AT&T teletypewriters.

Each of the billing units at a terminal will be hooked to a Datamax service center by telephone wire. Datamax will utilize Univac 490 real-time system computers at its service centers.

In operation, motor carriers customers will feed raw material for rating computation to the service centers, where computations will be made on a "real-time" basis and sent back to the billing machines. A billing clerk will still have to type certain information on a freight bill, such as customer and destination. But, the Datamax system will compute and type rating information, total charges, and so forth.

—Purchasing Week, Sept. 21

Higher Echelons Could be in Danger

Phoenix, Ariz. — General Electric unveiled a large process computer featuring three times the capacity and double the speed of current models. The new GE/PAC 4060 is designed specifically to

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monitor and control any major industrial facility such as a steel mill, electric utility generating station, chemical plant or other process application. Price will range from \$150,000 to \$1.5-million for more sophisticated systems.

—Purchasing Week, August 24

Reports from the Political Angle

The Labor Dept. has reported that non-farm jobs rose in August to an all time high 59,247,000 and factory worker's pay averaged \$103.07 — 41c off the record.

The Labor Dept. announcement followed by two days President Johnson's "scoop" of the figures. Johnson released the statistics in a Miami Beach, Fla. speech.

The number of factory workers increased by 175,000 to 17,527,000. This in spite of a decrease of 110,000 workers in auto industry employment because of model changeover.

The average factory workweek rose to 40.9 hours in August. This is a 14-year high. Overtime averaged 3.3 hours a worker, the highest since overtime records were begun in 1956.

Manufacturing employment was at its highest August level since 1953, a year of widespread prosperity.

Although unemployment was up to 5.1% in August from 4.9% in July, the Labor Dept. said teenage job seekers accounted for the increase. In a separate announcement Labor Sec'y W. Willard Wirtz told the Michigan AFL-CIO that 5,339,000 new jobs have been created in the past eight years. More than 3.7 million of these new positions were created in the past 43 months.

Wirtz also said that the real spendable earnings of a factory worker with three dependents have risen \$9.28 in the past eight years, with \$8.43 of that increase occurring in the past 43 months.

—Iron Age, Sept. 24

Automation appears to be becoming as serious a problem in its effect on collective bargaining as on employment.

Labor Secretary W. Willard Wirtz says that while automation is taking between 35,000 and 70,000 jobs a week, he believes technological development is also the key to full employment.

Wirtz pointed out that while the last year has seen more automation than any period in U. S. history, there are more people working today than a year ago.

On the other hand, Wirtz says collective bargaining is facing its most serious problem in trying to work out agreements adjusting fairly to the impact of automation.

—Iron Age, October 15

These two items taken from the same source should alert the readers to the way in which the news is obscured, to the political profit of the politician. In addition to the obvious misinformation contained in the figures on unemployment there are optimistic assessments as to the effect of continued application of more technological installations, at variance with almost every report on its effect wherever applied.

Better Than Military Aid

In New Valley, Egypt, an underground "ocean" of fresh, sweet water is helping to produce lush crops in Sahara's sands.

Discovered by a group of American oil well engineers about 100 miles west of Luxor, the "ocean" is believed to be at least 50 by 26 miles in size. Headed by Ralph Fry, of Winfield, Kans., the engineers dug for water at 3,000 feet and have produced 203 wells. "The pressure at 3,000 feet is so great," says Fry, "that wells come in almost explosively. I think there is enough water under the Sahara to last 200 years." Irrigation with this water produces commercial crops. Alfalfa must be harvested every 30 days. Three crops a year are obtained in barley, wheat, rice, potatoes, tomatoes, beans and squash.

Six new villages, complete with schools, stores, shops and mosques have sprung up in the new well area.

The project operates under a U. S. AID program, with financial cooperation by the Egyptian government. It costs about \$22,000 to bring in a well.

—Edmonton Journal, Sept. 23

The Scientists View

New York Times by way of Montreal Star — The Soviet-American arms race since 1945 has had the paradoxical result of making both countries more powerful than ever before in their history, and also more insecure and more open to overwhelming destruction than in any previous period. This is the thesis two of the country's best informed military scientists, Jerome B. Wiesner and Herbert F. York, presented in the current issue of Scientific American. They conclude that continuation of the race to develop military technology cannot solve the dilemma, nor can even the development of anti-missile missiles or construction of a nationwide complex of fallout shelters. The only possible solution, they believe, is the political one, proceeding along the path blazed by last year's partial nuclear test-ban treaty.

Since the authors have played such key roles in directing the nation's military-technological effort during the past decade, their conclusion that the arms race is futile and can lead to a "spiral downward into oblivion" demands serious attention. Moreover, the predicament they describe is as applicable to Moscow as to Washington. Both countries have a common interest in ending the competition, thereby not only increasing their mutual security but also diminishing the enormous waste of resources entailed in the arms race. A comprehensive test-ban treaty is the logical next step toward serving this joint interest.

—Oct. 13

Computers Cut Cost for Contractors

Computers come into use to schedule construction steps so that thousands of materials deliveries and work crew operations mesh properly. This technique enables Thompson & Street Co. to shoot for completion of Atlanta's new stadium in only 12 months. Similar stadiums have required two to three years using older methods.

Bridge cost savings of 20% to 25% are achieved by Washington state engineers by salvaging spans during road widening projects and using them at other spots, where traffic is lighter, instead of new bridges. Reclaimed rail flat car beds are used to span some California irrigation canals at 15% of the cost of new bridges. Morris Knudsen employs a giant excavator of a type formerly used only for strip mining, to speed canal and dam excavation.

—Wall Street Journal, Aug. 6

Kills Millions of Fish

Santa Cruz (AP) — Sanitation workers began pumping an estimated 50 million dead fish out of the yacht harbor Tuesday. The fish are victims of the “red tide.”

Tidal action caused the dead fish, mostly anchovies, to pile up on the beach instead of washing out to sea.

Microscopic plants that color the ocean red have used up oxygen in the water and fish die of asphyxiation.

Workers are taking the dead fish out by the ton and trucking them to the city dump for burial, but more seem to be washing in to shore.

Smaller red-tide kills have been reported at other beaches along Monterey Bay and as far north as Princeton.

State officials in Los Angeles County said more than 10 million fish have been killed this month.

Partly responsible were sewage wastes discharged into the ocean, said Walter Thomsen of State Fish and Game Commission.

The Santa Cruz cleanup is being done with a huge crane equipped with a net which scoops the dead fish out of the water.

County health officer Dr. Gilbert Dunnahoo said the fish do not present any immediate health problem but might if allowed to remain long enough for flies to gather.

Anchovies started running in the bay last week and first reports of their dying were received Friday. By Sunday large numbers had washed up at the yacht harbor and other beaches.

—Long Beach Independent, Aug. 19

(Only a disaster such as this can make the public aware of the magnitude of the pollution problem. The red tide becomes progressively greater each year as the effluent from the enlarging population is poured into the sea. Scientists know how to treat sewage so that there is nothing for marine plants to feed on. None of the wastes of our cities should be lost. It is only the Price System concept that a monetary profit must be made that interferes with salvage.)

Depressed Area

Santa Cruz (UP) — Santa Cruz County has been declared a depressed area by U. S. Labor Department, it was announced Friday. The County's unemployment rate is 50% above the national average.

—Long Beach Independent

Problem of Leisure

The so-called “problem of leisure” must seem a rather academic question to farm families now busily engaged in harvest and other fall operations. Nonetheless, the problem is a real one — for the future if not the present, and for farmers as well as for others. The day is soon coming when both urban and rural Canadians will have much more time on their hands. The technological revolution and automated processes soon will make it possible to produce all the required goods and services, involving only a fraction of the present working force and much less time than the average work-week today. What happens then? Will this enforced leisure lead to social ruin, or to the flowering of a genuine grassroots culture in the arts and other fields? Social chaos can be expected unless Canadians learn what Dr. Wilder Penfield calls “creative idleness.”

In the same vein, the well known educational commentator, Jr. Bascom St. John, has written: “What somebody must now begin to seek is a moral equivalent of work. It will be more urgently needed than an equivalent for war, if our leisure is not to be our ruin.” Mr. St. John, writing in the Toronto Globe and Mail, pins high hopes on “continuing education” — a lifetime of adult learning and relearning, not only for the purpose of keeping employed but also with the aim in mind of widening one's interest in life, and one's vision of life. This does not mean all of us will have to take up basket weaving to make a creative use of our future idleness. But each of us will have to acquire new knowledge, new interests and new skills if the future age of leisure is going to be meaningful and truly satisfying.

—Western Producer, Sept. 3

Apple plenty will engulf U. S. markets this fall. Commercial production is estimated at over 147 million bushels, up from the previous high of 140 million bushels in 1939. This year's total would be 17% more than last year's and 20% more than the 1958-62 average. New trees coming into production in many areas and favorable growing conditions in all regions account for the increase.

—Wall Street Journal, Sept. 1

Credit 'Just Like Liquor'

London, Ont. (Staff) — A sweeping provincial investigation into the plight of people gripped by a new sickness called buying-on-credit was demanded here today.

Harry Shannon warned the Ontario Municipal Association that people are addicted to and demoralized by easy credit like alcoholics are by liquor.

Mr. Shannon, Ontario secretary for RCAF Benevolent Fund, said, "This excessive, shocking, and reckless indulgence in easy credit has wrecked and continues to wreck families."

Warning that Canadians are in debt amounting to \$4 billion, he said, "more and more people will lose their jobs because of wage garnishees and be thrown onto municipal welfare rolls."

—Toronto Telegram, Aug. 25

(In a Price System it is absolutely essential to keep an uninterrupted flow of goods, so if people are hurt in the process, it is just too bad. Same process is prevalent in the U. S.)

Health Insurance should be provided by Quebec's provincial government for all residents, the Quebec College of Physicians and Surgeons recommended. But the doctors skirted the question of whether the province should establish its own plan or work through existing private health insurance companies by subsidizing premiums for the indigent.

No Effect on Jobs? Just More Freight with the Same Crew

New York — A crewless locomotive went into regular freight train service last week on the Louisville & Nashville Railroad.

The locomotive is in the middle of the train and supplements the fully manned front-end engine to provide extra power for long trains. The road says the locomotive will have little effect on jobs.

The unmanned engine has a strain gauge in the coupler that joins it to the freight cars being pulled. When the iron's tension rises, impulses are sent to a four-foot-high electronic computer in the locomotive's nose. The computer analyzes the impulses and the engine is automatically throttled up or down.

General Railway Signal Co., a unit of General Signal Corp., developed the new system. The engine was put in regular service Sept. 1st. In a trial run it pulled 16,647 tons of coal; 12,000 tons is considered a major load and often requires two engine crews, one in a pulling front engine and one in a pushing rear engine.

—Wall Street Journal, Sept. 8

How Small is a Small Business?

. . . To understand why so many small firms find it difficult to secure outside capital or credit, one must consider a question that stands among the most perplexing ever posed. Just what is a "small business," anyhow?

Unfortunately, the answers have never approached unanimity. By one rule of thumb, a small business is simply "a business with a problem"; by another, it's "one that contributes to the American Way of Life."

Much Federal legislation says small businesses are "independently owned and not dominant." The Small Business Administration (SBA) translates Congress' words into a vast and variegated array of quantitative definitions, most of which come equipped with exceptions or flexible safety hatches. For example, manufacturers seeking direct SBA financial aid must generally have under 250 employees to be "small," while small businesses bidding on Federal contracts with preferential treatment can have up to 500 employees and sometimes more. For wholesalers and construction outfits the SBA criterion shifts to annual sales, with \$5 million or less putting them in the small business group.

Why so many different definitions? And why have so many authorities, both private and government, failed to come up with a definition they can get together on? To observers with a skeptical mind the answer may seem supremely simple — small business is a political issue, and a political issue (the way they use the phrase) is simply a polite way of calling it an artificial one.

Politicians drumming up votes, businessmen looking for favors, economists searching for popular topics to write on — these, such cynics might argue, are the people who talk most about small business, and they can't say precisely what they are talking about. . . .

—Chase Manhattan Bank
Business in Brief, Sept.-Oct.

Computer to Make Science Data Available Fast

One of the first large-scale computer systems for storing and retrieving scientific information is in use at the Government's National Library of Medicine in Bethesda, Md., keeping track of tens of thousands of medical journal articles it receives each year.

The library has invested \$3 million in an electronic system called Medlars (for Medical Literature Analysis and Retrieval System). Because of the steadily growing mass of printed information about scientific matters, the library is storing data on magnetic tape for quick access by a computer.

Without a computer, it would be time-consuming and often impractical to search through the printed materials for the required information on such a subject as abdominal disorders.

This year the national library will be indexing more than 16,000 issues of medical journals, containing an average of 10 articles each. A Honeywell, Inc. 800 computer is being fed detailed information on articles in the more than 300 medical journal issues coming in each week.

The computer is programmed to accept the information, sort it out and prepare "data files" for storage on tape. The data are indexed in such a way that a request for information on a medical subject will yield from the files on tape everything that has been recorded on the subject.

The computer takes about 5 minutes to search a reel of tape, containing citations for 25,000 to 30,000 articles.

One of the things prepared by the system is the Index Medicus, a massive monthly bibliography of the world's medical literature. An average 500-page issue contains 12,000 citations concerning latest developments in medical research and practice.

—Wall Street Journal, Aug. 3

The Big Get Bigger, The Small Disappear

"In 1962, the population of American manufacturing enterprises consisted of about 180,000 corporations and 240,000 partnerships and proprietorships. These 420,000 business units had combined assets of about \$296 billion. The 20 largest manufacturing corporations had \$73.8 billion in assets, or an estimated 25% of the total. The 419,000 smallest companies accounted for only 25.2% of the total assets. Thus the total as-

sets of the 20 largest corporations were approximately the same as those of the 419,000 smallest.

Concentration, when measured in terms of net profits or net capital assets, is greater. For example, the 20 largest manufacturing corporations, with 25.4% of total assets, accounted for 38% of profits after taxes. The net profits of the 5 largest corporations were nearly twice as large as those of about 178,000 corporations.

—W. F. Mueller, head of Bureau of Economics at FTC, before Senate Antitrust Comm., July 2

Hospital Costs Climb

New York — The total cost to hospitals of caring for each patient rose to a record of \$38.91 a day last year, an increase of \$2.08 from 1962, The American Hospital Association reported.

The association said the daily cost for each patient is up sharply from the \$9.39 of 1946.

The cost of caring for a patient during an average stay, slightly more than a week, rose to about \$293 last year from \$280 in 1962.

The figures, which apply to short-term general hospitals that care for all types of illnesses and injuries, were compiled from the association's annual survey of hospitals. The association said the survey covered 5,684 non-Federal short-term general hospitals employing about 70% of all hospital personnel and spending about 69% of all hospital dollars. . . .

—Wall Street Journal, Aug. 3

(The medical care programs of the Price System are all inadequate. Only a national Health Program as suggested by Technocracy will make it possible for all citizens to look forward to old age with the assurance that he will not be left destitute on account of old age or injury.)

Office Help

Electronic Dialer — The Rapidial dialing system remembers phone numbers, automatically dials them at touch of finger. Holds up to 290 telephone numbers on magnetic memory tape. Easy to operate. Turn selector knob to desired name, lift telephone, then push motor bar. Dials local, long distance, or extension-to-extension calls. Numbers can be added or erased easily.

—Modern Office Procedures, Oct.

Flight to Suburbia

Annual rent of a Pittsburg shoe retailer has fallen to \$12,000 this year from \$19,000 in the late 1950's. Says a rental agent there, "Rental rates are constantly going down while real estate taxes are going up." In Dallas, average downtown rents have dropped 30% in the last decade, a real estate man estimates. "If rents are forced any lower the owners are going to be in real trouble."

Rising downtown vacancies brought about by moves of stores to the suburbs and scattered failures are largely responsible. A National survey of 1,050 store buildings reveals over 20% more vacant space than a year ago. A Boston study shows buildings at the edge of downtown suffer most. Some landlords install air conditioning and better lighting or cut up stores into offices to lure tenants.

—Wall St. Journal, July 30

Drug News Swap Might Interfere with Profits

Montreal (CP) — A Montreal biochemist advocates the setting up of world-wide drug reporting centers to avoid tragedies such as those caused by thalidomide last year.

Dr. Theodore Sourkes, associate professor of biochemistry at McGill University, says the world has entered a new era caused by widespread use of biochemical drugs. It is necessary doctors receive fast answers to certain questions: How long will the drug stay in the body? What are its effects? How will mixing of drugs affect the patient?

His proposal would entail the establishment of reporting centers at teaching hospitals and similar institutions. Each center would require a drug reaction committee to collect information and compile reports.

At present it may take from one to two years, or more from the time a new drug is introduced until many of its affects are found and published. Even more time elapses before these reports are evaluated by experts.—Edmonton Journal, July 22

Aluminum

The aluminum industry set a new monthly record in August by turning out 217,198 tons. This topped the previous high of 216,000 tons produced in July. Through the first eight months of the year, primary aluminum production totaled 1,686,396 tons — 12.4% more than for the comparable 1963 period.

—Purchasing, Oct. 5

Interference with Private Enterprise, "A Sacred Cow"

U. S. stockpiles of metals and other industrial commodities are being used as a type of "farm subsidy," suggests American Metal Market. The daily takes note of the extension of Public Law 480, which permits (among other things) the barter of surplus U. S. agricultural products to foreign countries for critical and strategic metals. Domestic metal producers oppose the barter section of the law because it permits metal to be brought into the U. S. in direct competition with their output.

—Purchasing, Oct. 5

A New Drug from Waste Pulp Liquor

An industrial solvent marketed by a pulp and paper firm is the source of what may prove a revolutionary drug.

Crown Zellerbach and the University of Oregon Medical School have developed a drug called DMSO (dimethyl Sulfoxide) which could revolutionize treatment of everything from a simple headache to Dutch Elm disease.

Crown Zellerbach has just signed contracts with five pharmaceutical firms who will develop DMSO for medical purposes. It should be on the market within a year. . . .

. . . Meanwhile the U. S. Food and Drug Administration is keeping close tabs on all human experiments with it, looking for any danger signs. Large scale testing in university and drug company labs will be done between now and the time it appears on the market.

—Edmonton Journal, Aug. 1

We Provide Medication for Pigs but Ignore Humans

Swine producers now have available a feed additive reported by its manufacturers able to increase pig growth rate by 87 percent.

The new product — Aureo SP 250, manufactured by Cyanamid of Canada Ltd. — recently received federal approval for marketing in Canada.

Aureo SP 250 is a medicated premix especially developed for use in manufactured pig feeds. It contains three anti-bacterial drugs: aureomycin, sulmet and penicillin.

Veterinary Dr. H. D. Simpson, animal products manager for Cyanamid, told a press conference Tuesday the new product was considered the most important introduced in Canada since the advent

of aureomycin, a broad spectrum antibiotic in feeds.

"Its effectiveness in combating swine diseases and allowing the animal to more efficiently utilize his feed" accounts for the striking weight gains and improved profit potential.

—Edmonton Journal, Aug. 12

10 Years of U. S. Surplus Disposal

The U. S. surplus disposal law, Public Law 480, was passed in 1954 and since then a total of \$11,400,000,000 worth of farm commodities have moved into world markets under it.

An average of five 10,000-ton ships leave ports every day carrying P.L. 480 cargoes.

The total value of the program in terms of cost to the U. S. Commodity Credit Corp., including ocean transportation, is estimated at \$13,580,000,000.

Wheat has been the main item. Total wheat and flour shipments under P. L. 480 had an estimated value of \$4,830,000,000. Cotton is next at \$1,185,000,000, followed by fats and oils, with nearly \$1,000,000,000.

More than \$515,000,000 worth of feed grains have been exported and more than \$100,000,000 worth of dairy products. . . .

—Western Producer, Sept. 17

(Is it worth all this to maintain an obsolete Price System in America especially when we have many of our own people who are unable to enjoy the abundance we produce?)

Effect of Slums

New York — "The real population explosion is the increasingly explosive behavior of people living under conditions of intolerable crowding," Dr. Mary Steichen Calderone, warned at a recent American Medical Association meeting.

Dr. Calderone, formerly medical director of the Planned Parenthood Federation of America, said that animal studies have shown overcrowding leads to emigration, increased mortality, decreased fertility or pathological behavior.

She said illegal abortion is an increasingly severe problem throughout the world.

"Contrary to popular supposition, illegal abortion is not the whimsy of the rich, unmarried college girl, nor the frivolous refusal to bear a second or third child of the bridge-playing young urbanite, but is for the most part, in actuality, an effort

by a desperate married woman to practice what we all advocate, responsible parenthood.

Dr. Calderone, in her blistering talk, said, "To deny unwed mothers service to enable them to control pregnancies is as unrational as it would be to refuse to treat a prostitute for venereal disease."

The battered child syndrome is another thing she blames, in part on the population explosion.

"If rats crowded together exhibit such pathological behavior as cannibalism, human beings living under intolerable conditions of stress and competition for the breath of life itself may and do react similarly."

—Montreal Star, Sept. 22

Smog!

Vancouver (CP) — The electric car is Moscow's answer to growing air pollution from gasoline automobiles, an engineer said Friday.

Prof. I. S. Efremov, dean of the faculty on industrial electronics at the Moscow Institute of Energy and Power, predicted that all cars on Moscow streets will be electric in 15 to 20 years. "The state will simply stop producing gasoline-driven cars," said Prof. Efremov, here with an 11-man Russian group of teachers, scientific researchers, journalists and a doctor which is touring Canada.

There are between 1,000 and 2,000 electric cars on the road now, although Russia has not a smooth running model as yet.

The traffic illness of North America has spread to Russia. "Too many people are becoming sick from poisoned air." Where there were only 20,000 cars on Moscow streets 10 years ago, today there are 1,000,000.

(The "Dumb" Russians may lick smog before it starts. It's an engineering solution. Our "free enterprise" would never go for it.)

—Victoria Daily Times, Sept. 26

More than 300 tons of tomatoes were harvested in a one-shift day by Bianchi Brothers, Tracy, San Joaquin County, a new high in harvesting production rates . . . with two UC-Blackwelder harvesters, the Bianchis are picking the VF-145-B-8 variety in a single row 60-inch planting . . . the 300-ton record was accomplished the second operating day, with a state grade running about 5-7 percent. . . . Lindeman Farms, Los Banos, Merced County, reports consistent harvests of over 100 tons per day with one machine.

—California Farmer, Sept. 5

Technology In the Woods Speeds Up Operations

Leslie Nehaj, a 40-year-old high-rigger, has cut the tops off more than 10,000 trees in the last 15 years.

As he slithered down what was a 200-foot tree after axing the top 75 feet of it, he knew it was among the last he would climb.

"I used to top four trees a day five years ago," he said. "Now it's down to five a month."

His work as a high-rigger is being replaced by a highly-mobile steel spar used for yarding logs. A 300-horsepower diesel unit provides the power.

Only one tree-top spar remains at Nanaimo Lakes logging operation and it may not be there next year.

"It was everyone's ambition to be a rigger when I was a youth," said Gordon Naylor, area logging manager for Crown Zellerbach Canada Limited.

"But there's not much point learning anymore. It's a dying art in the woods."

Steel Spars

Yarding logs by raised wooden spars began during the First World War, he said. In the late 1950's a Nanaimo company began selling steel spars, which are mounted on mobile equipment.

It used to take five or six men nearly a week to rig a wooden spar. The steel one can be in a fresh position in a few hours.

Another innovation is the use of tractor-trailers. Tractors used to pull one trailer but now they regularly draw two and three trailers and experiments have been made with four.

The long cycle of growth-to-cutting of a tree, usually 60 years, is getting attention in experiments near Courtenay.

Twice Growth

Hybrid cottonwood trees were planted this year which grow twice as fast as evergreens. They would be used as pulpwood and may reach cutting size in less than 30 years.

Another experiment tried this year was helicopter spraying of 400 acres with fertilizer. Results will be known next year.

At the company's Elk Falls pulp and paper plant near Campbell River, a \$36,000,000 expansion was completed this year to produce an extra 150,000 tons of kraft pulp a year.

Some 50,000 tons of this will be produced from

sawdust, once considered waste worthy only of burning.

Sawdust can't be substituted for chips to make paper, but it can be blended with chips to provide a more even formation of the sheet of paper, said company president R. G. Rogers.

—Victoria Daily Times, Sept. 25

Better Butter Faster

The time honored clank of the butter churn is disappearing from some Wisconsin creameries.

Two plants have installed continuous churning systems which turn out butter in an endless yellow ribbon. Two others are using another method.

The first continuous churn in Wisconsin went into operation last November at Wisconsin Dairies co-operative, Union Center, one of the largest butter plants in the state, with a capacity of 1,400,000 pounds of milk a day.

A French made device, it is not much bigger than an industrial separator. It takes cream in at one end and in two minutes butter is pushing out the other. Wisconsin Dairies has bought two to provide a standby.

Winning Prizes

The product has been winning prizes steadily for buttermakers. Marrell Westley of Wisconsin Dairies took first prize at the La Crosse interstate fair. His colleague, Ray Thering, took top honors, including the governor's sweepstakes, at the state fair. And Friday another of the plant's buttermakers, Richard Abbs, scored a perfect 100 to win the top superior rating at the Waterloo (Iowa) Dairy Cattle congress.

The plant got further fame when butter praised by President Johnson turned out to be made by Wisconsin Dairies and labeled for a Texas distributor.

Recently Chippewa County Dairy co-operative, Bloomer, installed a Danish made continuous churn. The manager, Elmer Leppen, reported it makes a high quality product and won at a Chippewa Falls butter show.

Principle of both machines is similar. Cream flows into a small, high speed churn with rotating vanes. Butter is made in 17 to 28 seconds (two hours or more in conventional churns), is augered out, worked through sieves, washed and squeezed through more sieves. Users had to iron out some problems, but now say they can put out a product of uniform quality.

Old as the process is, dairy experts are not

sure just what happens in churning. The most widely held theory is that agitation of the cream partly whips it, the butterfat being trapped inside air bubbles which then dry out and collapse while the fat globules cling together.

Most important in the continuous process say plant officials, is taking the backwork out of churning. With the conventional churns, the operator stoops to collect the butter and pull it out of the big cylinder. There are new churns, however, in which the butter can be dumped directly into "boats," large portable tanks on wheels.

Another approach has been a continuous butter-maker, not a churn at all but a machine which breaks down cream into fat and other components. The cream is agitated and heated, then run through a separator. Milk or cream is added to give body. The product is forced through small tubes and compressed into butter.

Tends to be Harder

According to Prof. L. C. Thomsen of the University of Wisconsin dairy staff, the product from the continuous buttermaker tends to be harder, but this is no problem if the butter is held at room temperature an hour or two to make it spreadable.

The Rice Lake Creamery Co. has operated a continuous buttermaker, made by Creamery Package Co., Fort Atkinson, for 12 years. Its manager, Richard Heldke, is enthusiastic, claiming the system is versatile, can be used to make anhydrous milk fat (almost pure butter oil, used commercially) and could also make low fat butter, if the minimum ever is changed from the present 80%.

Level Valley Dairy, West Bend, is using a continuous buttermaker, made by Cherry-Burrell Co., to turn out ten million pounds a year on three lines. Roger Devenport, the operator, said he can put in precisely the fat and solids content he wants.

Gaining Attention

But the continuous churn seems to be getting the attention of the dairy industry these days. A third churn, a German make called the "Fritz" and actually the first of its kind, is being shown at the Dairy Industries exposition this week at Chicago.

Thomsen said the continuous churning was known before World War II but the break-through came for the American industry, with the development of a suitable salt injection system. This now is done with salt powder which is made into a slurry and pumped into the butter. Water also can be added at any rate and culture for cultured butter.

Butter from continuous churns, said Thomsen, tends to be higher in curd. This protein element could provide food for bacteria but there has been no serious keeping problem, probably because water droplets are so tiny bacteria can't be harbored there.

Wisconsin Dairies reported its churn, which can make 2,400 to 2,700 pounds of butter an hour, costs \$24,000, plus \$7,500 for the salting device and \$7,200 for the packager. Cost, according to Thomsen is comparable to batch churns but the labor saving is considerable.

Production Doubled

Thomsen said one man could turn out 2,400 pounds an hour with the new system, twice what he could do with conventional equipment. Wisconsin Dairies estimates were lower but still also gave the continuous method a strong advantage.

The huge, bulky churns, holding thousands of pounds of cream, took up a lot of floor space that can be converted to other uses. Wisconsin Dairies plans to hook on a butter printer, saving the entire step of loading in a boat, then unloading in the printer. Bulk butter is put in 68 pound cartons, using a packer which fits on the churn spout.

Labor saving devices at Wisconsin Dairies have cut the 90 person crew by one-third in a year. Another major step was putting in "tote bins" for powdered skim milk, a companion product in butter plants. Formerly the product was sacked.

The powder now is augered into a line-up of eight aluminum bins which are automatically filled from the dryers. The bins then are handled by fork life truck. They are tilted into the filling machine as needed.

—Milwaukee Journal, Oct. 4

Notable and Quotable

Edward Durell Stone, in an interview before receiving the Building Stone Institute's award as "architect of the year," commenting on what he calls "the colossal mess we've made of the face of this country:"

Everything betrays us as a bunch of catchpenny materialists devoted to a blatant, screeching insistence on commercialism. If you look around you, and you give a damn, it makes you want to commit suicide.

Our materialism, of which the older civilizations correctly accuse us, is disgusting to anyone who has a conscience.

—Wall St. Journal, 9-2-64

What Is Wrong in America?

(The following article is reprinted from "Minutes" — a magazine published by Nationwide Mutual Insurance Company.)

by Carl Brickner

Our rising unemployment total may be only a dull statistic to most people, but to the unemployed it is a matter of the utmost concern. What it says to them is that things are getting worse instead of better, that the hope they live on day after agonizing day is without foundation, that their future may be no brighter than the darkness of the present.

Unemployment is a humiliating, devastating experience, as spiritually debasing and mentally tormenting as it is financially costly. I know, for I have suffered through a year of it.

I have experienced a loss of faith in myself and in others. I have seen the same loss of faith in the eyes of other unemployed men and women standing in the long lines at the state employment office. And I have heard unknowing persons dismiss the unemployment as "chiselers" and "lazy bums" who "could find a job if they really wanted one, even if it's digging ditches."

Men vs. Machines

What these people fail to realize is that ditches are now dug by machines, and that more and more manual jobs, even thinking jobs, are being automated.

Few indeed are the unemployed persons who don't want to work. Nor are all the jobless unskilled laborers. Many are highly qualified professional and trades people — management executives, accountants, skilled craftsmen, office workers. Unused talents and abilities in growing numbers are being utterly wasted. This is the tragedy. Joblessness is a burden not only to the jobless but to the nation as a whole. It is a sobering indictment of our "affluent society."

My own case is probably not unusual. I resigned from my job in Ohio as a technical writer, not by choice but of necessity. My nine-year-old son was suffering from a serious bronchial condition and the doctor recommended a move to a warm, dry climate. My wife and I sold our belongings, loaded the station wagon, and with our four children (ages 3, 7, 9, and 12), headed for Tucson, Arizona.

No Easy Decision

The decision to move was not made lightly. I was 49, and I knew finding another job wouldn't

be easy; efforts to do so by mail had failed. Moreover, I couldn't draw unemployment compensation since I had to resign of my own free will. We decided we would have to take our chances.

That was a year ago, and the chances turned out to be poor indeed. It has been a year of excruciating frustration, of dwindling life savings, embarrassment, discouragement, disillusionment. And perhaps worst of all, it has been a period of agonizing reappraisal of an economy that apparently cannot support its population.

You lose perspective when you're out of a job. There is little cheer in reports of a record Gross National Product — not when you can't afford to buy a pair of shoes for your three-year-old. You begin to wonder: Has the Land of the Free and the Home of the Brave come to mean the freedom to starve and the bravery to face it?

What Does It Mean?

What does a year of unemployment mean? I can tell you.

It means six people living in four furnished rooms in a poor neighborhood, trying to cut corners when there are no more corners to cut. For the children it means a "no" answer to their every request: no movies, no second glass of milk, no new clothing.

It means putting off needed medical and dental care; turning to a free clinic in an emergency of acute appendicitis. And it means that some questions cannot be answered: "How come you can't find a job, Dad?" "When can I take music lessons?" "Everybody's going to the rodeo; why can't we?"

For the mother, it means the back-breaking chore of washing the family's clothes in the bathtub; mending and re-mending garments; shopping for the very cheapest foods; making do on no budget at all; not daring to make plans for tomorrow but concentrating on just existing today.

Hope, Then Despair

For the father, it means waking up each morning with renewed hope for the day, and going to bed at night with a little less hope for tomorrow. It means a demoralizing loss of self-respect, a feeling of failure, of being unwanted, even perhaps of being incompetent, despite high qualifications and excellent references. It means peeking in trash cans for the daily paper, to read the help wanted ads for the job that's never there.

After a year, you know that your acquaintances and friends are wondering what's wrong with you,

(Continued on page 23)

"Technocracy Is For Women Too"

Women carry the burden of propagating the human race; therefore they have reason to be concerned about the future welfare of their offspring, and the continued progress of mankind.

Being human we often fear things we do not understand, as in earlier days when people were afraid of the sound we now recognize as thunder. Some women fear technology (machinery) even though the so-called 'emancipation of women' was actually done by technology.

Without the products now made in our factories, plus modern communication and transportation, women would find life rather rough. Contrast earlier days when women saved tallow for months and then spent many laborious hours making candles for the winter's lighting needs, with the present time when just the slightest pressure of a well-manicured forefinger will flood a room with light as bright as sunshine.

Making one's own clothing today is much simpler than what it was when women did their own spinning, weaving and sewing by hand. Compare today's automatic laundry with that of washing clothes in a nearby stream as was done by our ancestors; or hauling water from a well instead of just turning on the kitchen or bathroom taps. How many women could make soap out of the fats that were saved and then depend on that supply to last for all washing? (And no radio soap operas to help them pass the time of day.)

How much easier it is to find the milk, butter and bread on your door-step than to do your own milking at an early hour each morning, churn your own butter and bake your own bread. Yes, the only fear we need have about technology is the fear that someday it might be forced to shut down, and we should have to try to maintain our existence without it. A city without electricity would mean no telephones to call the doctor, police, or fire department. Garages could not even pump gasoline into cars or trucks. Food and water would soon be gone — many would not survive.

Humans have brains capable of assessing facts

which aid in our visualizing events and things before they have actually materialized. It is the collective use of this ability, plus the active planning for progress, which can speed our advance to greater use of more things by more people; in other words, abundance from the cradle to the grave.

How many women have gazed at vacant lots and visualized homes that have not yet been built? As excavations for cellars take place and the foundations are being set, each woman can estimate in her mind the sizes and locations of various rooms, including the furnishings that will be used. Yes, she can dream of her home before it is built — just as engineers visualize bridges before they actually span rivers; as surveyors visualize roads long before trees have been cut, or the grading started. We use electricity obtained from waterfalls because engineers could visualize the powerhouse before even the dam was constructed. The engineering application of science to the Great Lakes area is now turning what has long been a navigation dream into reality, where ocean shipping will penetrate far inland.

Technocracy needs women and men who can visualize more than just individual programs as mentioned above. An understanding of Technocracy's Study Course provides for intelligent visualization of North America's progress when science is applied to our social order; when engineers are permitted to plan, coordinate, and develop useful continental programs for the benefit of all our citizens without interference of price, prejudice or political boundaries.

Those who claim they 'can't see' Technocracy are short on either facts or vision, or they are blinded by selfishness.

Women normally take an active interest in planning for the future of their own children. They will sacrifice their personal desires to help ensure the fulfillment of these plans. Women have even been known to by-pass love in choosing a mate, with the first concern being — can he provide for

my children to the fulfillment of my plans for their future?

The study of Technocracy will prove that women can best ensure the future of their own children by helping to introduce this scientific plan designed to provide opportunity and security for every child and every adult. Selfishness will get you nowhere.

Abundance Without Price

North America has the resources, energy, technology, and trained personnel capable of providing every woman, man and child on this Continent with an abundance of goods and services. This means, more than we could use and no need for personal sacrifice.

Women, men and youth now working for Technocracy have visualized the social implications of what will be brought about by scientific distribution of this abundance. There will be no more 'price tags,' which are required only when things are scarce. The Price System and scarcity will be eliminated together as our automatic factories continue to force this abundance upon us.

Our financial and political leaders who lack the vision of a New America of Abundance are still trying to maintain enforced scarcity. They purposely manufacture shoddy goods to wear out fast so we have to buy more. They continue to cut back production of food supplies; to destroy food, lock it up in bulging warehouses, or use taxpayers' money for free transportation to give it to foreign countries. This helps to maintain scarcity, and high prices, on this Continent. Then they tell us what is good for business is good for us.

Wars Help Business

War, and production of war goods, are also good for business profits under a Price System; but is this good for us? It is another excuse that can be used by our financial and political leaders to maintain scarcity. How many mothers' sons have been sacrificed for the glory of dear old 'free enterprise'?

Technocracy offers peace, with an elaborate Continental system of self defense, mostly technological, to discourage attacks from without. No more sending our best specimens of mankind into scenes of indescribable slaughter.

The government of the Technate will operate through the medium of functional sequences, such as housing, public health, education, recreation, conservation, production, distribution, and so on. As Howard Scott points out, 'It can convert the gigantic energies of atom fission and fusion into the channels of colossal construction, for the in-

tegration of this Continent, so that it may bring forth a new order of the ages.'

The homes women dream about, hope for, may be realized. Even the most modern home of today will be passe in the New America. Constructed of materials of which there is plentiful supply, they will be soundproof, fireproof, practically dirt-proof. They'll be air conditioned or heated by the same mechanism.

Real Equality

Released from a seemingly endless routine of household tasks, women will have leisure to do those things you have wanted to do, see the places you have wanted to visit. You can round out your education, venture into various scientific fields. Your status will be that of real equality with men, for economic independence and new opportunities to broaden your horizons should eliminate much cause of marital friction, and harmonize other human relationships.

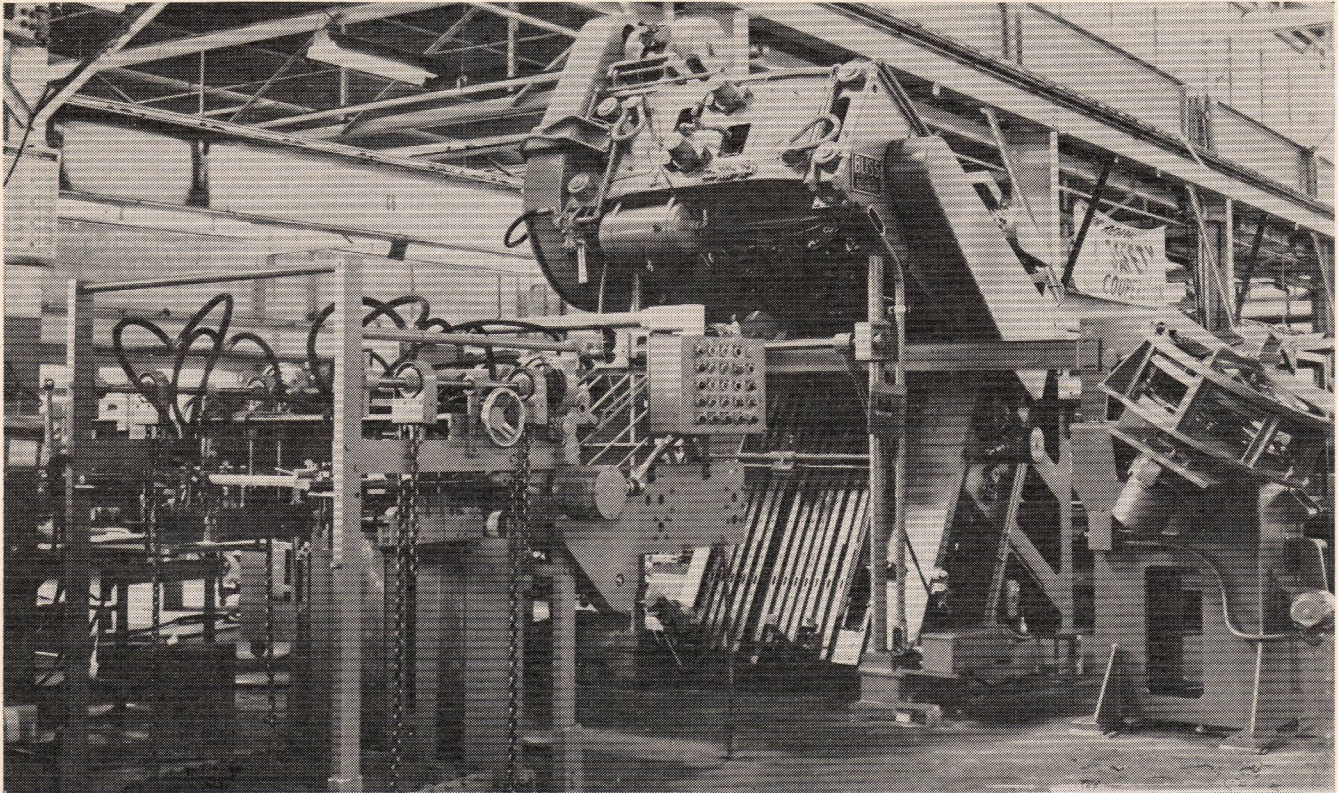
An occasional oldster may bemoan the almost complete lack of hard work in the Technate, having been raised to believe human toil is necessarily virtuous. But even now workers are being ruthlessly disemployed as fast as they can be replaced by machines. Social change is rushing upon us and we must adapt ourselves to frequent innovations.

The Technate is designed to concentrate on the social mechanisms and see that each citizen gets his share of available goods and services. No inquisitions to pry into your religious or philosophical views, and there will be no politics to confuse you. Preventive measures will be taken against disease that flourishes now because of ignorance, poverty, or unsanitary environment. Medical and other scientific research, no longer stymied by lack of funds or necessary equipment, will progress rapidly. There will always be incentive toward progress, toward still greater knowledge.

Your Help Needed

But all these good things await the installation of a Technate. Meanwhile, the Price System is still with us, with its wars, its slums, poverty, charity, crime, graft, and increasing chaos. We are still physically and economically insecure. Women and men alike are needed to study, to join Technocracy, and spread the 'good word.'

As Members, women are equally proud as men in wearing the Technocracy Monad emblem — showing they are working for improved living conditions for all our citizens.



The Bliss 1841 multiple die press was developed for high speed production of can ends. It is a single action, 100-ton capacity press, capable of producing more than 2,000 can ends per minute. To change sizes (from 200 to 404) it is only necessary to replace dies. The press is sheet fed and can handle plain or lithographed sheets at speeds of from 125 to 150 strokes per minute. It can operate with as many as 15 dies at a time, on sheets up to 36" x 36" and can produce from plain or scrolled sheets of either tin plate or aluminum.

—Courtesy E. W. Bliss Co.

Technocracy uses the Monad insignia to symbolize dynamic balance between production and distribution. Women are as capable as men in promoting Technocracy, and Technocrats recognize the fact that women are essential in this educational organization to maintain balance in our program of activities.

Training will be provided at your nearest Technocracy Section for all volunteers who choose to function on any of the following Committees: New Membership, Education, Research, Finance, Public Speaking, Publications and Organization. You may like to do secretarial work, or help with social activities. Technocracy provides an equal opportunity for women and men to prepare yourselves, and to help lead the way to Abundance, Social Advancement, and Permanent Security.

—Reprinted from *The Technocrat*, Sept. 1963
Henrietta Phillips

What Is Wrong in America?

(Continued from page 20)

and you begin to wonder too, and you wonder if your wife and children are wondering. And you decide there must be something wrong with the nation you love, the greatest nation in the world, when unemployment can become such a massive problem.

I've read that 30,000 workers a week are losing their jobs to automation, and that the labor force is growing twice as fast as the number of jobs. Automation isn't the sole cause of our unemployment, of course. There are many causes. I don't profess to know the answers, but I do know the effects. And I know there is one supreme, pressing question that must be answered:

What's wrong in America?

—Freedom News, Sept. 7

QUESTION BOX

Would Technocracy's Position Be Advanced by Having More Really Good Men and Women in America?

First off, we must point out that Technocracy is not interested in advancing its own position. It is interested in advancing the position of America. Technocracy has nothing to gain. It will rise or fall as America rises or falls. Therefore, the question really revolves around this point. What good are 'good' men and women to America?

The word 'good' is such a general term that in the absence of a precise definition it is impossible to tell just what type of 'good' is meant. What is 'good' for the fox is not 'good' for the rabbit, and vice versa, and so on. The fact is the whole idea of 'good' is not a real concept describing a thing or event in the external world. One cannot go to the store and buy a pound of 'good'. It doesn't exist as an entity. In the traditional, moral sense, 'good' is an arbitrary, abstract, philosophical concept, revolving around human attitudes and behavior patterns. It takes many forms, varying with time, geography, traditions and folkways.

The Western World has been trying to manufacture 'good' men and women for 2000 years. Our production curve has never risen much above zero. Nevertheless, we're still hard at it in spite of the long-known fact that the nature of our social system, the Price System, makes the job impossible. Honesty, humility, fair dealing, and nearly all the virtues of the traditional concept of 'good' are in conflict with the Operating Rules of the Price System. On the one hand we dream up an abstract concept of 'good'. On the other, we set up a real social system that places nearly all of its rewards upon the exercise of a set of behavior patterns in opposition to that concept. Then we bewail the wickedness of human nature and wonder why there are not more 'good' men and women to set the world right. It is high time that we cease this infantile habit of piling futility upon futility. This is the Power Age! It is high time to adopt the scientific approach.

If, in relation to the social problems of the Power Age, we define 'good' as that set of behavior patterns which is most beneficial to the General Welfare and the individual, we may discuss

the question intelligently. Starting from that definition, then, we would have to analyze our whole social system and all the known factors of America's social problem in order to determine what is 'good'. We would weigh those physical factors which contribute to the General Welfare against those which are opposed to it. This is a process of measurement. Consequently we are not setting up an arbitrary, abstract, philosophical concept, but uncovering a set of principles inherent in the data. This is the scientific approach to social problems. In other words, we would let the facts dictate what is 'good' for the General Welfare. Our scientific approach and concept of 'good' becomes then a real concept, directly related to things and events in the external world and operating in harmony with physical laws. This is in contradistinction to the philosophical approach to social problems and the traditional concept of 'good' which, arising as they do out of subjective introspection, is more often than not in direct conflict with opposing forces in the external environment.

These external forces are what determine man's attitudes and behavior patterns. With but few exceptions, people do what they are conditioned to do by their environment. Men do not make events. Events make men. It is an error to assume that social change cannot occur unless there are 'good' men and women to bring it about. People do not create social change. They adapt themselves to it, or else perish. Social change is caused by environmental factors. In North America these are the impact of Science and Technology. They are here, they are operating, and they are irreversible. When conditions are right, social change will ensue as inevitably as the seasons of the year turn from Spring through Summer to Fall and Winter. We do not create the procession of the seasons; we do not try to turn them backward; we do not rail against the inflexible course of these physical events. All we do is adapt ourselves, or else perish. In the Summer, we change our diet and wear lighter clothing. When it rains, we wear a raincoat. In the Winter, we eat more and wear heavier

clothing. It is not a question of 'good' at all. It is a question of adaptation. We prepare ourselves for the weather changes we know are certain to come. We survive by exercising sane reactions.

Here is a common set of attitudes and behavior patterns that are not based upon subjective introspections. They arise out of the relationships revealed by the data of experience. They are not consciously 'good' in the traditional sense, yet they are definitely beneficial to the individual and General Welfare. The same idea applies in relation to social change. It will come, willy-nilly. We cannot stop it. We cannot turn back the clock. If we oppose it, we will be swept aside.

The best thing to do then, is to adapt ourselves and our system to the coming change and to direct it into channels beneficial to the General Welfare. Thus we may survive by exercising sane reactions.

It is a misconception to imagine that social change will come first and that 'good' men will then be able to get busy afterward. If the so-called 'good' men and women of America don't get busy and accomplish something now, in preparation for social change, they won't even be able to accomplish their own survival afterward. Social change can be accompanied by social violence, unless we are prepared to avert it. Fire, famine, disease, battle, murder and sudden death do not spare the 'good'. They go down first while the tough, alert, unscrupulous and lucky survive. It is not written anywhere that Santa Claus is going to pass out the Technate on a silver platter, while all the 'good' men and women of America sit comfortably on their collective social brains waiting for an auspicious time to 'accomplish something of importance'. **THE TIME IS NOW!**

What has to be done is strictly educational in character. We don't have to venture forth into the

U. S. in Congo As Seen from Abroad

Manchester Guardian, Aug. 27 — Sir: Your leading article on the Congo last week does well to show the relation between American intervention in Vietnam and present American activity in the Congo. The United States is assuming the arrogant right to intrude militarily wherever her economic interests are endangered. These interests reflect the power of private industry and what Fred Cook has rightly called "The Warfare State". The "Warfare State" is controlled by industry in alliance with the military, from which so much of its profit derives.

American intervention in the Congo, as in

unknown. All we have to do is study and propagate that which is already known. The Design of the Technate is the synthesis of the American social problem. It was not dreamed up out of subjective introspection. It arises out of the technological nature of American culture. The schematic form of the Technate is already decided. It was inherent in the data. It will work only in one way and that way has been determined by physical laws. Thus, the Technate projects, in advance, its own policy of organization, administration and control. All this has been uncovered from a study of the elements of the problem. It has been accomplished. The spade work is done.

What remains to be accomplished is of the highest importance. It is to **PREPARE — PREPARE — PREPARE!** That is what Technocracy is doing. Technocracy is neither causing nor advocating social change. It is preparing for the inevitable, so that North America may progress to that higher form of culture that is the only alternative to the hell of social fascism.

Which do you want, American fascism or American technology? There is literally no other choice.

Which is 'good' for the General Welfare? There is only one correct answer. When you find it, you will cease being only an amorphous 'good' man or woman, wandering around in a wilderness of abstract concepts. You will become a good American, with a definite objective and a high concept of citizenship. We may conclude, then, that what America needs most is not more just 'good' men and women but more alert, intelligent, capable citizens with the right kind of good will, who understand the problem. That is the only way the position of America can be advanced. If you want to call that 'good' we won't fight about it. The correct term, however, is scientific.

Vietnam, comes to brazen economic and political imperialism, masqueraded as opposition to communism. The United States must be made to cease its perpetual intervention in countries that are so wicked as to use their resources for their own advance, as opposed to American and Western aggrandizement. Rebels do not worry the United States, as we know from their efforts with regard to Cuba. The real concern is neither with absence of freedom, instability in a given country, nor the peace of the world. It is time a spade was called a spade where American policy is concerned.

Yours faithfully,
Bertrand Russel

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, JULY 2, 1946 AND JUNE 11, 1960 (74 STAT. 208) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF THE TECHNOCRAT, published quarterly at Los Angeles, California for October 1, 1964.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Managing Board, 8113 S. Vermont Ave., L.A. 44, Calif; Editor, Leland Proctor, 8113 S. Vermont Ave., L.A. 44, Calif., Managing Editor, none; Business Manager, Marjorie T. Clouse, 8113 S. Vermont Ave., L.A., Calif. 90044.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.) Managing Board, 8113 S. Vermont Ave., Los Angeles 44, Calif., which is a unit of Technocracy Inc., CHQ, Rushland, Pennsylvania, a non-profit membership, educational organization with no stock or stockholders. The officers of the Managing Board are: Leland Proctor, Editor; Richard Burnett, Assistant Editor; Kenneth Wolford, Research Editor; Maysie Foster, Circulation Manager and Marjorie T. Clouse, Business Manager and Chairman, all with addresses at 8113 S. Vermont Ave., Los Angeles, Calif. 90044.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required by the act of June 11, 1960 to be included in all statements regardless of frequency of issue.) 2800.

Marjorie T. Clouse
(Signature of Business Manager)

Sworn to and subscribed before me this 8th day of October, 1964.

George Lloyd Hart
Notary Public in and for said County
of Los Angeles

(SEAL)

(My commission expires April 9, 1967)

(Continued from page 10)

beings would be required to man the productive processes and, (2) as the production approached an actual abundance it would no longer be possible to effect a distribution by means of a price.

When told that Technocracy has a plan which will function under these conditions, many people who have known about Technocracy in the past

say, "That's old stuff". Apparently they have been brainwashed by the Madison Ave. technique so that unless it was designed yesterday, it must be out of date.

The conditions foretold are now with us and it does not require any high degree of intelligence to see that the Price System is not capable of using all the human beings who want to work in the production of goods or that the Price System is incapable of distributing the abundance now being produced without them.

The goal of full employment is obsolescent as far as the Price System is concerned. If your job has been taken over by machines, and if you are over forty years of age, you may be relegated to the scrap heap.

Technocracy can afford to wait. You can't. Better investigate and begin working for a better New America. The time is now.

—L. M. Proctor, 11834-1

ATTENTION

If you have not received your other magazines perhaps your subscription has lapsed. Reinstate with the magazine from which you first subscribed.

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TECHNOCRACY

North America's Only Social Dynamic

WHAT?

Technocracy is the only North American social movement with a North American program which has become widespread on this Continent. It has no affiliation with any other organization, group or association either in North America or elsewhere. The basic unit of Technocracy is the chartered Section consisting of a minimum of 50 members and running up to several hundred. It is not a commercial organization or a political party; it has no financial subsidy or endowments and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$9.00 which are paid by the member to his local Section. Members wear the chromium and vermilion insignia of Technocracy—the Monad, an ancient generic symbol signifying balance.

WHEN?

Technocracy originated in the winter of 1918-19 when Howard Scott formed a group of scientists, engineers, and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934 Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundation of the present Continent-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHERE?

There are units and members of Technocracy in almost every State and in every province in Canada, and in addition there are members in Panama, Puerto Rico and in numerous other places with the Armed Forces. Members of Technocracy are glad to travel many miles to discuss Technocracy's Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHO?

Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life. Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this Continent. Membership is open only to North American citizens. Aliens and politicians are not eligible. (By politicians is meant those holding elective office or active office in any political party.) Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher, or housewife—so long as you are a patriotic North American—you are welcome in Technocracy.

The TECHNOCRAT

Offering to the American public a medium by which it can learn the facts regarding the transition period in which we are moving toward a New America of technological abundance.

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December, 1964

Whole No. 212

The TECHNOCRAT is published quarterly (Mar., June, Sept., Dec.) by a Managing Board at 8113 So. Vermont Ave., Los Angeles 44, Calif. Entered as second-class matter April 12, 1938, at the post office at Los Angeles, California, under the Act of March 3, 1879. The TECHNOCRAT is an authorized publication of Technocracy Inc., Howard Scott, Director-in-Chief, Rushland, Pennsylvania. Subscription rates: 25c a copy or 4 issues \$1.00, payable in advance. Send all correspondence to (and make all checks and money orders payable to) The TECHNOCRAT, 8113 So. Vermont Avenue, Los Angeles 44, California.

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SCIENCE VS THE TRI-PARTE

It becomes imperative that the conduct of human affairs be dominated by science, the physical knowledge of the world in which we live. In the passing of the old and the instituting of the new, human conflict will become the bitterest in history. Science is hated and feared by ecclesiastical institutionalism, by corporate enterprise and political parties. The fear and hatred that will be directed by these against science and its technological application will be far greater than those the Inquisition hurled against all the accumulated heresies.

— SECTION STAMP —