

MARKET TECHNOLOGY IN THE U.S.A.*

Thomas T. Stout**

Background

Not too many weeks ago your Prime Minister appeared on national television and said much about The Market System, The Planning System, The Public Purpose, John Kenneth Galbraith, and the public responsibility. I am told that not everything he said was totally comprehensible to your countrymen, but the manner and sincerity with which he said it was very understandable indeed. Hence, given the sincerity of all of it and the incomprehensibility of some of it, there has been serious concern by many about the meaning of what he said. Let me suggest three things to you: First, the answers to much of your curiosity are to be found in Galbraith's recent book, Economics and the Public Purpose [6]; Second, your Prime Minister is intelligently aware of some serious and critically timely issues that affect the welfare of your country; and, finally,

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**Professor of Agricultural Economics, The Ohio State University and Ohio Institute for Rural Education and Development Center, Columbus.

that sufficient controversy surrounds these issues that none of you--not a single one of you in this room--can afford the luxury of being uninformed or of abstaining from the debate.

Let me put it in this perspective: You asked me to come up here and offer thirty minutes of commentary on Marketing Technology in the U.S.A. This is not a really difficult assignment, but it can be a meaningless one unless it enjoys your participation. This is so because what I am asked to talk about is nothing more and nothing less than the topic your Prime Minister addressed, but to offer it to you in the more limited scope of agriculture and from an agricultural aspect. Agriculture is indeed important, yet agricultural issues are but one hinge upon which swings the massive door of more ponderous issues that need to be faced by societies and nationalities everywhere; not just Canadian and not just "American." And just as the Prime Minister's expressions of concern are futile without the support of his countrymen, so are my comments to you now a mutual waste of time without a response from you. Perhaps we may regard the sessions of these three days as an introspective dress rehearsal, wherein we examine ourselves, our roles, and our willingness to confront the responsibilities we have to meet in the months and years ahead.

Let me pursue this background a bit more. In a society where private enterprise prevails, it is definitionally expected that business will be enterprising in the pursuit of profit, in a private manner, as befits the conduct of private affairs. This is the traditional definition of private enterprise in the context of fundamental classical economics. When that traditional context

first came into focus 200 years ago, such business behavior was seen as right and proper because it was easy to construct a logical and obvious parallel between the private pursuit of profit and the public benefit. What served well the individual businessman served also to benefit the entire social system, made up, as it was, of multitudes of powerless little people, each going about their business--however conniving they might wish to be--in their powerless little way; each cancelling out the ploys of the other in the rich broth of healthy competition. Notice in this whole construct the absolute significance of the absence of Power. Nobody, courts and churches excepted, had very much.

But that was 200 years ago and, as we now well know, 200 years ago was but the innocent sunrise in the cool dawn of an industrial age. Now we stand at mid-day in its mid-summer heat and now we know much that we never knew before. We thought we understood that there was an "Industrial Revolution" but now we know there is an industrial revolution and, far from over, it continues to progress at an accelerating pace and we are engulfed in the tidal wave of it. We know now that there is Power and not an absence of it, and we know the power is necessary for we are willing creatures of our technological age. But we also know the necessary power is unevenly distributed and we are frightened because it is no longer logical or obvious or even wise to suppose the Power is always employed to serve the public purpose. Sometimes the 20th Century seems to be a battleground where a war is fought between the coveted science of the future and the cherished traditions of the past.

So we are engaged in a great debate. There now exists a mutually acknowledged essential Power. What is not mutually acknowledged is the proper use of it. On the one hand there stand the champions of the private right of business conduct, and on the other are found defenders of the necessary public purpose of social equity.¹ The two have come in conflict and yet we must have both. Technological power is what makes Everything go, but social fairness is the glue that holds Everything together. To choose either as the administrator of Power, wholly at the expense of the other, is to change the very definition of the state and, that, we are reluctant to do. So a solution must be found and yet it seems at times that both the urgency and the impossibility of the solution rush upon us as the tidal wave rushes upon the beach.

And on that beach there is a grain of sand. It calls itself "Agricultural Marketing Business Forum, Banff, 1976."

Agricultural Consequences in the United States

Let us examine now how this debate has come to pass in agriculture. It is hazardous to summarize the causes, the sequences and the consequences of this conflict in agriculture between the traditions of the past and the technology of the future. It is hazardous because the conflict is not as clearly drawn as a summary would have it. It is hazardous because subtle but essential issues

¹The issue can be illustrated by paraphrasing an observation made by Professor Devine, University of Saskatchewan: There is a mistaken tendency among Republicans to suppose that "What is good for General Motors is good for the country" and among Democrats there is the alternative fallacy that "What is good for government is good for the country." Professor Devine feels the former view tends to predominate in the United States and the latter in Canada. My own intuitive feeling is that there is an increasing tendency in favor of the latter view in both countries.

get omitted and lost from the consideration they need be granted. It is hazardous because it reduces complexity to simplicity and leaves behind the residue of false hope that perhaps complex and misunderstood matters will yield to simplistic solutions. So let us be on guard while I move the first pawn to initiate the sequence. Let us suppose that the aggressor, as it has often been in conflicts of this kind, was discovery, new knowledge, and attendant science and technology. New information poured into agriculture in the post World War II era at a rapid and increasing rate. The information advanced quickly from small and simple advances to costly and complex innovations. An alert minority moved rapidly to adopt ever more demanding technology while the established, confident, complacent majority began to flounder in confusion.

The technological demands of complexity and cost translated into efficiency related to size. Bigger equipment could be kept efficiently occupied only over greater acreage. Two things occurred: A few buyers consolidated larger farms from many sellers, and crop specialization began to take the place of crop rotation.

Specialization to provide the scale economies to cover those formidable operating costs brought with it an unexpected and, seen now with hindsight, perhaps an unaffordable cost. It cost agriculture its quality of brotherhood. It began to erode the agrarian identity of agriculture. The whole fabric of the rural socio-economic system began to bleach and rot in the hot sun of applied science. Specialization gave rise to special interest groups. Townships and

counties lost their special charm as ancestral homes for family clans. The common interests of specialized grain producers or cattlemen or pork producers began to over-ride the common interests of neighbors when one man's income became his neighbor's costs.

What is costly about this is that as production agriculture at once became a small political minority and needed more than ever a clear political voice, its essential cohesiveness was lost, and replaced by a divisiveness that characterizes and emasculates the political capacity of agriculture today [3].

Agriculture is small and fragmented. It is divided by the special interests of specialized production commitments. It is divided between modern science and traditional life [9]. It is outnumbered and outflanked. It is encroached upon by an urban public accustomed to abundance as a right of citizenship, increasingly aware of its political power by merit of its size, and aware of its cohesiveness by merit of its common interests as citizens, consumers, and advocates of urban superiority [3].

In 1940, the Bureau of the Census recorded 23 percent of all U. S. citizens living on farms. In 1970, a generation later, the figure stood at 5 percent. Agriculture will never fuel another rural-urban migration in the United States. Today, 7 percent of all farms account for over half of all farm income, and half of all farms share only 5 percent of all farm income. That half also averages a negative return on investment; they are refuge farms; they are not a real part of modern agriculture anymore and never will be again [9].

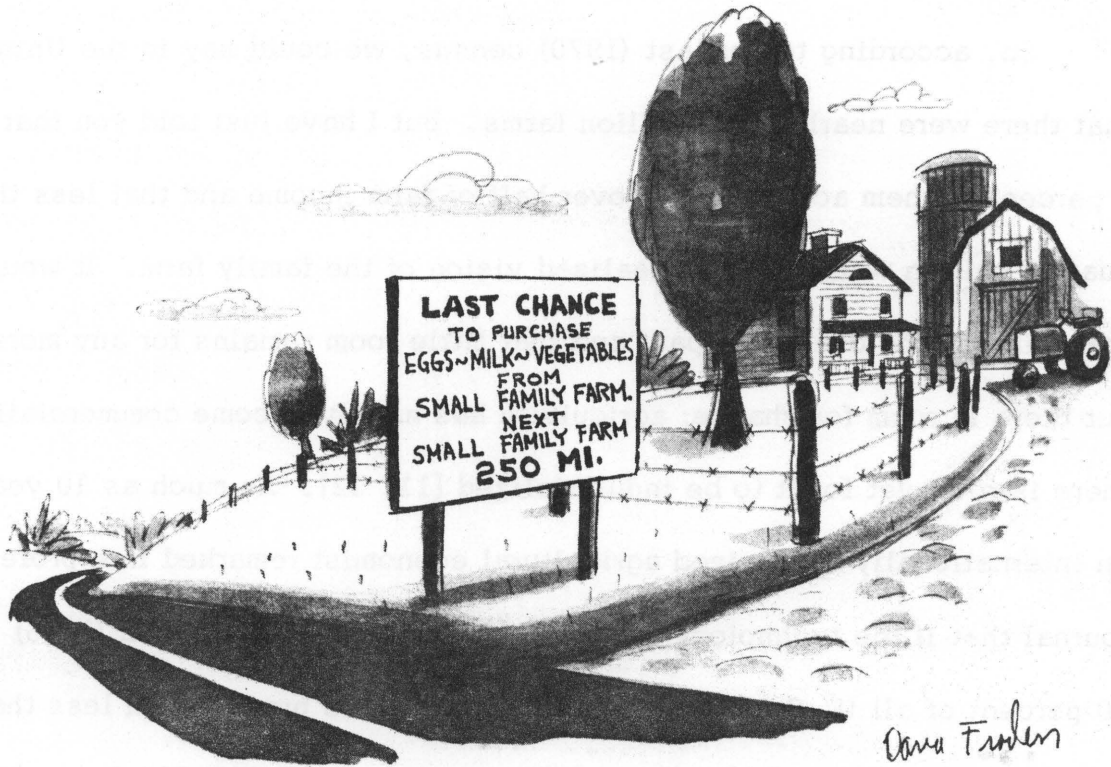
Modern agriculture is a very concentrated, very commercialized, very industrialized enterprise. The idealized image of the family farm is becoming a part of our national heritage--and hence a part of our folklore. There are today in fact very few farms, far less than a quarter million, that conform to the standard stereotype of family owned and managed capital generating more than half the family's income [8].

Continuing Trends and Future Forecasts

So, according to our last (1970) census, we could say in the United States that there were nearly three million farms. But I have just told you that only 7 percent of them accounted for over half of farm income and that less than a quarter million would fit the idealized vision of the family farm. It would seem that perhaps the change is past and that little room remains for any more of it. But there is room for change; agriculture has merely become commercialized; there is room yet for it to be industrialized [11, 12]. As much as 10 years ago an internationally recognized agricultural economist remarked in a professional journal that if the technology already at hand were fully utilized (1966) perhaps 90 percent of all U. S. agricultural output could be produced on less than 100,000 farm production units [10]. In the 1970 census it took 211,000 farms (the 7 percent) to produce only 51.8 percent of total output. There is room.

Let us examine some of the continuing trends and reasonable expectations that will contribute to the shape and magnitude of changes yet to come.

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In the National Economy--We ought first to look at a few of the facts affecting the national economy and therefore the agricultural economy and then turn to trends and developments more directly within the scope of agriculture. At the risk of some grave oversight, I will cite just three factors affecting the national economy; they are inflation, unemployment, and energy. I would like to explain briefly why I think these three will provide continuing difficulties in the years ahead.

I think inflation, interest rates and unemployment will remain troublesome simply because the federal deficit is so huge and because the American industrial plant is getting dated. The federal deficit was \$43 billion in 1940; by fiscal 1975 it had grown to \$509 billion. During fiscal 1976, beginning this past July 1, we are adding to that federal deficit another \$86 billion. In one year! Industry needs modernization; unemployment rises partly because the labor force continues to grow at a rate more rapid than a dated industrial plant can absorb it. Hence, both the industrial base and the federal debt need to be financed and the demand for capital will be huge. We should expect, therefore, continued high and rising costs, prices and interest rates.

The energy crisis is real. Oil is the basic fuel to which we have become accustomed and it is a depletable resource, with a time horizon somewhere around 1990. Most of it is controlled by a nationalistic cartel and it is monopoly priced. Even if we could find additional reserves in remote and costly regions, its recovery would be expensive and its accounting would

be done with the devalued dollars of future inflationary times. Accept, therefore, the fact of high-priced oil. Speculate that perhaps the OPEC cartel has done us all a favor. It has ignited the serious search for alternatives before the last moment arrives later in the century.

In the Agricultural Economy--In the agricultural economy are a host of developments that I think fit into a composite picture. However speculative it may be, it appears easy to find a beginning by reflecting on the meaning of the changes agriculture has already undergone and how this changed agriculture interfaces with the agricultural supply and processing sectors. Consider the fact of production units that are (1) large and (2) specialized in the production of (3) perishable products; imagine cattle feedlots, for example, or 3000 acre cash grain operations, or very specialized lettuce growers, citrus producers, 100,000 bird layer operations, or 500 cow dairy herds.

Then consider the elasticity of aggregate demand for any of the products you care to contemplate. The demand is very inelastic; small changes in output cause disproportionately large changes in price. The consequence to any individual producer is an unpredictable price volatility that yields intolerable uncertainty. Grandpa, on his family farm, hedged these uncertainties effectively by producing much for home consumption and a variety of products for sale which each enjoyed distinct and separate markets. But not Grandson; he is committed to one product--and he is committed big.

Also, consider finally that those who are large and specialized and who got that way by growth in their generation are found generally to be among the astute, alert, innovative managers of their time. They have their counterparts in both the agricultural supply and agricultural processing sectors, and it is not surprising that with the passage of a little time and under the pressures of their mutual predicaments, they all find one another, and immediately they set about the task of removing by degrees that intolerable uncertainty that besets them all. Hence, conventional marketing channels performing archaic assembly tasks designed for small production units get bypassed in favor of direct channels connecting suppliers, producers and processors.

So what would you forecast? The obvious, of course.

One is reminded of an observation made by Dr. Henry Kissinger during the closing years of U. S. involvement in Southeast Asia. Speaking of a part of the world where, for a generation or more, warfare was better known than was peace, he said that one of the difficulties of drawing the war to a close was that the people (including their social and political institutions) "preferred the risks of war to the uncertainties of peace."

Now the entire business community in the United States, and particularly the agricultural segment of it, prides itself in its historic tradition of hairy-chested private enterprise, and likes to regard itself as the epitome of capitalism and individualism. But large scale operations and specialized

production are thought-provoking circumstances, and some are led to wonder if perhaps their preferences are too great a luxury to indulge; they begin to prefer the risks of administered prices to the uncertainties of open market prices.

So it is with a reasonable amount of confidence that we may expect to see a continuing circumvention of open market prices and a continuing increase in hedging, forward pricing, contracting, integration, marketing orders and agreements, and perhaps marketing boards [5]. Corollary to this is I think an increase in government supervision, administration and intervention. This will take a variety of forms. One will be direct action to strengthen and make more predictable and workable the open market system that remains preferred by many. An opposite government stance is also likely in a more active supervisory role concerning pricing contracts between producers and their counterparts. This will occur because, however big agricultural producers are, they still are small compared to those they bargain with. There will be a protective tendency on the part of government to assure that equity prevails.

Technology also brings some other changes and perhaps we have time to cite a few of them. One that would have to be acknowledged is the extreme importance of the growth of the food service industries. This means everything from the catering services providing packaged meals to airlines, hospitals, motels and assorted institutions to the fast food retailers like MacDonalds, Burger King and Ponderosa Steak House. All these outfits succeed best when

they realize that what they sell is not food but convenience; convenience in the form of quick time, predictability, easy access, and low cost. MacDonalds wants it to be true that when you've seen one you've seen them all; it's an asset to the business, that predictability of expectations that customers learn to count on.

Now what are the consequences of this development? They are many, and varied, and maybe surprising, and mostly predictable. For example, it is widely known in the fruit and vegetable trade that consumption of processed goods is up and consumption of fresh products is down (unless it's an exotic like avacados or tangelos). This is because the success of freezing and canning is so great that, however superior the fresh product may be, consumers have to pay a premium to get it, and not enough consumers are willing to pay enough premium. But this is not true of potatoes and one wonders why for there could hardly be anything less exotic than potatoes. Indeed per capita consumption of all forms of potatoes is down--except for french fries; their consumption is expanding so rapidly as to overcome the declining consumption of all other forms of potatoes. And it is reasonably safe to attribute the entire reason for this curious development to the extremely rapid rate of growth in the fast food chains; the fastest growing segment of the entire food retailing industry.

The fast food industry has other impacts. It's quality control is precise. This quality control calls forth from the wholesaling and processing industries the appearance of machines and managerial abilities capable of meeting that

growing demand. So there are hamburger patty machines in the packing plants, together with tenderizing equipment and forming machines, and wafered meat products, and vacuum packaging and product freezing and abandoned killing floors. This whole aspect makes an intensely interesting story and there is not time for it now. There is only time to examine some of the consequences and speculate about the changes that they in turn will bring. For example, the "quality" of the meat consumed in the fast food industry is, by traditional standards, low; sometimes very low. But enough has been done to alter and form and tenderize and prepare it that by the time it reaches the point of consumption the consumer judges the product to be "acceptable." The meat story closely parallels the fruit and vegetable story. You can get a very acceptable processed product for a very reasonable price or, if you want to have a big time, you can go downtown and pay a premium for something you expect to be particularly nice. But there are three net effects that are important to the meat trade and to marketing: (1) The consumption of short-fed and non-fed beef is increasing rapidly and a high utilization of it is going to be a common occurrence in the future. (2) Second, the ability of packing plants to improve "quality" in a matter of minutes means that improving quality in a matter of weeks or months in a feedlot is becoming technologically obsolete. Yes, there will be feedlots, but there will also be more non-fed beef consumption and there will be more short-fed beef coming out of those feedlots. (3) Third, livestock and meat are

bought and sold on a national and international market based on standardized product description and not on old-fashioned personal buyer inspection. But the standardized descriptions are themselves based on product differences important to retailers and consumers, and both of these are changing so fast that the old standards are no longer as useful as they once were. And when the standards lose their meaning, who reports the market conditions and prices of (what kind of?) product on the teletype?

I've got to wrap up this section. Let me close with just a few headlines and maybe we can talk about them later. Picker-sheller combines and giant hopper cars with 5000 bushel capacity have revolutionized the production and marketing of grains. The combines expanded enormously the amount of land one man could handle, and they also significantly shortened harvest time and lowered field losses. But they introduced the necessity for on-farm drying of high moisture grains, and the short harvest season induced the need for more on-farm storage. Yet there is still a harvest time glut on the market, and grain piled on the ground in little country towns. Why? Because now we are a nation of specialists, as we noted, and he who raises grain no longer feeds cattle and hogs. So, whereas we used to sell over a three month period perhaps 25 percent of our corn harvest, we now harvest it in three weeks and 70 percent of it is for sale. Hopper cars help move the grain, and their efficiency has induced unit-train freight rates that so significantly lower the cost of transportation that new production areas become feasible and many

local assembly points and processing facilities find themselves small and poorly located. The only reason many small local facilities continue to exist is that the harvest glut keeps them operating through the season at about 110 percent capacity. Their days are numbered.

In the dairy industry the number of market orders is declining, producer numbers are declining, milksheds are expanding, new pricing schemes are debated and almost urgently needed and college professors are figuring 40:1 cow:man herd ratios, increased herd sizes and, by 1985, milk production down by 10 billion pounds [7]. In California one finds herds over 1000 head and per cow production 50 percent above the national average but "dairy factories" are not judged to be a typical development in the industry in the future [7]. But in the egg industry another professor has calculated the technological possibility of layer flocks of nearly 500,000 hens and, at that size, only about 520 production units would be required to supply the market [2].

Implications for Canada

I would be surprised if you are startled by anything I have said. I doubt there is much happening in the United States that is not happening also in Canada, and the reason why this is true is a source of some resentment to many Canadians. The two economies are very similar and very interrelated and many Canadians judge the reason for this to be not their own engenuity but capitalistic domination by the United States. There is, it is true, a powerful magnetic

attraction exerted by an economy that is 10 times larger than its nearest neighbor, and when this induces a massive movement of economic activity back and forth across the international border the impact on the smaller economy can make the entire country feel that its national sovereignty is being jeopardized. This consequence is, I am sure, an unpopular source of discontent for many Canadians.

All industrialized countries are concerned about the Power of what Galbraith has called the Planning System (i.e., the predominant giants in the various industries) in their economies. We are concerned in the United States about the undesirable possibilities or potentialities of the U. S. planning system. What gives your Prime Minister added concern is that the planning system that might cause difficulties for Canadian society is not entirely a Canadian system; the home address for much of it is in the United States.

So, it is not surprising that various trade restrictions, tariffs and embargoes exist to dampen trade between the countries and reduce the gravitational pull of the U. S. economy on the Canadian neighbor. This is a political necessity, it seems to me, because time and history have shown that it is quite difficult to have political and social unity unless there is economic unity as well. The essential economic ingredient in Canadian social and political sovereignty is a healthy East-West pattern of trade across the nation, and this is difficult to achieve when there is constant interruption and temptation offered by the massive economy below the border. Yet this, too, this rigid enforcement of East-West trade patterns, also becomes a bone of contention, particularly in these western

provinces. While the popular outcry in the nation at large may be that Canada is a U. S. colony, disgruntled prairie provinces feel that they are held in colonial bondage by the eastern provinces. Dr. R. S. Andersen, a Drumheller native now with the Alberta Department of Agriculture, has researched the effect of various trade barriers on trade flows of cattle and beef between the two countries. Although a variety of trade barriers exist, an essential finding of his research is that a simple tariff of about 1 1/2 cents per pound is sufficient to stop all but necessary trade to deficit production areas on either side of the border. An obvious conclusion is that other forms of trade discouragement are redundant and much administrative cost and tedium could be eliminated if this redundancy were removed. Another conclusion that can be drawn from the study is that if all trade barriers were removed a substantial increase in north-south trade would occur, with exports from western Canada into nearby U. S. markets counterbalanced by eastern Canadian imports from nearby U. S. supply areas. But, there is the matter of national identity and political sovereignty to be considered. The political costs, unmeasured by the study, may well outweigh the apparent economic advantages [1].

But it is true, nevertheless, that there are no barriers to the exchange of information, and if discovery, science and technology are threats to preferences for a more placid pace and life, then you will confront problems, difficulties, and opportunities that have a price attached, even if the U. S. was an inconsequential offshore island. No matter how you classify or qualify it, Power is abroad in the land and you have some alternatives to face and some choices to make.

Alternatives

I regard my role at this conference as a guest who provides an information resource which, hopefully, may be of value to you in your consideration of alternatives. So it seems to me that any remarks I make about alternatives should be very brief indeed.

As a not infrequent visitor to Canada to participate in sessions like this one, it has been impossible for me to avoid noticing differences or making comparisons about Canadian and U. S. public approaches to dealing with the private sector. It seems to me that when ailments appear in the market place in the U. S. the public tendency is to try to patch things up and make the market place work well again. Sometimes we overdo it. We resist carcass weight and grade pricing of cattle and hogs for no apparent good reason; and in the international grain trade we must look like a rather primitive country indeed. We let our biases intrude on our judgment sometimes too often in favor of "free and competitive open markets."

Perhaps this causes me to think I see in Canada an opposite tendency that is not really there. It seems to me that when Canadians discover something awry in their market system they decide the thing is over and done with and promptly substitute a public bureaucracy to oversee the market or take its place. At any rate, publicly administered pricing seems to be a more commonly employed solution in Canada than in the United States. I am left to wonder and speculate if perhaps Canadians sometimes move injudiciously against the market system

just as the U. S. sometimes unwisely struggles too long to preserve it. There is a reason why I think this Canadian tendency is sometimes injudicious and ill-conceived. When a cow is sick you can either sell it or call the vet. When a market is sick you can either dispense with it or try to make it well. When markets are sick it is usually because information is unevenly distributed and, since information is power, Power is unevenly distributed. An uneven distribution of power can make markets very sick indeed. This was most definitely the case with first-handler markets in the U. S. early in the 20th century. Power was centered among processors and manufacturers. It was in the form of well-collected, unshared, and privately-employed market information. Small producers or consumers had little chance of getting an even break in their market encounters with these adversaries well endowed with information. The U. S. Federal Market News Service was inaugurated in 1914. It operated on the principle that market information was a public good and it followed that a public responsibility existed to see that accurate and useful information was daily disseminated so that all parties to market transactions, big and small alike, might have equal access to it. This move was not applauded by those dominant and fortunate participants who already had the unshared information. Today, seen in retrospect, the Federal Market News Service and the Federal Grading System appear as landmarks on the marketing landscape. They helped restore the balance of power and the rich broth of healthy competition.

More recently, by a massive effort of intellect, and with no apparent knowledge that the precedent was already established in 1914, scholars have begun to debate the wisdom of providing market information to consumers (citizen-voters) who daily face a perplexing decision-making process in the retail market place for all kinds of consumer goods. There is even debate, believe it or not, about whether perhaps market information might possibly be regarded as a public good. Professor D. G. Devine of the University of Saskatchewan has recently researched the effect of providing public market information to consumers in a study of retail food shoppers in Ottawa and Winnipeg [4]. The research is not yet completed but the tentative results at this stage appear to show a general lowering of price levels, lessened price variation and increased consumer satisfaction--results not the least dissimilar to those enjoyed by U. S. farmers and ranchers after 1914. I am surprised--I confess I have been appalled--to discover how very little of this sort of public market information distribution there is in Canada. It's no wonder you have sick cows! But they're good cows and I think it's a mistake to be too ready to sell them off. Maybe all they need is the mineral supplement of some good market information.

Besides, if you administer all your prices and take first the uncertainty and then even the risk out of agricultural production, you invite a lot of company in to join you that you might not want. Big business--the "Planning

System"--thrives in a low-risk environment. Do you want that kind of company in agricultural production?

I wish you well in your endeavors in this forum and in your professional capacities in the years ahead. It is certain that we face some challenging--some really threatening--issues that need to be decided. I hope all of you know privately that you are participating fully and effectively in the necessary debate.

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