

nal fortitude to swing back at unreasonable regulations and the lack of ingenuity to propose effective alternatives. There is little visible strategy to neutralize the ambitious, misinformed media representative or self appointed consumerists. Lastly, too many flavorists who are in the field for the good life it brings apparently do not feel the challenges, satisfactions and potential humanitarian improvements this interesting field presents.

Hopefully, a younger flavorist now, acting as a senior spokesman at a similar meeting ten or twenty years from now, can cite the challenges of the 1970s and tell how they were overcome. We oldtimers won most of our battles and now it's time for some of our younger flavorists to prepare for their struggles. If you don't love this exciting, frustrating business it will not be you. If everyone decides to do nothing we won't have much to be concerned about.

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### Food technologist's point of view

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I am going to try to give you some perspectives of the food technologists in the food industry and the user industry in regard to flavors and the issue of natural versus artificial.

There is a need for closer understanding and cooperation between the supplier and user industries. Let me define some of these needs a little more clearly. We are both in the business of feeding millions of people. We want to bring to their dinner table an adequate supply of good, wholesome and delicious food and beverages. We want this food to be attractive and appetizing. We want the consuming public to partake of this food with enjoyment and confidence.

Over the last 10 years, particularly, the public's confidence in the safety of their food supply has been steadily eroding away. All kinds of fears and doubts have been placed in their minds, and they are quite confused. Their reaction is to turn away from foods that have been fabricated with the new technology that science has developed, and to embrace the "natural world" or what they believe to be the natural world.

There are a lot of people out there fanning the flames of this doubt, making a good buck doing so. The short term good for a small part of our food industry at the expense of the rest of the industry is, in the long run, a long term loss for

all of us. We believe that the best interests of society, for which we have a responsibility, can best be served by reassuring our public in a legitimate and proper way that we do have the most abundant, safest and best food in all the world. That won't be accomplished by knocking down our competition, especially by drawing insidious insinuations about the virtues of natural versus artificial. Remember that we represent both sides of this equation as far as flavors are concerned. We believe there is a proper place for both kinds of products. We believe that consumers should be allowed the freedom to make their choice based on positive attributes of product quality and flavor, not on the fear that they may be endangering life and limb if they don't choose the product marked "Natural." We truly do them an injustice and hurt the food industry as a whole when we orchestrate that illusion.

The felony becomes compounded when we realize that we are now teetering on the brink of an inadequate food supply—not just in Bangladesh, but even in our highly developed countries. We need to make every mouthful of food count. There is the opportunity perhaps to produce more food, serving to increase a field's yield per acre—that's a leap-frog kind of situation where technology produces enough food and the population gains on it.

While we are on the subject of availability, let's discuss the availability of flavors. We took a look at the Market Research Corporation's menu census the other day just to get a feel for how widespread the use of flavors really is. Except for items such as fresh meats, fruits and vegetables, and some of the dairy counter items, over 80% of our packaged goods from the grocery store have flavor additives. Without flavor the product would be bland and unappetizing. People would either refuse or be reluctant to eat it. It makes little difference whether the flavor comes from natural or artificial sources, the presence of that flavor is vital to the food supply.

It has been estimated that approximately five percent of the flavors used in foods and beverages in the U.S. every year come from natural sources. The remainder is artificial, at least by the latest definition offered by the Food and Drug Administration, even though chemically it may be identical in comparison to its "natural" counterpart. If for some reason we could no longer be able to use artificial flavors, we must be able to find a way to increase the supply of natural flavors by 100%, which would still leave a tremendous gap for our present flavor and food supply. There is just not enough to go around and there never can be.

It is conceivable that some day those very products that are now proclaiming naturalness may find themselves without a sufficient supply of natural flavor. It really doesn't make sense,

therefore, to position one type of flavor as superior to another. Both have their place, both are essential to making our food supply profitable, both are pure and safe if the proper tests and the proper toxicological procedures are applied. So let consumers make their relaxed choice in the marketplace without fear or doubt.

The thousands of substances being used to formulate artificial flavors have been and continue to be scrutinized for safety by experts all over the world. Many of them have had far greater testing than natural flavors. To the best of my knowledge, only two substances: coumarin and cyclamates, have been removed from the list of flavors in recent years because of their toxicity. And I might add that it was the research done in a company laboratory that first discovered this potential hazard.

The net result despite all the testing that has been done is that we have no scientific evidence to show that natural flavors or artificial flavors pose any greater degree of safety or hazard to people than the other. So let us not perpetuate this fear for self-serving purposes, it is just not a valid argument and we are being intellectually dishonest if we imply it is.

In a sense everything we have discussed is related in some way to public relations. I would like to make a special point here in regard to corporate strategy and possibly even corporate ethics. We have seen some dramatic external factors infringing on our businesses lately that we would not have dreamed possible just a few short years ago. There is a mounting penetration by the government in every sphere of our business life. There are more controls in more areas, more reports, more investigations. Part of it, we can safely say, industry brought on itself with certain abuses. Advertising is an area under particular attack. Both government and consumers are concerned over advertising of children's products and yet no regulations are being proposed by the FTC. I could cite many more examples but this will suffice, perhaps, to show that if industry doesn't do more self-policing, the government is not reluctant to take up the battle,

and is getting more and more support from the public when doing so.

If our claims of natural superiority go on expanding without restraint, sooner or later we will find the government asking for support of these claims, and the possibility of retractive advertising being upheld. So not only is it unwise strategy in the long term good of the industry and public confidence, but it could also have some very close-to-home impact on the reputations of our individual firms.

There is also the additional question of the wisdom of exposing our products and our companies to the challenge of honesty and integrity in our advertising copy for some short term gains. With more sophisticated analytical tools at our disposal, we can now find traces of all sorts of chemicals in most of our foods. We won't gain by stating "nothing artificial" when, indeed, good analytical techniques may detect a fairly large list of residues in our so-called natural product.

So many of our youth today state in disdain, "Big business is only interested in making a buck and really does not care how." This brings us back to the age old ethical question, "Do the ends justify the means?" I feel we need widespread support for establishing an industry-wide attack on the improper use of the terms natural and artificial, especially as they relate to flavors and other additives. The logic is sound, but the pressure of the marketplace won't let it happen without the strongest support at the top of the executive ladder. We believe it must begin with the development of a written corporate policy and corresponding change or clarification in corporate strategy in this area. It may very well be a two or a three step process but it must begin with a first step, and that first step is the organization facing up to the fact that there is need for a corporate policy regarding the proper use of these terms.

The action we suggest is the development of an internal control procedure, a sign-off if you will, so that the chief executive officer is assured that the policy that has been formulated is being

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uniformly interpreted throughout his organization. This industry-wide program would achieve a still higher degree of credibility and all the attendant benefits that should accrue to the public acceptance of this effort if organizations, trade associations, or other industry councils were established as a review committee to help provide a perspective on any particular argument or dispute with regard to an advertisement or a claim. I think this is an important first step and I think we must look to ourselves to generate that kind of momentum.

We are moving very rapidly into a changing world as far as the food industry is concerned. The day of pot and paddle chemistry, the mixing together of a few substances in a bathtub, putting them into an attractive box, and putting them on the shelf are long behind us. Convenience is no longer efficient, there are some very real needs to be performed like analog type products, fabricated products which are scientifically complex. The food industry is moving into a higher technology profile. As we move into these fabricated foods, the challenges before the flavor industry become enormous.

New insights and technology must be further expanded. Extraction technology and the blending of the compound are not going to be sufficient. I think the industry needs to examine the use of flavor precursors by the food industry, in order to develop those new flavors in the process of actually manufacturing the fabricated products themselves. We certainly need a better understanding of sensory perception.

But the food industry together with flavorists, began moving in this direction some time ago. Within the last 10 years almost every major food company has developed a trained profile panel, a group of experts, who can describe the flavors, textures and the other product attributes that are present in products. Their job is not to deter-

mine which is better, but to tell you what it is that you have created. And as you make research modifications, to tell you in what direction you are moving. That is a key to good, sound food technological research. The trained profile panel must be supported by an equally sophisticated market research organization.

The market research organization must be able to get out and put their finger on what consumers want. What are their needs? We can't just give them two choices, and have them pick one. We have got to get inside the consumer's mind to a much greater degree than we ever have before. That involves another dimension of sensory perception becoming increasingly understood: behavior psychology. What makes people make the choices that they do and what is the role played in making these choices? It may not be that it's a better strawberry than the one down the row and the other side of the aisle.

So this is the changing food industry in which we are operating, and we've got to operate with confidence, with forcefulness too. We cannot sit back and let it taxi. Some areas in the regulatory process are highly restricted while they really don't need to be, and others are extremely relaxed and probably should be tighter.

Europeans are concerned about the issue of food safety in Europe today, and in particular the role of the ADI—the acceptable daily intake of a given substance. What does ADI really mean? Does it mean that if you exceed the number of milligrams per kilogram of body weight in a given day that indeed you would expose yourself to serious hazard or potential hazard? Does it really mean the amount of material that you might consume over a week, a month, or a year is more important? If the role of the ADI is not clearly defined and understood, it can become a severe restriction in terms of technological advancement.

The Food Safety Council was born two years ago, and is made up of some divergent perspectives in terms of the issue of food safety. While forming the Food Safety Council, the group felt it was extremely important that all of the voices of society were represented in the deliberations of the Safety Council. So the Board of Trustees, which is the controlling group of the Food Safety Council, is made up of an equal number of public and private industry trustees. And there is a balance between academicians, consumer interest groups, government people and other professional organizations.

I think it is interesting by happenstance, that of the six symposium speakers, three are deeply involved in the Food Safety Council. I think you are going to hear a lot more about this organization and I firmly believe it is going to have a profound influence and impact upon our industry, and how we are going to be able to approach the questions of food safety in the future.