Research in the 21st Century—The Force of Globalization

Presidential Address¹

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We have all heard so much about “globalization” that the word has become a daily part of our lives. Perhaps we already take it for granted and no longer give much thought to what it means to us as scientists, horticulturists, and, perhaps surprisingly, as members of the American Society of Horticultural Science. What I would like to do in this short address is to remind you of what globalization is and then talk a little about what it does mean to us in all the roles I mentioned.

What is it? Globalization, in briefest form, is a process of removing barriers: to trade, to moving products, to moving information, to moving people, and to moving (including redistributing) money. The engine which drives globalization is not really the political engine; it is the economic engine, and it is much more powerful than the political engine.

What fuels the engine that incites and intensifies the process of globalization? Again in simplest terms, it is probably the need for free trade to enhance markets and to expand the world market in order for economies, at whatever level, to grow. Both the information revolution and the technology revolution of the last decade have added fuel to the fire, both as products for enhanced markets and as instruments to further the advance of globalization.

How does globalization affect us as scientists and horticulturists? Not one of us can deny that the same forces that drive the process of globalization have changed our lives and the world around us in easily observable ways.

Expanding world markets. How many of us still see our research activities in terms of our own counties or states or regions or even nation? With the removal of trade barriers (e.g., NAFTA, WTO) and the expansion of markets, our science becomes a global science—not an international science but a truly global science. It’s not just our friends and colleagues who work in international programs who now discuss global issues over coffee; we all are thinking more globally.

Information revolution. How many of us communicate, access information, and provide information the way we did even five years ago? How many of you teach the same way you did five years ago? Consumers, producers, and civil society in general all have fingertip access to information far beyond what we as researchers, extensionists, and teachers can give them. These are our clients and they now have alternative sources of information.

Technology revolution. Many aspects of the technology revolution impact on our daily work lives. Is there any one of us who doesn’t use satellite technology in some way (and I am not referring to communications ability)? Let’s take the revolution in biological technology just as an example. It has caused an explosion in private sector research investment, resulting in high-tech, upstream, agribusiness ventures; it has resulted in privatization of knowledge in a way that we have never confronted before; and it has forced us into new kinds of partnership in order to achieve our research goals—whether we are in the private sector or the public sector. The interdependencies are still there but the rules of engagement have shifted considerably.

All of these forces and their results, taken together, have caused a significant change in the perception of agriculture as a whole, including horticulture. More importantly, they have drastically transformed traditional national economic and scientific structures and systems. They have resulted in almost universal efforts to restructure, downsize, right-size, refinance, re-engineer, reorganize, and re-invent. In other words, it became rather clear that in this new era of globalization, the old structures and systems were too inflexible or too dinosaurish to cope. The real world was requiring a more pluralistic approach to structure and operation, oriented and responding to civil society as well.

This transformation process has affected us all. For one thing, it has allowed us (forced us, in reality) to exploit new opportunities presented by a global marketplace and by the means to be a part of that global marketplace. And our transformation is just beginning.

What does the future look like? I have some opinions on what the future will look like, and what it will demand of us, that I can share. But these are really only things that each of us needs to examine closely in order to visualize what our own futures will look like as we go about our research, extension, or teaching duties. The following pertain mostly to research, but can be extended to all our activities as horticulturists.

All countries, including the United States, will continue to move toward perceiving agricultural research in terms of trade, both in policy and in markets.

This market-oriented perception will continue to generate shifts in the way research is funded and in the reasons for funding it; outcome-oriented funding is a reality and the emphasis by research funders on outputs will continue to grow. The connection between those outputs and market impacts (the outcome) will be heavily emphasized.

The threat to the continued generation of public goods is inherent in this shift of perception. A number of governments have already commercialized their agricultural research investments.

We will continue to change from linear ways of thinking and organizing to redefinition of research streams, with little or no clear distinction between the various classifications of research (i.e., basic to adaptive) and leap-frogging in many cases as the tools of the biological revolution give us a better understanding of underlying cause and effect on a broad scale. This will force us to new institutional models of operation.

The public sector will be confronted with alternative suppliers of the technologies and information we have supplied in the past. Multidisciplinary, costly research will be carried out more and more by the private sector or by carefully constructed research groups that will access research talent wherever it can be found. In many cases, this will involve talent that has not traditionally been considered in the “agricultural” sector. Leadership roles are also increasingly being captured by the non-traditional agricultural sector.

As a corollary, the best research will be done in centers of excellence that can afford it, with a resulting control of technology breakthrough and access to information.

The most positive promise of these drastic transformations is an era of efficiency: more accountability, less duplication, more cost efficiency, lower communication costs, more knowledge, and more access to global knowledge (although not necessarily free access), and, I believe, more quality. Research of low quality or uncertain relevance simply will not be tolerated in the funding stream.

As horticulturists, we have some big questions to confront. How do we cope with all these transformations, many of which are out of our hands? How do we adjust? How do we fit into the new picture? The recently held World Conference on Horticultural Research, which a number of you attended last month in Rome, was convened to address exactly those problems. One of the ways we can adjust and cope is to support efforts like the World Conference, and its following efforts, to help place horticultural in the global context. On other levels, our institutional horticultural departments are undergoing the same types of self-analysis that hopefully will lead to effective measures. On an individual level, each of us has the responsibility to be knowledgeable, proactive, and involved in efforts at all levels.

At the national level, the United States will undoubtedly remain world-class in research capacity, education, and technology transfer.

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We will see more structural shifts and new institutional models. Institutional models are a product of the times, and the times now dictate that new institutional models are necessary. In those models, we will definitely see collaborative, cooperative, and integrative modalities emerging. The bottom line will be efficiency in using resources and effectiveness in producing outputs. Those involved in global activities via formalized partnerships are most likely going to be the first to benefit. But the most crucial factor is leadership. Leaders, especially in the public sector, will need to have vision, be entrepreneurial, be able to see the opportunities and judge the risks, and be thoroughly committed to the leadership role.

As horticulturists, we have other big questions to confront, and I fear we think much too infrequently about them, if at all. What does all this mean to ASHS? How does it translate to the future of professional societies in general and our professional society specifically?

We are all in the process of adapting to a world without many of the boundaries that we have depended upon in the past—both in our professional and private lives. We are all adapting differently and there will be winners and losers. The very same problems and challenges and awesome changes that affect our scientific institutions, and us personally, are affecting our Society! What happens to a Society like ASHS faced with the same forces? For example, let's think about how the following factors might affect us.

A global marketplace. In the past, we were used to having a captive audience. We knew who we were.

Do we still know who we—ASHS—are?

What should our membership look like now? Ten years from now?

How do we capture the interest of those nontraditional agriculturists who are now major factors in our disciplines?

How do we maintain the interest of those traditional horticulturists in the face of a huge and open world of new interests for them to pursue?

It is simply not enough to talk about increasing our international activities anymore; we have been talking about that for years. We must be thinking about global activities. Most horticulturists are not in the United States. Most horticultural crops are not in the United States. And there is no longer a barrier between us.

Communications/information. The ways in which people access information, share information, and share experiences has changed drastically. The core of ASHS as a Society has always been in providing information through its journals, meetings, news instruments, etc. Can we still meet those needs? Do we even have a good grasp of what the needs are or might be in 10 years?

Technology revolution and shift in institutional structures. Many traditional horticultural departments have disappeared in the institutional transformations that have taken place over the past few years. What does this mean for ASHS? In addition, the technologies that many horticulturists depend on are developed and used outside the traditional arena of horticulture. Those other arenas exert a tremendous pull on our constituencies and offer them alternatives to the services provided by ASHS.

These factors have serious implications for all professional societies. Most are struggling to adapt just as we are struggling to adapt as individuals and institutions. And similarly, there will be winners and losers. We want to be sure that ASHS is a winner. Unfortunately, I can't supply the formula here for making sure that happens. What I can do is suggest some of the things that we need to make it happen and to try to incite each and every one of you as members to commit yourself to making it happen.

We need to acknowledge that we have to adapt to the changes around us. We need to understand that we will continue to be changing for a while longer. The measure of our ability to do so, our mobility and flexibility, is a measure of potential to be a winner.

We need to be innovative and bold in our reactions. Half-measures will be largely ineffective in the long run. Reforms are risky and they are controversial, but, again, our ability to react is what will assure our survival.

We need leaders. We have an audience of leaders here, but many of you feel you are too busy, too overwhelmed, too unconfident to step into those roles. Or else, you assume someone else is taking the lead. We need you to give us the leadership that many of you are capable of.

We need vision and a strategic plan. Our strategic plan was a good one; it needs to evolve now to meet new needs and we are in the process of that evolution.

We need a tactical plan. A strategic plan tells us where to go—it doesn't tell us how to deal with the next situation that confronts us. We need firm decisions and we need commitment to those decisions.

We need good governance, good management, and an appropriate framework for making those decisions. We have undergone some changes in management over the past year. I believe that our management is solid, but I believe that our governance structure needs to be reevaluated.

Above all, we will need to be responsive and cost-effective. We need to deliver high-quality products and services that meet our member needs at a reasonable cost.

Will ASHS remain world-class? Will we be among the survivors, the winners? It all depends on the strength of your commitment as members of ASHS to the outcome. ASHS is its members. Without your commitment, it will be a difficult struggle.