Receiving the Harvey A. K. Whitney Lecture Award is truly one of the highlights of my career. I am honored to receive this Award in 1990—four decades after the first Whitney Award, two and one-half decades after I entered pharmacy practice, and a decade after my ASHP presidency.

To recognize all of the individuals who have helped me in my professional and personal life would be impossible. Many are in this room, and I want to thank each of you for the opportunity to be a part of your hospital pharmacy network. It has been a
pleasure as well as a great professional stimulus. As you know, the home base for my entire career has been at the University of Wisconsin; I have been fortunate to be at an institution with so many progressive, stimulating, positive-thinking, and caring people.

In trying to identify people, forces, or trends that affect our lives, we have to stop and consider longer time frames—such as decades. In particular, we need to examine areas that are in transition, whether in the world we live in, in our careers, in our practices, or in our lives.

This evening I shall discuss what I believe to be the beginning of an era in which the pursuit of individual independence is rapidly coming to a close as we move towards more interdependence. We may not recognize that as a trend yet; but I hope that when we look back a decade from now, we shall recognize success that resulted from our effective cultivation of interdependence in pharmacy.

First, let me define interdependence. *Webster’s New World Dictionary* defines it as “dependence on each other or one another; mutual dependence.”

Why do I think interdependence is so important? The late Ray E. Brown, a renowned hospital administrator, said: “It is necessary to distinguish between prevailing winds and intermittent breezes.” I think Brown’s wise words are pertinent. We can see the “prevailing winds” of interdependence everywhere.

First, we see it in the political arena worldwide, most notably in Europe. The collapse of the Berlin Wall in November 1989 is a signal event in our lifetime, a dramatic happening beyond the wildest expectations of those individuals whose job it is to monitor and predict such events. Even casual observers of such events are speculating on the potential positive impact this new wave of interdependence will have on the future of the world.

This trend is also already well established in the worldwide marketplace. Most companies are talking about their “globalization” plans and the need for financial and sales dependency among countries throughout the world for growth and progress. It will probably never again be possible for a single country to be totally independent of all other countries. And when the Europe 1992 plan is unleashed, everyone that produces, buys, or uses products will be affected even more significantly. Even today we only have to pause for a minute to realize that not many large pharmaceutical companies have their home corporate offices in the United States.

The merging of two or more pharmaceutical companies is another form of interdependence, and that trend is well established. These joint ventures, mergers, or partnerships are not merely a matter of economy of scale but also a process for integrating different companies’ individual strengths. The *Wall Street Journal* often identifies the synergy, or interdependence, created between two companies and how one company’s marketing and sales force, joined with a second company’s strength in research and worldwide distribution capabilities, results in a stronger, more successful new organization or venture.

We also see interdependence in pharmacy management arrangements. Again, various “partnerships”—large, integrated private health care companies, nonprofit serv-
ice groups, and myriad other organizations and associations—are being created to “bond” individuals whose needs can best be met by becoming interdependent for the purpose of providing purchasing services, research networks, information support, and other activities that can no longer be carried out as successfully when those individuals act independently.

The last place we see increasing interdependence is in our daily work activities in our hospitals and individual practice settings. I think that physicians and pharmacists are, every year, becoming more comfortable with being interdependent on each other, and both are becoming more effective practitioners because of it. I, for one, am delighted to see the “prevailing winds” blowing in that direction.

We might ask what is driving this movement towards interdependence. Let me suggest three fundamental reasons.

First, modern communication technology has created worldwide linkages that facilitate—if not mandate—interdependence. These capabilities have removed previous barriers that would not have allowed the interactions, the transfer of information, or the global working relationships we see today. Technology will accelerate this trend, and we shall all become comfortable routinely receiving professional information from PharmNet, ClinNet, COMNET, and a variety of electronic consumer communications networks such as Prodigy, CompuServe, and (for us AARP members) SeniorNet, all of which will support virtually every aspect of our lives.

The second force is the explosion of “new knowledge,” which is increasing at an accelerated rate—in fact, doubling every two or three years. It is now impossible for a single individual to stay current even in a narrow field. Therefore, to be even minimally effective, we must all become mutually dependent on each other for managing certain segments of that information and merging it with the knowledge of others.

The third force driving interdependence is based on one of Newton’s well-known laws of nature: For every action there is an equal and opposite reaction. It follows that if one sector (the pharmaceutical industry) creates large and effective interdependent structures, then other sectors that interface with it must do likewise to retain a balance of power or influence. I believe that the pharmacy purchasing and services groups are driven by that phenomenon more than by any other factor, although it may not have been recognized at the time they were started.

Because hospital pharmacy has a long-standing tradition of exchanging ideas, information, and data, the concept is not new. The movement to more interdependence will be easier for us than for many others. I believe that the heritage of interdependence in hospital pharmacy—a great deal of it fostered by ASHP—has been the single most significant force in the profession’s expanding influence over the use of drugs. As a result of this interdependence, hospital and clinical pharmacists in the aggregate, and therefore as individuals, have achieved far more influence than had ASHP not encouraged interdependence. Some of that open sharing of information may have decreased recently because of the competition between hospitals and groups, and we should from time to time remind ourselves of the long-term value of that
sharing in the interdependent society.

With that influence, which continues to increase, come not only rewards but responsibilities and, perhaps, some profound risks as well. Let us consider some of these rewards and risks for clinical pharmacist researchers, clinical pharmacy practitioners, pharmacy administrative staff, and pharmacy organizations.

I am delighted to see clinically trained pharmacists becoming so influential in clinical research. They are actively participating in organizing, leading, and conducting this research. The current ASHP Spotlight Topic is research. The American College of Clinical Pharmacy has a major thrust this year, a series of educational programs that give pharmacists higher level skills in performing clinical research. Such efforts will enhance the ability of all interested members of the pharmacy profession to assume leadership in the total spectrum of drug-related activities.

The pharmacist’s contribution to clinical research is increasingly respected and needed by the pharmaceutical industry. Because there is currently a reduction in the number of physicians being trained with such expertise, the industry will become even more dependent on pharmacists for clinical drug research in the future.

But what about the risks and the responsibilities that result from pharmacists’ increased influence? One of the greatest potential risks is the risk of compromising ethical standards and integrity—for fear of losing the next grant or by making a presentation at a conference in return for financial gain or personal benefit. Some practitioners in medical specialties have bowed to that temptation and have lost credibility with their colleagues, other health care practitioners, and the ever-vigilant public. We must learn from their dilemma.

Many of you working for the pharmaceutical industry have assisted the pharmacy profession in a number of ways, in the practice setting and more recently in the research arena. You were pioneers in the companies, leading the way by convincing your executives of what a pharmacist trained in performing clinical research can contribute. Less than a decade ago, that funding for research was almost exclusively directed to medically trained individuals.

But we are now at a stage in our evolution when a word of caution is appropriate, and I solicit your support. Continue to influence those in your companies who may be misguided in meeting marketing needs at all costs to satisfy the short-term expectations of the stockholders. Continue your vigilance to reduce or remove any pressure on those performing clinical research so that they do not compromise good science by changing conclusions through “controlled release of information” in publications or their presentations at educational meetings to satisfy that marketing need. The long-term negative implications of such actions will be counter to the constructive interdependence that has been achieved thus far. It is in the best interest of everyone to sustain the integrity of the industrial-academic research enterprise.

Clinical pharmacists at the bedside have also achieved significant influence over the selection and use of drugs. This influence will increase as medical practitioners
rely on their expertise and recommendations in the future. The long-term impact will be felt especially in academic centers or teaching hospitals because those institutions will affect the thought patterns of physicians and pharmacists in training.

I believe that there will be increasing pressure by some companies to convince clinical pharmacists to provide biased information to the prescriber, which would compromise their well-respected image. In the future, the companies will want and need to establish a closer relationship with clinical pharmacists because of their influence. This interdependence between the industry and the practitioners could easily result in principles and ethics being compromised for short-term gains.

Unprecedented influence has been achieved by group purchasing organizations as member hospitals have combined their purchasing volumes. It is now common for 10 or 20 individuals in just a few days to make awards valued at hundreds of millions of dollars worth of products. The stakes for the companies and the groups will be even higher in the future. Whereas drug budgets have been 5–7% of hospitals’ total expenses in the past, it is now projected that by the mid 1990s 12–15% of the hospital budget will be for drugs.

The pharmaceutical industry will then become even more dependent on pharmacists to select their products because of the dollars involved. This scenario, in which significant sums of money are involved and the decisions are made by a few individuals, sets the stage for potential risks to the image of the entire profession of pharmacy. If only one or a few individuals were to choose personal gain through unethical actions in purchasing these drugs, the negative effect on our entire profession would be enormous, if not irreparable.

Only a decade ago, during the year of my ASHP presidency in 1980, a most dramatic event took place. The first genetically engineered product entered clinical trials. The product, of course, was human insulin. Since then, other major and innovative biotechnology products have reached the marketplace, and 100–150 are currently in the research pipeline.

Every segment of pharmacy—pharmaceutical education, the industrial–academic research enterprise, individual practitioners, pharmacy departments, purchasing groups, and professional associations and organizations—will be significantly affected by these products. The members of ASHP and affiliated state hospital pharmacy organizations will be a central focus of the biotechnology industry because their members will be the prime purchasers and users of these items.

Several factors related to biotechnology products set the stage for potential conflicts of interest and reduced ethical standards in the pharmacy profession. Because there are only a few of these biotechnology products to monitor, how well we handle them could serve as a gauge for the profession’s ethical standards.

- Almost every item produced by biotechnology is relatively expensive. The cost per dose or annual cost for treatment is very high. There is a lot of money at stake for everyone: the producing and
selling company and its stockholders, the prescriber and users, and the payers.
▶ Because most of these items are produced from proteins, they must be administered by injection and are likely to be used initially in hospitals or other organized health care facilities. Also, most of the diseases treated by these agents are managed primarily in acute care facilities.
▶ There is a considerable mystique about these entities and bewilderment as to what they do and the effect they will have on patient care.
▶ These products will probably continue for the foreseeable future to have only a single or a very limited indication, as in FDA-approved labeling; however, most will have other practical applications and are likely to be used for many other purposes. Further, different companies with the same products will strive to have different indications approved by the FDA, which will lead to confusion in our daily practice activities.
▶ Because these items are “new” moieties, there will be a need for considerable continuing education in the profession, a great deal of which will be done through national and state societies and organizations and their meetings.
▶ Many of these items will most likely be very visible to the public because they are unique. It appears that only a small number will be approved during the next couple of years; therefore, those entering the market can be easily monitored.
▶ There are relatively few individuals—including pharmacists—with substantial experience in the use of these items. The few who do have this expertise will be highly sought after for presentations and publications. The rest will, at best, have only superficial knowledge and will be seeking guidance and direction from the few “experts.”

The current “prevailing winds” of the impact of biotechnology drugs will become a whirlwind within just a couple of years. The financial stakes are high, the potential uses are unlimited, the concepts and technology are confusing. Although some may consider it controversial, I believe that the time has come to establish a professional standard of conduct that all members of our profession should strive to attain. I remind you that the definition of ethics is “a study of the standards of conduct and moral judgment.”

To address this issue, I encourage ASHP to create a commission on ethics, possibly in concert with the American College of Clinical Pharmacy, the pharmaceutical industry, and other organizations, especially medical societies. Medicine has already begun to address some of these issues, as has been noted in recent articles in medical journals. Because hospital-based pharmacists and physicians often jointly influence decisions on drugs through collegial interdependence in research, product selection,
and management of drug therapy, it follows that both would mutually benefit from a collaborative effort.

Thomas S. Thielke, in his 1989 ASHP presidential address, stated the need for ASHP to work more aggressively with organized medicine in addressing issues of mutual interest. If ASHP were to take the lead and work with medicine to address the interdependent needs of the two professions and the pharmaceutical industry, it would clearly demonstrate ASHP’s leadership on a multidisciplinary drug-related issue in organized health care settings.

Interdisciplinary guidelines and indicators would best serve the public, our professions, and the industry if they addressed the standards of conduct for the individual practitioner, for the hospital, and for professional associations.

If we are willing to take the initiative on establishing guidelines, several issues should be addressed. First, would our hospitals’ pharmacy and therapeutics (P&T) committees be willing to implement policies and procedures that require each voting member, as well as each individual who requests an expensive pharmaceutical or biotechnology product, to provide full disclosure of his or her relationship with the vendor or producer of the product? Under such policies, P&T committees might ask the following questions:

- Has anyone involved with the request or the decision received financial support for research on the development of the product being considered for approval or for other products developed by that company?
- Which P&T committee members are or have been on an advisory panel for the company whose product is being evaluated?
- Who is on the speakers’ roster or has made presentations on that product or on behalf of the company that is selling the product?
- Who has attended a “conference” on that product for which the company has paid all expenses?

Next, the quality, sophistication, and integrity of the literature are important indicators of not only the competence of the clinical pharmacy investigators but the ethical standards they strive for in their work. Answers to the following questions must be able to stand the scrutiny of the most critical observers:

- Does the quality of the publications and the conclusions reached stand the test of time? In other words, will a retrospective analysis two to three years after the article is published reaffirm as accurate and pertinent the original article’s conclusions regarding the uses of an item? It is important to remember that the labeling indications will be few but that the actual uses will be many.
- Are the conclusions reached in the nonrefereed and “throw-away” journals consistent with those appearing in refereed journals? If not,
can it be concluded that some of the authors and our colleagues are compromising the standards of the entire profession by publishing for the purpose of personal gain? If they are guilty, what are we willing to do about it?

- Should authors declare when they are being paid for articles and are benefiting financially from writing them? If they are paid, should they declare who is reimbursing them and for how much?
- Are conclusions modified and published in different tabloids reaching different audiences, thereby creating confusing messages about the optimum therapeutic uses for these items? Promotional articles should be surveyed closely and caustically.

Finally, can the educational programming of our organizations withstand the scrutiny of society when the following questions are asked:

- Do individuals receive personal financial gain for developing, endorsing, or participating in educational programs?
- How many times a year does an individual appear on programs to “discuss” or promote a specific product?
- How often do “thought leaders” participate in educational programs, thereby implicitly or explicitly endorsing products or uses of specific products?
- How much of an organization’s support for educational programming comes from industry, and does it influence the content of the programs and the potential use of products?
- Does an organization have written criteria and/or guidelines under which it will not accept an educational grant, and, if so, does it follow them explicitly?

I do not have all the answers to these questions, but I am convinced that we can wait no longer to establish a formal process to address them. Such a process could be the largest and least expensive insurance policy our profession ever invested in to ensure that interdependent facets in pharmacy (and medicine), as well as the pharmaceutical industry, meet society’s expectations.

Some pharmacy organization must take the lead in addressing these issues soon, and I believe that organization should be ASHP.

We have talked thus far about the effect of past and future interdependence at a number of levels, but what about between pharmacists at the very personal level? It is here that I see the most significant long-term rewards if we can truly cultivate interdependence. Interdependence is being available to help an ambitious and ener-
getic youth just starting a career who needs support in deciding which job to accept. It is being available to a professional friend who has lost his or her job, not because of lack of competence but because of circumstances in the hospital, or to one who is frustrated or “burned out” in a current position and does not know which way to turn.

Interdependence between colleagues in hospital pharmacy departments and colleges of pharmacy benefits both by providing the unique expertise of each group to support the missions of both. In far too many cases, we continue to deprive ourselves, our institutions, and our patients of benefits by failing to strive for interdependence—that is, mutual dependence—and instead continuing to seek independence, with the result of nonproductive conflict.

I have believed for a long time that there must be a unique interdependence between residents and the preceptors and leaders of hospital pharmacy residency programs. Good residency training requires a strong relationship between the preceptor and the resident or fellow. This is a model we should strive for throughout the profession; it is not seen to the same degree in any other sector of pharmacy.

I feel more strongly than ever that we shall never be able to optimize the contribution of our future practitioners unless individuals with experience in the profession constantly test the “prevailing winds” to see what new practice or career opportunities are on the horizon and then guide those future practitioners into those careers with the best long-term potential.

Perhaps the lack of interest by students in hospital pharmacy and specialty practice sites in clinical functions is because of confusion over too many available options, none of which is effectively portrayed. “We ain’t seen nothin’ yet” compared to the number of specialties and different practice sites that will be available in less than one decade, in the year 2000. A more organized process is needed for guiding young pharmacists to the most rewarding career opportunities.

Our colleagues in medicine have a long tradition of mentorship, encompassing several years of proceeding through a “coaching” hierarchy basically composed of specialists. The University of Wisconsin School of Medicine has gone a step further by selecting each year a renowned senior faculty person who spends the entire academic year with a class of medical students, attending all their classes and all their functions, and who is always available as a mentor. What an outstanding way to close out one’s career: investing in the career satisfaction of future professionals by advising them on the many changes and opportunities they will have available.

We do not have such a system in pharmacy, but we could and should have because we are now at a stage in our clinical specialty evolution where we have almost as many specialty practice options as our colleagues in medicine.

Unfortunately, we still have senior pharmacy students who do not even know that there are residency programs or specialty practice opportunities available to them. Any school or college of pharmacy where that occurs in the 1990s is negligent in its responsibilities to the student and the profession for failing to advise the future practitioners and thereby depriving them of potential lifelong specialized career opportunities.
In conclusion, I believe successful leadership in every organization will be achieved by those with the ability constantly to identify new opportunities for interdependence. This requires identification of changing incentives for linkages in order to cope with the changing technology and ever-increasing volume of new knowledge. At the same time, these leaders must be able to conform to the highest ethical standards, which will require making critical judgments about those with whom to become interdependent.

Business has already recognized the need to establish a new, higher order of managerial skills and evaluative processes for their leaders to enable them to “network” differently and more effectively to meet the changing times.

Let us not wait too long to recognize that the changes we see in the need and desire for interdependence are brought on by the “prevailing winds” and are not “intermittent breezes” of the times, so that we shall be ready to proceed full sail ahead to maximize our profession and our lives.
Harvey A. K. Whitney Award Lectures (1950–2005)

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