

♦ 1 ♦

Introduction

If we look back on the history of human efforts for understanding of our world and of the universe, these look like lofty goals that, I believe, mankind will never fully achieve. In earlier times, things were more simple. The great Greek thinkers and those who followed in their footsteps were able to combine the knowledge available of the physical world with their thoughts of the “spiritual world” and thus develop their overall philosophy. This changed with the expansion of scientific inquiry and quest for knowledge in the seventeenth century. By the twentieth century, few philosophers, except those who also had some background in the sciences, could claim sufficient knowledge of the physical world to even attempt serious consideration of its meaning. This opened up for some scientists, particularly physicists, the claim to center stage, suggesting that only science can attempt to give answers to such fundamental questions as the origin and meaning of the universe, life, our being as intelligent species, and the understanding of the universal laws governing the physical and biological world. In reality, however, humankind with all its striving for such knowledge probably never will reach full understanding. For me this is readily acceptable. It seems only honest to admit our limitations because of which human knowledge can reach only a certain point. Our knowledge will continue to expand, but it hardly can be expected to give answers to many of the fundamental questions of mankind. Chemists do not need to claim fundamental insights in the ways in which the atoms of the elements were formed after

A Life of Magic Chemistry: Autobiographical Reflections Including Post-Nobel Prize Years and the Methanol Economy, Second Updated Edition. George A. Olah with Thomas Mathew.
© 2015 John Wiley & Sons, Inc. Published 2015 by John Wiley & Sons, Inc.

2 ♦ A LIFE OF MAGIC CHEMISTRY

the initial “big bang,” because they are concerned only with their eventual assembly into molecules (compounds, materials). They can avoid the question of whether all these were planned and created with a pre-determined goal. I will, however, briefly reflect on my own views and thoughts. They reflect to the struggle and inevitable compromises, leading to what I consider—at least for me—an acceptable overall realization that we, in all probability, never can expect a full understanding.

Science is humankind quest for better understanding and discovery of the physical and biological (life) aspects of what exists. Pasteur, the great French scientist of his time wrote, “There does not exist a category of science to which one can give the name of applied science.” This certainly is valid to the multitude of the numerous hyphenated sciences of our present time. For example, the important and significant areas (of social and political studies) and many what I would call “hyphenated sciences” which are to some extent scientific methods. They do not represent however a separate applied branch of science. They are only applications of the findings of essential basic science to the practical (applied) areas to the benefit of humankind. Applied sciences are only applications of essential knowledge of fundamental science to practical areas. They are not a specific separate area of science, which are so generally supported and pursued by society (through private individuals, governments, political parties, and public opinions). Basic (fundamental) and applied science are both essential of our never ending quest for knowledge and its application.

I was lucky to be able to work during and contribute to one of the most exciting period of science, that of the second half of the twentieth century and the beginning of the twenty-first century. I was also fortunate that I was mostly able to pursue my own interests in chemistry, following my own way and crossing conventional boundaries. Frequently, I left behind what Thomas Kuhn called safe, “normal science” in pursuit of more exciting, elusive new vistas. How many people can say that they had a fulfilling, happy life doing what they love to do and were even paid for it? Thus, when people ask me whether I still work, my answer is that I do, but chemistry was never really work for me. It was and still is my passion, my hobby. I do not have many other interests outside chemistry, except for my family and my continuous learning about a

wide range of topics through reading. Thus the long hours I still spend on science come naturally to me and are very enjoyable. If, one day, the joy and satisfaction that chemistry gives me should cease or my capabilities decline so that I can make no further meaningful contributions (including helping my younger colleagues in their own development and efforts), I will walk away from it without hesitation.

I always was interested in attempting to link the results of my basic research with practical uses including environmentally friendly ways. This in recent years meant finding new ways of producing hydrocarbon fuels and derived materials and chemicals that at the same time also safeguard our fragile environment. With my colleague and friend Surya Prakash and our colleagues in our Institute we developed the concept and much enabling new chemistry of what now is called “The Methanol Economy” which is gaining worldwide practical application. Pinpointing environmental and health hazards and then eliminating them are another part of our efforts. It is through finding new solutions and answers to global problems that we can work for a better future. In this regard chemistry can offer much. I find it extremely rewarding that my colleagues and I can increasingly contribute to these practical goals through our work. This also shows that there is no dichotomy between gaining new knowledge through basic research and finding practical uses for it. It is the most rewarding aspect of chemistry that in many ways it can not only contribute to our better understanding of the physical and biological world but also supplement nature by allowing man to produce through his own efforts essential solutions, products, and materials to allow future generations a better life while also protecting our environment.