It is a privilege to have been asked to speak on the occasion of launching János Kornai's remarkable book, By Force of Thought: Irregular Memoirs of an Intellectual Journey and I am happy to comment on various aspects of it. Perforce, because time is limited, I will have to pick and choose, and my choices are undoubtedly but unapologetically idiosyncratic. Let me say right at the outset how keenly I feel the commonalities in our early life: like János, I lived on a street called Akademia utca, moved to a district called Rozsadomb, had a German governess and grew up speaking both Hungarian and German, survived the siege of Budapest and had a mother not unlike his, about whom I could say in his words, "she was not highly educated or cultivated, but her native wits were sharp." At the northern end of Akademia utca there used to be a park with a large equestrian statue in the middle, and lots of kids used to play there — I can even imagine that we might have met each other in an earlier incarnation!

This is a unique work the like of which I have not read before and I am unlikely to read in the future. Its uniqueness derives not so much from the rich detail of political and historical events, nor from the keen insights into leading personalities in Hungary, America and elsewhere, but from the punctilious charting of intellectual development and from the chronicle of how ideas led to other ideas. János has observed himself with a degree of consciousness that is exceptional and that allows him to penetrate recesses of the mind that most people do not even know exist.

On of the most important intellectual events in János' life is his abandonment of Marxism-Leninism. World War II was over, and he, like many others, sighed with relief at the end of Nazism. It was not unnatural or unexpected that he, as many others, accepted the new ideology and became a committed Communist. He describes himself as a true believer who had complete trust in Marxist-Leninist ideology, and his beliefs concerning economics, acquired while working for the newspaper Szabad Nep, reflected this: his early thinking stresses discipline in the economy, not really understanding the role of incentives, and he attributes poor economic performance to errors of organization, slackness, sabotage — never suspecting that the problems were systemic. His faith in his system of axioms was so strong that it filtered out data and observations that "did not fit" model.

In the moral dimension he exhibited a correspondingly strong faith: he felt that if people were imprisoned by the system, they had to be guilty. He himself was innocent of any wrongdoing, and accordingly he never experienced fear of the system. This type of belief was shaken up rudely by an encounter with a friend who had been in jail where he was tortured for no reason at all. He was forced to conclude that the Party had lied to the people and from this he inferred that if the ethical foundations are shaky, the intellectual foundations may be as well. He started work at the Institute of Economics where he was exposed to some novel and potentially revolutionary ideas, such as the idea that flexible

prices can coordinate demand and supply, a major foundation stone of western economics. It is practically the first lesson in undergraduate economics that if demand exceeded supply, prices would rise, and in the reverse case, prices would fall, until the excess demand or supply was eliminated and equilibrium would be established; a mechanism that did not and could not operate in socialist economies. And then came a major intellectual breakthrough. Without any of the training that we so laboriously inculcate in our graduate students, he becomes an empirical economist: he looks at facts, thinks about the theory, and starts to pit the facts against Marxist-Leninist theory. How does the theory of value relate to prices? How does the theory of pauperization gibe with actual living standards? How does the theory of capitalist crises compare with actual business cycles? Or class warfare with the actual stratification of society? He soon concluded that Marxist theories fail to match reality, and moreover, in the Marxist-Leninist framework, there is no need to test the theory. At this point, János gave up Marxism, although he still thought that socialism might be patched up somehow. I cannot stress too much how important these few years, from, say, 1947 to 1955 were: without formal training in empirical methods or any exposure to western economic theories, János became a first class empiricist which led him to reject a large, elaborate and entrenched intellectual edifice.

János notes that he had not been trained in quantitative methods prior to working on his candidacy dissertation and feels that this was not such a great disadvantage, because it allowed him more room to be original. And so it did, but he was not alone in his lack of knowledge of econometrics for that age: in the 1950s there was not much econometrics taught at American universities either, and in fact I was the first person ever to teach econometrics at Princeton in 1956! But János wanted to be able to generalize and find causal relations, and his book, Overcentralization, was prophetic in several ways: it stressed incentives, demonstrated the difficulty of fulfilling production plans and introduced the idea of shortage, a key concept in later work. By 1957, he started to read western authors of economics, and in particular, he found out about Oscar Lange's famous work on market socialism and Friedrich Hayek's critique of it. His agenda can be summed up as follows:

- 1. He would break with the Communist Party;
- 2. He would not emigrate;
- 3. He would focus on research and scholarship and not on politics, which had disgusted him:
- 4. He would break with Marxism:
- 5. He would learn modern economics.

And he was good to his intentions, and did all this, and particularly the last of these entirely on his own. This is a remarkable achievement and opens up a new intellectual phase in János' life: that of a modern, western type economist.

One of the first things that happened is that in collaboration with a mathematician, Tamás Lipták, he wrote two important papers on mathematical planning: "A Mathematical Investigation of Some Economic Effects of Profit Sharing in Socialist Firms" and "Two-level Planning," both of which appeared in Econometrica, the premier journal of mathematical economics. In preparation for this talk, I reread both papers, not because I am inclined to go to the blackboard and start writing mathematical equations, but because I have not looked at these papers for a very long time. I was astonished to see how fresh they are, even today, some 40 years after they were first published, and how far in advance they were at the time of anything that had ever been done on central planning. While the practical implementation of the model suffered from the fact that the computers of the day were hopelessly slow for such ambitious calculations, the theoretical achievements of the models have stood the test of time.

A very significant realignment of János' thinking occurred in the late 1960s, in the book Anti-Equilibrium, when he started to depart from the prevailing western economic paradigm of the Walrasian model, as embodied in the work of Walras, Arrow and Debreu. That is not to say that he extolled the virtues of the Kornai-Lipták model over the former; in fact he objected to the unrealistic assumptions incorporated in both, such as the assumption of pervasive rationality, frictionless adaptation, complete information to all agents, etc. In fact, one might think that for all these reasons he might have said, "A plague on both your houses." But I have to stress that the critique of the Walrasian model was nothing less than revolutionary in the then current framework, because it was truly a sacred cow. He was truly the first to undertake such a critique, and my only disagreement is with a comment in the book that appears to refer to the here and now, when he says (p. 180), "Neoclassical theory counts these days as the mainstream of the economics profession." I think we have gotten beyond that point, in no small measure thanks to János' contributions: Since, say, 1979, at least one half of the recipients of the John Bates Clark medal, awarded biannually by the American Economic Association to the most creative economist under the age of 40, have received the prize because of their work in non-neoclassical economics and I venture to say that general equilibrium theory of the Arrow-Debreu variety, in which there used to be whole courses in the graduate curriculum, probably gets no more attention nowadays than a few weeks in a full year graduate sequence in microtheory.

Let me mention another but related, vital train of thought in János' research. The 1970s and 1980s were the era of his insights into an essential feature of socialist economies; namely that they are characterized by chronic and intense shortages. The essence of this is best rendered in his own words: ". . . the shortage economy shows extensive, chronic, intense shortages all through the economy. The market does not fluctuate temporarily around an equilibrium between supply and demand. It deviates permanently from . . . the Walrasian equilibrium. Chronic shortage is the normal state of the system . . ." (p. 241); and later, "The shortage economy is an intrinsic, system-specific attribute of the socialist system that reforms may alleviate but can never abolish" (p. 242). That set of insights gave rise to another one: namely the realization that in socialist economies, unlike the norm in free-market economies, the firm's budget constraint is soft. That means that enterprises that make persistent losses do not have to go out of business, because the state

can consistently bail out the losers, possibly out of the profits in other sectors of the economy. This type of behavior has vast consequences because it throttles the allocative efficiency that would be attained in a free-market context and provides an explanation of the pervasive inefficiency of socialist economies.

It needs to be mentioned that János' work, starting with Anti-Equilibrium and ending perhaps with Economics of Shortage, inspired an army of economists who started to address problems that they felt were related. Some of this work was micro-oriented and formalistic, as in the work of certain French economists, some was macro-oriented and theoretical as in the work of Barro and Grossman and some was econometric in nature, some utilized stochastic micro-models, and so on. János has largely if not completely disavowed those approaches as not representing what he saw as the essential ingredients of socialist economies, and that is well and good — his intent has always been to explain the socialist system as it was, and not to spin fancy formalism or clever econometrics. But the fact remains that he is the one who has provided the inspiration for hundreds if not thousands of papers, even they implemented their investigations in what he would consider a wrong-headed way.

In the early 1990s, he published The Socialist System, a massive and comprehensive analysis of everything that was knowable about the economic, social and political organization and functioning of socialism. It was a monumental synthesis and will remain a peerless contribution to our understanding. Much critical praise was heaped on this book, although a few reviewers hated it: in particular Václav an Tříska had no good words for it in their review. Both□Klaus and Du of them were senior politicians in the new Czech Republic by that time, and János wonders what could have prompted two senior politicians to launch such a strong, personal attack as they did. I have known both of these gentlemen and I have a theory about it, but I think it would be more appropriate if I communicated my theory to János privately.

While János' contributions to economics and to our understanding of the socialist system are inexhaustible, I would like to turn to his insights into less technical matters that seem to me equally important. So let us spend a few minutes commenting on his observations on academic life here and in Hungary, on personal conduct, as well as on his general observations on democracy and America. The first matter I would like to call attention to is his principled distinction between the roles of a researcher and that of a political advisor. While he makes it clear that he is speaking only of the Hungarian context when he notes that the attitudinal demands of the two roles are not only different but basically incompatible, I think it would be smart for us to heed his words here, where it is quite customary, almost commonplace, for economists to shuttle back and forth between the professoriat and the government. Academic economists populate the Council of Economic Advisors, the Treasury, the Congressional Budget Office, the Department of Commerce, the Antitrust Division of the Department of Justice, and many others. But I expect that more than one economists found out the cost of disagreeing with the "party line," as did Lawrence Lindsey, Assistant to President Bush on Economic Policy, when he estimated in September 2002 that the cost of the Iraq war might be on the order of \$100-200 billion; a figure then thought to be egregiously high by the administration, and

of course, laughably low by our present knowledge. If an economist's job security is at stake, how can we trust the purported scientific objectivity of such a person? János may be the only person to courageously and publicly warn about the dangers; most others are mesmerized by the supposed glory of Washington.

The next key observation that I would like to make here is that as he wandered through life, spending time in Hungary, the U. S., Western Europe, Eastern Europe and other regions, nothing was too insignificant to escape his notice and reflection, making him a modern day Alexis de Tocqueville. Readers who are not technical economists and who might be inclined to tune out the more technical descriptions of economic models will find many practical, social, political and historical observations that go to the heart of an issue with rapier like precision. Of considerable importance are János' remarks about the need to observe ethical norms when teaching at a university. This is a matter that I feel strongly about, perhaps in part because I am working on a book on what I call "academic corruption," which, I regret to say, is alive and well in the United States (and elsewhere). One particular form of it, the failure to avoid conflicts of interest, has been very much in the news in recent weeks with the revelation that financial aid officers at several universities have profited financially from companies whose business it is to extend loans to students whom their office was charged with advising about such loans. They should have read János' remarks about ethics.

His observations on academic tenure and the whole appointment process at Harvard are endlessly fascinating, and I am sure that it must have been fascinating to him as well as he gradually discovered the details of that process, which he found astounding, having been used to "the biased, often cynical handling of 'personnel matters' back home." I found myself driven to reflection as I read the relevant pages, constantly comparing the details at Harvard with those at Princeton, and I when I was reminded by him of the incredibly high appointment standards at Harvard (as well as at a number of other institutions, including my own) I remembered the advice I received as a young assistant professor from an older colleague, who said "first raters want to surround themselves with other first raters, second raters surround themselves with third raters, and third raters surround themselves with fifth raters." I was also vastly entertained as well as edified by his observations on the characteristics of Americans versus Europeans, including the fact that "he was charmed by the smiles on American faces." From that and from a recent letter to The New York Times, we have to infer that he did not meet many New Yorkers: the letter writer, a New Yorker, describes how she went to a Starbucks and was asked by the clerk, thinking she was a tourist, where she was from. When she asked him, in turn, why he thought that she was not a New Yorker, he replied "because you smiled at me." But it is true, Americans smile more, except perhaps in New York. And finally, it is endlessly fascinating for us to watch János discover democracy, a process that started perhaps in Sweden which had a change of governments while he was there. He notes concerning that change, "I realized that democracy was most easily recognized by the way that the government allowed itself to be dismissed in civilized fashion." (p. 238) That remark could justifiably be added to Robert Dahl's six criteria for judging whether a system is democratic or not, which he formulated at an IREX Roundtable of Hungarian and American political scientists in 1990.

First and foremost, this is a volume of ideas and of their gestation, a chronicle of an intellectual journey, of deep and accurate perceptions, of great discoveries and achievements, and for all that I am immensely