

## THE ART OF LAW AND ECONOMICS: AN AUTOBIOGRAPHICAL ESSAY

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### I. INTRODUCTION

In his essay "How I Work," Paul Krugman points out that the increasing formalism of modern economics leads most graduate students in economics today to acquire the necessary mathematical skills before they enter graduate school.<sup>1</sup> I strongly suspect the converse holds as well: the student who lacks a technical background will be deterred from choosing a career in economics. This was not always the case. Like Krugman, I came to economics from a liberal arts background, picking up technical skills as needed both during and after graduate school. My journey, however, was more circuitous and unplanned than Krugman's. That I ended up a professor of economics and law is the outcome of an unlikely chain of events.

I started out as an art major at the High School of Music & Art in New York City. Although art majors also were required to take the standard fare of academic courses, it was not a strenuous academic program, and it was possible to do reasonably well without much effort. The emphasis was clearly on the arts, and many graduates went on to specialized art and music colleges in the New York area. I ruled that out since I was only an average art student. I also experimented with architecture in high school. But here I fared no better and decided not to pursue it further, in part, because my closest friend had far more talent than I.<sup>2</sup>

When I entered Columbia College at seventeen I was not well prepared for its demanding academic program (which remains largely intact to this day). I had a good background in the arts but undeveloped study habits. Playing tennis and piano, frequenting jazz clubs and just hanging around Greenwich Village with my high school friends held my interest more than studying western civilization and humanities.

But in one respect Music and Art taught me a valuable lesson. It impressed upon me the importance of being creative and imaginative in one's work. I have carried that lesson with me throughout my academic career. I strive to be imaginative both in my choice of topics and my approach to them. Rarely have I come up with a topic by sifting through the economics literature or scouring footnotes hoping to find loose ends to tidy up. I have often stumbled upon a good topic while preparing my classes, participating in seminars and workshops, auditing law school classes, talking to colleagues or just reading the newspaper. The trick is to recognize what one has stumbled upon, or as Robertson Davies writes in his latest novel: "to see what is right in front of one's nose; that is the task. . ."<sup>3</sup>

### II. EARLY TRAINING AS AN ECONOMIST

I took my first economics course in my junior year at college. Two things still stand out in my mind about that course. One was that little effort was made to show that microeconomics could illuminate real world problems. My classmates and I came away from the course believing that the assumptions of microeconomics were so unrealistic that economics couldn't have any bearing on real world problems. The other was the professor's condemnation of advertising as a monstrous social waste, a view shared by most of the economics profession at that time. By default, I became an economics major in my senior year at Columbia and took courses in public finance, money and banking, and a seminar for economics majors. After graduation I went to work on Wall Street at a brokerage firm producing colorful charts (my art background helped) tracking the movements in

\*Clifton R. Musser Professor of Law and Economics at the University of Chicago Law School. I would like to thank Elisabeth Landes, Martha Nussbaum and Richard Posner for very helpful comments. As the reader will see, the term "art" in the title bears on the subject of the essay in several ways.

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earnings per share, net working capital, etc. of different companies in the hope that I or one of the senior members of the research department could detect likely trends in stock prices. I soon realized that school was more fun and challenging than work, so after four months on Wall Street I returned to Columbia on a part-time basis. My intention was to get a master's degree in economics and ultimately work for some government agency. Becoming an economics professor or even getting a Ph.D. was not on my radar screen.

Unlike more selective graduate schools, Columbia pretty much had an open door policy, admitting large numbers of students and letting Darwinian survival principles operate. There were always a few exceptional students at Columbia who went on to get their doctorates in four or five years but most didn't survive. They either got a master's degree or lost interest after a year or two and dropped out. (At the other extreme, Columbia was also home to a number of professional students who had been around for ten or fifteen years working on a thesis they were unlikely ever to finish.) After my first year of graduate school, in which I continued to work half-time on Wall Street, I realized I had a talent for economics and asked to be admitted to the doctoral program. The chairman of the department looked over my grades and pronounced that "my prognosis was good" and so I became a full time doctoral student.

Success in graduate school requires brains, sustained effort and hard work. Exceptional success at Columbia required a little luck as well. Luck to be plucked from the mass of students by a great economist and placed under his wing. I was lucky.

In the spring semester of my second year at graduate school, I audited Gary Becker's course on human capital, which covered his then unpublished (at that time) manuscript on the subject. Since Becker had been on leave at the National Bureau of Economic Research during my first year, I had not taken his "price theory" course or what is now more commonly termed microeconomics. In class, Becker called on me regularly (sometimes I thought "ruthlessly" for I was only an auditor) and referred to me as "an eager beaver." If I didn't come up with the answer at first, Becker would tease it out of me. Having been a member of a law school faculty

for over twenty years, I am still struck by the difference between Becker's teaching style (unusual even in economics departments) and that of the typical law school professor. Like law classes, Becker called on students who did not volunteer, but Becker would work with the student for a few minutes until (hopefully) he came up with the right answer. In contrast, the law school professor practicing the Socratic method calls on different students in rapid succession, playing one off against another ("Ms. Y do you agree with Mr. X's answer"). To push the students to think more clearly, the professor will often vary the hypothetical until the reasoning behind the earlier answer collapses. A premium is placed on verbal agility and thinking quickly on one's feet. A series of questions may end without a definite answer and the teacher moves on to the next case. Indeed, the Socratic method impresses on the student that there is no right or easy answer in law. Yet the fact that the method survives (but in a somewhat gentler form today) is a tribute to its value in training students to become practicing lawyers.

Auditing Becker's course in human capital, marked the beginning of my training as a real economist. To be sure, I had already been in graduate school for over a year, yet for the first time I began to appreciate that economics was not just a set of formal tools but a way of thinking about interesting real world problems. I began to understand the advantages of simplifying and descriptively unrealistic assumptions, and how a person with imagination could develop a simple model to illuminate a real world problem. Such models provided an approach to thinking systematically about public policy and law. Instead of saying policy X was good or fair, one could use economic principles to spell out the consequences of that policy.

During my third year at graduate school, I completed my course requirements, audited Becker's price theory course, and passed my comprehensive oral examinations. For three or four months before the oral exams I was part of a small group of students (we called ourselves "Becker Bombers") who met regularly to review questions from Becker's prior exams and problems from Milton Friedman's soft cover textbook.<sup>4</sup> Working through this material made clear to me the difference between knowing

economics and thinking like an economist. The former comes from mastering the language and formal principles of economics that are found in graduate textbooks and articles in professional journals. The latter from applying these tools with varying degrees of sophistication to solving problems. The particular problem might be a conventional economic one (e.g., will a price ceiling on lumber lower the price of new construction) or a problem not ordinarily viewed as an economic one (e.g., do laws protecting privacy lead to more unconventional behavior). Any problem involving competing goals and choices constrained by limited resources and available opportunities is fair game for economics. The problem need not involve explicit markets or observable prices for one can derive shadow prices that function like market prices. Frequently, simple economic concepts applied in an imaginative way yield subtle insights. All this may sound commonplace today but thirty years ago it was not. It is a tribute to Gary Becker's pioneering efforts that we now take for granted that the domain of economics is not confined to explicit markets but is a "way of looking at life."<sup>5</sup>

My next stroke of good luck was quickly settling on a dissertation topic. Becker proposed that I study whether state fair employment laws improved the economic position of nonwhites in the United States.<sup>6</sup> I eagerly agreed both because I wanted to work with Becker and because the topic was intrinsically interesting. To get me started, Becker gave me a copy of an unpublished paper by George Stigler and Claire Friedland which used regression analysis to estimate the effects of state utility regulation.<sup>7</sup> At that time, it was highly novel for an economist to employ multiple regression analysis to estimate empirically the actual effects of a law or regulation. The paper by Stigler and Friedland was one of the first. Before undertaking the empirical analysis, I set out to develop a model to explain the likely effects of fair employment laws. Here I added sanctions against firms that discriminated against nonwhites to Becker's theory of discrimination. I assumed that an employer violating a fair employment law faced a probability rather than a certainty of being caught and a sanction if caught. The greater that probability and the greater that sanction, the greater the cost of

discriminating and the more likely the employer would increase its demand for nonwhite relative to white workers. Thus, I had a thesis that not only lent itself to imaginative modeling (by using the expected utility model to analyze law enforcement) but also was capable of answering empirically an important public policy question.

Developing a model was the easy part compared to carrying out the empirical analysis. Acquiring empirical skills requires a good deal of "learning by doing." Graduate school had not prepared me for the many months I would have to spend meticulously gathering data state-by-state from census volumes, calculating state averages by race for earnings, years of schooling and other variables, fitting Pareto distributions to open ended Census intervals, and collecting data from state fair employment commissions on the number of prosecutions, enforcement expenditures, sanctions and so forth. I was my own research assistant and I carried out most of these calculations on a mechanical calculator that frequently jammed. Fortunately, computers make it possible today to avoid this kind of tedious work although I don't have the impression that this has increased the frequency of empirical dissertations in economics.

### III. GETTING STARTED IN LAW AND ECONOMICS

In its broadest sense, "law and economics" is coextensive with a large part of the field of industrial organization. Both cover, among other things, the study of the legal regulation of markets including economic analysis of the business practices described in antitrust cases. These cases provide a rich source of material on such practices as tie-in sales, exclusive dealing, vertical restrictions and information exchanges among competitors. Both fields also include research on the theoretical and empirical consequences of different types of government regulations and laws. Thus, a recent issue of the *Journal of Law & Economics* (a leading journal in both industrial organization and law and economics) includes articles by economists on the anticompetitive effects of most-favored-nation clauses, the effects on stock prices of regulatory drug recalls, the performance of the airline industry under deregulation, and the impact of collective bargaining legislation on

labor disputes in the public sector. For my purposes, however, I want to define law and economics more narrowly. I want to limit it to what is called the “new” law and economics, a field which essentially began with Ronald Coase’s article on social cost over thirty years ago<sup>8</sup> and where most work has been carried on in law schools rather than economics departments.

The “new” law and economics applies the tools of economics to the legal system itself. It uses economics to explain and illuminate legal doctrines in all fields of law including the common law fields of torts, contracts and property, intellectual property, corporate law, bankruptcy law, criminal law and the legal process itself (e.g., the effects of fee shifting statutes, discovery rules and legal precedent on litigation). The “new” law and economics is not limited to areas of law that only impact explicit markets. It is a theory of both the legal rules themselves and their consequences for behavior. The former is the more controversial of the two. It treats legal rules and doctrines as “data” in order to test the hypothesis that the law is best explained as efforts by judges, often implicitly, to decide cases as if they were trying to promote economic efficiency.

I got started in the “new” law and economics by chance rather than by any well thought out plan to work in this area.<sup>9</sup> Shortly after finishing my thesis on the effects of fair employment laws (the “old” law and economics) I came across a newspaper article on plea bargaining in criminal cases. The article pointed out that only a small fraction (probably less than five percent) of criminal defendants actually went to trial. The rest pleaded guilty, often to substantially reduced charges. Investigating a little further I learned similarly that only a small fraction of civil cases ended up in trial. Most were settled out-of-court before trial. Not only did these issues seem like a natural subject for economic analysis (an example of “seeing what is right in front of one’s nose”) but no one had previously examined them from the standpoint of economics—maybe because economists believed that people were more likely to behave emotionally than rationally in a litigation setting.

As Becker’s former student, I had no trouble assuming that parties behaved rationally in non-market settings. The ultimate test was

whether rational behavior was a useful assumption not whether it was descriptively realistic. I reasoned (using Coase’s theorem) that the prosecutor and defendant would reach a plea bargain on a sentence if both could be made better off compared to risking an uncertain trial outcome. Similarly, parties would prefer to settle a civil lawsuit out-of-court provided one could find a settlement that made both better off than their expected trial outcomes. Assuming that trials were more costly than plea bargains or settlements, I showed that if the parties agreed on the probabilities of winning and losing at trial, they would always settle (unless they had strong preferences for risk) because each party’s utility from a settlement would be greater than his expected utility from a trial. Further, trials would be more likely to occur when the parties were mutually optimistic (i.e., each party believed he had a greater probability of winning a trial than his opponent believed), were risk preferrers, where the cost of trials were low relative to the cost of reaching a settlement, and where the stakes in litigation were greater (for that magnified the difference in expected outcomes for mutually optimistic parties). My paper also has implications for law enforcement for I showed that criminals as a class could be made worse off by plea bargains even though any particular offender was made better off by avoiding a trial (a true prisoner’s dilemma) because settlements freed resources that enabled the prosecutor to pursue more criminals.

I presented a preliminary version of this paper<sup>10</sup> in 1967 to the labor workshop at the University of Chicago. At the time I was an assistant professor in the economics department at Chicago. My talk was not greeted with much enthusiasm. Afterwards, one of my senior colleagues in the department took me aside for some friendly advice. He said I was making a career mistake by doing research on problems like the courts that were only of marginal interest to other economists. Professional success, he emphasized, required working on problems of the latest interest to other economists. I asked him how one knew what was of the “latest interest.” He replied that one could gauge interest by seeing what problems other economists were currently working on. In short, see what your colleagues are working on and try to take it a step further. I decided to ask Gary

Becker what he thought (though I suspect I already knew what he would say). Becker had just finished his paper on the economics of crime, and one of Becker's students, Isaac Ehrlich, was completing a thesis at Columbia on the deterrent effects of conviction rates and sanctions on crime. Becker disagreed with my Chicago colleague. His advice was simple: law enforcement and litigation are interesting and important social issues that can be illuminated by economics; don't worry so much about whether your work is part of the latest fad in economics; and ultimately good work will be recognized. Fortunately, I listened to Gary Becker.

In 1968 I moved from Chicago to New York City to accept a fellowship at the National Bureau of Economic Research, and a year later I joined the NBER's research staff. At that time, members of the NBER's staff resided almost entirely in New York City. Although I also had academic appointments in the economics departments at Columbia and later at the Graduate Center of the City University, my intellectual life centered on the NBER. The NBER offered me the freedom to choose projects interesting to me and to avoid the distractions associated with student turmoil at Columbia during this period. The Bureau had a professional and no-nonsense attitude toward research—projects were undertaken with the expectation that they would be completed, rough deadlines were imposed, progress reports were required, and research directors took a strong interest in the work under their direction. But there was also the give-and-take and informality of a university that I cherished. The Bureau was an ideal place for conducting serious empirical research.

When I joined the NBER it was best known for its empirical research in traditional economic subjects such as business cycles and national income accounting but it was beginning to branch out into other areas of economics. Becker and Jacob Mincer ran projects on the economics of education and human capital, and Victor Fuchs directed a program in health economics. The Bureau formally established a program in law and economics in 1971 which was funded by a grant from the National Science Foundation. The program included Becker, myself, Isaac Ehrlich and Richard Posner (then professor at the University of Chicago Law

School and now chief judge on the U.S. Court of Appeals of the Seventh Circuit). Adding Posner filled a critical hole in the program. In order to apply economics to areas of law other than crime and the courts we needed some expertise in law. Posner seemed ideal. He had a strong interest in economics, had already published several widely regarded papers in antitrust, and was starting to apply economics to torts and judicial administration.

It should be mentioned that the early applications of economics to law at the NBER (pre-Posner) and elsewhere required almost no knowledge of law. This was true of Becker's paper on crime, Ehrlich's pioneering studies of deterrence and law enforcement, and my own work on the courts, plea bargaining and the bail system. That this should be so is not surprising. We were economists applying the theoretical and empirical tools of economics to the systematic study of enforcement.<sup>11</sup> To be sure, we had to develop some basic understanding about the relevant legal terms and institutions under investigation, but that requires far less knowledge of law than becoming familiar and comfortable with legal rules and doctrines in order to analyze them from an economic standpoint.

#### IV. AN ECONOMIST ON A LAW SCHOOL FACULTY

Although the Bureau provided a superb research environment, it could not match the intellectual excitement of the University of Chicago. Chicago was home to the economists I most admired—Becker, Coase, Friedman and Stigler. Plus it offered me the opportunity to work more closely with Posner. So in 1973 I eagerly accepted a tenured appointment at the University of Chicago Law School. The Law School had a long tradition of having an economist on its faculty starting with Henry Simons, Aaron Director, and Ronald Coase. When I arrived Coase was still an active member of the faculty but taught only an occasional course. Still my appointment was somewhat unusual. I was genuinely interested in explaining legal rules and doctrines from an economic perspective. Coase was not. He believed that knowledge of law and legal institutions was valuable because it helped one

understand how explicit markets truly worked. But Coase had little interest in showing, for example, that the various legal doctrines governing liability for accidents or contract damages had an implicit economic logic. It is one of the ironies of law and economics that the person whose pioneering work (cited by the Nobel committee) provided the foundation for the subject has been less than enthusiastic about its development. Coase believed that much of law and economics was outside the domain of economics and that, in any event, lawyers rather than economists were better suited for the enterprise. Most law professors went even further. They believed that lawyers would also fail in explaining law from an economic perspective.

At the few law schools with an economist on their faculty in the 1970s (as opposed to a law professor who happened to have a graduate degree in economics), the economist was hired to teach price theory, co-teach with a law professor a course on business regulation such as antitrust and serve as a resource to the few law professors who thought economics might have something to contribute to their particular area of law. The economist did not mess with law nor was he expected to do so. And even when he stuck to economics, the results could be unsettling. One only has to recall the often-told story of the antitrust course at Chicago in the 1950s co-taught by Professors Edward Levy, later Attorney General of the United States, and Aaron Director. During the first four classes of each week, Levy would carefully go over the cases and struggle to make sense of the judge's economic reasoning. On the fifth day, Director would explain why everything that went on during the previous four classes was wrong.

### *A. Research Interests*

Twenty years ago there were two options open to an economist who wanted to contribute to the "new" law and economics. He could collaborate with a law professor interested in economics or immerse himself in law and, given enough time and effort, become sufficiently comfortable with legal materials to work on his own. (Today there is a third way. By studying the substantial law and economics literature, one may be able to find promising but often

technical problems to work on.) I chose to do both. I collaborated with Posner and I immersed myself in the study of law. Not that I wanted to be a lawyer but I wanted to know enough about different areas of law to see where economics would be most useful. Unlike most other economists, I actually enjoyed reading law cases. I read them with an economist's eye, however. I looked for and often found an implicit economic logic in the outcome of a case. And if I didn't quite get the law right or misinterpreted what the judge said, neither of which was unusual, I always had Posner or one of my other colleagues at the law school to straighten me out.

My first paper with Posner started out as a theoretical comment on Becker's and Stigler's paper on private enforcement. We showed that private enforcement could lead to over enforcement relative to (optimal) public enforcement because a higher fine would lead private enforcers to step up rather than reduce their enforcement activity.<sup>12</sup> But the paper quickly developed into a more ambitious project. We tested the predictions of the analysis against real world observations. We explained why there is a greater reliance on private enforcement in contract, torts and other "private law" areas compared to criminal law; why victims rather than others have the exclusive rights to sue and redress violations; why the budget of public enforcement agencies tend to be small relative to what private profit maximizing enforcers would spend; and why public enforcers nullify particular laws by declining to prosecute whereas private enforcers would not. We also applied the model to blackmail and bribery as forms of enforcement and the legal rules governing rewards for lost or stolen property—also a method of compensating private enforcers.

In an important sense the paper on enforcement represented a sharp departure from my earlier work. It systematically applied economics to a large number of legal rules and showed how these rules promoted economic efficiency. Of course, this was mainly due to Posner for I lacked the necessary knowledge of law. But I was determined to remedy this deficiency by auditing law courses—particularly, basic first year courses such as civil procedure, contracts and torts—and by jointly teaching law courses and seminars with law professors.

Over the next twenty years, Posner and I co-authored more than 25 articles and a book on tort law. Our work was truly a joint effort and continues to this day. I have had greater responsibility for the economic modeling and Posner for the law but each of us has contributed substantially to both the economics and the law. True, there were substantial gains from trade because we each brought different skills to the enterprise but the final product greatly exceeded the sum of the individual parts. We each raised the marginal product of the other. Looking over the papers, it would be misleading to say "Posner did this" or "I did that" for the ideas, choice of topics, approaches to them and execution were always joint efforts. The topics we collaborated on covered a broad range of legal subjects including legal precedent, the resolution of legal disputes, laws governing rescue such as salvage in admiralty law, antitrust, torts, the role of an independent judiciary, trade secrets, trademarks and copyright. Our best known work, the book "The Economic Structure of Tort Law," showed how a relatively simple economic model of wealth maximization could explain and organize what at first appeared an incomprehensible array of unrelated rules and doctrines governing tort liability. We covered all the important areas of torts from simple problems such as the choice between negligence and strict liability rules for ordinary accidents, to more complicated questions involving defenses to liability, causation, joint torts (two or more injurers), catastrophic injuries (many victims), and intentional torts.

Although I have also worked on a number of projects on my own, including papers on litigation and copyright law, I continue to do collaborative work both with Posner and more recently with Larry Lessig, a recently appointed law professor at Chicago.<sup>13</sup> I am surprised that collaboration between lawyers and economists is not more common because the gains from trade seem so substantial. Aside from Posner and myself, the only other long term collaboration involves Charles Goetz, an economist, and Robert Scott, a law professor and now Dean, of the University of Virginia Law School.<sup>14</sup> On the other hand, an increasing phenomenon at law schools is the lawyer who also has a Ph.D. in economics. Most of these are recent law school graduates. Their work is a form of collaboration

between a lawyer and economist but involves one person.

### *B. The Changing Role of the Law School Economist*

Over the years I have become much more comfortable with law and pretty much have become assimilated into the law school culture. This is also true for other economists who have full-time positions at law schools. We spend much more time with our colleagues at the law school than we do with economists in the economics department or business school. Proximity is one reason but there are more fundamental forces at work.

One is that economics departments have become less interested in applied areas such as law and economics. Economics has become more formal and theoretical. Research is increasingly aimed at demonstrating technical skills and solving technical problems rather than at analyzing social problems. Consequently, the law school economist feels less comfortable intellectually on the other side of the campus. Fortunately, this is less true at Chicago. I continue to attend economics and business school workshops with Becker, Sam Peltzman, Sherwin Rosen and others, but Chicago is unusual.

Another is that economists at law schools have more in common with law professors today than twenty years ago because economics has transformed legal scholarship in torts, contracts, securities, antitrust, corporations, environmental law, intellectual property and other business related areas. There are large numbers of law professors who consider themselves members of the law and economics movement.<sup>15</sup> Another indication of the growing importance of economics at law schools is the appointment of economists (but virtually no other nonlawyers) to full-time positions at all major and many other law schools. Twenty years ago, the economist at a law school was a peripheral figure. Today he occupies a central position.

A related factor is the increasing importance of economics in the teaching of law. Law schools are professional schools that view their primary mission as educating future practitioners. For economics to be more than of marginal importance, it must demonstrate its relevance to

the education of future practicing lawyers. It has done this by making significant contributions to the practice of law. Economics has altered antitrust; plays a significant role in securities, pension, environmental, unfair competition and discrimination litigation; and is important in valuation and damage calculations in virtually all large scale commercial law suits. Law students are quick to recognize the value of economics in the practice of law. Knowing economics gives them an edge over their competitors. As a result, law and economics courses are increasingly popular at law schools as are courses jointly taught by lawyers and economists in a variety of subjects. Moreover, it is not uncommon today for an economist to teach a law course alone, which was unheard of thirty years ago. Consider my own teaching responsibilities. Although I run the law and economics workshop, I teach copyrights, trademarks and unfair competition and (my favorite) art law. These are not law and economics courses but regular law school courses. To be sure, I add a heavy dose of economics not only because I am an economist but also because the cases explicitly discuss and recognize the importance of economic factors and because the use of economics (by lawyers) in private law subjects has become commonplace. Indeed, I have become so assimilated into the world of academic law that I am now a professor of law and economics not just a professor of economics (my original title at the law school).

### *C. The Future*

I have been struck by comments made to me on several occasions by young scholars starting out in law and economics today. The gist of their remarks is that "when you started out there were lots of areas of law open to economics but you and others have taken all the interesting problems so now there is nothing left." There is, of course, an element of truth to this but it is greatly exaggerated. Early on, an economist auditing a law school course in torts or contract was like a child in a candy store—there was an interesting topic to be discovered in almost every class. Indeed, the difficulty was not finding topics but deciding which ones to work on. My torts book with Posner is a good example. While auditing Posner's tort course, I

worked up economic notes on the cases and doctrines discussed in class and in the casebook. Then I refined and expanded this material in connection with a course I taught in law and economics. These notes became the starting point for our tort book. But today economic analysis of common law fields like torts and contracts have been so picked over that it would be a mistake for a young scholar to concentrate on them. The same is probably true for litigation models though I am less confident here because recent applications of game theory to litigation has yielded some interesting new scholarship.

What is left? Law and economic scholars have only recently applied the tools of game theory to understanding how legal doctrines may overcome strategic behavior and asymmetrical information.<sup>16</sup> This remains a promising area for future work. Turning to particular fields of law, one observes that constitutional law has been barely touched by economic analysis. And family law, criminal law (as distinct from empirical studies of deterrence), legal procedure and intellectual property have been relatively neglected compared to torts, contracts and corporate law. These fields also remain promising for future work. But the most neglected side of law and economics is empirical. In most areas of law and economics there is a dearth of empirical studies that are surely worth doing. Recently, I surveyed all articles published in the *Journal of Legal Studies* (the leading "new" law and economics journal) during the last five years, and found that only about 20 percent had some empirical content. Contrast this with the *Journal of Political Economy* where more than 60 percent of articles published in the past year contained substantial empirical analysis.<sup>17</sup> This difference cannot be accounted for solely by differences in data availability. There are substantial bodies of data on the number and disposition of criminal and civil cases at both the trial and appellate levels, awards in civil cases, sentences in criminal cases, earnings of lawyers, accident rates and so forth. Moreover, computerized legal databases make it possible at relatively low cost to extract significant amounts of information from cases in order to develop data sets relevant to the problems at hand.

Finally, there are different approaches to research. One can work productively and imaginatively at either the intensive or extensive

margin. The first approach is illustrated by Coase's work on problems such as marginal cost pricing, the organization of firms, social cost and durable goods monopolies. Before Coase, economists had worked on these problems for many years. Yet Coase was able to say something new and novel about these problems and ultimately to change the way economists think about them. Becker, on the other hand, works primarily at the extensive margin showing the relevance of economics to a wide range of social issues usually considered beyond economics. These include marriage, divorce, bringing up children, education, altruism, crime, addiction and preference formation. As Becker and Coase have shown, Nobel Prizes can be won at either margin. The fact that there now exists a substantial body of literature in law and economics makes it simultaneously more difficult to work at the extensive margin but easier to work at the intensive margin.

#### *D. Consulting or Law and Economics in Action*

Describing my career in law and economics would be seriously incomplete without considering consulting or what I call "law and economics in action." In 1977, Posner, Andrew Rosenfield, then a third year student at the law school, and I founded the firm Lexecon Inc. Economics was just starting to catch on in antitrust litigation and regulatory proceedings. We were confident that it was going to play a bigger role in the future. At the same time, law firms and their clients often expressed dissatisfaction with the quality of economic consulting services they were receiving. Their main complaint was that, in the end, they weren't getting good value for their money. The economic analysis and empirical studies were costly and rarely provided much help. But part of the problem rested with the lawyers who had so little understanding of economics that they did not know how to deploy it effectively.

The idea behind Lexecon was a simple one. There existed a market niche for a firm that supplied high quality economic consulting services that would be relevant and helpful in litigation and regulatory matters. We brought unique qualities to this venture. Posner was a lawyer who knew economics, I was an econo-

mist who knew how to explain economics to lawyers, and Rosenfield, who had graduate training in economics to go along with his law degree, was willing to devote himself full time to building up Lexecon, as we were not. Together we could figure out what economic studies should be done, direct and supervise them efficiently, and, when needed, bring in other academic economists who had expertise and specialized knowledge in the areas being litigated.

Lexecon played an educational role as well. Many exceptionally talented and experienced attorneys felt at sea when it came to economics and statistics. But they were fast and eager learners. We explained basic economics (and even econometrics) and showed them how they could use economics to help structure and strengthen legal arguments. With this panoply of services we were able to convince law firms to turn over to Lexecon the economic side of many large cases. We had another selling point. We did not pose an economic threat to law firms. We were not competing for their clients because we didn't practice law. Indeed, Lexecon became a competitive tool in the hands of law firms because it enabled them to offer their clients a superior product.

As they say the rest is history. Lexecon became enormously successful and spawned many imitators. It is a source of great personal satisfaction to me that I helped create and develop Lexecon. Today Lexecon has about 125 full-time employees in Chicago<sup>18</sup> (although Posner left in 1981 when he became a judge and I have significantly reduced my role in the past few years) including a large staff of extraordinarily able economists with Ph.D.'s, and affiliations with a number of leading academic economists including several Nobel Prize winners.<sup>19</sup>

Economic consulting has become an increasingly attractive option for some of the brightest Ph.D.'s in economics. It offers the prospect of considerably greater financial rewards than academics (but not the prospect of formal tenure) and a wide range of real world problems to work on because the role of economic evidence, once largely limited to antitrust cases and calculating damages in personal injury cases, has expanded to embrace virtually all kinds of large scale commercial litigation.

Economists are routinely employed in areas such as securities and corporate law, pension law, environmental and safety regulation, and discrimination litigation. Indeed, it would verge on legal malpractice not to use an economist in these areas.

There is, of course, an important difference between academics and consulting. An academic sets his own agenda. He has the luxury to choose whatever problem catches his fancy and the pace at which to pursue it. Not so in consulting. There, the problem is placed before you, and you face the press of time, the tension of litigation, long hours, and travel away from home. Moreover, millions of dollars may be at stake and your role may be crucial. Not surprisingly, one tends to get caught up in the excitement of litigation and relish the satisfaction from having done a first rate job. Rewards come more slowly, if at all, to the academic economist.

There is a common misconception about litigation among academic economists who have little or no consulting experience. They assume that the pressure of litigation compels an economist who testifies as an expert witness to slant his analysis, present only favorable results and massage the data in order to come up with the answers the clients wants. The flaw in this argument is it ignores how litigation works. Both the data the expert relies on and his analysis are turned over to the opposing party way before any testimony in court is given. The opposition, armed with their own economist, will check the opposing expert's calculations, reestimate his equations, analyze the sensitivity of the estimates to alternative specifications, see how the results change if other variables are added, and so forth. The combination of high stakes and the workings of the adversary system means there is a very high probability that any mistakes, whether intentional or inadvertent, will be unmasked. The same holds for economic presentations before regulatory agencies such as the Antitrust Division of the Department of Justice or the Federal Trade Commission. They have their own professional staff of economists to analyze the expert's work. Contrast this with academic work. A well refereed journal will often catch theoretical mistakes. But it is far easier to get away with sloppy and even intentionally misleading empirical analyses in

academic studies than in litigation because it is rare that other economists will take the trouble to check the earlier work.

## V. CONCLUDING REMARKS

In describing his evolution as an economist, Ronald Coase wrote: "I came to realize where I had been going only after I arrived. The emergence of my ideas at each stage was not part of some grand scheme."<sup>20</sup> That phrase captures my journey as well. I had no particular career path in mind when I started graduate school. I chose economics rather than something else because I had taken a hand full of economics courses as an undergraduate. I got started in law and economics by chance because I came across a newspaper article on plea bargaining. True, I wanted to apply economics to important social issues but law was just one of many possibilities. I worked on a wide range of topics in law that, on looking back, evidence a common approach but not an overall scheme to remake legal scholarship. I never thought I was part of a movement but now it is commonplace to hear about how the "law and economics movement" has transformed legal scholarship and teaching.

I was also extraordinarily fortunate to have worked with Becker and Posner. Becker opened my eyes as a student to the power of economics to illuminate social issues and has been a source of inspiration ever since. Posner is probably the most influential legal scholar and certainly the most prolific in this century. It is hard to imagine that law and economics would have been anywhere near as successful had he chosen another career.<sup>21</sup> I also had another extraordinary bit of luck. I married an economist more than twenty five years ago who has been my best critic and the source of countless ideas. I met Lisa when I was an assistant professor and she was a first year graduate student in the economics department at Chicago. Had the current rules and policies governing sexual harassment at universities and the like been in place in 1968, I would never have dated a graduate student.<sup>22</sup> Although sexual harassment policies impose transaction and other costs on the dating and marriage markets, many believe the benefits (e.g., reducing coercion costs by men) exceed these

extra costs. In my case, however, I would have been a big loser. But the general subject of sexual harassment is a great topic for future work in law and economics.

### Notes

1. Paul Krugman, *How I Work*, 37 *American Economist* 25 (1993).
2. That friend, Charles Gwathmey, went on to become one of the leading architects in the United States today.
3. See "The Cunning Man" at 142. The doctor who speaks these words adds, however, that it is not so easy a task for the full quote reads "to learn to see what is right in front of one's nose; that is the task and a heavy task it is." Martha Nussbaum points out that Robertson Davies was not the first to make this point. It was made earlier by Greek philosophers as well. For example, in an essay on Heraclitus, David Wiggins writes "But the power of Heraclitus—his claim to be the most adult thinker of his age and a grown man among infants and adolescents—precisely consisted in the capacity to speculate, in the theory of meaning, just as in physics, not where speculation lacked all useful observations, or where it need more going theory to bite on, but where the facts were as big and familiar as the sky and so obvious that it took actual genius to pay heed to them." See David Wiggins, "Heraclitus' Conceptions of Flux, Fire and Material Persistence" at p. 32 in *Language and Logos: Studies in Ancient Greek Philosophy Presented to G.E.L. Owen*, ed. M. Schofield and M. Nussbaum (Cambridge: Cambridge University Press, 1982).
4. The textbook, "Price Theory: A Provisional Textbook" was based on Friedman's graduate course at Chicago, and a number of problems in that book had been suggested by Aaron Director, an economics professor at the University of Chicago Law School.
5. See Becker's Nobel Lecture entitled "The Economic Way of Looking at Life."
6. In 1963 (when I started my dissertation) thirteen states had passed fair employment legislation. The major federal civil rights legislation was not enacted until 1964.
7. George Stigler and Claire Friedland, *What Can Regulators Regulate? The Case of Electricity*, 5 *J. Law & Econ.* 1 (1962).
8. R. H. Coase, "The Problem of Social Cost," 3 *J. Law & Econ.* 1 (1960).
9. Hereafter I use the phrase "law and economics" also to denote the "new" law and economics.
10. The paper was initially titled "Rationing the Services of Courts." A substantially revised version, which contained an empirical analysis of the frequency of both criminal and civil cases tried across different jurisdictions in the U.S. was eventually published in the *Journal of Law & Economics* in 1971. That paper plus papers by Richard Posner, Jack Gould and Steven Shavell have stimulated a voluminous law and economics literature on the resolution of legal disputes. In a somewhat dated survey article, Robert D. Cooter & Daniel L. Rubinfeld, *Economic Analysis of Legal Disputes and Their Resolution*, 27 *J. Econ. Lit.* 1967 (1989) discuss more than 100 such articles. I suspect that the number of articles has at least doubled since the year of the survey article.
11. Coase was an exception. He had taken some business law courses, and his social cost discusses a number of important early English nuisance cases.
12. Optimal enforcement (following Becker's earlier paper) typically involved a low probability of apprehension and conviction and a high fine which produced the same level of deterrence as a high probability and low fine but at lower cost.
13. Lessig and I are completing a large scale project estimating empirically the influence and reputation of federal court judges by counting citations to their opinions. Viewing citations as "output," we borrow from the human capital literature, and estimate equations of citations on experience and a variety of other variables. Not only do we rank judges but we examine factors that may explain differences in influence among judges (e.g., race, sex, quality of law school law school performance, prior experience, etc.).
14. As a rough measure of the benefits from collaboration, Landes and Goetz accounted for more than 45 percent of the citations in law journals to the articles and books of economists at the top fifteen law schools. (See Landes and Posner, *The Influence of Economics on Law: A Quantitative Study*, 36 *J. Law & Econ.* 384 (1993)).
15. A pretty good measure of this is that lawyers comprise about 50 percent of 1200 or so members of the recently formed American Law & Economics Association.
16. For an excellent start in this direction see Douglas Baird, Robert Gertner and Randal Picker, *Game Theory and the Law*, Harv. Univ. Press (1994).
17. The reason there are relatively few empirical articles in law and economics is an interesting question in itself. I recently addressed this issue

in a presentation on law and economics at the annual meetings of the American Economics Association in 1994. I advanced several explanations including the fact that the initial success of law and economics at law schools came not from empirical studies but from the light that economics shed on legal doctrines; that the law school culture values verbal quickness and analytical skills but not painstaking empirical analysis; that law and economics has been centered at law schools rather than economics departments or business schools; and that law professors, the major contributors to law and economics, are selected for verbal not quantitative skills. Equally puzzling is why economists on law faculties also tend to avoid empirical analysis, but again this is related to both the reward structure at law schools and the kind of economists who have been attracted to law and economics.

18. I might add that Lexecon's offices were designed by Charles Gwathmey (see footnote 2).
19. Rosenfield is now President of Lexecon and a senior lecturer at the University of Chicago Law School where he teaches antitrust.
20. R. H. Coase, My evolution as an Economist

(1994), unpublished version of a lecture in the "Lives of the Laureates" series, given at Trinity University, San Antonio, Texas on April 12, 1994.

21. It would be more accurate to say "had he not chosen economics as *one* of his careers." Posner is also a federal court of appeals judge (whose opinions are cited more frequently than any other appellate court judge) and a significant contributor to other fields such as law and literature and jurisprudence.
22. Although sexual harassment policies do not prohibit a professor from dating a graduate student in the same department under all circumstances, I do not believe it is feasible to design and implement a policy that only deters harmful and clearly objectionable conduct (e.g., abuses of female students by male dissertations supervisors) but not beneficial conduct as well. Because social relationships have uncertain outcomes, a non-tenured faculty member may face substantial job related costs and penalties (sometimes deservedly but other times not) if the relationship sours. Knowing this, the wise choice is not to begin the relationship.