

Discovery – A Memoir, Vernon L. Smith. Bloomington: AuthorHouse 2008, 365 and viii pages, \$19.99 (sc), ISBN: 978-1-4343-8432-4 (e), 978-1-4343-8431-7 (sc), 978-1-4343-8430-0 (hc).

This memoir recounts 2002 Nobel Prize winner Vernon Smith's journey from birth until about 2005. In fact, like Smith (2008; see also Sunder 2008) which he published the same year and which is a dramatically expanded version of the contribution that Nobel Prize laureates are asked to write, this book had its beginnings in an obligation that came with the Nobel Prize award: "Laureates are also asked to write an autobiography, and I submitted a sixteen-page manuscript that has been expanded into the present memoir." (p. 316) Not surprisingly, Smith documents an amazing journey and, although the book would have benefited from a good editor, it is one of the few books in the last couple of years that really intrigued me. Part of what makes the book a fascinating read is the tone which suggests an interesting conversation with a friend rather than a self-important memoir: "The fact is that I had my own agenda, and following somebody else's was not my cup of tea. As I think about it, that never had been my cup of tea." (pp. 192 – 3) It also becomes clear quickly that Smith is not one to compartmentalize his life. There seems to be no aspect of his ordinary life that does not inform his thinking on things methodological or economic, and vice versa. To wit, "I see each episode through the eyes of my understanding of prehistory, institutional change, and experimental learning." (p. 55)

Chapters 1 through 8 are about Smith's extended family and the circumstances in which he grew up. Born January 1, 1927, in Wichita, Kansas, he was born to a machinist and a housemaker who abruptly had become a twenty-two-year-old widow with two young girls when her first husband died in a train wreck a few years earlier. Smith makes it clear that his early life, and that of his extended family, was decidedly blue-collar and not one of roses. Making ends meet was a challenge especially early on after his father, his mother's second husband, was laid off for lack of work and he and his parents moved to a farm near Milan, Kansas: "The farm brought new dimensions of hard work and hard times for my parents, but also survival for two years during a time when there was no acceptable alternative. Farming near Milan was not yet hydrolyzed, electrolyzed, or mechanized, and neither was our house, which had no indoor drinking water, no electricity, no central heating, and no indoor toilet." (p. 35)

For young Smith all that did not matter because he did not know about alternative ways of life and because it was, actually, all very exciting: "My significant memories were those of adventure, of learning about chickens, milk cows, threshing machines, binders, ... fruit trees, gardens, ... rabbit hunting, priming well pumps, Coleman lanterns, and nights with bright stars clean down to the unobstructed horizon – a phenomenon that can only be experienced, not imagined – in a great expanse of sky that seemed uncannily like the open sea. That marvelously tender sky was punctuated and contrastingly defined by Kansas lightning storms ... " (p. 39; see also p. 50 and p. 90) Thus, "The farm proved to be an invigorating childhood environment with ample opportunity for daily fatherly and motherly lessons in the details of how things work – an interest I have retained throughout my life." (p. 41) Later, for example in chapter 8 (e.g., p. 143), Smith reflects on how formative these years, and the years in Wichita before and after, were for him.

Throughout these chapters it becomes clear that Smith was growing up in a stimulating environment whose major rocks were parents who were -- notwithstanding all the hard work and hardships -- in love with each other and gave freely to their children what really matters (e.g., Cunha & Heckmann 2009): time and affection. Smith, by his own account (p. 157) was, within that family, more a taker than a giver but he did make them proud with his accomplishments. (Surely this is one way to give to your parents.) Smith's father died 1954 when Smith was graduate student at Harvard. Smith's mother, who was obviously the parent that Smith bounded with, committed suicide three years later realizing that she was descending into worsening bouts of depression and not wanting to be a burden to the daughter that cared for her. Smith's description of the events leading to his mother's death and the aftermath of her death (pp. 155 – 166) is both very touching and curiously detached. (See the review of chapter 9 for an explanation.)

Of course, Smith would not be Smith if throughout chapters 1 – 8 there would not be numerous excursions and reflections: about why women often married early at that time, the risks of being an engineer on trains around that time, the house in Wichita in which Smith spent much of his time while growing up, the importance of children's fantasy and desire for independence, miracles of sorts (disassembling and then assembling a non-functioning alarm-clock will make it work again), how language is being learned, the incentive compatibility problems of the health care system and educational institutions, the possibility of private provision of public goods, the importance of stable monetary and fiscal environments and human (property) rights regimes, the crux of the socialist disease and its destruction of community, the value that small rural schools can add, and seem to have added in Kansas and Nebraska, personal persistence, the small army of women who settled the West and then industrialized it, making your own toys (instructions included), the benefits and pleasures of garden planting and tending, Unitarianism, the silliness of institutions such as the INS, the disadvantages of non-vested social-security schemes, how to make great hamburgers (and why minimum wage labor costs made them disappear), how to make fabulous chilis (recipe included), the unjustifiability of the attacks on Hiroshima and Nagasaki (and the dangerous doctrine that triggered the attacks), and so on.

Not everyone will agree with Smith's opinion on all of these issues – many his positions are informed by a very libertarian streak indeed – but as provocative as they are, it bears reminding that they are the results of a lifetime of extraordinary achievements and insights in human nature, as well as a deeply humanistic attitude. Chapters 1 through 8, both in content and form, indicate where this attitude comes from. Chapter 7 (pp. 124 - 127) tells us also how Smith – then studying electrical engineering – chanced upon economics and decided to become an economist. I read with interest that, “much more significantly for my deeper scholarly development [than the standard economics curriculum fare], (was) a full-year course in the development of economic thought. Howey was a surviving member of an endangered species, a history of economic thought scholar, but it was from him that I learned what a deep scholarly commitment really meant. To be good at whatever you did, you needed to acquire knowledge of all the supporting structure, tools, and primary sources of inspiration.” (Pp. 126 – 127)

Chapter 9, already previewed on pages 27 – 29, I found particularly fascinating. Here Smith reflects on his conjecture that he is afflicted by Asperger's Syndrome, “a form of ‘high-

functioning' autism.” (p. 180) This conjecture is also based on Smith having taken four tests appended to Baron-Cohen’s *The Essential Difference*; the results suggest indeed that his conjecture might be correct. As do descriptions of situations in which Smith fares well (one-on-one situation, especially when the topic of conversation is of interest to him) and those where he does not (conversations involving more than one other person). It is not without irony that someone who has significantly contributed to our understanding of sociality is challenged in his ability to empathize and needs “social interpreters” (p. 184). Smith himself sees the positive facets of his affliction: “I don’t naturally dwell upon and worry about things that I cannot change.” (p. 177); instead, “my brain goes to work on a solution, finding a way out, and that process crowds out what I hear people describe as worry.” (p. 176) Later in the chapter, Smith suggests that his “capacity to hyper-focus has been far more important to me than measured IQ, although the two are probably related.” (p. 185) He conjectures that, in an act of self-defense, it has kept him away from unnecessary distractions (such as e-mail). In closing this chapter, Smith proposes that his namesake (Adam Smith) was also an Aspergian, a conjecture that I find intriguing and plausible.

Chapter 10, titled “The Good Land”, recalls the first professional teaching-research job at Purdue University, seemingly an odd choice given the alternatives Smith had (e.g., Harvard Business School and Princeton), yet a choice Smith never regretted because of a “great department head” (p. 192) – Emmauel (“Em”) Weiler – who knew what it took to assemble, far away from an urban center, an outstanding and mutually supportive group of academics who had the courage to think big: “The Purdue program in economics was built upon a simple home-grown principle: You keep good faculty by providing them with opportunities for self-fulfilling accomplishments.” (p. 205) An important argument in favor of Purdue was also the disposable summer time which allowed Smith to write his book on *Investment and Production*. Smith lived in West Lafayette for twelve years, from 1955 to 1967, and this chapter as well as the following make clear why he stayed “in the cornfields” (p. 286) that long. Later in the chapter Smith discusses several related applied problems that he tackled and that in one case actually led to a tantalizing non-academic offer which Smith, while intrigued, was not ready for.

Teaching Principles of Economics at Purdue, and having to instill the economic theory of markets into the heads of his students, got Smith thinking hard both about what happens in markets (that is the process of equilibration) and how to relate it to his students. It is easy to see how this thinking lead Smith to his well-known work on markets and the Hayek hypothesis (and later his interest in neuroeconomics). The foundation for this interest had, of course, been laid by the classroom demonstration experiments that Chamberlin conducted in his beginning graduate course in Monopolistic Competition. The Chamberlin experiments seemed to show that the standard model of competition failed miserably. Smith, using essentially the same value/cost set-up that Chamberlin had used, changed the pricing institution, gave subjects the chance to learn and to adjust over repeated market periods, and -- to his surprise -- found that the market he had created converged quickly. From 1956 to 1960, Smith generated “many variations on this original experiment, altering the supply-and-demand environment, examining shifts in the demand or supply, varying the trading rules, and introducing cash rewards.” (196) In other words, Smith “discovered” the powerful rationale of experimentation: When in doubt, do more experimentation to answer the critic (or, the impartial spectator within). These early results were

published, after four negative referee reports, an initial rejection, and two revisions in *The Journal of Political Economy*.

A significant part of the chapter is dedicated to “the truly significant experience of meeting Sidney Siegel” (p. 197) and his accomplishments: “Sid was a more than a master experimentalist, he also used theory and statistics with skill in the design and analysis of experiments. I am persuaded that if Sid had lived he would not only have been the deserving Nobel Laureate who was well out in front of the rest of us, but also the timetable for the recognition of experimental economics would have been moved up perhaps several years.” (p. 198) Smith also suggests that neither he nor Siegel were at that point aware that Reinhard Selten, around the same time, had been pioneering economics experiments.

Chapter 11, titled “The People”, is an extension of chapter 10 in that Smith continues to talk about his time at Purdue and some of the key characters of that “community of friendly scholars” (p. 225) More than half of the chapter is dedicated to John Hughes, “this great friend, colleague, and confidant” (p. 242) including lengthy excerpts from letters written to Smith and Smith’s touching tribute on the occasion of a memorial service for “the brother I never had.” (244). The names of plenty of other well-known fellow faculty (e.g., Plott) and students at Purdue come up. Smith is not shy to give outspoken (but almost always kind) assessments of some of them. Interwoven in the parade of colleagues, students, and friends, are additional reflections on what it takes to become a good economist and to build an outstanding department. I know a lot of people – way too many come to think of it – who would benefit from the nuggets of wisdoms to be found in these reflections.

In chapter 12, Smith ponders his years (1967 – 72) in Sherborn, Massachusetts, to which he moved because it was the only place where his then-wife could find work as a Unitarian minister. To make that move possible, Smith resigned his chaired full professorship at Purdue, and moved to professorships at Brown University (one year) and the University of Massachusetts at Amherst (1968 – 72). After their children had finished high school, Smith accepted a fellowship at the Center for the Advanced Study in the Behavioral Sciences in 1972 – 73, where his contact with Charlie Plott was revitalized. Since he left Purdue, Smith had continued to think about experimental economics and had used it in his teaching but he had not conducted new experiments. Instead his interests had turned to the economics of uncertainty, financial theory of the firm, and natural resource economics. Plott, in the meantime, had created with colleagues such as Mo Fiorina and Mike Levine an active experimental research program at Cal Tech that focused on public choice broadly construed. Says Smith, “Charlie created that field [experimental political economy], . . . , but, strangely, I knew nothing of this development until the work was well advanced, and ready to be reported in papers and publications.” (p. 275) That changed quickly, especially after Plott engineered a Cal Tech offer that allowed Smith to spend a year there in a Distinguished Scholar position. By Smith’s account here and also by others elsewhere (e.g., Ortmann 2003), it was a rather productive year for the two and their collaborators, and it was the year in which Smith dusted off his old Purdue lecture notes on experiments, wrote his notorious AER Proceedings paper that sketched out the theory of induced valuation (Smith 1976), and developed many new ideas during a seminar that Plott and Smith taught together in the Spring of 1974. Most importantly, that year reinvigorated Smith’s interest

in all things experimental. The result was a number of new experiments during 1974 - 75 when Smith had a joint appointment at Cal Tech and USC including papers in which he and Plott compared pricing institutions (Plott & Smith 1978) and a series of papers in which Smith investigated the incentive properties of various public good provision mechanisms. In a sense, this summary of the chapter describes just the scaffold. There is plenty of other ruminations in the chapter running the gamut from further reflections on how not to run academic entities, over the viciousness of academic resource fights, the pettiness of academic politics, the tenure system (which Smith would abolish but that's easy to say for someone who is as much in demand as he was already then), to his various attempts to connect with his roots: "Basically, I was a fish out of water in Massachusetts, and I was ready to return to my Western roots." (p. 259):

In chapter 13, Smith talks about his return to the West and the twenty-six years (1975 – 2001) that he spent at the University of Arizona, building that program into one of about half a dozen prominent pillars on which experimental economics was built through the seventies, eighties and nineties. Clearly, these were – for about the first twenty years – productive and happy years although they ended – as Smith makes very clear also at other places in the book (e.g., p. 257 of the preceding chapter) – in contention: "I and three of my colleagues at Arizona were subjected to allegations of fraud and criminal conduct, and repeated threats of 'police action.' ... After five years the issues were settled through mediation in January 2004. ... mediation produced the public result: ... This is legalese for 'somebody goofed', and their faces need to be saved." (pp. 307 – 9). Apparently, the allegations involved revenue streams from applied research conducted in the Economic Science Lab which was accounted for through a private company that the university initially invited Smith and his colleagues to set up for that purpose. The – apparently gory -- details originally constituted two chapters of the manuscript but are not part of the published book although they can be accessed in Vernon L. Smith Archive at Duke University Libraries (p. 307). From the frustration and anger that shines through the summary here (and that made Smith and half a dozen of his associates leave Arizona in 2001 for George Mason university on the east coast), these archived records promise – not surprisingly to anyone who had a run-in or two with college or university administrators -- to be exhibit A of administrative arrogance and incompetence.

The overwhelming part of the chapter deals with the advances that were made in the Economic Science Lab in which many a well-known experimentalist economist worked, and in which computer-assisted experiments were explored and refined ever since Smith arrived there. Arlington Williams was one of the students enrolled in Smith's classes and special-studies courses in experimental economics and was instrumental in facilitating "Arizona's methodological revolution in experimental economics." (p. 287) He wrote the program for the first electronic version of the continuous double auction, a real-time bid/ask/contracting procedure which Smith had started to explore in his early experiments and that is also used in energy and financial markets. "When we went electronic and started to do computer-assisted experiments in 1975, we thought we were making easier to run the kind of experiments that we had been running for years to record the observations more easily and accurately. But we soon found that computerization changed our experience, and that gradually changed the way we thought about experiments. We were transformed without consciously planning it. That is a fundamental truth about how norms and institutions emerge, and why they are so far beneath our

conscious awareness. “ (p. 290) Essentially, it became easier and in fact possible to run more complex experiments which in turn made it easier to “test-bed” new market designs. Smith traces some of the milestone events, encounters, and engagements during his time at the University of Arizona and hence the work on “smart” exchange institutions that informed to a significant extent the deregulation, privatization, and liberalization reforms that started in the late 1980s (and are still in full swing, as recent debates about European energy markets or water markets world-wide demonstrate). The chapter is too rich in detail about the numerous projects to even attempt a summary but it will become invaluable for future scholars of the history of experimental economics.

Chapter 14’s focus is on the Nobel Prize, all the way from the call on October 9, 2002, in which the Nobel Prize Committee announced its decision to Smith to the long version of the toast that Smith delivered at the Royal Banquet in the Blue Hall in Stockholm on December 10, 2002. In that toast he celebrated his co-winner Daniel Kahneman, “for his ingenuity in the study and understanding of human decisions and its associated cognitive processes and demonstrating that the logic of choice and the ecology of choice can be divergent” (p. 329) as well as pioneers of the “intellectual movement that culminated in the economics award for 2002” (p. 329), among others including F.A. Hayek, “for teaching us that an economist who is only an economist cannot be a good economist; that fruitful social science must be very largely a study of the what is not; that reason properly used recognizes its own limitations; ... “ (p. 330) Smith also reflects on the nature of the prize, the reasons why he and Kahneman might have been chosen, the fact that it takes both important contributions and longevity to be able to accept the prize, other colleagues who might have been equally deserving (e.g., “ I felt, and feel, that Selten deserved to be considered along with me as an originator, ... He was unquestionably a father of experimental economics who was still living.” p. 323), and who might still be honored in future awards (e.g., “It is conceivable that we are yet to see an award ... in experimental political economy that would include Plott and others as contenders in this emergent and highly successful intellectual enterprise.” p. 323), as well as the politics that possibly were involved in this particular award and the 2001 Alfred Nobel Foundation Centenary conference program which set the stage for the award 2002, and what he would have done if he had been in charge of that program and the awarding of the prizes. Chapter 14, too, will become invaluable for future scholars of the history of experimental economics.

Chapter 15 is descriptively titled, “Wives, Daughters, and Sons” and is a celebration of his former (“I had two very tolerating wives, bless them, and they stuck it out for twenty-five years each.” P. 354) and his present wife (“Let no man write my epitaph. Please, God, let a woman write it: my wife, Candace.” P. 337), their respective children, and others close to him privately at some point (talking about an early lover, we learn on p. 339, “for some reason I was taking up with older women – I recommend it.”). As in the previous chapter, Smith is rather giving and does not bother with negative thoughts. But, true to form, he does make little excursions about things such as how medical practice works (not always for the best of the patient), about the fundamental problem with educational institutions and foundations (the lack of accountability and competition), on missed lessons about poverty (“the poor need largely be helped to help themselves” p. 347), and ways how to best communicate and teach.

A relatively short postscript on faith in science and religion concludes.

This book then traces, matter-of-factly, the amazing journey of an amazing man. Historians of thought will have the final word on where fiction has infringed on facts and where assessments may be debatable. That said, it is clear that Smith has worked hard to get the facticity right, and for all I can tell he has succeeded brilliantly. There seems indeed total candor to be found here, an ability to tell it as it was, as well as an ability to laugh about himself and the absurdities that life presents to all of us at some point or another. 'Discovery' is a must-read.

References

Cunha, Flavio, Heckman, James J. (2009). The Economics and Psychology of Inequality and Human Development. IZA DP No. 4001.

Ortmann, Andreas (2003). Charles R. Plott's collected papers on the experimental foundations of economic and political science. *Journal of Economic Psychology*, 24, 555-75.

Plott, Charles R., Smith, Vernon L. (1978). An Experimental Examination of Two Exchange Institutions. *Review of Economic Studies*, 45, 133-153.

Smith, Vernon L. (1976). Experimental Economics: Induced Value Theory. *American Economic Review*, 66, 1-12

Smith, Vernon L. (2008). *Rationality in Economics: Constructivist and Ecological Forms*. Cambridge: Cambridge University Press.

Sunder, Shyam (2008). Review of Smith (2008). *Journal of Economic Psychology*, 30, 107-10.

Andreas Ortmann
Center for Economic Research and Graduate Education,
Charles University
Economics Institute,
Academy of Sciences of the Czech Republic
P.O. Box 822
Politických veznu 7
CZ 111 21 Prague 1
Czech Republic
E-mail address: andreas.ortmann@cerge-ei.cz