Obituary

Stephen Toulmin
(London, 1922 – Los Angeles, 2009)

Stephen Edelston Toulmin, philosopher and historian of science, pioneer in the logical analysis of substantive argumentation, was educated in physics and philosophy at Cambridge, where he studied with Paul Dirac, John Wisdom and Ludwig Wittgenstein. Cambridge, Isaac Newton's university, remained his philosophical home: he always was very critical of the way that philosophy was done at The Other Place, as Oxford is known there. The only philosopher whom he really revered there was John Austin (for a time in the 1950s they were married to sisters) – although it is necessary hastily to add that he deeply respected Gilbert Ryle and Isaiah Berlin. Like the latter, he considered himself a "public intellectual". As such he was delighted to be invited to become a contributor to *Encounter* and later, from the mid-1960s a regular contributor to *The New York Review of Books*. He was fascinated by Wittgenstein, attending as many of his classes as he could, but had no interest in becoming close to him. Both the idea of discipleship and Wittgenstein's dominating personally were uncongenial to him. Like Wittgenstein and Berlin he was never at home among professional philosophers (he scarcely ever attended APA meetings in the USA, for example). On occasion his relationships with philosophers could be stormy indeed as was the case with Sir Karl Popper and Nelson Goodman. He prided himself on being an amateur and was only mildly disturbed when "experts" chided him as a bungler. His deepest belief was that professional philosophers do not determine what the real problems of philosophy are; rather those problems arise out of conundrums in human life. That meant for him engaging in intense dialogues, with physicists, psychologists, psychoanalysts, medical doctors, lawyers, musician artists and, of course, historians of science.

The scion of a well-known English liberal family could trace his roots back to persecuted Huguenots, who sought refuge in England after the evocation of the Edict of Nantes in 1685. Their values of tolerance and dissent as well as their concern for science and industry were mirrored in Stephen Toulmin's life and work. His deep interest in Michel de Montaigne as well as the idea that rationality is immanent in human practices reflects that tradition. One of his forebears, Harry Toulmin, founded the first institution of higher learning west of the Appalachians in the USA, Transylvania College (now a university) in 1780. The American Toulmins intermarried with the family of Joseph Priestley, the discoverer of oxygen, himself a religious dissident and political radical. So it is hardly accidental that Stephen Toulmin's Jefferson Lecture, which is linked to the highest honor that the United States pays to humanists, centrally featured the case of Joseph Priestley as a public intellectual, who, he argued, was an exemplary figure for our

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time. Stephen Toulmin's sense of history was such that figures like Montaigne and Priestley were his contemporaries, sources of inspiration and strength. Stephen Toulmin was a decided champion of The Enlightenment but at the same time a deeply religious Quaker and a highly cultivated man of letters. His philosophical, scientific, religious and aesthetic concerns profoundly conditioned each other and account for the intensely humane character of his philosophizing throughout his career. No wonder that he wanted to dedicate his first book, *An Examination of the Place of Reason in Ethics*, to John Maynard Keynes (Keynes died before it was published).

Stephen Toulmin began his teaching career in philosophy in at Oxford and was later appointed professor at the University of Leeds. In the United State he taught at Brandeis University, The University of Chicago, Northwestern and The University of Southern California as well as having numerous visiting professorships and short appointments throughout the country. He directed the Nuffield Foundation History of Ideas unit in London from 1960 to 1965, where he produced a series of classic studies in the history and philosophy of science together with his second wife June Goodfield. The avowed interdisciplinarian frequently held prestige university professorships not bound to any single department. He seldom enjoyed copasetic relations with the philosophy departments at the universities where he was active, Northwestern being the exception.

A brief glance at the short bibliography of his major works at the end of this notice reveals a great deal about Stephen Toulmin's central concerns. The very titles of his books revel that Stephen Toulmin's career revolved around philosophical investigations of reasoning, rationality and the nature of rational enterprises. Little wonder that the work that won him widest recognition in the scholarly community at large was his development of a model for analysing the practice of reasoning originally suggested by Oliver Wendell Holmes and later sketched by John Dewey and in *The Uses of Argument*. Apart from being a pioneering study of the logic of explanation it is also a masterpiece of English expository prose, which could be employed to teach people the subject. The second noteworthy aspect of the short bibliography (which contains roughly half of his books and none of his numerous articles) is that 5 of the 12 books listed are co-authored. He was a philosopher who thrived in dialogue with others and those dialogues inevitably led to major collaborations in the form of co-authored books. This attitude also extended to his teaching: at the University of Chicago, for example, he frequently taught courses together with Paul Ricoeur (another descendant of Huguenots). Like Paul Ricoeur in philosophy and Joseph Kockelmans in the philosophy of science (another close friend and kindred spirit), he championed the importance of hermeneutics within philosophy.

In many circles Stephen Toulmin is known principally as a pioneer of historically-oriented philosophy of science, which he certainly was. History was to him a repository of examples of scientific practice, to be employed as a corrective to the overemphasis upon scientific theory on the part of the logical empiricists. He

belonged to that group of physicist-philosophers, who rebelled against the caricatured view of science that was central to the logical empiricist's program (perhaps best exemplified in the work of Rudolf Carnap, Hans Reichenbach and Carl Hempel as well as their alleged critic, Sir Karl Popper), which included (for all their differences) Thomas Kuhn, Patrick Heelan, Robert Cohen and others, above all, his dear friend Norwood Russell Hanson, who invited him to come to Indiana University to give the lectures that became *Foresight and Understanding*, arguably his best-known contribution to the philosophy of science. Stephen Toulmin's concerns with philosophy of science were continuous with his concern for the place of reason in ethics: how does a physicist decide that an explanation of a given phenomenon is acceptable – *in practice*? In contrast to Popper and the logical empiricists, he was less interested in demarcating science from other (allegedly "irrational") activities than he was in establishing just what it is that scientists do in the course of producing solid explanations of physical phenomena. Like another of Wittgenstein's students, W. H. Watson, in 1938, Stephen Toulmin's 1953 introduction to philosophy of science aimed at producing a non-normative account of physics deeply inspired by the Viennese thinker.

Stephen Toulmin's philosophy of science was the product of a philosopher's reflections upon the problems that physicists face in practicing their discipline. It turned upon two issues: 1) how does a physicist decide that an explanation of a given physical phenomenon is acceptable? and 2) why is it that a physicist can fail to understand his/her own results. The first bears upon criteria for sound reasoning in binding observations to theories; the second upon modes of interpretation; i.e., the logic and hermeneutics of science. Stephen Toulmin incorporated three important ideas from Wittgenstein into his response to these questions: The first bears upon his methodological pluralism and the Wittgensteinian notion of "family resemblances". "Physics" is not one but many different independent problem fields, which are related to each other on the basis of analogies rather than sharing a common definition/fulfilling a common set of necessary and sufficient conditions. Second, bears upon the implications of Wittgenstein's idea that meaning is use for understanding the function of physical theory. In this context he developed the idea that theories should best be understood on the analogy with maps that help us to get around the universe. The third bears upon the role of examples in coming to understand physical phenomena and in designing research upon them. Following the implications of this Wittgenstein-inspired thought led him ultimately to the R.G. Collingwood and the notion that science is guided by "ideals of natural order", which became a central theme in *Foresight and Understanding* and further led him with the help of June Goodfield to pursue a series of studies in the history of criteria with respect to the concept of the matter and time as well as in the study of the heavens.

The idea that the hypothetico-deductive model of explanation, "covering law theory," which was the core of logical empiricist philosophy of science was completely misguided was his point of departure in the philosophy of science. As a

physicist, he was convinced from the start that the idea, inspired by Ernst Mach and most clearly developed by Hempel and Oppenheim in their 1948 paper, according to which the simplest mathematical representation of empirical co-ordinates was the best theoretical representation of the facts of the case, was false because it was entirely incapable of producing substantive explanations of anything. His concern for the substantive nature of explanation also led Stephen Toulmin to produce his *The Uses of Argument* in 1958, which has turned out to be his most influential work. It turns on the idea that reasoning in practice is a matter of applying and justifying rules that are implicit in human action. So, no small part of the logicians task is the hermeneutic procedure of establishing just how reasoning in practice involves rules that frequently are not even mentioned explicitly. The so-called Toulmin Model (the Dewey-Toulmin Model would be more accurate) has been largely-ignored by philosophers (Peter Strawson spoke of "Toulmin's anti-logic book") but has been universally received with enormous enthusiasm in the field of communication studies. Stephen Toulmin thought of the book as his Prodigal Son. It later success was a source of gratification to him. It is frequently taken to be his main work; however, that distinction really belongs to *Human Understanding*, which has not had anything like the impact of *Uses*.

Human Understanding, originally planned in three volumes of which but the first actually appeared, grew out of what was originally conceived as a monumental effort to deal with the most pressing philosophical problems about language and mind, science and rationality c. 1970. That book should be an answer to Thomas Kuhn with respect to the question of how science develops, to wit, in an evolutionary, rather than a revolutionary way. It was also an answer to Sir Karl Popper with respect to the nature of criticism in science, which utilized the Toulmin Model to explain that criticism bears upon every aspect of scientific reasoning, not merely upon scientific claims. Moreover, it extended the scope of philosophy of science to the history and sociology of disciplines and profession (parts of Stephen Toulmin's work that have, for the most part, been sadly neglected). In the volumes to come (as he told me) he would have submitted Noam Chomsky's "Cartesian" concept of mind and language to a critique inspired by Kant and Wittgenstein in philosophy and Vygotsky and Luria in psychology. In the final volume he would have treated the philosophical role of the sociology of knowledge and presented his own philosophy of history. It was a grandiose project of the proportions of Kant's critical philosophy but it was simply too much for him. Stephen Toulmin's vision outstripped his powers (even in the published volume his very style of writing betrays a monumental struggle with his subject matter). Although he claimed to have finished a single volume condensed version of the last two projected volumes, publishers would not accept it. What should have been his major work remained unfinished.

Wittgenstein's Vienna, *The Abuse of Casuistry*, *Cosmopolis* and *The Return to Reason* are clear evidence that he had, nevertheless, lost none of his vigor. The last three are deeply affected by his experience in connection with a US Sen-

ate committee investigation into foetal research. In the course of the committee's deliberations he was deeply impressed at how much consensus lurked beneath ideological differences. When asked directly for their opinions, people responded with strident statements about Right and Wrong but when there were good, detailed examples to discuss or when the question became personal: "what would you do if your daughter was pregnant after being raped by a criminal?" there was much more agreement than might be expected. The importance of the philosophically despised individual case, scepticism with respect to "principles", consensus beneath the surface of public debate on morality and an Aristotelian sense that traditions of practice implicitly contain our common criteria for rationality bind all of these studies together. He came to share a deep admiration for the Aristotelian notion of *phronesis*, which I had taken in with my mother's milk in philosophy. Our main difference concerned the question of legitimate differences of opinion (essentially contested concepts) that are genuine obstacles to consensus in a complex society like ours. He was inclined to minimize their importance.

As for me, I was and was not a "student" of Stephen Toulmin (for all that's worth). True, I did a dissertation with him but I had already developed and published about an alternative view of Wittgenstein's *Tractatus* before I met Stephen Toulmin. He had read the article (on "Schopenhauer and the Early Wittgenstein"), which I had enclosed with my application for doctoral studies in History of Ideas at Brandeis University, and asked me if I wanted to continue these studies with him on the day I began my studies there. He was keen on this because he felt that Wittgenstein, as he knew him, was widely misunderstood: having a background in natural science gave him an access to Wittgenstein's thinking that was lacking in his fellow students but crucial for understanding Wittgenstein's central ideas in all phases of his development. That both flattered and confused me greatly. What became *Wittgenstein's Vienna* emerged from our common ruminations upon a conversation I had with G. H von Wright in 1966 almost year before I met Stephen Toulmin (see below). Incidentally, Georg Henrik was a bit disappointed that I did not continue my work with him (which would have been very different in that case). Stephen Toulmin valued von Wright's book *Explanation and Understanding* highly indeed. That was a source of much gratification to the Finnish sage.

My philosophical interest in Stephen Toulmin's work came after reading Ch. 3 of "The Uses of Argument" towards the end of my first semester at Brandeis. The idea that reasoning and formal logic only slightly overlapped at best was one that I had entertained in a manner of speaking. His way of analysing practical reasoning filled a crucial gap in philosophy. His seminar on epistemology (which, like many of his courses, was oriented towards 2 dissertations that he was supervising and seemed to be part of an on-going discussion that we new students were eavesdropping upon) struck all of us first year students as bizarre: there was Ken Kipnis continually talking about Japanese chicken-sexers, who could tell the sex of a chick in their hand but could not explain how they did it. It was not very clear then (as it would become later) what we were supposed to learn from this. In fact,

this was my first epistemological encounter with the concept of tacit knowing, which would become an important object of study for me in my work on practical knowledge from the 1980s until today.

Working with Stephen Toulmin was a joy – if you got through the first 2 or 3 discussions with him, which were often strenuous and frustrating. Stephen was a creative – critical – listener, who challenged you to liberate yourself from all forms of obscurity and cliché. He adamantly insisted that we refrain from employing traditional philosophical terminology wherever possible because it "loaded" the dice philosophically. Working with him – be it on a dissertation as a student or a book as a colleague – involved creating a new vocabulary/language for discussing your philosophical problem. The careful series of statements and re-statements of the matter under discussion he demanded of you was emancipating with respect to conventional philosophical perspectives and orthodoxies generally. Finding "neutral", jargon-free and where possible elegant modes of expression also served to open up philosophical discussions to a broader public, which was always one of Stephen Toulmin's goals as well as something he did superlatively. Without being aware of it, he shared certain preoccupations of Otto Neurath (something that probably goes back to their mutual respect for Pierre Duhem) without sharing Neurath's strident attitude to philosophy. He was a really great listener, listening to colleagues in more or less regularly occurring systematic discussions in all sorts of different areas over the years. Everybody I know that participated in them would say that he enriched these discussions immensely. His critical listening became a source of confidence to his interlocutors. Once, when a fellow student compared him to Teilhard de Chardin and C. G. Jung at the end of a seminar in 1967, he shocked us by responding "I don't like the company you put me in!" He complained that Teilhard and Jung were people with a message in the form of a speculative grand synthesis that tended to bowl over their public; his way of doing things was to influence people from behind the scenes.

I think the most impassioned I ever saw him was at one of our last meetings in Stockholm c. 1994, when a group of younger colleagues from England were taking turns belittling C. P. Snow and the "two cultures" thesis. Stephen Toulmin shocked everyone and disrupted proceedings by suddenly shouting at the top of his voice with his face red as a beet that they had no right to speak so condescendingly of such a great man, who, unlike them, knew whereof he spoke. This so disturbed the things that a break was immediately called by the organizers. The two of us walked around a long block so that he could blow off more steam and cool down. He was visibly moved by the injustice that had been done to Snow in his eyes. Here his Quakerism was also at work. I was immensely proud to be his student at that moment, although my student days were far behind me.

He taught me that philosophical activity should help real people with real problems rather than contribute to the growth of a professional discipline. He was increasingly proud that he was an amateur in all that he did. Two further difficult lessons I learned from him bear upon the connective nature of scientific enterpris-

es and the role of rhetoric in philosophy of science and in philosophy generally. Both took a very long time to sink into my head. In the latter case maybe 25 years! To my own surprise I have never really stopped learning from him.

First, last and always Stephen Toulmin was a cultivated gentleman who unfailingly enhanced the lives and activities of the people who surrounded him.

Allan Janik
The Brenner Archives Research Institute
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Stephen Toulmin's Major Works

An Examination of the Place of Reason in Ethics (1950)
An Introduction to the Philosophy of Science (1953)
The Uses of Argument (1958)
Foresight and Understanding: an Enquiry into the Aims of Science (1961)
The Architecture of Matter (1962) with June Goodfield
The Fabric of the Heavens: the Development of Astronomy and Dynamics (1963) with June Goodfield
The Discovery of Time (1966) with June Goodfield
Human Understanding: The Collective Use and Evolution of Concepts (1972)
Wittgenstein's Vienna (1973) with Allan Janik
The Abuse of Casuistry: A History of Moral Reasoning (1988) with Albert R. Jonsen
Cosmopolis: The Hidden Agenda of Modernity (1989)
The Return to Reason (2001)

A comprehensive list of Stephen Toulmin's writings can be found at the following website:
http://rjohara.net/darwin/files/toulmin-bibliography

For his contributions to the *New York Review of Books* see
http://www.nybooks.com/authors/1864

For a fine account of Stephen Toumlin's central ideas and a vivid picture of him in dialogue see his interview with Gary Olson
http://www.jacweb.org/Archived_volumes/Text_articles/V13_I2_Olson_Toulmin.htm