

In Memoriam: Horst W. J. Rittel

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and Melvin M Webber

Timeline of Rittel's Life

We compiled this timeline from information in Rittel's Curriculum Vitae as printed in December 1988. The CV was provided by Jean-Pierre Protzen.

1930

Born in Berlin, July 14

1936–1940

4. Volksschule, Berlin (elementary school)

1940–1943

Scharnhorstschule, Berlin–Schoeneberg
(gymnasium)

1946–1949

Gymnasium Adolfinum, Bückeburg

1947–1954

Private tutor in English, French, Latin, mathematics, and physics

Worker (aluminum factory, precision scales factory)

Insurance agent

Interviewer for survey institute

1949–1954

University of Göttingen

Studied mathematics and theoretical physics

Auxiliary Assistant in astronomical observatory (*analysis of stellar spectra*)

Auxiliary Assistant in geophysical observatory (analysis of geomagnetic fields)

Manager of student dormitory

1953–1958

Maschinenfabrik Deutschland, Dortmund

Cost predictions, development of design aids, operations research*

1958

University of Münster, Dortmund

Studied mathematical logic and sociology

Horst W.J. Rittel, a pioneering theorist of design and planning died of lymphatic cancer on July 8, 1990 in Heidelberg, Germany. He was born in 1930 and grew up in Berlin, where he attended the Gymnasium Adolfinum. Upon graduation he enrolled at the University of Göttingen to study mathematics and theoretical physics. In 1953, fresh out of school, he found employment in the Maschinenfabrik Deutschland in Dortmund as an operations researcher. There Horst first became fascinated with the concepts that later became the focus of his career: the activities of design and planning. Before pursuing these topics, however, he joined the Sozialforschungsstelle of the University of Münster in Dortmund in 1958. His role was that of mathematician and statistician, developing socioeconomic prediction models and evaluating sociological field research. Simultaneously, he pursued the study of sociology and mathematical logic at the university.

Rittel's writings are as varied as his educational background. They are difficult to classify, because they are scattered in the professional journals of disciplines as disparate as chemistry and law, computer science and policy science, or architecture and information science. The writings, however do have a common core. Horst saw the theme of his work to be the reasoning of designers: the nature of their problems, the kinds and structures of the knowledge they use, the formation of judgment, their logics of procedure. He called it the science of design.

As he said, he had the good fortune to participate in the development of the science of design from its beginning. He laid the cornerstones of his work at the Hochschule für Gestaltung at Ulm where he was both teacher and director from 1958 to 1963. At Ulm he argued that dichotomies purporting to distinguish systematic versus intuitive, and rational versus nonrational design are untenable. Rather, he asked, to what degree can and should design processes be made explicit, and to what extent can and should they be made communicable to others. For only communicable processes can be taught, and only explicitly formulated processes can be critically scrutinized and improved upon.

In 1963 Rittel was called to Berkeley. Of this event he said "my special luck was the invitation to join the faculty at Berkeley: I could not have found a livelier, more stimulating and resourceful place in the world." And indeed, Rittel often talked about how he

Sozialforschungsstelle an der Universität
Münster, Dortmund
Mathematician and Statistician:
theory of predicting socio-economic
processes, planning, and evaluating sociologi-
cal research

1958–1963

Hochschule für Gestaltung Ulm
Festdozent (tenured docent) for design meth-
odology, mathematical operations analysis,
communications theory, and epistemology

1959–1963

Elected for 4 terms to the three-member
College of Rectors, HfG Ulm
(the administrative body of the school)

1960?

Married Karin in Ulm†

1963

Daughter Caroline born

1963–1967

University of California, Berkeley
Department of Architecture
Lecturer

1965

Son David born

1965–1967

University of California, Berkeley
Space Science Lab and Center for Planning
and Development Research
Associate Research Mathematician:
Project TAUM
(Technology and Urban Management)

1967–1969

University of California, Berkeley
Department of Architecture
Associate Professor

1967

Washington University, School of
Architecture, St. Louis
Visiting Associate Professor of Architecture
and Operations Research

1968–1973

Studiengruppe für Systemforschung,
Heidelberg
Co-director

was challenged by his new colleagues and students here. He always acknowledged how their thinking had influenced his own; he considered them to have been the pioneers of the idea that design and planning are most important subjects of scientific inquiry.

His *Dilemmas in a General Theory of Planning* proved to be a seminal treatise. There he expounds on the inherently intractable nature of design and planning problems which he termed “wicked” to contrast with the tame problems of mathematics, chess, or puzzle solving.

The notion of wicked problems led Rittel to a radically new conception of design and planning processes and of methods appropriate to their resolution. He described the design process as inherently argumentative, in which the designer continually raises questions and argues with himself and others over the advantages and disadvantages of alternative responses. Methods that support argumentation and facilitate the identification of questions, responses, and arguments, he called methods of the second generation to distinguish them from their earlier methods of operations research.

In 1973 Rittel received a call to join the architecture faculty at the University of Stuttgart. There, he founded the Institut für Grundlagen der Planung, which he directed until his last days. Yet, he had not abandoned Berkeley for Stuttgart; he simply became an international commuter splitting his time between the two institutions.

In more recent times Horst was involved with what he termed natural intelligence-enhancement. He had been a stubborn skeptic of the ambitions of artificial intelligence researchers, who seek to create computer programs that simulate intelligent behavior, or better yet, that surpass human intellectual capabilities. To him this was the story of the Golem, or of Faust and his homunculus, all over again. He was specifically critical of today’s widespread attempts at constructing expert systems. He contended that the expert knowledge embodied in such systems would become nothing more than “freeze-dried prejudices.” Instead of pursuing the aims of artificial intelligence, he proposed what he saw to be a less ambitious but more promising strategy. In his words, “as my eyeglasses don’t see on my behalf but help me to see better, one might use the computer not to think on one’s behalf but to reinforce and enhance one’s own ability to think.”

Before his premature death, Rittel was working on a general theory of technology, that is the description, analysis, and theory of instrumental knowledge. He was asking how we might more effectively trace the consequences of applying a technology, and how we might construct a combination of technologies in pursuit of desired results without also generating unforeseen and undesirable side- and after-effects, the nightmares of designers. Horst considered

1970–1990

University of California, Berkeley
 Department of Architecture
 Professor of the Science of Design

1973–1990

Universität Stuttgart Fakultät für Architektur
 und Stadtplanung
 Universitätsprofessor für Grundlagen der
 Planung und Direktor des Institutes für
 Grundlagen der Planung

1977–1979

Universität Stuttgart Fachbereich Bauplanung
 (Department of Building Planning)
 Elected Dean

1977–1981

Universität Stuttgart Fakultät für Architektur
 und Stadtplanung
 Elected Dean for three terms

1974?

Divorced†

1977?

Married Anita†

1986–1988

Katholieke Universiteit Leuven
 Fakulteit Toegepaste Wetenschappen
 Guest Professor in School of Engineering
 Department of Architecture, Planning, and
 Urban Design

1990

Died in Heidelberg, July 8

* While the CV does not list operations
 research, Jean-Pierre Protzen suggests that
 was a part of Rittel's work at Maschinenfabrik
 Deutschland.

† Provided by Jean-Pierre Protzen—
 not in original C.V.

his work in chemistry, for which he received international recognition, to be a special case of this general theory. Over the years he had developed an algebra of chemistry which allowed him to trace the outcomes of chemical reactions over as many steps as desired. Chemical engineers are typically interested in the “yield” of a reaction, that is, the percentage of a desired compound produced by a reaction, not the residues of that reaction. But, typically for Horst, he was interested in what others discarded. He wanted to find what happens when residues get thrown together as in the effluents of sewage plants. These residues or nondescript aggregates he called “mishmashes.” He often apologized for the term but said that even distinguished chemists could not find a less vulgar word for this important concept. He had outlined a theory of mishmashes, but it will fall to others to elaborate it.

Incomplete as it is, the rich and innovative work of Horst Rittel, even if it is not yet fully recognized, has opened new directions and has already stamped many generations of students. Because, as he once said, innovative ideas need lengthy incubation before they become integrated into the course of “normal” research and into professional practice, the full impact of his work will not be appreciated for many years.

He is survived by his wife, Anita; a son, David,
 and a daughter, Caroline.

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