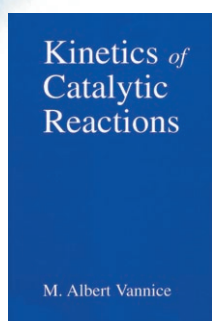




### Kinetics of Catalytic Reactions



By M. Albert Vannice. Springer Verlag, Heidelberg 2005. 240 pp., hardcover  
€ 76.95.—ISBN 0-387-24649-5

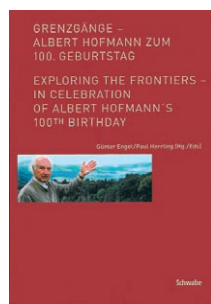
This book consists of nine chapters (233 pp.), which cover all the required material for someone working on kinetics. It deals with the design of kinetic experiments involving heterogeneous catalysts, for characterizing those catalysts, acquiring valid rate data, determining the presence or absence of heat and mass transfer limitations, selecting and simplifying reaction models, deriving rate expressions based on these models, and also assessing the consistency of these rate equations. It provides sufficient background information and discussion of the assumptions related to the derivation of adsorption isotherms and reaction models to enable the reader to understand the limitations of these models and to feel comfortable in applying them. Both ideal and non-ideal surfaces are considered, and enzymatic catalysis is also discussed. There are numerous worked-out examples and homework exercises. The material is well organized in a natural order in the corresponding chapters.

This book can be prescribed for undergraduate courses in kinetics and/or catalysis, as a supplement to advanced undergraduate chemical engineering courses on kinetics and reactor

design, and as a guide for researchers in catalysis in industry. It is most suitable for students of chemical engineering or physical chemistry, and for readers with a background in one of these disciplines. Nowadays many research groups around the world are involved in kinetic studies, mainly to understand the intricacies involved in the various commercial catalytic processes and possibly to improve them. The present book will be useful for these cases and researchers working in the area of heterogeneous catalysis.

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### Grenzgänge – Albert Hofmann zum 100. Geburtstag



Exploring The Frontiers—In Celebration of Albert Hofmann's 100th Birthday. Edited by Günter Engel and Paul Herrling. Schwabe Verlag, Basel 2006.  
225 pp., hardcover,  
€ 33.50.—ISBN 3-7965-2210-6

Festschriften often commemorate a subject's 60th, 70th, 80th, or even 90th birthdays, but those written to celebrate someone's 100th birthday are very unusual. Centenarians are becoming more common, but prominent centenarian chemists are still rare. Two examples are the Frenchman Michel Eugène Chevreul (1786–1889) and the Americans Joel H. Hildebrand (1881–1983) and E. Emmet Reid (1872–1973). Although this Festschrift for Albert Hofmann (born January 11, 1906) may not be unique, it is certainly uncommon and worthy of careful consideration.

This beautiful bilingual volume (in German on the left-hand pages and

English on the right-hand pages; the number of pages is actually half of the cited number), published with the support of Novartis Pharma AG, Basel, is a balanced blend of science and art. It contains six meticulously referenced essays by scientist and nonscientist friends and former colleagues of Hofmann and is copiously illustrated with 118 numbered figures, which consist of black-and-white and many more full-color pictures (some full-page and two as two-page pullouts), formal and informal portraits, laboratory notebooks, structural formulas, and reaction schemes. The volume has made use of published studies, monographs, interviews, and personal recollections and records, and its aim is to present “a fully rounded portrait, but not one that is intended to serve as a formal biography”. The subjects and authors of the six essays are described below.

1. “Dr. Albert Hofmann's work on ergot alkaloids and its influence on the development of pharmaceuticals at Sandoz”—a predecessor company of Novartis (pp. 8–27, the shortest essay; 14 figures). Pharmaceutical chemists Günter Engel and Rudolf Giger trace the complex history of ergot and the tortuous course of Hofmann's research, the pharmaceuticals that he produced by modifying natural products, and the background leading up to his major discovery—LSD—which transformed him into a world-renowned figure.

2. “Natural products research at Novartis Pharmaceuticals—a historical overview” (pp. 28–73; 37 figures). Microbiologist Frank Petersen surveys the role of natural products in the pharmaceuticals industry at Sandoz, Ciba, and Novartis and places Hofmann's research in this area in a broad context. He describes how a small dye-stuffs factory, Sandoz, slowly blossomed and transformed itself into a pharmaceutical giant. In 1917 the director, Melchior Böniger, hired an academic, Professor Arthur Stoll, a Swiss natural products chemist at the Universität München. It took Stoll only three years to isolate pure ergotamine and introduce it onto the market as Gynergen. This success continued with the introduction of the breakthrough transplantation medicine Sandimmune in 1982.

Across the Rhine, Ciba–Geigy had origins similar to those of Sandoz, and in 1900 it entered the pharmaceutical business with the antiseptic Vioform and the antirheumatic Salen. In 1924 the analeptic and circulatory stimulant Coramine was introduced onto the market. It played an indirect role in the fateful Hofmann synthesis of the ergotamine alkaloid analogue LSD. Today, Novartis, formed by the merger of the two companies, continues to enjoy similar successes and looks forward to the development of the anticancer agent patupilone or epothilone B, which is currently in Phase III clinical trials.

3. “Albert Hofmann at home in Rittimatte” (pp. 74–93; 44 figures). Werner Huber, who joined Hofmann’s Natural Products Division at Sandoz as a laboratory technician about four decades ago, provides an account of their first meeting and, from the more recent past, their butterfly-watching expeditions. Full-color pictures of the two friends, scenery, plants, and butterflies in various stages of their development are featured.

4. “From natural science to philosophy. A man with the capacity for insight and wonder” (pp. 94–121; 5 figures). Rolf Verres, an authority in psychotherapeutic medicine and one of Hofmann’s closest friends, discusses how Hofmann’s philosophical reflections and world view were shaped by his experiences. He presents Hofmann’s account

of his early childhood and recollections of a time when his responsibility was focused on family needs. In great detail, Hofmann recounts his preoccupation with chemistry and how it specifically influenced his philosophical ideas.

5. “Solidarity with the universe. Reflections of a layman inspired by a centenarian” (pp. 122–167; 1 figure). Violinist Volker Biesenbender, a former student of the late Yehudi Menuhin, who teaches musical improvisation at the Zürich School of Music, Drama, and Dance, and was a friend of Hofmann and his wife Anita for a quarter of a century, presents a similar examination of the development of Hofmann’s *Weltanschauung*.

6. “St. Anthony’s fire in medieval art: the Antonite Order’s holistic approach to treatment” (pp. 168–215, the longest essay; 17 figures). One of the editors, Günter Engel, who has a keen interest in medieval art, investigates the significance in the history of medicine of ergot, which is the causative agent of ergotism (“St. Anthony’s fire”) and the substance that Hofmann transformed from a toxin into a therapeutic agent. Hofmann, a member of the Antoniter-Forum, which is dedicated to the preservation of the Antonite heritage, considered St. Anthony to be the patron saint who accompanied him throughout his life. Numerous reproductions of the paintings of St. Anthony and his temptations, by Matthias Grü-

newald, Hieronymus Bosch, and other artists, are featured.

A one-page biographical sketch of Hofmann and thumbnail sketches of the authors and editors conclude the volume. There is no index, but that is not a serious lack in such a short book. Besides the standard edition (1300 copies), limited editions in the forms of a leather-bound deluxe edition (numbered from 1 to 20) and a linen-bound special edition (numbered from 21 to 200), which are not commercially available, have been published.

The editors hope that their *Festschrift*, a true labor of love, “will encourage interested readers to take a closer look at the individual stages of Hofmann’s scientific career and personal development”. As admirers of Hofmann and his accomplishments, we second their hope, and we enthusiastically recommend it to everyone interested in the recent history of pharmaceutical chemistry, the development of natural products, and the life and career of one of the most talented and multifaceted chemists of our time.

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