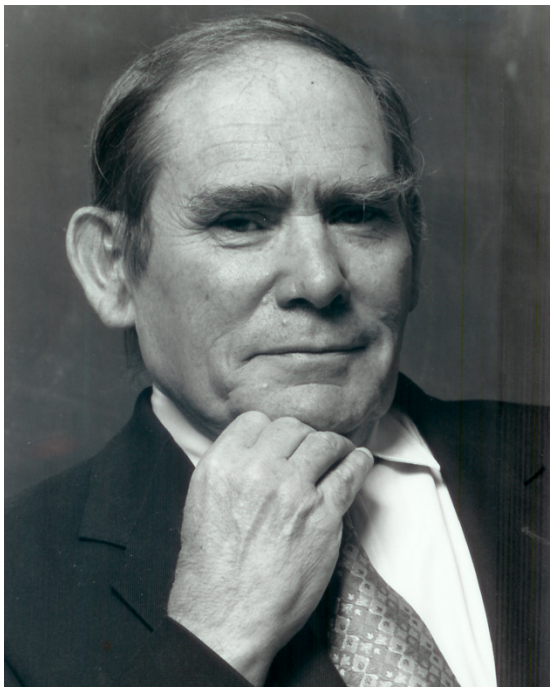
Alembic
RARE ⊖ BOOKS

LIST 18: FROM THE LIBRARY OF SYDNEY BRENNER

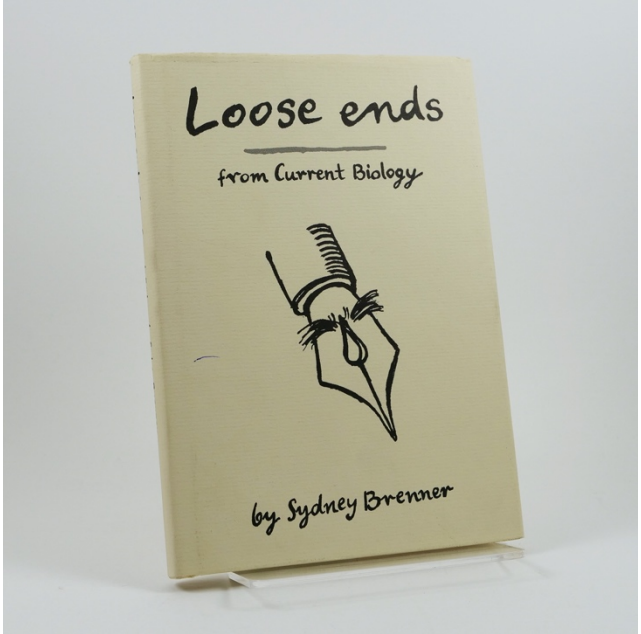


Sydney Brenner (1927-2019) was a leader in the field of genetics almost from the moment he received his doctorate at Oxford in 1954. He joined Francis Crick's laboratory in 1956 and they did ground-breaking research on how DNA is decoded by cells. Brenner proposed that the nucleotides which comprise DNA (adenine, guanine, thiamine and cytosine) are read by the cell in sets of three called codons, with each codon representing an amino acid (for example, three adenines in a row is the codon for the amino acid lysine). A gene is therefore a string of codons that directs the production of a specific protein molecule from individual amino acids.

Brenner was also a key member of the team that predicted and then demonstrated the role of messenger RNA, the molecule that transports the genetic code from the DNA to the ribosomes, where the translation process occurs and proteins are constructed.

Following this work, it was Brenner's efforts to establish a new laboratory organism for the study of genetics that led to his Nobel Prize. "Beginning in 1965, he began to lay the groundwork to make C. elegans, a small, transparent nematode, into a major model organism for genetics, neurobiology and developmental biology research. As a direct result of his original vision, this tiny worm became the first animal for which the complete cell lineage and entire neuronal wiring were known. Today, more than 1,000 investigators are studying C. elegans, and Brenner's work was further honored when a closely related nematode was named Caenorhabditis brenneri" (Salk Institute biography).

Brenner had residences in both Cambridge and La Jolla, California, and spent his final years in Singapore. The twenty-one items in this list formed part of his Cambridge library, which was sold privately in 2018.



1. **Brenner, Sydney. Loose Ends from Current Biology. Illustrations by Andrzej Krauze.** London: Current Biology Ltd., 1997.
Octavo. Original cream cloth, titles to spine gilt. With the dust jacket. Line drawings throughout. An excellent copy in the jacket that is just a little rubbed along the edges, with a small blue ink mark on the upper panel.

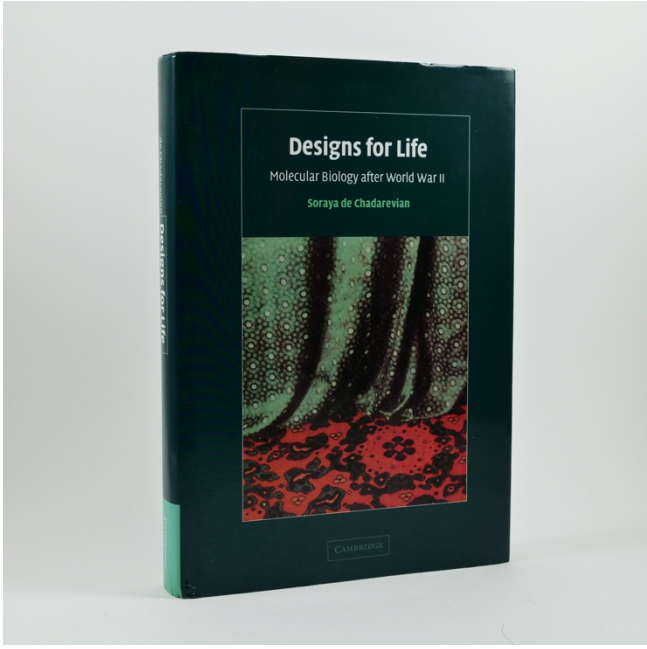
First edition, presentation copy from the author his wife, May, inscribed on the front free endpaper, "To May, from Sarha [?] October 1997". The name used in the inscription is unclear and may have been a nickname.

Brenner had a long-running column in the journal *Current Biology*, and this volume collects thirty-eight of his pieces covering his own life and career as well as other topics in molecular biology and related fields. **£150**

2. **Booth, Christopher C. Doctors in Science and Society. Essays of a Clinical Scientist.** Cambridge: British Medical Journal, Cambridge University Press, 1987.
Octavo. Original grey cloth, titles to spine and upper board in gilt on black ground. With the dust jacket. Illustrations within the text. Price sticker to the front flap of the jacket. An excellent copy in the jacket with toned spine panel.

First edition, presentation copy inscribed by the author on the front free endpaper, "For Sydney Brenner, with affection, Christopher Booth, West Terrace NW1. September 1989."

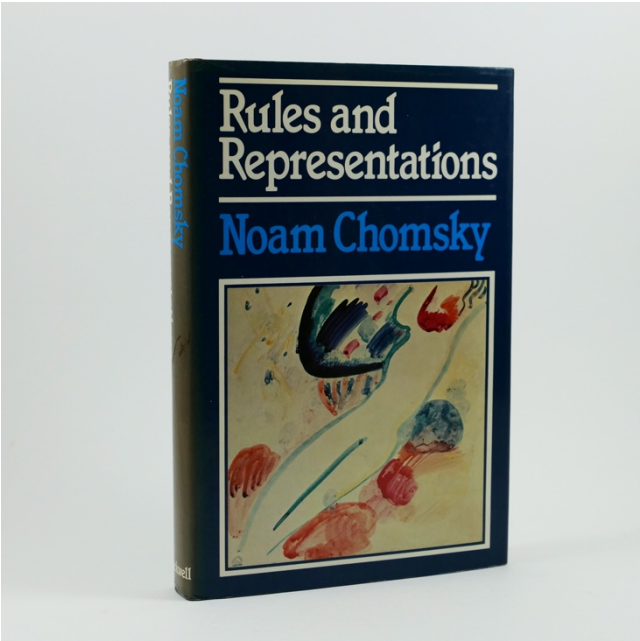
Author Christopher Booth was "one of the great names of modern British medicine, outstanding not only as a clinician, but as an administrator, historian, researcher and research manager. He was also one of medicine's most colourful characters: rumbustious and outspoken, he would have fitted well into a Fielding novel or a Hogarth painting. Booth's clinical speciality was gastroenterology, in particular diseases of the small intestine. He was, in turn, professor and departmental director of medicine at the Royal Postgraduate Medical School at Hammersmith hospital, director of the Medical Research Council's Clinical Research Centre at Northwick Park, and research director at the Wellcome Institute for the History of Medicine. He was also president of the British Medical Association." (*Guardian* obituary, August 31, 2012) **£20**



3. **Chadarevian, Soraya de. Designs for Life. Molecular Biology After World War II.** Cambridge: Cambridge University Press, 2002.
Large octavo. Original green boards, titles to spine in silver and red. With the dust jacket. Illustrations throughout the text. An excellent copy in the jacket that is lightly rubbed and bumped at the edges.

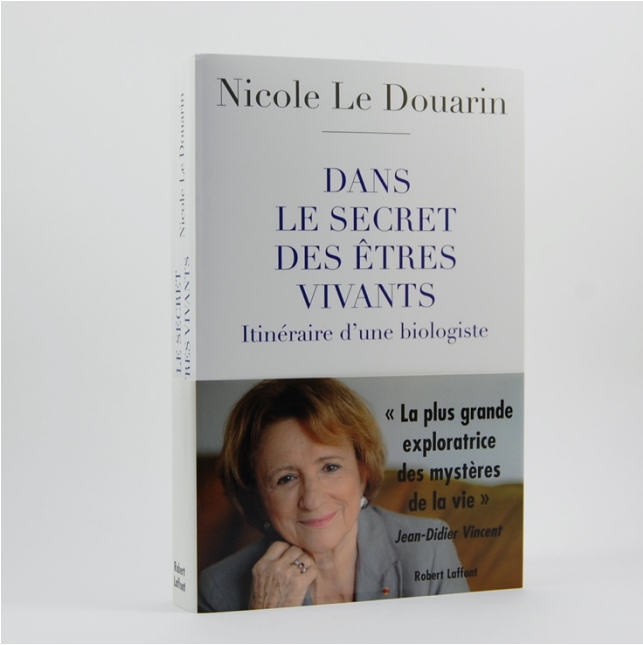
First edition, presentation copy inscribed by the author on a loosely inserted compliments slip, "For Sydney, with many thanks and best wishes, Saraye".

Soraya de Chadarevian is a UCLA historian of science with a background in biology and philosophy. "She is interested in the material and visual practices in the life sciences and the place of these sciences in the broader culture" and "has worked extensively on the history of molecular biology and the complex scientific, institutional, political and cultural processes that contributed to the development of the new science with its broad implications for our understanding of the production and reproduction of life" (UCLA biography). **£75**



4. **Chomsky, Noam. Rules and Representations.** Oxford: Blackwell, 1980.
Octavo. Original brown boards, titles to spine gilt. With the dust jacket. An excellent copy in the jacket which is faded along the spine panel with a raised brown mark and is a little rubbing and creasing at the edges.

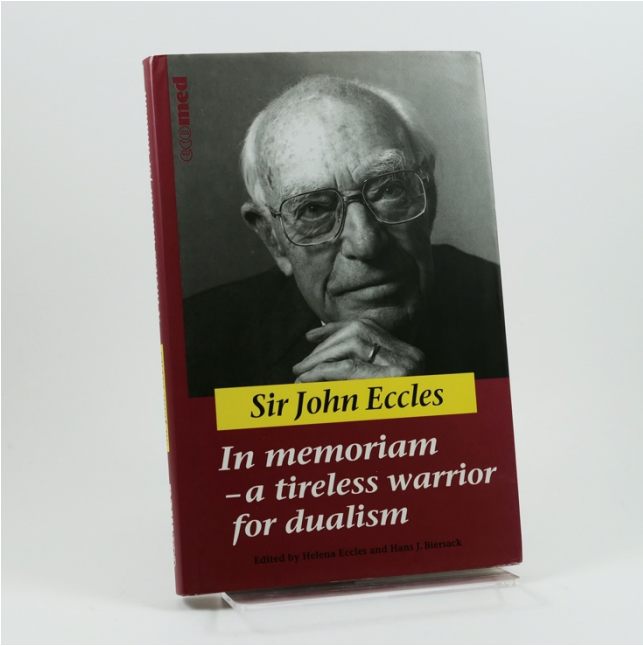
First UK edition of one of Chomsky's most influential books, originally published in the US in the same year. With Brenner's ownership inscription on the front free endpaper, "Sydney Brenner, Cambridge 18 Oct 1980". **£35**



5. **Douarin, Nicole le. Dans le Secret des Êtres Vivants. Itinéraire d'une Biologiste. Péreface de Mona Ozouf et Michelle Perrot.** Paris: Robert Laffont, 2012.
Perfect bound. Original white wrappers printed in blue and black. With the publisher's wraparound band. Minor bump to head of spine. An excellent, fresh copy.

First edition, paperback issue. Presentation copy inscribed by the author on the half title, "It has been great to have the chance to know you. Thanks to Gulbenkian! With my admiration and my sincére amitié, these pages about my life in science. Paris, le 26 Juillet 2012, Nicole le Douarin". Gulbenkian probably refers to the Calouste Gulbenkian Foundation, a philanthropic organisation.

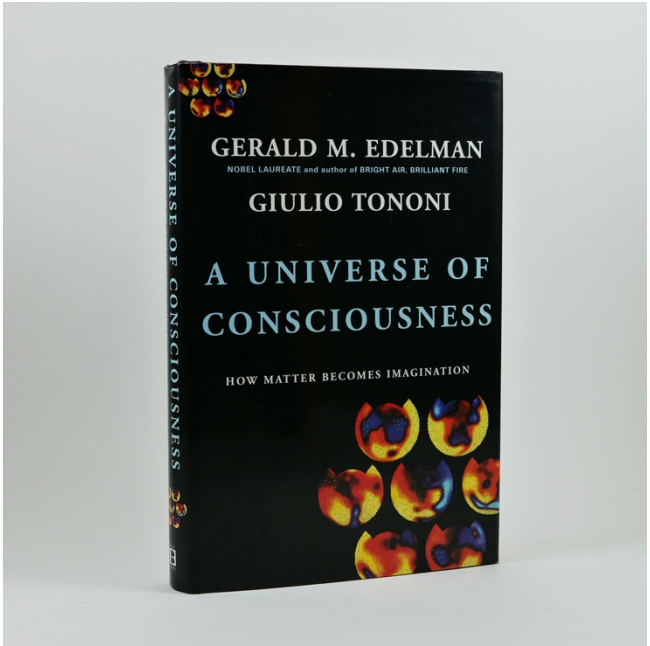
Nicole le Douarin (1930 -) is a leader in the field of developmental biology. She has designed important techniques for studying differentiation in embryos, most importantly the creation of chimeras in which cells from two different species can be individually tracked as they develop. Crucially, she used this technique to elucidate the early development of the nervous and immune systems. Douarin has received numerous accolades for her work. "In 1988 she was only the third woman in 500 years to be admitted as a member of the College de France. In 1989 she was elected as a member of the US National Academy of Science and in 1990 as a fellow of the Royal Society. She also received the Louis-Jeantet Prize for Medicine in 1990 and in 1991 she became an officer of the Légion d'Honneur" (*The Embryo Project Encyclopedia*). **£250**



6. **Eccles, John. Sir John Eccles. In Memoriam: A Tireless Warrior for Dualism. Edited by Helena Eccles and Hans J. Biersack.** Landsberg: Ecomed, 2000.
Octavo. Original burgundy boards, titles to spine and upper board in white. With the dust jacket. Illustrations from photographs throughout the text. Corners bumped, a little light rubbing at the extremities. An excellent copy in the jacket that is slightly rubbed and bumped at the edges.

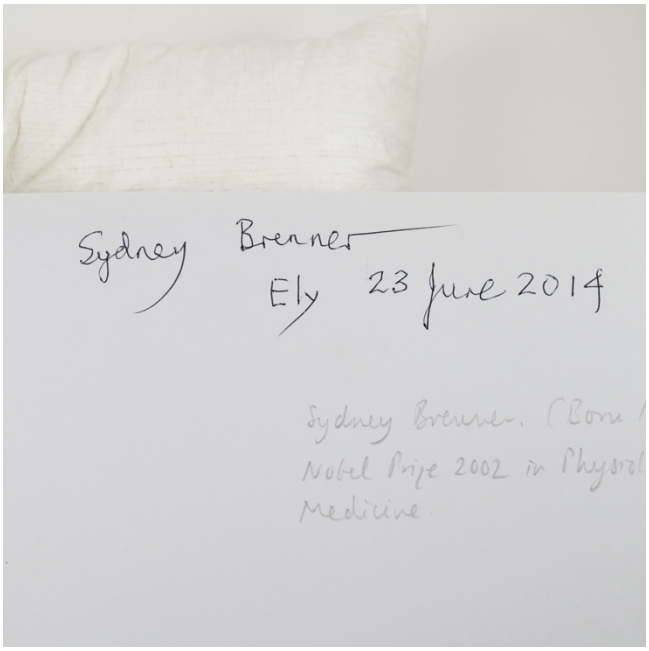
First edition. With an ink inscription presenting this copy to Brenner "on the occasion of his superb lecture to the HFSP awardees meeting, Torino, June 18, 2001". The identity of the giver is uncertain, but HFSP refers to the Human Frontier Science Program, which funds basic research in the life sciences. The subject of this memorial volume, Sir John Eccles, was a neurophysiologist and

philosopher who was awarded the Nobel Prize in 1963 for his work on synapses, the regions of connection between neurons. **£25**



7. **Edelman, Gerald M. & Giulio Tononi. A Universe of Consciousness. How Matter Becomes Imagination.** New York: Basic Books, 2000.
Octavo. Original black boards, titles to spine gilt, cream endpapers. With the dust jacket. Frontispiece and illustrations within the text. An excellent copy in the jacket that is just a little bumped at the head of the spine panel.

First edition. With Brenner's ownership inscription, "Sydney Brenner, La Jolla, 2007" on the front free endpaper. The present volume, by Nobel laureate Gerald Edelman, is a popular treatment of consciousness and the physiological mechanisms that underpin it. **£50**



8. **Eigen, Manfred. From Strange Simplicity to Complex Familiarity. A Treatise on Matter, Information, Life and Thought.** Oxford: Oxford University Press, 2013.
Quarto. Original black boards, titles to spine gilt. With the dust jacket. Colour illustrations and diagrams throughout the text. Ends of spine very slightly bumped, small pale mark to the upper board. An excellent copy in the jacket with some minor corresponding bumps at the ends of the spine panel.

First edition. With Brenner's ownership inscription on the front free endpaper, "Sydney Brenner, Ely 23 June 2014".

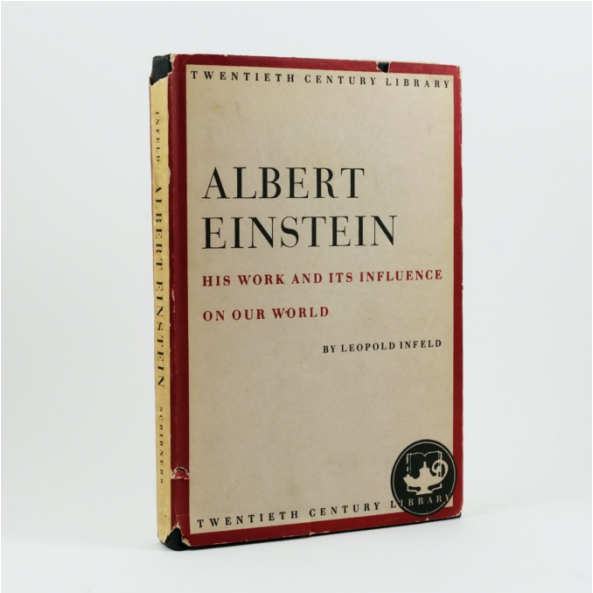
Author Manfred Eigen (1927-2019) was a biochemist who made important contributions in a number of subjects, including the "hydrogen bridges of nucleic acids... the dynamics of code transfer... enzymes and lipid membranes" as well as "biological control and regulation processes, and the problem of the storage of information in the central nervous system" (Nobel Prize biography). He was awarded the 1967 Nobel Prize in chemistry for his work measuring fast ionic reactions. **£150**

9. **Eigen, Manfred & Ruthild Winkler. Das Spiel. Naturgesetze Steuern den Zufall.** Munich & Zurich: R. Piper & Co., 1975.
Octavo. Original red boards, titles to spine in grey. With the dust jacket and the original wraparound band. Diagrams within the text. Correction slip loosely inserted. Corners and ends of spine slightly bumped, narrow faded strip at the tail of the spine. A very good copy in the jacket with faded spine panel, creasing and bumping along the edges, and a tear at the head of the spine panel.

First edition, presentation copy inscribed by Winkler and signed by Eigen on the front free endpaper, "To Sydney, with best wishes, yours, Ruthild & Manfred, Göttingen, 1.12.75".

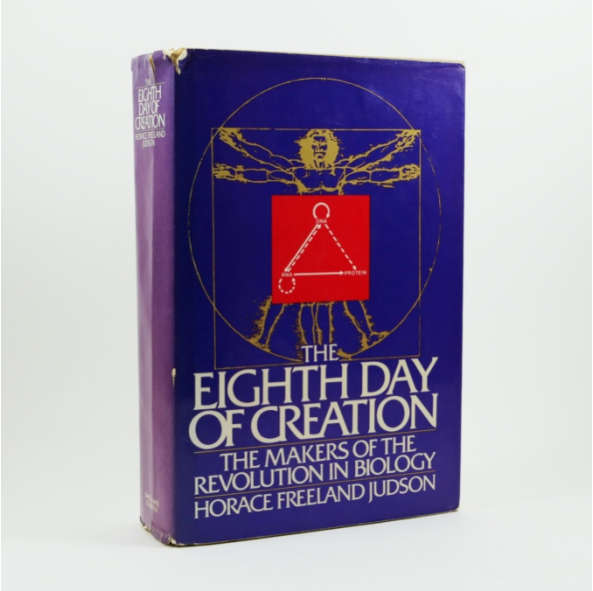
Manfred Eigen (1927-2019) was a biochemist who made important contributions in a number of subjects, including the "hydrogen bridges of nucleic acids... the dynamics of code transfer... enzymes and lipid membranes" as well as "biological control and regulation processes, and the problem of the storage of information in the central nervous system" (Nobel Prize biography). He was awarded the Nobel Prize for chemistry in 1967 for his work measuring fast chemical reactions. His co-author, Ruthild Winkler (1941-), is also a biochemist who has studied fast chemical reactions, game theory models for molecular evolution, and the use of DNA and RNA sequence analysis to study the early history of biological evolution.

The present volume, titled in English *The Laws of the Game: How the Principles of Nature Govern Chance*, uses game theory to "show how the elements of chance and rules underlie all that happens in the universe, from genetic behavior through economic growth to the composition of music. To illustrate their argument, the authors turn to classic games — backgammon, bridge, and chess — and relate them to physical, biological, and social applications of probability theory and number theory. Further, they have invented, and present here, more than a dozen playable games derived from scientific models for equilibrium, selection, growth, and even the composition of RNA" (Princeton University Press blurb). **£150**



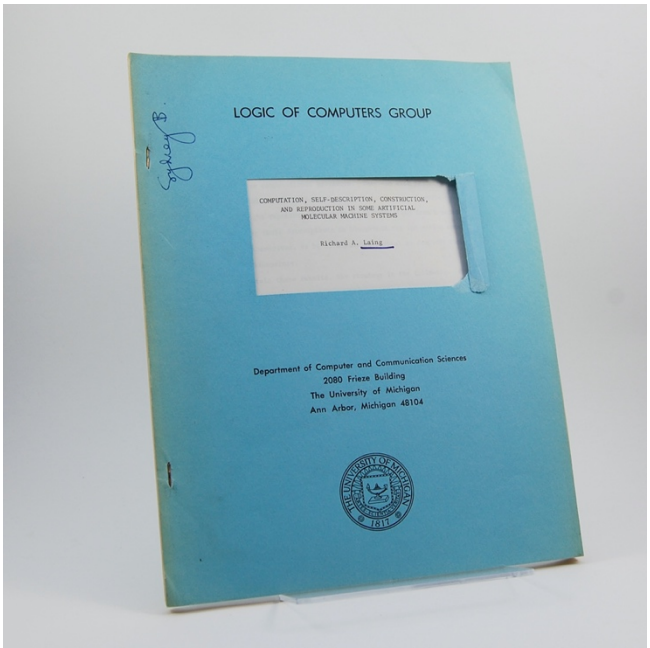
10. **Infeld, Leopold. Albert Einstein. His Work and Its Influence on Our World.** New York & London: Charles Scribner's Sons, 1950. Octavo. Original black cloth, title to spine gilt and publisher's roundel to upper board in blind, grey and white patterned endpapers. With the dust jacket. Diagrams within the text. Vanguard bookseller's ticket to the verso of the front free endpaper, pencilled price to the front flap of the jacket. Some faint white areas to the upper board. A very good copy in the price-clipped jacket with some small chips, a few light marks, and splits and toning of the spine panel.

First edition. With Brenner's ownership signature and the date "25th July, 1950" on the front free endpaper. **£45**



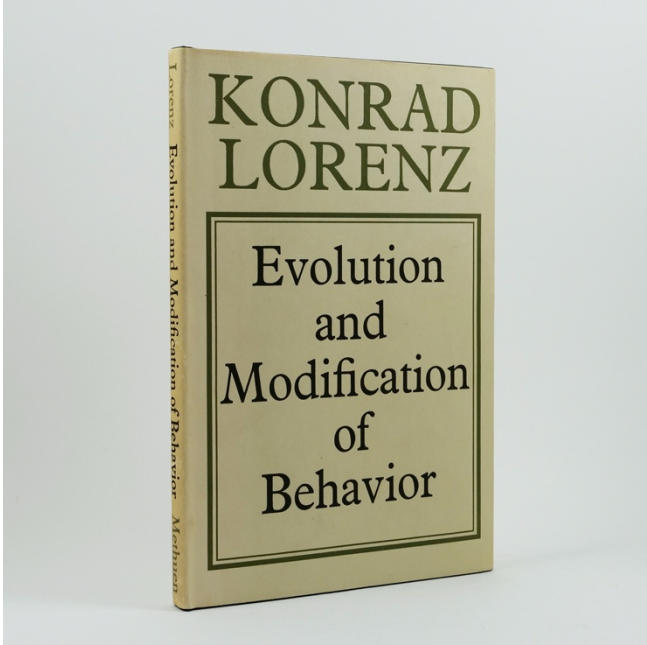
11. **Judson, Horace Freeland. The Eighth Day of Creation. Makers of the Revolution in Biology.** New York: Simon and Schuster, 1979.
Octavo. Original buff boards, titles to spine in purple. With the dust jacket. 16 double-sided plates of illustrations from photographs. Diagrams within the text. Bump to the edge of the upper board, spine creased. A very good copy in the rubbed, creased, and scuffed jacket with some nicks and splits.

Second printing of this important history of molecular biology. Presentation copy inscribed by the author on the front free endpaper, "For Sydney – with gratitude and affection – Horace". With small manuscript corrections on pages 13 and 299. One of Brenner's own appearances in the volume is marked with a paper slip at page 283. **£75**



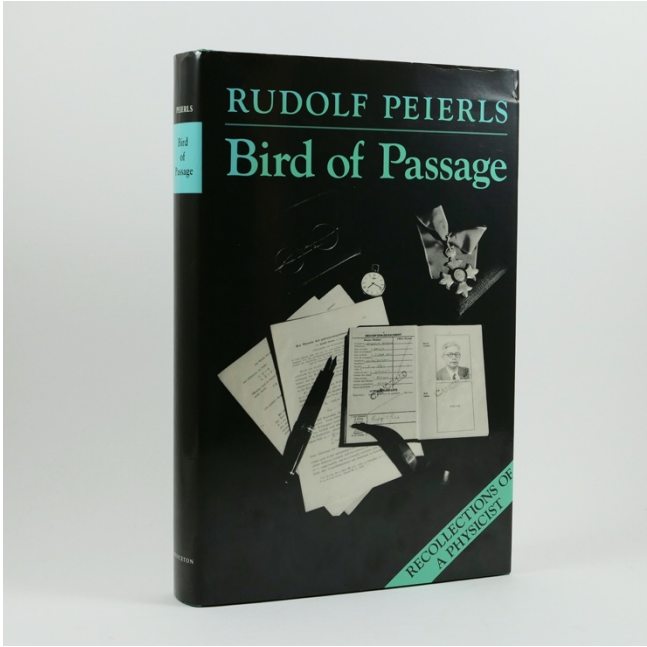
12. **Laing, Richard A. Computation, Self-Description, Construction, and Reproduction in Some Artificial Molecular Machine Systems. Department of Computer and Communication Sciences, The University of Michigan. Technical report No. 67.** Ann Arbor, MI: The University of Michigan, February 1975. Perfect bound, wire-stitched. Original blue wrappers printed in black. Diagrams within the text. Author's name on the title page underlined in blue ink. Small torn and creased area at the edge of the wrapper cut-out. A little rubbing and toning of the wrappers. Excellent condition.

First edition of this interesting and uncommon paper on nanotechnology computing. With Brenner's ownership signature on the upper wrapper. **£150**



13. **Lorenz, Konrad. Evolution and Modification of Behavior.** London: Methuen & Co. Ltd., 1966.
Octavo. Original black boards, titles to spine gilt. With the dust jacket. An excellent copy in the jacket that is just a little toned along the spine panel with some minor bumps and light rubbing.

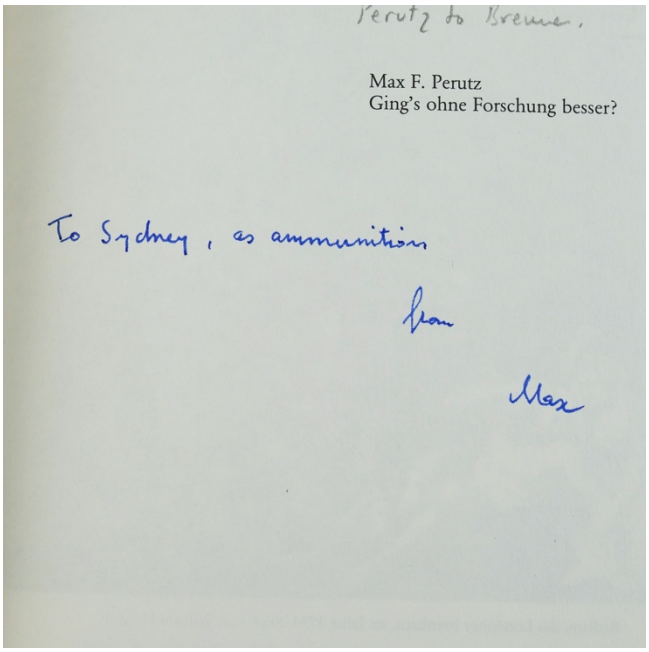
First UK edition, originally published in the US the previous year. With Brenner's ownership signature and the date "June 1966" on the front free endpaper. An unusually attractive copy of this significant work by one of the founders of the study of animal behaviour. **£35**



14. **Peierls, Rudolf. Bird of Passage. Recollections of a Physicist.** Princeton, NJ: Princeton University Press, 1985.
Octavo. Original green cloth, titles to spine gilt on black ground. With the dust jacket. 6 double-sided plates of illustrations from photographs. An excellent copy in the jacket that is a little rubbed and bumped at the edges with some fading of the spine panel.

First edition. With Brenner's ownership inscription to the front free endpaper, "Sydney Brenner, Princeton, Jan 1986".

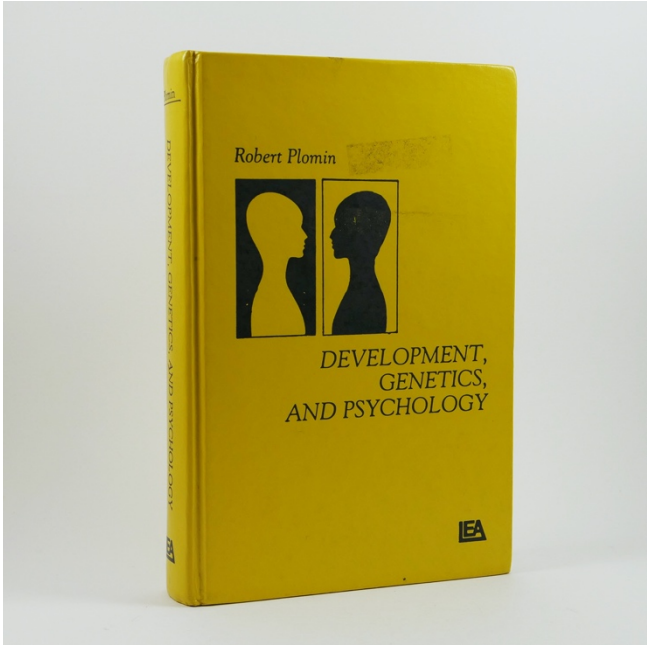
Bird of Passage is the memoir of theoretical physicist Rudolf Peierls (1907-1995), who was part of the British "Tube Alloys" nuclear weapon programme, and then the Manhattan Project, before becoming deeply involved with anti-nuclear activism. **£50**



15. **Perutz, Max F. Ging's ohne Forschung Besser?** Der Einfluß der Naturwissenschaften auf die Gesellschaft. 20 Abbildungen und 5 Tabellen. Stuttgart: Wissenschaftliche Verlagsgesellschaft, 1982.
Perfect bound. Original glossy white wrappers printed in black and grey. Frontispiece, diagrams within the text. Wrappers partially yellowed, minor creasing affecting the lower half of the spine panel.

First edition, presentation copy inscribed by the author to his close friend and colleague on the half title, "To Sydney, as ammunition, from Max". The present volume is a short discussion of the relationship between science and public policy, and it is unclear how the contents were intended as ammunition. Works signed by Perutz are uncommon.

Author Max Perutz (1914-2002) was an eminent molecular biologist who founded a major Cambridge research institute, the Medical Research Council Laboratory of Molecular Biology, and who was awarded the Nobel Prize in Chemistry in 1962 for his study of the structures of haemoglobin and myoglobin. It was at the Laboratory of Molecular Biology that Brenner spent the first twenty years of his career, and where he made major breakthroughs in genetics alongside Francis Crick. **£350**

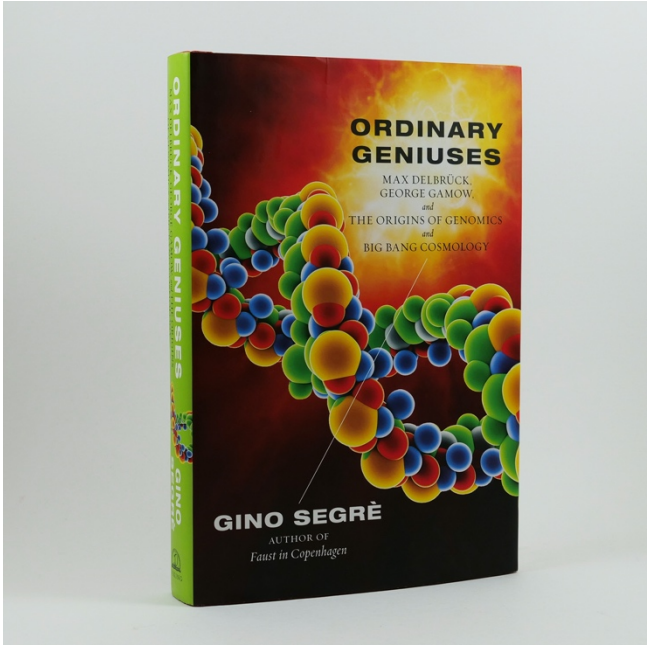


16. **Plomin, Robert. Development, Genetics, and Psychology.**
Hillsdale, NJ & London: Lawrence Erlbaum Associates, 1986.
Octavo. Original yellow boards, titles to spine and upper board and mirror image of two figures in profile to upper board in grey. Charts and diagrams within the text. Two light tape marks to the upper board, small spot to the spine, minor manufacturing defects to the lower board. An excellent copy.

First edition, presentation copy inscribed from the author on the front free endpaper, "8/20/86, To Sydney Brenner, with admiration, Robert Plomin". With a typed letter signed from Plomin dated August 21st, 1986 loosely inserted.

Robert Plomin (1948-) is a prominent psychologist and geneticist known for his studies of twins and the genetics of intelligence. He began his career at the University of Colorado at Boulder and currently works at Kings College, London. Plomin is one of the most highly cited psychologists of the 20th century and has been awarded numerous professional honours. But he was also one of the signatories to an editorial published in the Wall Street Journal in 1994 which supported some of the racist arguments made in Charles Murray and Richard J. Hernstein's *The Bell Curve*.

This presentation was made at the beginning of Plomin's career, just before his first significant twin study. As he explains in his letter to Brenner, "In the fall of last year, Judy Dunn and I met you at a San Francisco hotel and I talked with you about my interest in applying molecular genetic methods to the study of polygenic influences on human traits. Since then, Judy and I have both moved to the Pennsylvania State University and I now have a molecular genetics laboratory in operation, in collaboration with Jerry McClearn. Judy told me that you are planning to include a major focus on human genetics in your research. Although it's far afield from your molecular interests, I thought you might be interested in the enclosed book of mine that summarizes quantitative genetic research in the field of human behavioral development. I have also enclosed a summary of research that we are considering as a first step in using molecular genetic methods to pursue quantitative genetic questions..." **£50**



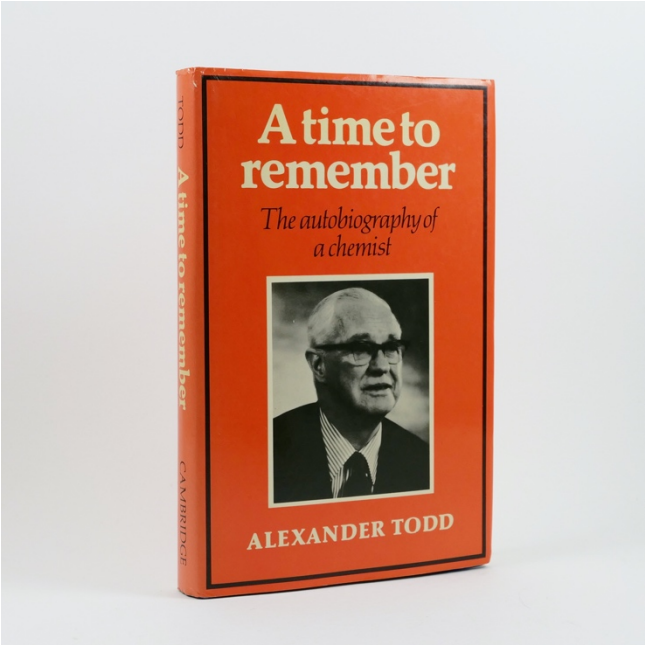
17. **Segrè, Gino. Ordinary Geniuses. Max Delbrück, George Gamow, and the Origins of Genomics and Big Bang Cosmology.** New York: Viking, 2011.
Octavo. Original yellow boards, red backstrip, titles to spine in black. With the dust jacket. 4 double-sided plates from photographs, a few illustrations within the text. An excellent copy in the jacket with a few small creases and bumps.

First edition, first printing. With Brenner's ownership inscription to the front free endpaper, "Sydney Brenner, La Jolla, 10 Sep 2011", and with a bookmark from the La Jolla shop Warwick's loosely inserted. The author of the present volume, Gino Segrè, is a physicist, the nephew of Nobel prize winner Emilio Segrè, and author of four works of popular science, including the prize-winning *Faust in Copenhagen*. **£45**

18. **Szilard, Leo. Leo Szilard: His Version of the Facts. Selected Recollections and Correspondence. Edited by Spencer R. Weart & Gertrud Weiss Szilard.** Cambridge, MA: The MIT Press, 1980.
Large octavo. Original blue wrappers printed in white and black, and decorated with a series of black and white portraits of Szilard. Illustrations from black and white photos throughout. Wrappers very lightly rubbed and creased. An excellent copy.

First paperback printing, originally published in 1978. With Brenner's ownership signature and the date "April 1981" on the front free endpaper.

The subject of this volume, Leo Szilard (1989-1964), was the physicist who in 1934 conceived the possibility of the nuclear chain reaction. He patented the idea of a fission reactor in 1934 and authored the letter which Einstein signed encouraging Franklin D. Roosevelt to initiate the Manhattan Project. Szilard was part of Enrico Fermi's team at the University of Chicago which created the first sustained nuclear chain reaction, and he continued on as a member of the Manhattan Project before drafting the Szilard petition which argued that Japan must be given the chance to surrender before the atomic bomb was used against them. Following the war Szilard switched his focus to biology. He invented the chemostat and was involved in the first cloning of a human cell. **£75**



19. **Todd, Alexander. A Time to Remember. The Autobiography of a Chemist.**
Cambridge: Cambridge University Press, 1983.
Octavo. Original blue cloth, titles to spine in silver. With the dust jacket. Remnants of a price sticker to the front flap of the jacket. Lower corner bumped. An excellent copy in the lightly rubbed jacket that is a little faded along the spine panel.

First edition, presentation copy inscribed by the author on the front blank, "With respect and warmest wishes, Alexander Todd, 24th May 1984".

Sir Alexander Todd (1907-1997) held the 1702 Chair of Chemistry at Cambridge between 1944 and 1971. He was the first to synthesise the important biological molecules ATP and FAD and contributed to the discovery of the structure of vitamin B12. Todd was awarded the Nobel Prize in chemistry in 1957 "for his work on the synthesis of nucleotides, the hereditary material of cells. This work led to many important advances in chemistry and biochemistry", including the elucidation of the structure of DNA by Watson and Crick (Shampo, "Alexander Todd", *Mayo Clinic Proceedings*, March 2012). **£450**

THE MEETING OF TWO NOBEL LAUREATES JUST PRIOR TO THEIR TRAILBLAZING JOINT PROJECT

20. **Wollman, E. L. & F. Jacob. La Sexualité des Bactéries.** Paris: Masson et Cie, Libraires de l'Académie de Médecine, 1959.
Octavo. Original grey wrappers printed in black. 3 double-sided plates from photographs. Wrappers rubbed, a little creased, and partially tanned with a few small spots and marks. Slight crease affecting the margins of the first half of the contents. A very good copy.

First edition of this uncommon and important monograph on bacterial genetics. An exceptional presentation copy signed by author François Jacob, with whom Brenner would partner only a year later to perform one of the most elegant experiments in the history of biochemistry, proving the role of messenger RNA and elucidating a key mechanism in the cell's process for decoding DNA. Cheekily inscribed by Jacob's co-author, Elie Wollman (1917-2008), "To Sydney Brenner, to disgust him / a good of bacterial sex"

(possibly missing the word "dose" or similar before "bacterial sex"). And with Brenner's ownership signature in pencil on the upper cover.

Wollman and Jacob were bacteriologists at the Pasteur Institute who, by investigating bacterial reproduction, made ground-breaking discoveries in genetics. They published one of the first examples of a gene regulatory mechanism; discovered plasmids (portions of genetic material independent of the chromosomal DNA); and created the first model of gene mapping in a living organism" (Dantzer, "Elie Wollman 1917-2008: A Biographical Memoir", National Academy of Science, 2008). The present volume covers the breadth of contemporary knowledge of bacterial reproduction, including conjugation and the resulting genetic recombination. Jacob was later awarded the Nobel Prize for work on the regulation of enzyme levels in cells, and Wollman received several awards, including the French Legion of Honour.
Brenner met Jacob and Wollman at a symposium on microbial genetics in Copenhagen in 1959 (it was almost certainly on this occasion, or shortly afterwards, that this copy was presented). Jacob hoped to discuss new evidence for the existence of an intermediary molecule responsible for transporting information from DNA to the site of protein production in cellular structures called ribosomes. It was known that ribosomes contained an analogue to DNA, ribosomal nucleic acid (RNA), but it was not clear whether there were intermediaries between DNA and RNA.

Though nothing concrete came of the Copenhagen symposium, the following spring Jacob again brought up the subject during a meeting with Brenner, Crick, and other biochemists at Cambridge. As Jacob later recalled, when he pointed out recent experimental results suggesting that, unlike normal RNA, the messenger molecule was unstable, "Francis and Sydney leaped to their feet. Began to gesticulate. To argue at top speed in great agitation. A red-faced Francis. A Sydney with bristling eyebrows. The two talked at once, all but shouting. Each trying to anticipate the other. To explain to the other what had suddenly come to mind" (Jacob, *The Statue Within*, p. 312).

What Brenner and Crick had suddenly remembered was another experiment showing that when a certain virus attacked bacterial cells it blocked the creation of new ribosomes, and the only RNA then manufactured by the cell was both unstable and had the same base composition as DNA, strongly suggesting that it was the messenger molecule.

That afternoon Brenner and Jacob also learned that they had both been invited to spend the month of June as visiting scholars at Caltech, the perfect opportunity to collaborate. Most importantly, the colleague who had invited Jacob, Mat Meselson, had just developed a new method for marking bacterial macromolecules with heavy isotopes. Brenner and Jacob developed a plan "to distinguish whether, after phage (virus) infection, new RNA went to new ribosomes, or whether there were no new ribosomes, just the preexisting ones 'for hire' – Brenner's phrase at the time – to the new message when it came along. So that old ribosomes could be labelled, the bacteria would be grown with heavy carbon and nitrogen, the bacteria switched to a broth containing normal, lighter isotopes and simultaneously infected with phage, and new RNA labelled with radiophosphorous. Then ribosomes would be separated from bacteria, put into a cesium-chloride solution, and spun at thirty-seven thousand revolutions per minute for thirty-six hours... in this enormous centrifugal force... the cesium chloride in the solution became distributed in a gradient that was denser towards the bottom of the tube; anything of like density in the tube would sink or float to the level that exactly corresponded with it. Thus, ribosomal particles grown heavy before infection would form a band farther down the centrifuge tube than any made after infection when the isotopic labels were light.

Radioactivity could then be checked in each band of ribosomes" (Judson, *The Eighth Day of Creation*, p. 423).

With only four weeks to complete the experiment, Brenner and Jacob worked at speed and had to overcome numerous setbacks, from the difficulty of acquiring radioactive phosphorus to problems caused by a lack of magnesium in their culture medium. But the final result was "spectacular. Eyes glued to the Geiger counter, our throats tight, we tracked each successive figure as it came to take its place in exactly the order we had been expecting. And as the last sample was counted, a double shout of joy shook the basement at Caltech. Followed immediately by a wild double jig. This was merely one experiment, performed in extremis… But we now knew that we had won. That our conception explained the transfers of information in the synthesis of proteins… Scarcely was the experiment over than we gave a seminar at Caltech to demonstrate the existence of X and its role as magnetic tape. No one believed us. The next day we left, each to his own home. The bet had paid off. In the nick of time" (Jacob, p. 317).

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