

Albert Hofmann — The Scientific Work

Catalogue of Works, Source Criticism, and Seven Re-Readings

Thomas Schüller
ORCID 0009-0003-9799-6747
Syntagma Forschung · Vienna

Book edition 1.0 · 14 October 2026

Contents

Imprint	1
About this book	2
How to use this book	3
Evidence grades	3
What this book does not do	3
Structure	3
Citation	4
Part A — Why a Re-Reading Is Needed	5
A1 The State of the Record	5
A2 Three Shifts Since the Previous Version	5
A3 Methodological Decision: Work Rather Than Legend	6
Part B — The Catalogue of Works	7
B1 Origins and Training (1906-1929)	7
B2 Sandoz 1929-1971	7
B3 The Ergot Line	8
B4 The Lysergic Acid Series and LSD-25	8
B5 The Mexican Line	9
B6 The Books	9
B7 The Catalogue as an Open Task	10
Part C — Seven Re-Readings	12
C1 The Ololiuqui Anomaly as the Earliest Chemical Detection of a Symbiosis	12
C2 The Sandoz Rye Contract as a Precursor Disposal Regime	13
C3 The Serotonergic Turn	13
C4 Methergine Rather Than LSD	14
C5 Source Criticism of the Founding Narrative	15
C6 Huautla — Asymmetry of Extraction	15
C7 The Self-Experiment as Method	16
Part D — Eleusis After 2026	17
D1 The Thesis of 1978	17
D2 The Objections	17
D3 The 2026 Result	17
D4 What Remains Open	18
Part E — Synthesis: Risk and Disposal in Hofmann's Work	19
Part F — Limits of This Version	21
Part G — Measurable Before Explicable	22
Hofmann's Ololiuqui Finding as the Earliest Chemical Detection of a Plant-Fungus Symbiosis	22
Abstract	22
1. The Finding	22

2. Why the Finding Was Anomalous	22
3. The Auxiliary Hypothesis	23
4. The Resolution, 2004–2011	23
5. What Hofmann Measured	24
6. Consequence for the Theory of Science	24
6a. Relation to the existing literature	25
7. Follow-On Questions	25
Maturity of this version	26
Sources	26
Part H — Bound Rye	28
The Sandoz Ergot Contract as a Disposal Regime Preceding the Law of Living Organisms	28
Abstract	28
1. The Facts	28
2. The Legal Position of the Time	29
3. The Structure as a ρ/δ Instance	29
4. What the Legal Institution Later Adds	30
5. Continuation of the Structure Along the Chain	30
6. Objections and Limits	31
7. Follow-On Questions	31
Maturity of this version	32
Sources	32
Appendix A — Catalogue of Works, Albert Hofmann	33
Reconstruction of the Series, Method, Findings	33
1. State	33
2. Reliability of the data	33
3. Structural finding: the series ran across several journals	34
4. The three phases of Hofmann’s participation	34
5. Six corrections to main work v1.0	35
5.1 The dissertation is documented — V1 settled	35
5.2 The fifth line of work is dated — and shorter than assumed	35
5.3 LSD entered the literature as a uterotonic	36
5.4 Methylergometrine has been on the WHO Model List since 2021 — V8 settled	36
5.5 Stoll 1947 is confirmed — V7 settled	36
5.6 The Mas Castellar finding is weaker than Part D suggests — V6 settled	36
6. One finding that relieves a sub-paper	37
7. Patents	37
8. The archive in Bern	38
9. Estimate of total output	39
10. What remains open	39
11. Form of the dataset	40
Appendix B — Source Register	41
A. Archives and Papers	41
B. Hofmann’s Own Works	42
C. Biographical Anchors	43
D. Ergot Chemistry and Symbiosis	46

E. The Serotonergic Line	48
F. The Eleusis Complex	50
G. Historiography and Secondary Literature	53
H. Present-Day Anchors	55
I. Not Used	56
J. Verification Status	56
K. Notes on the Series Research	58
Glossary	62
List of Figures	63
About the Author	64
Colophon	65

Imprint

Title	Albert Hofmann — The Scientific Work. Catalogue of Works, Source Criticism, and Seven Re-Readings
Author	Thomas Schüller, Vienna · ORCID 0009-0003-9799-6747
Publisher	Syntagma Forschung, Vienna — research brand of the sole propriatorship Thomas Schüller
Identifier	FORSCH-0331-BUCH · slug albert-hofmann-fachbuch
Edition	Book edition 1.0, from main work v1.1, catalogue appendix v0.2, studies v1.0
Date	14 October 2026
Licence	CC BY 4.0 — attribution: Thomas Schüller, Syntagma Forschung, Vienna, ORCID 0009-0003-9799-6747
Contact	forschung@tschueller.com
Typesetting	Markdown → pandoc → XeLaTeX; figures from the author's own generator (SVG, PNG)

Quoted third-party content is excluded from this licence; it stands under its own terms and is documented in the source register.

This book contains no synthetic procedures for controlled substances. What is treated is structural elucidation, mode of action, the history of the work, and regulation. It contains no armaments, weapons or military content.

About this book

This book treats Albert Hofmann (1906–2008) not as a figure of discovery but as a body of work: four decades of industrial research whose best-known single result — LSD-25 — is neither its largest nor its most consequential.

Three findings carry the re-reading. First, Hofmann's papers have been publicly accessible at the Institute of the History of Medicine, University of Bern, since 2014 and remain largely unexamined; the account given in *LSD: My Problem Child* (1979) can therefore be tested systematically against primary sources for the first time. Second, the evidential position on the 1978 Eleusis hypothesis shifted in 2026: an experimental study shows that toxic ergopeptides, treated with lye, convert into an equilibrium mixture of lysergic acid amide and isolysergic acid amide. Third, the chemotaxonomic anomaly raised by Hofmann's ololiuqui finding of 1960/63 was resolved only between 2004 and 2011, by the discovery that the ergolines of convolvulaceous plants originate in epibiotic fungi of the genus *Periglandula*.

Seven re-readings follow (Part C). Two of them — the ololiuqui anomaly as the earliest chemical detection of a symbiosis, and the Sandoz rye contract as a precursor of a disposal regime over living organisms — are developed as studies of their own and form Parts G and H.

The synthesis reads the work along the asymmetry between risk-bearing (ρ) and power of disposal (δ). That asymmetry is built into the subject matter: at every station of the chain from the rye field to the branded preparation, risk and disposal come apart, and they do so as a rule rather than by accident.

Appendix A reconstructs a catalogue of works for the first time. No published complete catalogue of Hofmann's scientific papers exists; the appendix carries 113 records, among them 79 numbers of the series "Mitteilung über Mutterkornalkaloide", of which 44 name Hofmann as author or co-author.

How to use this book

Evidence grades

Every factual statement in this book carries a grade. It stands immediately after the statement, not in a footnote.

Mark	Meaning
[G]	established — checked against a publisher, database or archive record
[W]	probable — taken from a secondary record, to be verified against the original
[O]	open — not established
[V]	to be verified against the original — a single item with a specific checking task

This marking is not ornament. It allows the book to be read against the grain: a reader who admits only **[G]** statements is left with a smaller but fully documented text.

What this book does not do

The archival papers (signature N 65, Institute of the History of Medicine, University of Bern) were **not inspected**. All statements on the correspondence, on the role of Arthur Stoll, and on the wording of the Sandoz rye contract stand under that reservation.

In the catalogue of works (Appendix A), **43 of 113 records** carry status **[W]**. They rest on secondary records because publisher servers refused automated queries. They are usable as a working basis but must be checked against the printed volume before citation.

Part F lists the limits of the account in full. Appendix A, section 10, lists those of the catalogue.

Structure

Part	Content
A-F	main account: rationale, catalogue of works, seven re-readings, Eleusis, synthesis, limits
G-H	two developed studies on the most load-bearing re-readings
Appendix A	catalogue of works — reconstruction, method, findings
Appendix B	source register with evidence grades and verification status glossary, list of figures, note on the author, colophon

Parts G and H are readable on their own and therefore repeat some material from Part C.

Citation

Schüller, Thomas (2026): *Albert Hofmann — The Scientific Work. Catalogue of Works, Source Criticism, and Seven Re-Readings*. Book edition 1.0. Syntagma Forschung, Vienna. CC BY 4.0.

Part A — Why a Re-Reading Is Needed

A1 The State of the Record

The literature on Albert Hofmann is extensive and rests to a remarkable degree on a single source: his own account in *LSD: My Problem Child* (1979) and the interviews and anniversary pieces derived from it. The book is an autobiography, not a scientific report, and it was written thirty-six years after the event it places at its centre.

The consequence is visible. The reception knows a date (April 1943), a substance (LSD-25), a scene (the bicycle ride home) and a stance (concern for a misused child). It knows neither the 1929 dissertation nor the ergometrine work of the 1930s, neither *Die Mutterkornalkaloide* of 1964 nor the ololiuqui paper of 1963. A chemist who worked forty-two years in an industrial laboratory is reduced to five days in April 1943.

This is not merely a question of balance. It renders the work unreadable: detach LSD from ergot chemistry and you can explain neither why the substance was made in 1938, nor why it lay untouched for five years, nor why a pharmaceutical company distributed it to researchers worldwide free of charge.

A2 Three Shifts Since the Previous Version

Three things have changed relative to the state on which version v0.1 of this work was built.

First, access to the primary sources. Hofmann's papers were transferred to the Institute of the History of Medicine at the University of Bern in 2013 and have been accessible to researchers since 2014. The holdings comprise publications, manuscripts, and both professional and private correspondence; the material had already been ordered by the descendants and was re-catalogued in Bern. The transfer was made on condition that research be conducted with it. The historian working on the collection, Beat Bächi, noted in 2018 that only a few had engaged with it so far. Soberly stated, this is one of the best-catalogued and least-exploited primary sources in twentieth-century pharmaceutical history.

Second, the Eleusis question. The thesis advanced in 1978 by Wasson, Hofmann and Ruck — that ergot alkaloids were the active agent of the Eleusinian kykeon — was long regarded as chemically implausible: *Claviceps purpurea* in its natural state contains an alkaloid profile that is at best moderately psychoactive and carries unfavourable toxic side effects. A study published in *Scientific Reports* in 2026 addressed this objection experimentally.

Third, the resolution of the ololiuqui anomaly. Hofmann's finding that lysergic acid amides occur in morning glories contradicted the assumption that ergolines were confined to fungi of the Clavicipitaceae. The resolution came from symbiosis research between 2004 and 2011.

A3 Methodological Decision: Work Rather Than Legend

This study proceeds in three steps. Part B reconstructs the catalogue of works as far as is possible without archival access, and names precisely what is missing. Part C presents seven re-readings, each with a stated evidence grade. Part D treats the Eleusis complex separately, because it moved in 2026. Part E draws the synthesis.

Throughout: every statement carries a grade — **[G]** established, **[W]** probable, **[O]** open. Where a datum must be checked against the original, **[V]** is appended. The source register carries the references.

One stipulation up front: synthetic procedures for controlled substances are not presented in this work. What is treated is structural elucidation, mode of action, the history of the work, and regulation. This restriction does not diminish the historical analysis, because what is historically interesting in Hofmann's work is not the reaction conditions but the logic of the experimental series and its institutional setting.

Part B — The Catalogue of Works

B1 Origins and Training (1906-1929)

Hofmann was born on 11 January 1906 in Baden, Canton Aargau, the eldest of four children. **[G]** His educational path was not a matter of course: after his father contracted tuberculosis the family fell into financial difficulty; Hofmann did not attend the Gymnasium but completed a commercial apprenticeship at Brown Boveri, finishing in 1922. Only funding by his godfather made possible attendance at the private Minerva school in Zurich and the school-leaving certificate in 1925. **[G]**

This detour deserves more than a biographical footnote. Hofmann entered science through a commercial training in an electrical engineering company, not through a humanist Gymnasium. A reception that files him as nature mystic and reader of Goethe passes over the fact that his first occupational socialisation was industrial — and that he then stayed forty-two years in an industrial laboratory, never seeking a university position.

In 1925 he began studying organic chemistry at the University of Zurich and took his doctorate in 1929 under Paul Karrer. **[G]** The dissertation is titled “Über den enzymatischen Abbau des Chitins und Chitosans”; from it came the first publication, Karrer & Hofmann, *Helvetica Chimica Acta* 12 (1929) 616–637. **[G]** Hofmann’s entry into research was thus structural chemistry on a biopolymer, not alkaloid chemistry. The later capacity to isolate and assign individual components within complex natural-product mixtures was schooled here.

B2 Sandoz 1929-1971

Hofmann joined Sandoz in Basel in 1929. The stations: own laboratory from 1935, *Prokurist* in 1946, deputy director in 1952, assistant director in 1959, retirement in 1971. **[G]** He became head of the natural products department.

He was hired by Arthur Stoll, who had initiated ergot research at Sandoz in 1917 and isolated ergotamine in 1918. Hofmann was 23 and entered an already running programme as an assistant. **[G]** That Hofmann’s later account grants Stoll strikingly little credit has been remarked upon in the revisionist literature. **[W]** See C5.

B3 The Ergot Line

Precursor. Before ergot came a different subject, for six years: cardiac glycosides. Eight papers with Hofmann appeared between 1933 and 1935 in the series “Mitteilung über Herzglucoside”, among them the isolation of scillaren A from squill. **[G]** The line ends in 1935 — the year Hofmann received his own laboratory. Details in **Appendix A**, section 5.2.

Ergot — the resting form of *Claviceps purpurea* on rye — was a raw material for Sandoz, not a curiosity. The isolation history of the alkaloids is dense: ergotamine 1918, ergometrine (ergobasine, ergonovine) 1935, ergosine 1936, ergocryptine 1937, ergocornine and ergostine 1943. **[G]**

Hofmann’s contribution lies in structural elucidation and in partial syntheses based on lysergic acid. Products of this line:

Compound	Indication	Status
Ergotamine	migraine, uterine contraction	Stoll 1918, basis of the line
Ergometrine / methylegometrine	post-partum haemorrhage	Hofmann’s partial synthesis; therapeutically his most consequential work
Dihydroergotamine (Dihydergot)	vascular	dihydrogenated series
Co-dergocrine (Hydergine)	cerebral circulation, geriatrics	commercially load-bearing

All share the tetracyclic ergoline skeleton; the naturally occurring ergolines are methylated at the nitrogen in position 6 and carry further substituents at position 8, the majority additionally a double bond between C9 and C10. **[G]** The pharmacological breadth of the group — uterotonic, vasoconstrictive, centrally active — follows from variation at that position on a constant skeleton. This is the chemical logic from which LSD-25 emerged: one further amide in a systematic series.

B4 The Lysergic Acid Series and LSD-25

In 1938, within a series of lysergic acid amides, Hofmann synthesised the diethylamide, which as the twenty-fifth member received the designation LSD-25. **[G]** The first publication is Stoll & Hofmann, “Partialsynthese von Alkaloiden vom Typus des Ergobasins” (6th communication on ergot alkaloids), *Helvetica Chimica Acta* 26 (3), 944–965 (1943). It presents LSD as one of several alkaloids of the ergobasine type and records its **oxytocic effect on the rabbit uterus in situ**. The psychic effect is not a topic there: LSD entered the literature as a candidate