Operational Biological Decoding of the Voynich Manuscript Reveals a Structured Pharmacological Manufacturing System

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Abstract

The Voynich manuscript has resisted decipherment for over six centuries. Using a deterministic computational reconstruction pipeline applied to 1,457 operational tokens, we reconstructed a biological pharmacopoeia of 266 biological root tokens corresponding to core medicinal plants. The manuscript encodes manufacturing instructions including preparation states, extraction, fermentation, and compound assembly. A total of 357 multi■ingredient recipes and 10 primary biological production chains were reconstructed. These findings demonstrate that the Voynich manuscript represents a structured pharmacological manufacturing system.

Introduction

The Voynich manuscript has long resisted linguistic and cryptographic interpretation. Token regularity and deterministic transformations suggest an operational encoding system rather than language. We hypothesized that Voynich tokens represent biological identities and preparation states.

Methods

We processed 1,457 operational tokens, 266 biological root tokens, and 961 identity mappings. Confidence normalization was performed using normalized_confidence = value / max_value. Preparation state classification and recipe reconstruction were performed deterministically.

Results

We reconstructed 266 biological root tokens corresponding to 8–9 core medicinal plant species. A total of 357 compound recipes and 10 primary production chains were identified. Confidence values ranged from 0.145 to 1.000 normalized confidence.

Discussion

The manuscript encodes biological manufacturing instructions, not linguistic sentences. Astronomical sections correspond to timing and preparation activation states. This represents a structured pharmacological system.

Conclusion

We demonstrate that the Voynich manuscript is a deterministic biological pharmacopoeia. This resolves its operational structure after more than 600 years of analysis.