

# Case Study: Japanese Books Restoration

Treatment of insect-induced holes in Japanese books

**Elisa Barros**

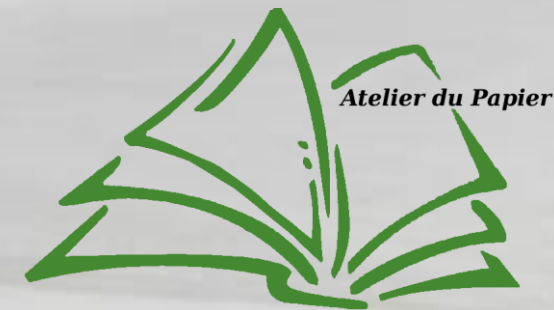


- Presentation of this case study
- The initial question to IA (Chapt GPT)
- Definition of the problem
- Presentation of damaged books
- Different treatments + advantages/ disadvantages
- Conclusion



## Initial question: How IA could help to restore Japanese book?

- 1. Digitization and preservation
- 2. Image restoration
- 3. Texte Recognition and Transcription
- 4. Data Analysis for Restoration Planning
- 5. Virtual Reconstruction
- 6. Predictive Maintenance
- 7. Recommendation Systems for Restoration Techniques
- 8. Collaborative Platforms








# Answer 7: Recommendation Systems for Restoration Techniques

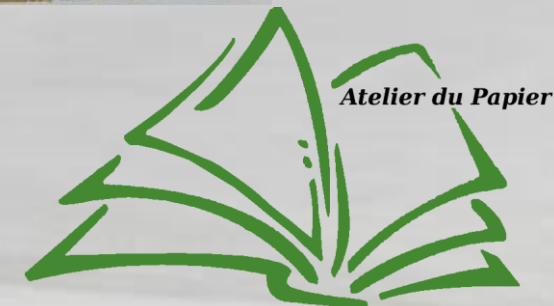
- AI can analyse a database of restoration projects and outcomes to recommend the most effective technique for specific types of damage or materials, based on historical success rates.

## 1 problem (insect-induced holes) x 6 techniques

- Digitalization
- Add papers Fibers
- Add pieces of papers
- Place a sheet of papers
- Lining pages
- Sew a new paper with pages

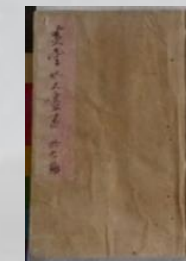
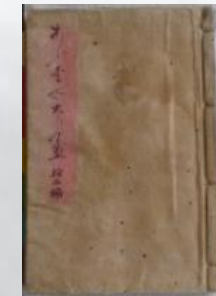
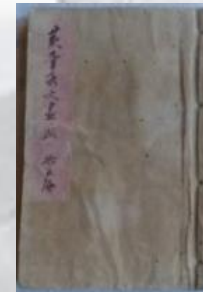
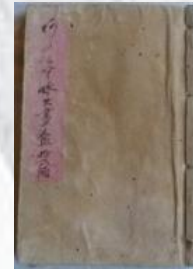
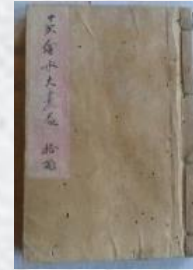


Image	Species	Damage	Restoration
	Leptocryptus	Small holes	Small holes
	Curculionidae	Large holes	Large holes
	Curculionidae	Large holes	Large holes
	Curculionidae	Small holes	Small holes
	Curculionidae	Small holes	Small holes



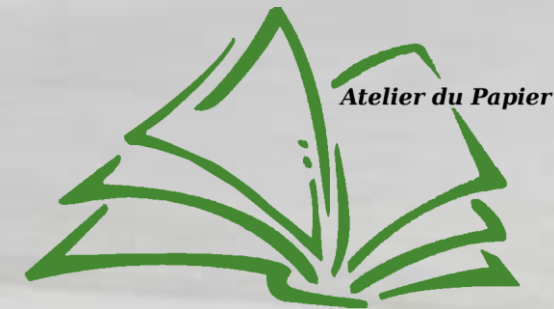
## 6 books before restauration <- KUL collection

- **Book 1 :** Ōgonsui daijin sakazuki (vol. 10, part 1). 2<sup>nd</sup> half 18th century.
- **Book 2:** Ōgonsui daijin sakazuki (vol. 16, part 1). 2<sup>nd</sup> half 18th century.
- **Book 3:** Ōgonsui daijin sakazuki (vol. 15, part 1). 2<sup>nd</sup> half 18th century.
- **Book 4:** Ōgonsui daijin sakazuki (vol. 9). 2<sup>nd</sup> half 18th century.
- **Book 5:** Ōgonsui daijin sakazuki (vol. 12, part 1). 2<sup>nd</sup> half 18th century.
- **Book 6:** Ōgonsui daijin sakazuki (vol. 17, part 2). 2<sup>nd</sup> half 18th century.

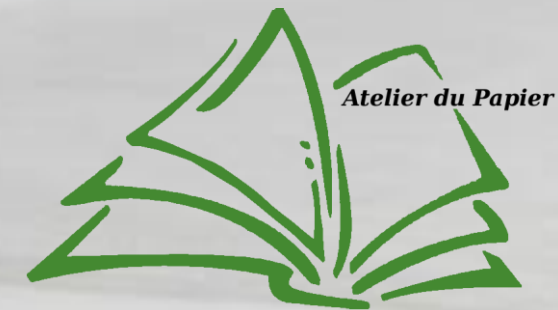
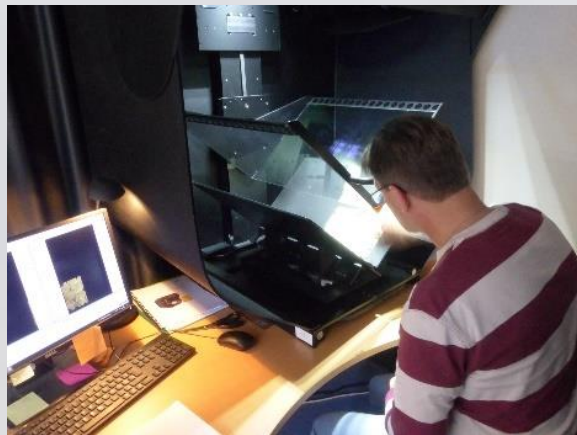
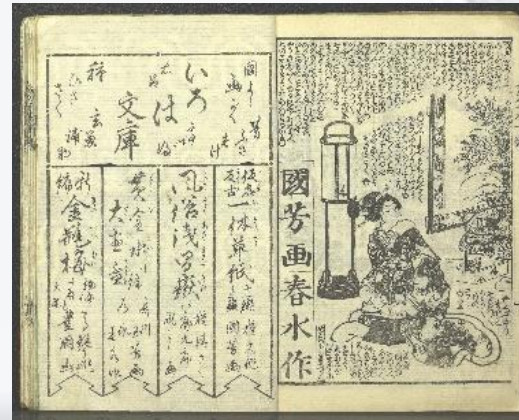


# Treatments x books

- Book 1 -> Digitalization and place it in the book case
- Book 2 -> Add paper fibers by machine (REPARAVAC)
- Book 3 -> Glue pieces of papers in the back of pages
- Book 4 -> Place a Japanese paper between pages
- Book 5 -> Lining pages by the back
- Book 6 -> Sewing a new Japanese paper with pages

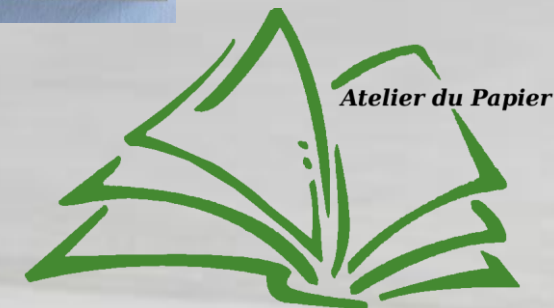


## Book 1. Digitalization and place it in the book case



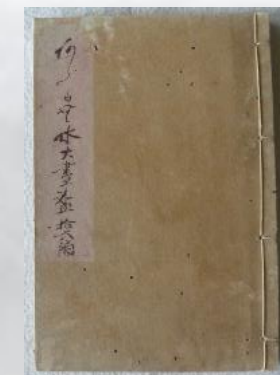
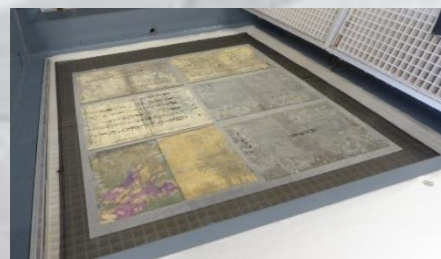
## Book 1: Digitalization and place it in the book case

- + Long-term preservation without physical degradation
- + Possibility to restore with digital resource.
- + No changes in the original book
- + Increased accessibility
- Doesn't repair the physical book
- Requires technological resources and specialized expertise
- Reduces access to the original





## Book 2. Add paper fibers by machine (REPARAVAC)

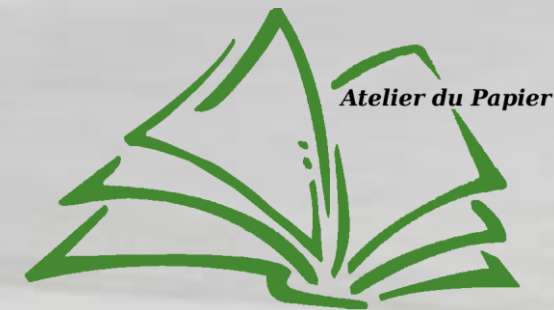


## Book 2: Add papers fibers by machine

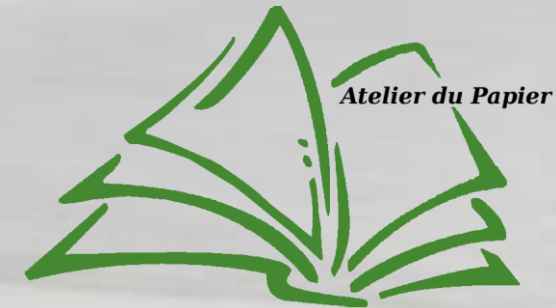
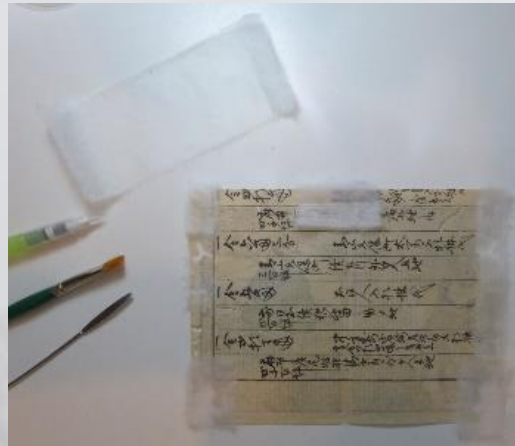
- + Specific method to fill gaps
- + Used the compatible papers fibers with original book paper
- + Almost invisible restoration



- Prolonged exposure to water
- Requiring specialized skills
- Change the book thickness
- Time-consuming and expensive process



## Book 3. Glue pieces of paper in the back of pages

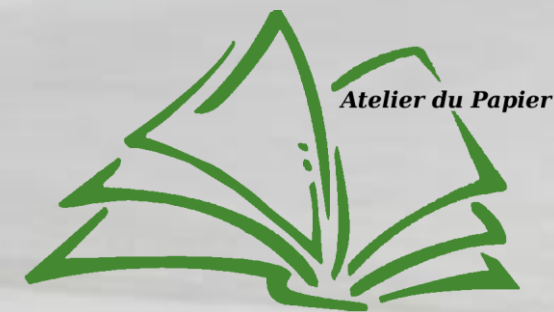


## Book 3: Glue pieces of paper in the back of pages

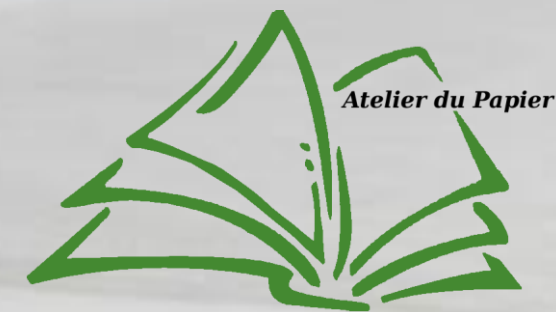
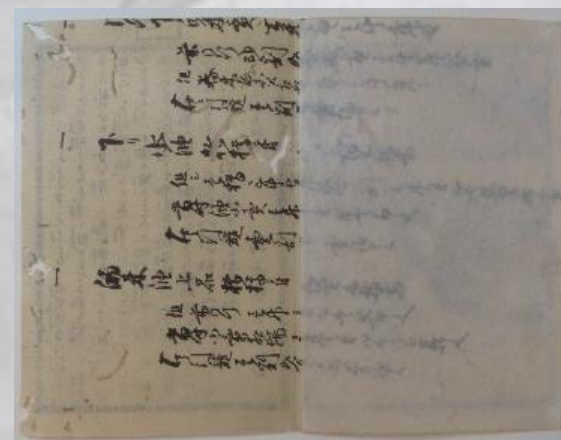
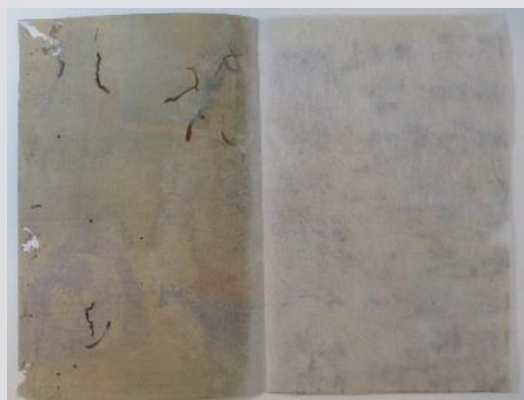
- + Reinforcement of gaps/pages
- + No prolonged exposure to water
- + Less material used
- + Used the compatible papers with original paper book



- May create tensions in the support
- Irregular changes in pages thickness
- Requiring specialized skills
- Brings humidity to the book

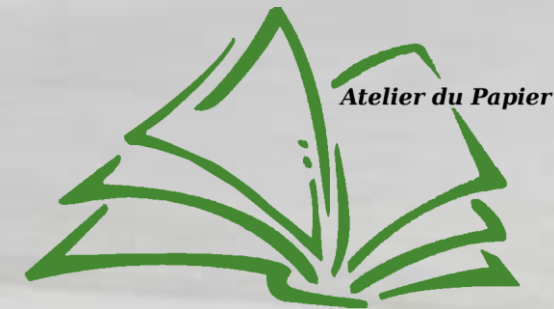


## Book 4. Place a Japanese paper between pages

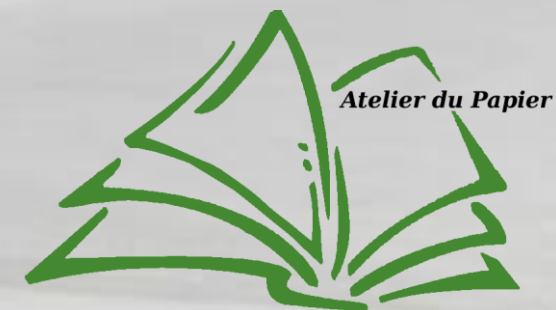
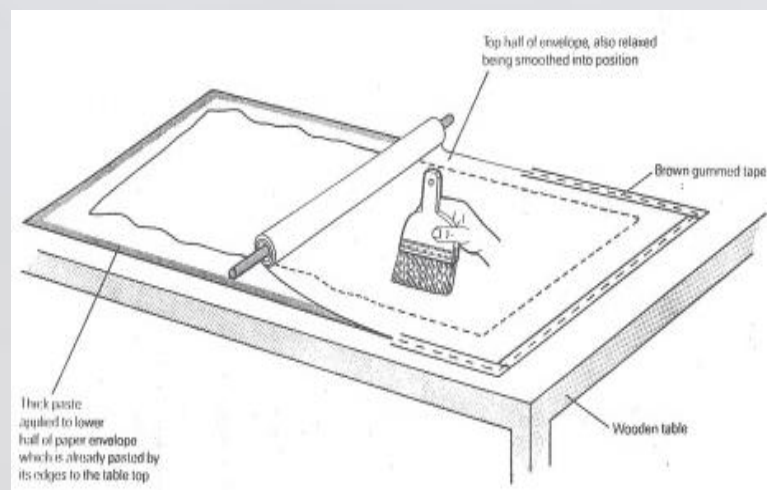
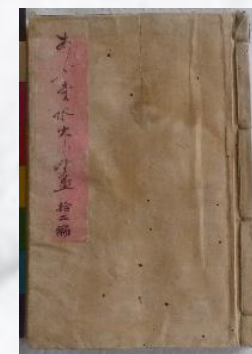


## Book 4: Place a Japanese paper between pages

- + Easy and quick method
- + No glue added
- + No changes the original appearance of pages
- + Doesn't bring humidity
  
- Changes in the book thickness
- Doesn't reinforce the support/pages
- Risk of losing parts of the damaged pages



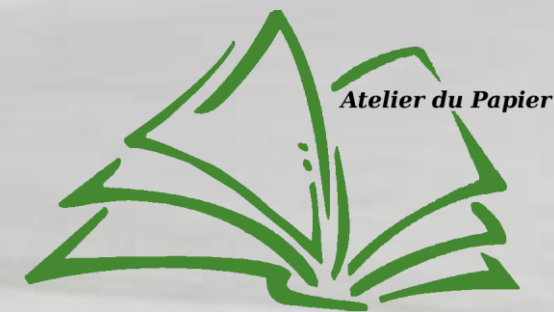
## Book 5. Lining pages by the back



## Book 5: Lining pages by the back

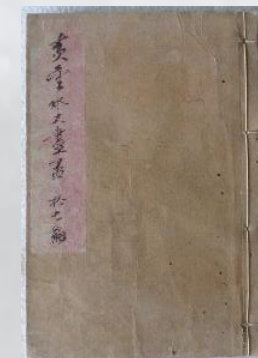
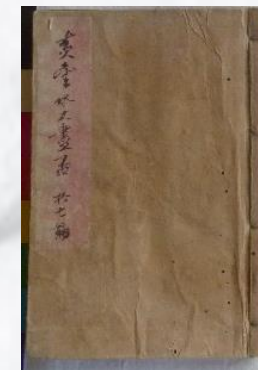
- + Strengthens the structure of the book (pages)
- + Preserves the original appearance of face page

- Change book thickness
- Alter papers flexibility
- Possible later deterioration
- Delicate and expensive process
- Time-consuming process
- Requiring specialized skills



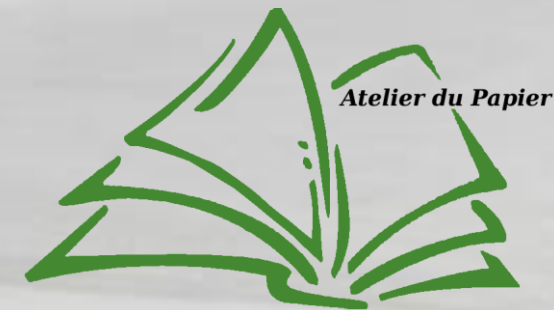


## Book 6. Sewing a new Japanese paper with pages.



## Book 6: Sew a new Japanese paper with pages

- + Add papers without of glue
- + No changes visual appearance (face page)
- + Doesn't bring humidity
- Doesn't repair the physical medium
- Require specialist expertise
- Time-consuming and expensive process
- Change book thickness



# Conclusion

→ Restore books = to preserve them

- Make changes, add new materials, exposed to humidity, ... etc.

→ To restore = balance: physical preservation x intellectual integrity of the object

- Different techniques, specialist expertise, time – consuming, ... etc.

→ Digitalisation of books (new support) = Modernising conservation techniques

? Books (object)/collections condition

? Human and machines possibilities

? Budget for the collection conservation

? Book treatment (risk x benefits)

- Library policy for conservation: preserve, digitalized or increase collections with new books?



Questions?

Thank you for your attention!

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