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## ‘Dos Rapporté’ Structures

Why consider structure?

Structure certainly is not the first thing that catches someone’s eye when seeing a book.

In fact, to the average reader, how the book is constructed probably does not make the slightest difference, unless it is particularly badly made and is, say, impossible to open or the pages start to fall out.

In other words, structure is fundamental, simply because it is what holds a book together; provides it with a function, so that it can actually be read. However, attention to structure is not all about functionality. A ring binder (or a Kindle) is a highly functional reading device, and yet is rarely considered an aesthetically pleasing object. This is to say that structure plays an essential role in book ‘design’ as well. The weight of the boards, the mobility, even the sound produced by the pages are determined by the choices made regarding structure and give a binding its personality, even before any decoration is applied. For instance, a book which is rounded and backed will always have a certain ‘classic’ feel to it, whereas an ‘alternative’ structure identifies the work as contemporary (for better or for worse).

On a personal level, I must add that, for me, structure provides the element of challenge and excitement in bookbinding. I love to work out how components are going to interact with each other, which materials are best suited for different actions, etc. I hope that this will be evident in the main part of this article, which is a sort of ‘workshop notes’ account of a particular spine construction developed over a good number of years.

### Birth of an idea

I would like to take you through the steps of development of a binding structure I used on two bindings I exhibited along with the DB Fellows and Licentiatees at the Flow gallery in 2011.

In order to do so it is necessary to go back a few years to my time as an art student in Strasbourg. Most people would imagine that, being an illustration student, my interest in bookbinding would have been in making illustrations on book covers, but perhaps it is precisely the fact of being constantly surrounded by images that made me interested in the physical aspect of books rather than the purely visual one.

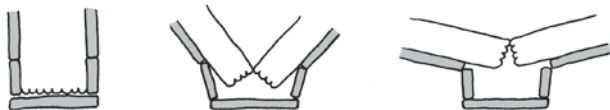
My bookbinding knowledge was extremely limited at that time but I knew how to sew up a text-block and knew what a wonderful object a sewn text-block is. Each section is firmly held onto robust sewing supports, by the means of mechanical bonds not relying too much on glue. It opens beautifully, handles beautifully. The few bindings I had previously made were not terribly convincing in retaining that mobility, so I simply decided to create my own binding structure.

To start with, I took a text-block and affixed boards and a spine piece to it with tape to simulate a cover, then opened it to see how the boards follow the movement.

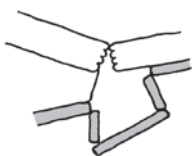


What I learned is that, when opening a book, the spine edges of the cover boards come together, in turn forcing the spine piece to take off. As a matter of fact, the tape had released itself from the cover boards on a portion of roughly half of the spine width.

Now how could I make this work in practice? I thought that if I somehow managed to hinge the boards on the line where the Sellotape stopped peeling off, it would theoretically work this way:



There is, however, a slight problem with this: as the portion of the outer leaves close to the spine is left unsupported, it will most probably evolve to something like this:



I did not consider the reinforcement/stiffening of the unsupported portion a valid option because of the bulk it would induce locally, so instead I had the idea of adding a layer of board underneath the construction, stiff enough to prevent the deformation of the outer leaves, all the way from the folds to the fore-edge:



Doing this, I identified two features for the type of binding I was after: a rigid boardpaper and a secondary hinge set away from the endpaper folds. This was to become the base of my 'dos rapporté' but is also, as I later discovered, the basic feature of a whole family of bindings<sup>1</sup>. Eventually my designs evolved to this:



The secondary hinge was to be realized by the action of the spine extension piece folding back on itself, making the spine and its extension a separate element attached later on. I named it 'dos rapporté', which in French means something like 'spine made off the book and hooked on'. It is also a reference to Sün Evrard's 'plats rapportés' (simplified binding). I haven't found an equivalent in English so I keep using this description (any suggestions welcome!). With this solution, the articulation line between the boards and the spine is clean and allows for a radical change of materials or colours. As for the boards, the inner and outer layers were merged to look almost like regular boards.

### Full leather bindings

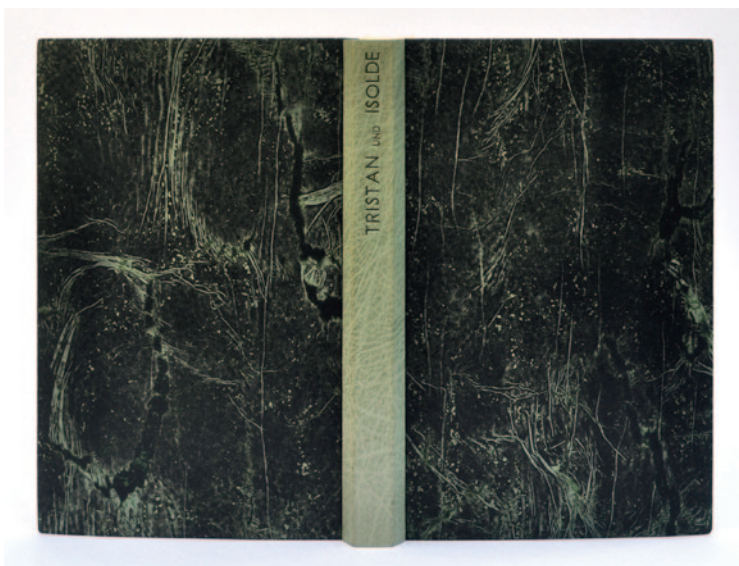
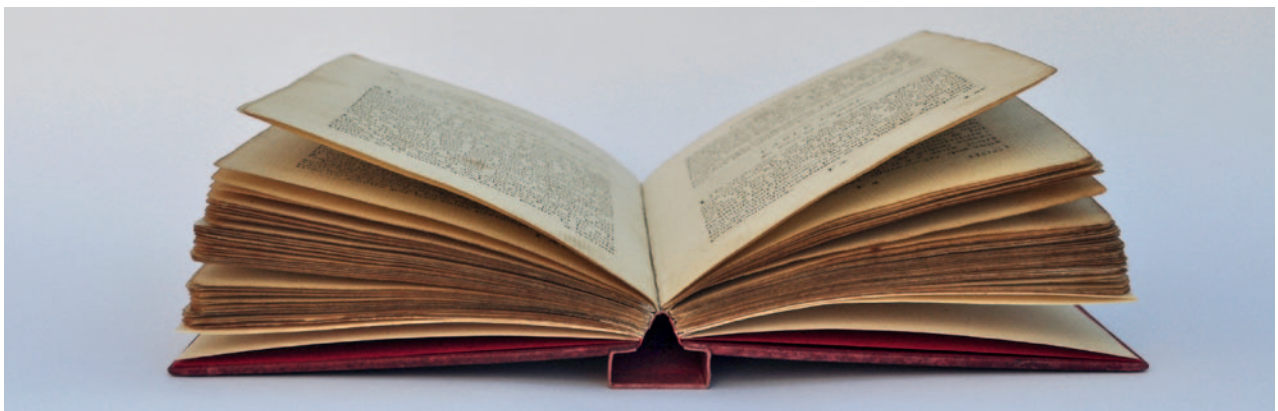
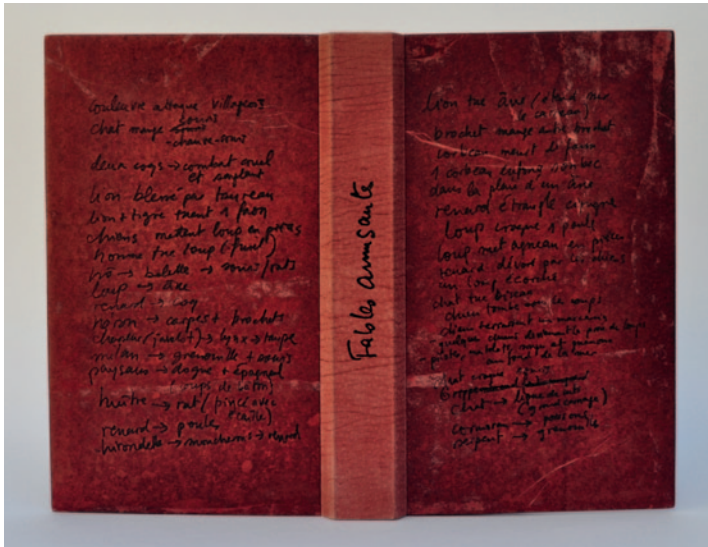
Years passed between my first sketches and the following bindings that I presented at the Flow gallery in 2011. It took me some time to refine all the aspects of this full leather binding structure.

*Fables amusantes* is a binding of an old text dated 1793. The original binding was too damaged to be restored and I first used the pages as an exercise in conservation during an internship at the University Library of Göttingen, Germany. The entire text-block was washed and resized with methylcellulose, and losses were filled with Japanese paper. It was left in its original out-of-square state, which can be seen by the new slightly crooked boards to match the text.

The text-block was sewn using unsupported link-stitch and glued up with wheat-starch paste. There is an isolating sheet of handmade paper wrapped around the first and last sections, followed by a folio of handmade paper with a red flyleaf and a dyed Tyvek guard attached to it. The Tyvek guard is then stuck to the outside of the boards along with a linen lining.

The boards are made up of 0.5mm millboard for the base layer and 1.5mm millboard for the upper layer, chamfered along the edges and covered with decorated goat suede leather. The pastedown is the same red *Awagami* paper as the flyleaves. The spine is made of 0.5mm millboard and a 55gsm Tyvek core, covered in *craquelé* pig suede and filled-in with Ingres paper.

The spine and boards were blocked in black foil using artwork created from my handwriting; the words are excerpts from the book and list, in gruesome detail, the merciless cruelty inflicted on animals by other animals in these fables, my intention being to highlight the *amusing* contrast between the content of the book and its title.



*Tristan und Isolde* is the libretto of the famous opera by Richard Wagner. The covering material of the boards was obtained by gluing thin paper onto green suede leather. While the glue was still fresh the paper was moved around to create cracks and wrinkles and on the next day the surface of the leather was sanded, to leave a very smooth, marble-like texture.

The title was blind-tooled onto Niger goatskin.

### Paper and vellum bindings

In previous years I have explored many other possible uses of the structure. One of the most interesting of these experiments is the limp or semi-limp binding, with heavy paper or vellum covers.

### Non-adhesive

It was not very long before I realized I could make the spine out of simply folded

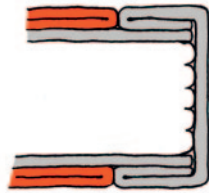


Fig. 1.

paper, which led to the idea of making the boards in the same way: one layer for the inner boards and two layers for the outer boards, which would accurately compensate for the thickness of the spine [Fig. 1].

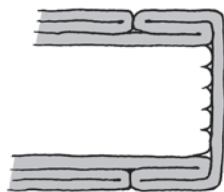


Fig. 2.

Then I realized I could join the edge of the inner board with the spine to make the spine and boards out of the same piece [Fig. 2].

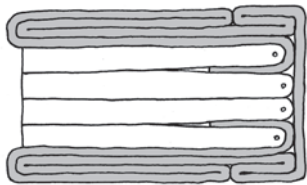


Fig. 3.

I needed a cover-to-text attachment so I decided to let the ends of the cover strip fold around the end sections so that the cover could be sewn with the book [Fig. 3].

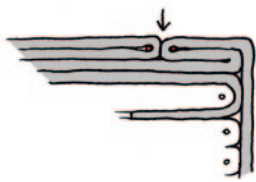


Fig. 4.

Then it occurred to me that I could connect the two folds of the secondary hinge by 'simply' sewing them, which would make the whole binding entirely non-adhesive [Fig. 4].

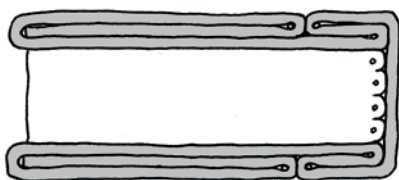


Fig. 5.



Four layer non-adhesive



Three layer non-adhesive

And finally I realized that the cover-to-text attachment can be achieved in a much simpler way, by sewing the boards as if they were sections, thus eliminating the need for four layers [Fig. 5].

I am particularly proud of this last variation because it is so incredibly simple in structure, requires only one strip of paper and some linen thread but still has all the features expected of a binding: boards, squares, back of the text protection and excellent opening.

*With a Little Bit of Glue*

Anyone who attempts to make the last version described above will realize how rather tricky it is to achieve, especially the secondary hinge sewing. Another downside is that it greatly constricts the format: only very narrow books can be bound in this manner, because, being made in one piece, the cover measures just over six times the width of the book for the three layered version, and over eight times for the four layered one!

With this in mind, I developed variations that can be made in several pieces and do use a little bit of glue. Again, several board attachments can be used:

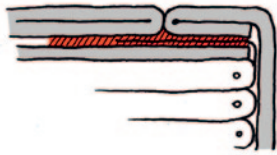


Fig. 6.

in Fig. 6 a flange from the text is sandwiched between the inner and outer layers of the boards, and in Fig. 7 the inner layer folds around the first section, allowing the boards to be sewn with the book. In both cases the spine is adhered in the last stage of the process.

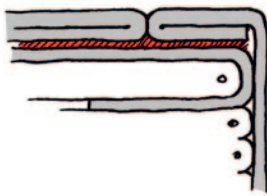


Fig. 7.

I choose a cover-to-text attachment according to the nature of the materials and the effect I want to achieve. Fig. 8 produces the most elegant inner hinge, but the end of the cover strip, wrapped around the first and last sections, visible on the inside, can be disturbing. It also makes the gluing up of the spine problematic because, due to the stiffness of the inner flange, the glue will generally split between the flange and the second section. So I usually reserve this structure for books with sections that don't need to be glued up, and when the presence of a flange inside can be used as a design element.

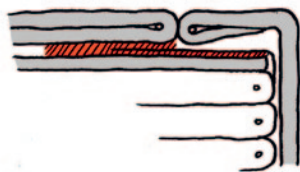


Fig. 8.

Recently I used the attachment shown in Fig. 8 for a notebook construction in vellum [Fig. 10]. Because of the difficulty of getting vellum to stick on its hair side, sewing of the secondary hinge was particularly appropriate. I sewed it with very thick coloured linen thread, making the stitches a design element and glued the return of the spine piece on itself rather than on the board, for maximum mobility. Due to the stiffness of vellum, the board attachment of Fig. 7 was out of the question so the connection was achieved as in Fig. 6.



Fig. 9. Board attachment as in Fig. 8. Cover screenprinted by Glen Chapron.



Fig. 10. Vellum notebook

**Notes**

1. In his *Taxonomy of Bookbindings* ([www.futureofthe-book.com](http://www.futureofthe-book.com)), Gary Frost suggests the name 'laced-cased' for bindings presenting what he calls a 'cased' structure (secondary hinges set back away from the endpaper folds) over a 'laced' attachment (boards attached to the endpaper folds). He also uses the term 'double cover' binding, which particularly makes sense when the two levels can be visually identified, as in his 'sewn board binding' [Fig. 11].

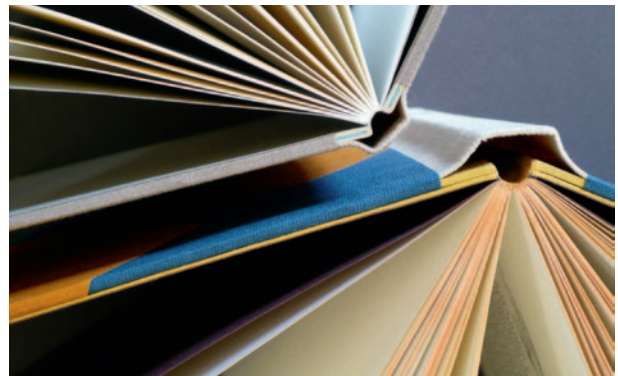


Fig. 11

It is less obvious with the ledger binding [Fig. 12], but as the outer leaves are particularly reinforced, it is possible to describe them as stiff inner covers which support the outer cover with the springback hinging away from the folds.

The conservation binding type called 'quarter-joint case' (more precisely Janos Szirmai's re-interpretation of P.B.O. Upton's patent, see article in *Restauro*, 1999, Vol. 105), with its purposely unadhered portion of the spine and its stiff board papers, is another binding structure that clearly belongs to this family.

The industrial children's book binding structure [Fig. 13] and Otabind, a brochure type patented in 1981 [Fig. 14] relate to the previous examples in terms of book action (unrestricted opening due to the adhesive-free zone between the folds and the secondary hinges), but can't really be described as double cover bindings.

**Photos**

Study of opening, full leather bindings and vellum notebook: Gregory Goldyn.

Sewn board binding: Gary Frost.



Fig. 12.



Fig. 13.



Fig. 14.