
Anatomy of a Book with Jody Alexander

Chapter 1 - Introduction to the Anatomy of a Book

Overview of the anatomy of a book

- Right now, I'm gonna talk about the anatomy of the book so that when I'm teaching you how to make a book, you'll know what kind of vocabulary I'm using when I'm referring to the different parts. So, we're gonna use this book as an example. This is a hardcover book. This is the front cover of the book. This is the back cover of the book, so these are the terms I'll be using while I'm teaching. This is the spine of the book and this is the fore edge of the book or the cut portion that opens. In book making, we don't refer to top and bottom, but we refer to the head and the tail of the book. Inside of the book, these are the end sheets or the end papers, so there's one at the beginning and also one at the end. All of the pages inside the book make up what's called the text block. The text block is made up of sections or signatures. I use both of those words interchangeably and they are the folded sections that are sewn together to create the text block and I'll explain that a little more closely over here. So, mostly what we'll be doing when we do a multi-signature book is using this size of paper. These are folded sections of sheets of paper, in this instance, there's four sheets of paper that I've folded together to create the section or the signature. There's also a term that's used in Europe that I don't personally use, but you may run across it in reading and that's quire; it's spelled Q-U-I-R-E and you may see that, just when you're reading a book, but I won't be referring to that in our lessons. On the signature are the sewing stations. The sewing stations are where we're gonna make a hole right through the fold of these sections and that's where we're going to be taking our needle and thread, in and out, to stitch the book together that will create the text block. So, all of those pieces together create the anatomy of the book and those are the terms that I'll be using while I'm teaching.

Chapter 2 - Choosing Paper

Tools for book making

- Now, I'm gonna talk about the tools that you'll be needing in my courses. You can get these tools from a variety of sources, so I'm gonna be talking a little bit about those different levels. One of the most important tools for a bookmaker is the bone folder. This is a bone folder. It's actually made out of bone from a cow. You can get them made out of plastic if you prefer that, but mostly what's used is the bone folder. This tool is used to crease some paper. It can help you score the paper. There's many, many uses for the bone folder. I have a variety. This is the most common size. I have a smaller one that sometimes I prefer using 'cause it's a little better for scoring. It's a little sharper. If you want to get really into bookmaking, you might want to get yourself a Teflon folder. This is a similar shape and size, but it's made out of Teflon, and it's nice because when you bone down your paper, you're not gonna burnish it. But you don't really wanna use it in place of a bone folder. It's kind of in addition to it. Okay, so those are your folding tools. If you're gonna be working with children, you might wanna pick up one of these. It's just a little plastic folding or gluing-down tool. I've found them in hardware stores before, and they're really great for kids to use to fold down sections, to help glue down areas. So, that's handy to have. Next thing, I'm gonna talk about awls. Awls are also really important for a bookmaker. They're used to create the sewing stations, and those are the holes in the fold of the signatures that will be where we will be sewing through. So, this one is really a sewing awl. This is my favorite one just 'cause it fits my hand so nicely, but you might have a

different preference. This one is a bookbinding awl, and you can get them at most art supply stores. This one is just a little big for me, so I don't prefer using it, but many of my students do love this size of awl. If you're really just wanting to find something really accessible at a hardware store, this is a carpenter's awl. Really easy to find, really inexpensive, but the tip of it is a little thick. When I started out bookmaking, this is what I used for years before I expanded my collection. So, that's just a carpenter's awl. Okay, so let's move on to cutting tools. You'll definitely want a smaller cutting tool like an X-Acto knife. You can get this at any art supply store, office supply store, probably even hardware stores. This is a little nicer one that you get in an art supply store. You can change, snap off the blades. It's a little stronger and probably a little sharper than the X-Acto. If you really want to get some, a real nice tool for yourself when you get into bookmaking, you might want to get a scalpel. This is a surgeon's scalpel that you can get from a bookmaking supplier. It has changeable blades, too. Really sharp, real nice handle. I don't use it for everything, but I do use it for really precision cutting. You might want to also pick up a more heavy-duty blade again, just from the hardware store. You can get a utility knife. That's gonna do fine for you for a while. The blades tend to get dull pretty quickly with paper. So, this knife you can get at art supply store or get, a utility knife from an art supply store is probably gonna be a little more heavy duty, sharper blades. They might last a little longer. This one I use for maybe cutting board, you know. For paper, you don't really need it, but if you want to cut board, that's nice. And then, scissors, just really any pair of scissors. I like small ones so that I can cut into kind of small corners, but really any kind of scissors will do. Okay, so there's our cutting. Let's move on to needles. You need some needles to bind, definitely, and you can just go get some sewing needles. However, they often break. They're not made of very strong metal, so you may want to invest in some bookbinding needles, which you can get at an art supply store. They're stronger. They're gonna be a reinforced steel, and I like the number 18. That's my preference, but you might wanna experiment with them. Experiment with them. You might find a preference on a size. And I get sharp, too. They're usually available in dull from bookbinding suppliers, but I do like the sharp needle. Okay, so on to measuring, you want to get a metal ruler. I prefer metal rulers with inches and centimeters on it. This one's got the cork on the back, which does raise it a little bit, but it keeps it from slipping. And so, I do prefer this kind of ruler. This is a 12-inch, but you can get bigger, smaller, whatever you're comfortable with. I like to have a variety on-hand. This is a smaller ruler that when I'm working in tight spaces I use sometimes. It's a metal worker's ruler. Don't need to have it, but it is kind of nice to have on-hand. You're also gonna want a triangle. This is just a plastic triangle, really inexpensive again, from an art supply store. And this is gonna help you square up your pieces of paper and make sure that you've got a good square angle, and you can use them along with the ruler to make sure that the edges of your paper are squared up. So, you can see that you're square here and that you're square here. So, you're really gonna want one of these triangles. Alright, so we're almost finished here. Let's talk about glue brushes. You can get a real fancy glue brush that's made for bookmakers, and this one's more made for really, really spreading out paste in a wide area. So, this is a beautiful brush. I really rarely use it though. What I use most is this little, very inexpensive brush that I get at the hardware store, and this really does fine. I can still do fairly large areas, and I can also, with the straight bristles, get into corners. So, this is probably gonna do you fine, but if you want to maybe invest in a nicer brush, either of these sizes would probably work fine for you. You're also gonna want to get a cutting mat to protect your surface. This way, any surface in your home can really become a work table. And this is called the self-healing mat, and you can get it usually at office supply stores and art supply stores, even fabric stores have them, and it's gonna protect your table when you're

cutting, and it does kind of close up and heal up the cuts, and they will last for years. So with those tools, you'll be able to get started in my bookmaking classes.

Choosing Cover and Text Paper

- Now I'm gonna talk about choosing the right paper for your bookmaking project. So we'll use this as an example to start out with, this is a running long stitch. And this is a handmade paper for the cover. It functions fairly well, this is fairly thick paper and a little bit stiff, so this will work very nicely for this size book. There's so many papers out there though, so I really encourage you to go out there and react to what you like and bring it home and see if it works for your project. This is another handmade paper, which is really nice. It's rather soft though, it's thick, but soft. It is gonna get worn down, if it's going to be in and out of your backpack all day. So you wanna keep those kinds of things in mind when you're choosing the paper, but this will make a perfectly fine cover paper. This is a machine made paper here, which is a little thinner, but also a little harder, so this could work for a smaller book. If you're wanting to do a larger book, I think you might wanna choose a paper that's a little thicker, than this. So again, look around and see what's out there in the art supply stores. Also, I always encourage my students to go the recycling bin or the re-used center, when looking for any materials for any of their art projects. This is a file folder, an old file folder. Has this great numbers on it, that I've utilized and made a book out of it. I think it looks really nice especially with the flap, again this is the running long stitch. So be sure to check that recycling bin, before you run out to the art supply store. And then lastly the size of the paper, you can get large papers and cut or tear them down. But if you're starting out you might wanna start out, by going just to the office supply store and getting some 8.5 by 11 pieces paper, that's already cut down the size. This would work nice for the stab binding, or you just cut or tear this in half and that's basically the size of the book. Or a smaller cover like this, this might work for. So those are papers for your covers. I'm gonna talk a little bit about choosing text paper now, so this is the paper that is going to go inside of your book, that you're going to write on or attach photo's to, so you need to keep in mind what you're using your book for, before you choose your text paper. What I'm gonna be using mostly in these classes that I'm teaching, is 8.5 by 11 sheets that I've just gotten at the office supply store. This is a little higher quality than just photo copy paper though, that is a little thin it's not a very strong paper. This is recycled, but the fibers are little longer in it. I think it's a resume paper and it will do fine, but again look around you, see what papers are out there, see what papers are you responding to, that you're enjoying working with. And choose a nice paper for the text book. What we'll be doing with them, is tearing them and then folding them to create the signatures, that will be in your handmade books.

Paper Grain

- I wanna talk about paper grain now. Paper grain is very important in bookmaking and understanding the grain of paper will help your book function better. So, machine-made paper has a grain to it and the grain is the direction that the paper fibers have run down the chute in the factory and then landed in the vat, which is pulled out to pull a piece of paper. So, the direction that those long pieces of fiber run creates the grain, and you can see, or you can usually, sometimes you can see where the paper grain is, but mostly you can feel the grain, you're going to get a easier fold and an easier turn and tear of the paper in the direction of the grain. If you're going against the grain you're gonna get more resistance in folding and in tearing. It's important to understand grain because when your book is created it's just gonna function better if the grain is along the spine of

the book, you can see that your cover is just gonna open with more ease, the pages are gonna turn with more ease. So, it is important that you understand that, both for the text paper and the cover. This is another kind of man-made paper that you might use for cover material, it's got a really, really strong grain. This piece of paper is already been cut down and I can really feel the grain on this one if I fold it in this direction, it's really kind of folding with ease and you can kind of see that here. And now, if I fold in this direction you can see that I'm really getting resistance from the paper, I can feel it in addition to seeing that resistance. If you're having trouble feeling it, sometimes I just kind of look away and then I can really feel that resistance a little better. Again, use the light to, in a raking light, sometimes you can see the grain in the paper. Handmade paper is a bit of a different story, since it is handmade whoever made it kind of controls the way the grain goes, usually handmade paper is, the fibers are swirled around in the vat a little bit more so you don't get a real strong grain in one direction or another. But still, depending on how it's made you might feel a little bit of a resistance in one way or another. So again, use your eyes and use your feel to see where that paper grain is. Okay, so it doesn't seem that important at first, but the moment you'll realize how important paper grain is in bookmaking is when you use paper in the wrong direction and it doesn't function well. So, really it is an important part of making a book.

Chapter 3 - Tearing Paper and Preparing Signatures

Tearing paper three ways

- I'm going to show you how to tear text paper in preparation for creating both the Japanese Saito binding, and a multi-signature book, specifically in this case, the running long stitch. But you can use it for any other multi-signature book. So I'm going to be tearing apart 8 1/2 by 11 paper. I prefer tearing paper to cutting paper. I really like the fuzzy edge that I get, and I feel like I get a squarer edge that way, too. So this is just a 8 1/2 by 11 paper from the stationery store. I'm going to fold it in half, matching up my corners. I'm going to use my fingers for just a preliminary fold, and then I'm going to use my bone folder to crease down that fold. I'm going to go back and forth, though, two or three times, and what I'm doing is breaking down the fibers by going back and forth two or three times. And that will make it a little bit easier for me to tear. There's three ways that you can tear. The way I tear is I put my left hand right down on the left-hand side, and just start tearing with my right hand. So that's one way you can tear. Some people prefer a little more jagged edge, or they want a little more control, so you can use your straight edge ruler and put that right along the fold and use that to help you guide the fold. A third way you can do it is by taking your bone folder, or even a butter knife, or they even have something called a paper-tearing knife. And what you do is fold it and tear it this way. And that will get a much more jagged tear. You can see in this case, the three examples of them are fuzzy tear, a little more jagged, and quite a bit more jagged. Depending on what kind of paper you use you'll get different effects, too. So these pieces are now ready, halved, 8 1/2 by 11 pieces of paper, they're now ready for your Japanese Saito paper. If you want to create the folded signature, then please stay tuned and refer to the next chapter where we're going to be folding the paper to create signatures for a multi-signature book.

Preparing signatures

- OK, now we have a nice stack of halved eight and 1/2 by 11 papers and with this size we're ready to go with the Japanese side sewn binding, also called the "Stab" binding. So, these are ready to go as your text paper for this type of binding. But, I'm also going to show you how to fold them to create signatures for a multi-signature or multi-section book, so that's what we're going to show you right

now. What we're going to do is with this weight of paper, I'm going to take four of these halves. One, two, three, four. And I'm going to fold them at the same time, matching up at the corners. Use your bone folder to bone down that crease. I go over it two or three times. And there you have your signature. I continue doing that with my stack of paper, until I have enough signatures for my book. OK, so with this stack, I'm ready to move on and make my multi-signature book.

Chapter 4 - Choosing Thread

Choosing thread

- I wanna talk a little bit about binding thread, because it's what holds the book together, so it is fairly important. When you're binding a book you wanna use linen thread for the most part. You definitely wanna use linen thread when you're making a multi signature book, it's just gonna function better, you do not wanna vary from linen thread, when you're doing this kind of binding. For a Japanese side-sewn, I love the linen thread through the spinding and it's the strongest kinda thread you can use and it will just be easier for binding. But you will see in the side-sewn binding some variation from linen thread. You could maybe use some silk, or some ruffy or some hemp cord and specifically for kids projects too, there's all sorts of different materials, that you can use. So I'll talk a little bit about the thread. This is an unwaxed linen thread, a lot of binders prefer to use this kinda thread as is. Just exactly like this. Many binders like to wax it. Waxing it will give it a little better hold on the corners, when you're sewing in and out of the holes. It'll hold it a little better. It'll also prevent it from knotting a little bit and I'm gonna show you how to wax that, right now. Just a real quick demo on that, so I'm just gonna cut a short piece, I would probably want a little bit of a longer piece if I was actually binding. And then you just wanna get a little cake of beeswax here and you can get these at most art supply stores. And you just run the thread, through the wax a couple of times. And then you'll get, just a... I usually do two or three times. Three seems to be a good amount and I'll just get a nice light coating, on the thread and that will be ready to bind with. Another kind of linen thread that book artists just love, are these colored waxed threads, that you can get from craft supply stores. There really intended for basket weaving, but book artists love 'em because of there colors. They come in, I think, over 20 colors. They're linen, they come in three or four ply. Either works for any of the bindings I'm gonna be showing you. And they come already waxed, sometimes they have a little bit too much wax on 'em and you can remove a little wax by just running it through the eye of your needle if they come a little bit too waxed. So these are the threads that I'll be using in my demonstrations of the multi signature book. You can see the colored thread there. And this stab binding, the Japanese stab binding. Japanese side-sewn binding.

Chapter 5 - Knots

Square knot

- I'm going to show you a square knot, which is a knot that you're probably going to use in every book you bind in some place or another. So I have this set up, where I've got one end which is just a few inches. Let's say I'm starting out a binding and then the end that's attached to my needle. I'm going to do a square knot. You take left over right, make a knot just like you're doing a shoelace knot, and then right over left. It's a double knot. You're leading with your different hand each time, and then pulling it tight. That's a square knot.

Hitch stitch

- This is a hitch stitch and what it is is a knot that you use at the end of a binding, typically, to tie off

when you don't have another end of thread to tie off with. But you probably will have a loop of thread that's already part of your binding, or a length of thread that's already gone in and out of a sewing station. So what you do is you take your needle underneath that existing thread, creating a loop, and then right through that loop and tighten it. And that is a hitch stitch.

Weaver's knot

- This is a weaver's knot, and this is a knot that you use when you've run out of thread while binding. You're binding away on a multi-signature book, and you realize you're just not going to make it to the end. The reason you want to use a weaver's knot is because it's easy to place in a certain spot. If you try to do a square knot and do that, it's really very difficult, so that's why we use a weaver's knot for that. So here I am, here's the instance that I'm in in my signature, I know I'm not going to make it to the end, I've got maybe five more signatures to go. I figure that this is a good place to make a weaver's knot. So this is my new piece of thread. I've used a darker piece of thread just to show you a contrast of what's the new thread and what's the old thread. So this is the new, nice, long piece of thread that's going to get me to the end. So I'm going to take it, and I'm going to form a loop that I call a bunny's ear, and then I take the short end and take it around my bunny's ear, and make a hole, and then I go down the hole. And you start tightening it up, tightening it up with that end, and I'm going to take that loop and place it around my old thread that's way too short. I'm going to place it exactly where I want it, which is right between these two holes. I think that just kind of looks nice and symmetrical, and I'm going to push, push, push the knot over until I feel a little bit of a click. And there you've got a weaver's knot. You can now cut off these two longer pieces so it hides a little nicer inside of your book. And you're ready to thread this long piece and continue binding. So there's our weaver's knot.

Chapter 6 - Glues and Adhesives

Types of glues used in bookbinding

- Now I wanna talk a little bit about glues and adhesives that are used in bookmaking and that I'll be referring to in my bookmaking classes. PVA stands for Polyvinyl Acetate and this is a glue that I probably use the most in bookmaking. It's a very permanent glue. It dries very quickly and it's elastic too so it'll bend. It won't be brittle. The downside to it is that it is permanent and a lot of bookbinders and conservators don't like to see that because when they're repairing a book, they wanna be able to reverse the glue and you can't reverse PVA. It's pretty permanent. It can also get a little thick and dry a little quickly. Sometimes that's good, but sometimes I want a little more drying time and so I add methyl cellulose to it and I do a 50-50 mixture. It makes a really nice, a little more silkier glue. It's easier to spread and it allows you a little bit more drying time in your projects. So, I like to have both of those on my work bench. I usually always have the straight methyl cellulose too. It's a gel and it's a very light adhesive. You probably don't wanna use it on its own, except for little tiny jobs. Occasionally I'll use it when just a little corner of something is sticking up and I wanna just tuck a little bit of methyl cellulose in there, maybe with a toothpick or something to hold it down. It's a really nice gel, but when you buy it, it come in powder form. It's this white powder. You buy it. It comes with the instructions. You mix it with water very easy and it'll form the gel form. You don't have to refrigerate it. It has a pretty good life on your work bench. So, I'll talk now a little bit about wheatpaste which a lot of binders and conservators do like. It's been around for hundreds of years. It's pastry flour and water. That's all there is to it. If you want the recipe for this, you can go to the pdf download for really easy microwave recipe. Just pastry flour and water. This is a real nice

reversible glue. It's a little wet sometimes, a little wetter than the PVA, so for certain projects, it might not be perfect for you. It also has a short shelf life. In a refrigerator, it only lasts about three days, but a lot of binders just bring this into their routine. They make their coffee in the morning. They make their wheatpaste and they're ready to go. I do wanna mention that you wanna use pasty flour as opposed to a regular flour. You can get it in most health food stores. It has a little lower gluten. The gluten is what makes the glue sticky, but bugs are also very attracted to eating it, so you wanna get a flour that's low enough in gluten that bugs don't want it, but high enough that it is gonna stick, so that is wheatpaste. And lastly, I wanna talk about glue stick. Don't forget about glue stick. It's not the best glue. It's not the strongest glue, but sometimes if you just wanna tack down a little area to hold it into place before you get to stitch it or to do a heavier glue on it, it's perfectly fine. It's got a nice pH balance to it. It's reversible. It just won't last very long. It'll come pretty much unstuck after a couple years. So, those are the glues and adhesives that I'll be referring to in my classes.