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Date: Aug. 2, 2019
Spinning and Dyeing for Colcha Embroidery

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Abstract

This in depth study is about spinning yarns for colcha embroidery using various preparation and spinning methods and also looking into using a non-traditional wool to create the embroidery threads.

I’ve explored the traditional Navajo Churro wool processing and spinning it both woolen and worsted to create a yarn that would work for lots of detail in the actual embroidery. I’ve also explored the wool from Border Leicester sheep to create a designer colcha embroidery yarn. This yarn turns out to have more luster and grist to create a yarn that would cover more ground in an embroidery project.

One of the nice things about colcha embroidery yarns is that the finished yarns are singles. This eliminates the task of having to ply the yarns.

If you’re interested in seeing the different types of yarn that can be created for colcha embroidery, you must visit Olds College in Olds Alberta, Canada to see all the yarns created for this study. You will also get to see some of the natural colors of Navajo Churro wool as well as all the natural dyes that were used for the yarns and embroidery samples for this study.
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Introduction

There are multiple purposes of this study. The first is to spin and dye the traditional Navajo Churro wool with various preparation and spinning methods and to compare these to what was most likely done in the earlier days of colcha embroidery during the Spanish colonial period. The second is to spin a whole different “Designer Colcha Yarn” from a different breed of sheep called Border Leicester with the same preparation and spinning methods and to see if this type of wool makes a significant difference in the appearance of the finished embroidery.

This study will also explore the oldest of colchas to see what they were made of, how they were made with the ground cloth, and the types of yarns used. They all still have much to teach us.

I have been doing colcha embroidery since 2005 and, although Suzanne Macaulay’s book *Stitching Rites* was published in 2000, I did not purchase the book to read until 2010. Nancy Benson’s book *New Mexico Colcha Club* was not published until 2008, when I purchased a copy. After reading these two books I learned a lot more about the history of colcha embroidery, but I had formed my own opinions about spinning the yarns for colcha embroidery long before reading either of these books.
Materials and Methods

Colcha Embroidery is an embroidery technique done with a self-couching stitch that closely resembles the Bokhara, Roumanian and the Kloster Stitch. The embroidery was originally done on a plain weave cloth called sabanilla. Sabanilla is the Spanish diminutive for sabana, which means sheet. The old colchas were not only embroidered on sabanilla but the whole surface of the bedspread was covered with the embroidery. The word colcha in Spanish means bedcovering, bedspread or quilt, although quilts as we know them today were not known in the 16th to 19th centuries in northern New Mexico. The association probably comes from the other item colchon, which is a mattress. It was two layers of sabanilla filled with wool inside, which is more like a quilt than the actual colchas, which were embroidered on one sheet of sabanilla. After the opening of the Santa Fe Trail in 1821, northern New Mexico was introduced to many other trade goods from the east and cotton cloth became available. The colchas done on this cotton cloth didn’t cover the whole ground as with sabanilla.

Then there’s the wool. When the Spanish came to northern New Mexico, they brought sheep with them. The sheep they brought were the small, coarse-wooled sheep from Spain called Churras. These sheep were ideal to send to the far northern reaches of New Mexico’s high desert since they came from a semi-arid area of Spain. They were brought not only for their wool, but they were also a dairy breed in Spain that is still used to make the Zamorano cheese from Zamora in Spain. They were sustenance on the hoof, yielding meat, wool, hides and
cheese to the early settlers of northern New Mexico. Coronado brought thousands of Churra sheep with him on his expedition to New Mexico in 1540 and Don Juan de Oñate brought sheep with him to settle the new colony in 1598. “Oñate’s party took four thousand churro sheep to their new settlement in 1598” (Montaño, 2001, p. 109) These tough little coarse-wooled sheep could go for several days without water and were able to thrive, grazing on the arid lands of New Mexico.

Churros are now called Navajo Churros, since the Navajo helped to preserve this breed during the early part of the 20th century when the United States government forced the killing of as many of these sheep as they could under the guise of the sheep contributing to the dust bowl conditions. The Navajo hid their flocks in remote canyons on their reservation in northern Arizona where the army couldn’t find them.

The Navajo Churro wool used in colcha embroidery has been traditionally done with this double coated sheep. No one can be certain how the wool was processed in the early days, so that is why I have prepared samples of the Navajo Churro wool with various preparations and spinning methods to see which would be more appropriate for contemporary colcha embroidery. From the many wills and inventories that I’ve researched, I found that these settlers of New Mexico had wool cards and even spinning wheels as early as the 18th century (Spanish Archives New Mexico, wills and estate inventories, 1714-1818, Santa Fe, New Mexico State Center and Archives). This does not mean that all of them had wool cards, so I’ve prepared my samples with card. ed wool, spun woolen then worsted
and opened locks. I’ve sampled the opened locks as is without separating the fibers, just pulling on the intact locks one way, then the other, until the locks resemble carded locks. I’ve spun these both woolen and worsted. Then I’ve prepared the wool with English wool combs, spinning these woolen and worsted as with the other samples in the study.

Figure 1 Colcha Embroidery Technique

Before I go into the various preparation and spinning methods, I would like to demonstrate the stitching technique on a sample of sabanilla. From left to right in Figure 1, I start the embroidery by fastening the woolen yarn with several
stitches to hold it in place, then bringing the long yarn down so I can stitch it down to start the couching of the yarn (middle of Figure 1). The yarn is couched down from bottom to top and then coming down again and continuing the rows to the right where several rows are couched down (right of Figure 1).

Figure 2 shows a sample of yarn 1, carded Navajo Churro wool and was spun woolen (10 yards, singles, spun Z, 2 grams, TPI: 4, WPI: 18, AOT: 14, Count: 8s). I would think that this was the main preparation method for spinning colcha yarns in the past. It made a very nice yarn spun a little thin, but great for someone used to using Persian yarns for doing the colcha embroidery.

Figure 2 Yarn 1, Navajo Churro wool, carded and spun woolen
In the embroidery sample in Figure 3 above, the flower is done with great detail and for a yarn that was carded and spun woolen it still has a nice sheen to it. Mary Pierce, my first colcha embroidery teacher, enjoyed doing these samples since the thinner spun handspun yarns gave her the detail she is used to since she does most of her embroidery with Persian yarns.

Figure 4 shows yarn 2, Navajo Churro wool from carded fleece and is spun worsted (10 yards, singles, spun Z, 2 grams, TPI: 4, WPI: 20, AOT: 14, Count:
4s). It is a little thinner than the previous yarn but also will let the embroidery show finer detail. A detriment to this yarn being so thin is that it will require the yarns be held closer together, making it more difficult to fill in the space quickly. It should also lend more luster to the finished embroidery.
The embroidered sample in Figure 5 above shows a lot more stitches per inch and it also shows a great amount of detail and maintains the lustre of the Navajo Churro wool. This sample was embroidered by Ric Rao.
Figure 6 shows yarn 3, from Navajo Churro locks spun woolen (10 yards, singles, spun Z, 2 grams, TPI: 4, WPI: 27, AOT: 7, Count: 8s). This yarn was extremely thin, which means that it would require more of the yarn per inch to cover the ground cloth in the embroidery sample. It was also a very inconsistent yarn compared to the other techniques.
The embroidered sample in Figure 7 was embroidered by Glenna Dean with yarn 3. Glenna and I suspect that spinning these opened locks on a wheel contributes to the unevenness of the yarn. We think that if it were spun on a drop spindle (or malacate as it is called in Spanish), it would be a more consistently spun yarn.
Figure 8 shows yarn 4, Navajo Churro yarn spun from opened locks and spun worsted (10 yards, spun Z, singles, 2 grams, TPI: 4, WPI: 26, AOT: 7, Count: 4s). It is also a very thin and inconsistent yarn. I think the fact that it is so thin inhibits the sheen that this yarn would have had if it were spun a little thicker.
The sample in Figure 9 was embroidered by Glenna Dean was done with yarn 4, Navajo Churro opened locks and spun worsted. The embroidery was done very well considering the yarn was so thin and inconsistent. Glenna and I thought that if I had spun these opened locks on a spindle or malacate that the locks would have been easier to spin with more consistency.
Figure 10 shows yarn 5, combed Navajo Churro wool spun woolen (10 yards, spun Z, singles, 2 grams, TPI: 3, WPI: 27, AOT: 14, Count: 8). It is one of the nicest spun yarns in the Navajo Churro category and probably one of the most consistent of the yarns.
Figure 11 Navajo Churro, combed and spun woolen, embroidery sample by Annette Gutierrez Turk

Figure 11 is an embroidered sample with yarn 5, Navajo Churro combed and spun woolen, embroidered by Annette Gutierrez Turk. She commented that the yarns were a little thin for her taste, making it more difficult to fill in the stitches and taking longer to fill in the spaces between yarns.
Figure 12 shows yarn 6, from Navajo Churro wool, combed and spun worsted (10 yards, spun Z, singles, 2 grams, TPI: 3, WPI: 22, AOT: 7, Count: 4s). It is a nicely spun yarn but still a little thin.
Figure 13 Navajo Churro, combed and spun worsted, embroidery by Julia Gomez

Figure 13 shows an embroidered sample of Navajo Churro wool combed and spun worsted. It was embroidered by Julia Gomez. Julia did not comment on the thickness of this yarn, but she did a beautiful job of embroidering the sample.
Innovation for This Study

I wanted to create a new designer yarn for colcha embroidery, and I decided to use Border Leicester wool since it has such a beautiful luster.

Figure 14 shows yarn 7, Border Leicester wool carded and spun woolen (10 yards, spun Z, singles, 2 grams, TPI: 3, WPI: 18, AOT: 14, Count: 8s). This yarn is a perfect thickness for doing colcha embroidery, but the woolen aspect keeps the wool from having the luster it could with other preparation and spinning methods.

Figure 14 Yarn 7, Border Leicester, carded and spun woolen
The sample in Figure 15 was embroidered by Mary Pierce. She did a wonderful job with this little traditional deer pattern that really makes this yarn look very good. It turned out to be a very nice yarn but still lacked the luster possible for this sheep breed.
Figure 16 shows yarn 8, Border Leicester wool carded and spun worsted (10 yards, spun Z, singles, 3 grams, TPI: 4, WPI: 20, AOT: 7, Count: 3s). This yarn is a nice weight for colcha embroidery, but it lacks the luster that a worsted spun sample of Border Leicester wool should have even when carded.
The Border Leicester yarn in Figure 17 was carded and spun worsted. I completed this embroidery, and my comment on this yarn was that with the worsted spin it made this yarn stiffer, so when you turn the yarn to do the embroidery, it's a little too stiff to make the embroidering easy.
Figure 18 below shows yarn 9, Border Leicester wool combed and spun woolen (10 yards, spun Z, singles, 2 grams, TPI: 4, WPI: 22, AOT: 7, Count: 8s). The yarn is very nicely spun but it doesn’t have the luster of a yarn spun worsted.
This sample in Figure 19 with Border Leicester wool combed and spun woolen was embroidered by Annette Gutierrez Turk. She commented that these samples were a little too thin for her liking. These samples were a bit thicker than the Navajo Churro samples and she loved the colors.
Figure 20 shows yarn 10, Border Leicester wool, combed and spun worsted (10 yards, spun Z, singles, 4 grams, TPI: 3, WPI: 16, AOT: 14, Count: 2s). This yarn was the best of all the yarns so far. It was smooth and lustrous and easier to cover more ground.
The sample in Figure 21 used Border Leicester, combed and spun worsted, and was embroidered by Julia Gomez. It is by far the best colcha yarn in this whole series of preparations and spinning methods, making maximum use of the yarn over the surface of the ground cloth.
Navajo Churro Wool

The Navajo Churro sheep come in a variety of colors, allowing for a variety of shading without dying. Also, while it’s not true of all Navajo Churro sheep, many fleece colors will fade or lighten each year the animal ages. The nice thing about this is if you only have one sheep, you’ll have multiple colors over the years. I’ll be showing some of those colors here.

Figure 22 shows Navajo Churro wool in gray. Usually Navajo Churro sheep born with a black coat will fade each year a little bit until their fleeces are totally gray. There are some sheep that maintain their color, but it is unusual.

Figure 22 Navajo Churro wool in gray
Figure 23 shows Navajo Churro wool in light brown. Usually these sheep are born with very dark brown fleeces that fade each year until they are almost beige.
Figure 24 shows a dark brown Navajo Churro wool. It would be nice if this sheep would maintain the dark brown color, but most likely it will fade each year. We had a dark brown ram at the New Mexico Farm & Ranch Heritage Museum where I spin each week, and over the years he faded to a very light brown.
Fig. 25 shows Navajo Churro wool in black. Navajo Churro wool is sometimes jet black while others shade more towards brownish blacks. These sheep usually fade as the years go on to shades of gray to a very light gray.
Spanish Colonial Dyes

Spanish Colonial Dyes are the dyes that the Spanish settlers brought up from Mexico and also includes the dyes that were found locally in the deserts of New Mexico.

Figure 26 shows Indigo (Indigofera suffruticosa), which was brought up from Mexico. On the left, the wool was dyed just with indigo, and on the right is indigo blue over Chamisa yellow to make green.

Figure 26 Indigo (left), Indigo over Chamisa (right)
Figure 27 shows colors from marigolds (Tagetes sp.) on the left and Juniper root bark (Juniperus sp.) on the right. Marigolds are raised from seeds that are re-sown each year giving golds to orange golds. Juniper root bark is harvested from roots exposed in arroyos and the bark peeled off of them. The dye yields a reddish-brown color and will dye cotton as well as wool.
Cochineal (Dactylopius coccus) is shown in Figure 28. It is a dye made from insects that infect the opuntia cactus and was harvested by the Maya for many centuries. It gives various colors of red as with the example below, which is more of a purple-red (crimson) with alum (left) as a mordant and a true red (scarlet) with tin as a mordant (right) from an 18th century dye recipe. “It is my favorite eighteenth-century method of producing scarlet” (Liles, 1990, p.131)
Osage Orange is not technically Spanish Colonial dyes since it was not used during the Spanish Colonial period. Figure 29 shows two commonly available natural dyes in the New Mexico region. On the left, Osage Orange (Maclura pomifera) is found in parts of West Texas and eastern New Mexico. Since it is made from sawdust, the dye is very light fast due to the amount of tannic acid it contains, which also makes it an excellent dye for cotton as well as wool and other protein fibers. On the right, Black Walnuts, (Juglans nigra) which is a Spanish Colonial Dye are found all over New Mexico. It was a popular dye to make browns. Even though the Churro wools come in browns, they can be overdyed to make the really nice warm browns associated with Black Walnuts.
Figure 30 shows Mountain Mahogany (*Cercocarpus ledifolius* Nutt.) and Cota, Navajo or Hopi Tea, (*Thelesperma* sp.). Mountain Mahogany is a small tree or shrub found in the mountains of western New Mexico, and the dye is made from roots. It makes a reddish dye on wool. It is a Navajo dye, not Spanish Colonial and Cota, Navajo or Hopi Tea is a small flowering plant that has no leaves and orangey gold flowers. It is called Green thread in English is a Spanish Colonial Dye.
Figure 31 shows dyes from Cañaire/Yellow Dock (Rumex Hymenosepalus) and Chamisa or Rabbitbrush (Chrisothamnus nauseosus).

Cañaire/Yellow Dock is a plant I harvest in the desert in the spring. If we do not get winter rains, it does not come up in our northern Chihuahuan desert. Chamisa/Rabbitbrush is a plant that is more plentiful in northern New Mexico. I usually harvest it along the Rio Grande in the fall, south of Taos New Mexico.
Fig. 32 shows dyes from Brazilwood (Caesalpinia echinata) and Logwood (Haematoxylum campechianum). Brazilwood is the heartwood from a tree that grows along the coast in Brazil. It makes a red dye and is not very lightfast. Logwood produces a purple blue dye that came from the Bay of Campeche in Mexico. It also is not a very colorfast dye. I don't use these dyes very much since their color doesn't last.
Figure 33 Snakeweed with alum mordant (left) and with iron mordant (right)

Figure 33 shows dyes from Snakeweed (Gutierrezia sarothrae). Snakeweed, also known as Escoba de la vibora in Spanish, is a noxious weed here in the northern Chihuahuan desert. It does make a lovely yellow dye when mordanted with alum and a very nice green dye when mordanted with iron.
Results

Of the Navajo Churro yarns, Yarn 1, which was carded and spun woolen, was the most effective for colcha embroidery. This is also my favorite spinning technique, as I use each week at the New Mexico Farm & Ranch Heritage Museum. This yarn had more grist than the other Navajo Churro yarns but was still fine enough for a nice colcha yarn. For the Border Leicester wool, Yarn 10, which was combed and spun worsted, was the most effective for colcha embroidery. I could have spun many of the yarns a little thicker but spinning singles yarns and not having them under-spun or over-spun and well balanced was what I was going for. With both the Navajo Churro and Border Leicester wools that I used for this study, they were most balanced at the grist they were spun.

I think the dyeing that I did on all the yarns turned out extremely well. I have been doing natural dying for more than 35 years now and I never tire of the beautiful colors. I strive to make the dyes as colorfast as I can, and I tend not to use dyes that are fugitive.

I’ll go into detail about all the research, I have done these past months travelling to Santa Fe and spending days at a time at the museums there. I found some very interesting colchas, looking at the very oldest to the most contemporary. I want to talk about and show photos of some of the oldest colchas I’ve studied as well as the colcha embroideries from the town of Carson in northern New Mexico, close to the city of Taos.
Colcha Revivals

The Arte Antiguo

There were several Colcha Revivals over the years. One very significant one was the formation of a social club informally started in 1928, then formally named "The Arte Antiguo" in 1934. Arte Antiguo means "the ancient art" in English. It was formed by a group of Hispanic women who wanted to focus on Colcha embroidery. Teofila Lujan and Regina Cata formed this social club. "It was these two friends and a number of other Hispanic women in nearby neighborhoods who formed the Arte Antiguo" (Benson, 2008, p. 103). These women took great pride in their Hispanic heritage and wanted to ensure that Colcha embroidery would survive in the 20th century. They traveled to old churches to examine the embroidery on vintage alter cloths, they found embroideries in attics, and they also went to Santa Fe to examine the oldest colchas to see how they were done in the past. The club lasted more than six decades. One notable thing about the group was that they also saw the oldest colchas and they recreate these in the old way, with heavy stitching on the reverse side. Esther Vigil, Teofila’s daughter, told me that her mother told her she wasn’t putting enough wool on the reverse side of the embroidery. "Each year she exhibited at the Spanish Market and sold her colcha pieces to individuals from all over the country" (Vigil, 2006, p. 6). These women sold their embroideries at Spanish Market and they won awards there as well. It
was a wonderful revival effort and thanks to these women we are still doing colcha embroideries.

There were other revivals as well. One of them, "The Spanish Colonial Arts Society," founded in 1925 in Santa Fe. They also were determined to keep these Hispanic arts alive. "The founding of the Spanish Colonial Arts Society in 1925, followed by the establishment of its commercial arm, the Colonial Arts Shop, and then by the latter’s replacement by the Native Market in 1934—all represent a marketplace theater in which various levels of commercial and artistic endeavors were enacted" (Macaulay, 2000, p. 78).

In New Deal-era art programs during the 1930s, there were various embroidery projects done in federally funded art programs across the state of New Mexico. There was the National Youth Administration (NYA) in Capitan, New Mexico, and another in Roswell.

"In 1933, the New Mexico State Department of Vocational Education (SDVE) also established a network of training schools in Spanish colonial arts throughout northern New Mexico" (Macaulay, 2000, p. 81). They produced SDVE instructional manuals. Brice Sewell, the director of SDVE had some of his employees produce these mimeographed manuals. Two of his employees, Carmen Espinosa, a Spanish teacher and historian, and Dolores Perrault, a weaver and teacher, produced a booklet called "New Mexico Colonial Embroidery." Espinosa wrote the introduction to the practice of colcha embroidery and Perrault sketched the designs, which came from the Curtin Collection and the Espinosa Collection.
The Carson Colchas and the Old Ones

The colchas from Carson, New Mexico, were made during the 1920s and 1930s during the Great Depression. The families that were dealing in the trade of textiles during this period were the Shupe family and the Graves family. Wayne Graves produced lots of colcha embroideries since he was not well, and he died at age 33. Elmer Shupe married Winnie Graves, Wayne’s sister, their brother Richard Claude Graves married M. Frances Varos, and another brother, Frank Graves, married M. Sophie Varos.

Carson was a Mormon community, but Frances and Sophie Varos were Hispanic from nearby Arroyo Seco and were raised Catholic. Elmer Shupe was a trader. He bought as many Rio Grande textiles as he could. The family would repair the ones that could be repaired and recycle the yarns and the base of sabanilla cloth of the ones that couldn’t. They also recycled old mattresses (colchones in Spanish) to repair and re-create the colcha embroideries. During the Great Depression, people did whatever they could to make a living.

Frances Graves described her initiation into colcha embroidery this way: “We bought an old colcha in Ojo Caliente. It was pieced together in something like a double wedding ring pattern. Part of it needed mending, so we tore it apart and copied the stitch. We kept on practicing until we got it right” (Pettit, 2012, p. 87).
It’s likely that the Shupe and Graves families in Carson bought and had access to the oldest colchas, probably from the late 18th century and up to the early 20th century. The way they re-created these old colchas and the way they created new ones, even if from recycled yarns, was the way these old colchas were originally done. They had heavy stitching on the reverse side, which makes perfect sense since they lived in adobe houses with only a fireplace to keep them warm in the very cold northern New Mexican winters.

Contemporary colcha embroiderers seem to think that doing the embroidery with most of the wool on the top side and very little on the reverse side is the way that colcha embroidery was always done, being thrifty with the yarns. This is not the case. They were not as worried about thriftiness as they would have been about warmth. Each Churro sheep yields several pounds of wool, which would have been spun and dyed. They would have had plenty of yarn to make the embroideries as thick as possible.

Some of the older colchas were made holding two threads together to couch down, which would have made it easier and faster to create a completed colcha embroidered bed covering.
Figure 34 below is a Carson Colcha made by Wayne Graves. It is beautifully executed with flowing designs and it is wool on sabanilla cloth. It is the top side of the colcha bedcovering. Wayne was a prolific embroiderer of colcha embroideries since he had heart troubles and couldn't do the usual outside work that men did in those years. He stayed at home and stitched some very beautiful colcha embroideries on sabanilla cloth.

Figure 34 Carson Colcha, Wayne Graves, front side, courtesy of Museum of Spanish Colonial Art, Santa Fe, New Mexico

Figure 35 and 36 show the reverse side of the colcha in Figure 34. There is very heavy stitching, but you can see the base cloth of sabanilla on this colcha and it looks to be in very good condition.
Figure 35 Carson Colcha, Wayne Graves, back side, courtesy of Museum of Spanish Colonial Art, Santa Fe, New Mexico
Figure 36 Carson Colcha, Wayne Graves, reverse side, courtesy of the Museum of Spanish Colonial Art, Santa Fe, New Mexico
The next colcha, Figure 37, is one of the oldest at the Museum of Spanish Colonial Art in Santa Fe. It is completely covered with embroidery with undyed and vegetal-dyed yarns on sabanilla and it may have been made in Santa Cruz, New Mexico, in the late 18th century.

Figure 37 18th century Colcha. Courtesy of the Museum of Spanish Colonial Art, Santa Fe, New Mexico
Figure 38 shows the reverse side of the above colcha. The reverse side has heavy stitching on a base cloth of sabanilla cloth.

Figure 38 18th Century Colcha, reverse side. Courtesy of the Museum of Spanish Colonial Art, Santa Fe, New Mexico
Figure 39 shows a Carson Colcha, showing heavy stitching on the front side.

Figure 39 Carson Colcha, photo courtesy of the Museum of Spanish Colonial Art, Santa Fe, New Mexico.
Figure 40 shows the reverse side of the above Colcha. The reverse side shows very heavy stitching.
Contemporary Colcha Embroidery

The evolution in the way colchas were done and how they are done now is a normal thing for folk art. The colcha embroidery that was done in the early years was practical and made not only for beauty in the household objects but for the warmth they afforded people in the cold northern New Mexico winters. Now in the twenty-first century, there is less of a need to make colchas as warm as possible. With modern heating in our houses, this folk art has evolved more as an art form than a necessity. Change and evolution in art is not a bad thing, and I believe these changes are good. Embroiderers that are doing colcha now have many choices, including commercially made yarns in very bright colors and with finer diameter, which makes for an embroidery that has much more definition with a lot more detail in the patterns. Despite these options, I still prefer my handspun naturally dyed yarns. It gives my colchas a more textural feeling that I like very much. I also have a large palette of colors to choose from and whether I put them on wool sabanilla or a cotton ground, it doesn’t matter. The samples below are just a small example of contemporary colcha embroidery, done by me and others. These pieces illustrate the small amount of embroidery on the reverse side of the work, the more contemporary practice, knowing that having a lot or a little yarn on the reverse side of the work doesn’t make the working of the piece wrong or right; it is the personal preference of the embroiderer.
Figure 41 is a contemporary colcha embroidery that I entered in the New Mexico State Fair in 2015, where it won second place. The name of the embroidery is "Granada," which means pomegranate in Spanish.

Figure 41 “Granada,” colcha embroidery by Ric Rao, wool on cotton, natural dyes and background done with sabanilla warp yarn for textural effect
Figure 42 below shows a work in progress for “Granada” and Figure 43 shows the backside of “Granada.”

Figure 42 “Granada” work in progress, started in 2012
Figure 43, "Granada" reverse side of work in progress, started in 2012
Figure 44 below is a photo of my Mimbres bat pillow

Figure 44 Mimbres Bat by Ric Rao, done in Persian yarns on white osnaburg cotton in 2012
Figure 45 Rock art ram, done in Persian yarns by Ric Rao, 2012
Conclusion

In conclusion, I found that there were two yarns, Yarn 1, Navajo Churro and Yarn 10, Border Leicester that worked best for colcha embroidery, but I found Yarn 10 to be the best. It was just as good a yarn but has more luster and grist than the Navajo Churro yarn. Because of this study, I will go on to produce my very own Designer Colcha Yarns like Yarn 10 in sufficient quantity to be able to market and sell them. I did have comments from some of the embroiderers that they liked the Border Leicester yarns very much. I will be able to produce yarns, naturally dyed in all the colors of this study and then some. I'm not sure the contemporary colcha embroiderers will embrace these non-traditional colcha yarns well enough to purchase them, but the colcha embroiderers that are currently using Persian yarns will probably be interested in purchasing these designer Border Leicester colcha yarns.

Keeping traditions alive is also important, so I will also continue to spin the traditional Navajo Churro yarns for my own personal embroidery. I spin these yarns each Tuesday when I volunteer at the New Mexico Farm & Ranch Heritage Museum where they have a flock of Navajo Churro sheep in several colors. It's nice for the groups of school children to see the sheep and then come inside at the museum to see me combing and spinning their wool and showing all the natural dyes in skeins and some finished goods like a Rio Grande type rug, samples of dyed items, and a small pillow with a colcha embroidery from the brown ram's wool. They get to connect all the dots between the sheep, processing wool,
spinning yarn, and dyed and finished goods. I'm currently spinning white and dark brown Navajo Churro wool in sufficient quantity to use as a weft in a weaving called Jerga, a plaid woven twill that was used in Spanish colonial times for floor coverings, bags for onions, chiles, etc. Mine will be a throw and a reward for all the spinning I was required to do for this study. It's the first in line for something creative and after finalizing this IDS.

I will also continue to do more research, re-visit the museums, take more photos, see what other theories I come up with. I will use the information and experience I gained from this study to write a book about colcha embroidery. I plan to focus on the contemporary Colcha embroiderers that are continuing this very beautiful tradition that their ancestors brought to this continent. I have already been in touch with most of these embroiderers and they were very excited about being part of this adventure with me. They will have their photos and their work published, which no one has seen to date in one place, and we'll get to see the growth of this very New Mexican folk art in its present form. I will also have more photos of the actual old colchas, front and back, showing the actual stitching and different styles, then on to the final chapters on how this folk art can evolve. I've done many colchas using rock art, abundant in this part of the world and a wonderful subject for embroidery. I've also used the very stylized Mimbres pottery designs for colcha embroidery. There are so many ways this folk art can evolve. Some of the well-known contemporary colcha embroiderers are still doing the
traditional work required to be juried into the Spanish Market in Santa Fe each year, but they are also experimenting with other ideas, like designs from famous painters and modern art designs. The possibilities are endless.
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