

Knot nomenclature

In *The Braider*, Issue No. 21, pp. 465–466, we introduced a braid name change in order to alleviate any possible misinterpretations. Most readers will know that any particular issue of *The Braider* has been written a few years before its publication date, and that this necessitated the introduction of a yearly Appendix. Issue No. 21, for example, was written in March 1997. To some braiders we had indicated that with the first Issue of *The Braider* in the year 2000 (hence Issue No. 21) we would introduce the name change discussed in that Issue. In some ensuing correspondence it became clear that Tom Hall had misinterpreted the use of the term **over–under** or **under–over** coding. It is therefore possible that also some other braiders might need to be reminded to read carefully in which context the term **over–under** or **under–over** coding is being used. Hence we feel that, hopefully, the following examples might facilitate in the alleviation of any misinterpretations.

- (1). The terms **over–under coding** or **under–over coding** and **over–under coded Braid** or **under–over coded Braid** mean that the braid has an over–under coding or under–over coding, but no further specifics about the braidform are necessarily implied, hence the term may, for example, apply to any form of **flat braid**, **round braid**, **torus braid**, **cylindrical braid**, etc.
- (2). The term **over–under coded Cylindrical Braid** or **under–over coded Cylindrical Braid** means that the braid is a Cylindrical Braid with an over–under or under–over coding throughout, but no further specifics about the cylindrical braidform are necessarily implied.
- (3). The term **over–under coded Regular Cylindrical Braid** or **under–over coded Regular Cylindrical Braid** means that the braid is a Regular Cylindrical Braid with an over–under or under–over coding throughout, but no further specifics about the regular cylindrical braidform are necessarily implied.
- (4). The term **over–under coded Knot** or **under–over coded Knot** means that the braid is made from one string and has an over–under or under–over coding throughout, but no further specifics about the knotform are necessarily implied.
- (5). The term **over–under coded Cylindrical Knot** or **under–over coded Cylindrical Knot** means that the braid is a Cylindrical Knot (hence a single-string Cylindrical Braid) with an over–under or under–over coding throughout, but no further specifics about the cylindrical knotform are necessarily implied.
- (6). The term **over–under coded Regular Knot** or **under–over coded Regular Knot** means that the braid is a Regular Knot (hence a single-string Regular Cylindrical Braid) with an over–under or under–over coding throughout, but no further specifics about the regular knotform are necessarily implied.

It is of course up to each individual whether or not he/she will follow the discussed name change. No doubt many will not, but that is irrelevant to us. When we feel that a name change might alleviate some possible confusion, or might avoid a possible misconception, we will certainly introduce it. Hence suggestions in that field are greatly appreciated, and will of course be acknowledged.

In the Dutch knotting periodical *Het Knoopeknauwertje*, Issue No. 12, we find on the pages 8 to 10 an article by Tom Hall entitled *Sobre-gecodeerde Knopen* (*Sobre-coded Knots*). We have already discussed in *The Braider — Appendix 1999*, pp. iii–v, that the term **Casa** as defined by Tom Hall has no place in knot nomenclature. In

Het Knoopeknauwertje No.12 he talks about the Casa Knot and the Sobre-Casa Knot. In that article he restricts the Casa Knot to an over-under coded Regular Knot in which every half-cycle from lower-left to upper-right starts with an under crossing, while every half-cycle from lower-left to upper-right in the Sobre-Casa Knot starts with an over crossing. We see here again the introduction of another senseless term as far as knot nomenclature is concerned:

(1.) If there is a sobre-something knot, then there must be a bajo-something knot.[†] Not only should the sobre-something knot and the bajo-something knot be structurally different from each other, but they should also structurally differ from the knot without the sobre and bajo terms.

(2.) If the Sobre-Casa Knot has an odd number of parts and we rotate this knot through an angle of 180°, then it becomes a Casa Knot (a Bajo-Casa Knot). Hence, since the knot does not physically change (*it has only been rotated, but not changed in string-run or coding*), a Sobre-Casa Knot with an odd number of parts is identical to a Casa Knot and a Bajo-Casa Knot with the identical number of parts and the identical number of bights. An Example is shown in Fig.1 where A depicts a section of a 5-part Casa Knot or Bajo-Casa Knot and B depicts this section rotated through an angle of 180° (the stars in the respective algorithm diagrams represent the *i*-values). However, if we rotate a Sobre-Casa Knot with an even number of parts through an angle of 180°, then it does not become a Casa Knot (a Bajo-Casa Knot).

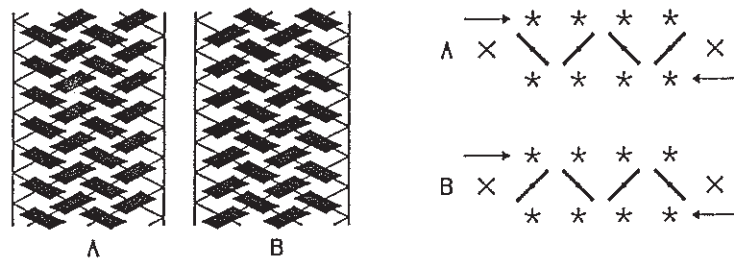


Fig.1 — A 5-part Casa Knot and its identical Sobre-Casa Knot.

It will thus be obvious that the term *sobre* (as well as the term *bajo*) has, in the context used, no place in knot nomenclature.

Those who were able to read the article (the article concerned was in Dutch) and have read it will thus see that it is ridiculous to talk of a Gaucho Knot and a Sobre-Gaucho Knot since a Gaucho-coding always requires the same number of over-crossings as under-crossings for every half-cycle from lower-left to upper-right, and hence an *n*-pass Sobre-Gaucho Knot is identical to an *n*-pass Gaucho Knot with identical *n*, the same number of parts and the same number of bights.

The essential coding of Pineapple Knots^{††} clearly indicates that for Standard Pineapple Knots the coding of the interwoven knots is not determined; furthermore, their components have an odd number of parts[‡]. For the Standard (Herringbone) Pineapple Knots the interwoven knots are Casa Knots, hence are identical to Sobre-Casa Knots since they have an odd number of parts.

Although an *A*-pass Standard Herringbone Pineapple knot can be braided in *A*!

[†] *sobre* is the Spanish word for *over*, while *bajo* is the Spanish word for *under*.

^{††} See Book 4/1, BRAIDING — Standard Herringbone Pineapple Knots, pp.16-17; see The Braider, Issue No. 44, pg.1041.

[‡] See The Braider, Issue No. 23, pg.526.