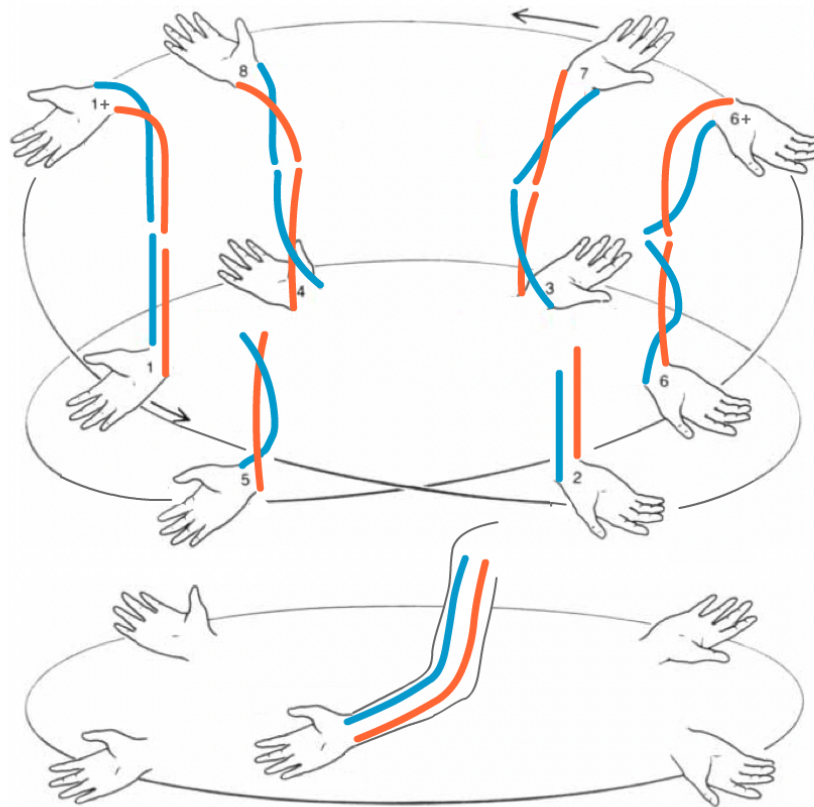Errata to "Fiber Bundles and Quantum Theory," *Scientific American* **245** 122-137 (July 1981).

p. 122 (caption) "cannot" → "can"

p. 123 for figure "DOUBLE COVERING FIBER BUNDLE" and caption *substitute*

TOPOLOGY OF THE "WINE DANCE." During the dance the performer's shoulder is fixed while the right hand rotates 720° counterclockwise. This image (partly made with elements from the original in *Scientific American*) has colored stripes on the dancer's arm to keep track of the twisting. The ends at the shoulder stay fixed, the other ends move with the hand. The numbers follow the motion of the hand. During **1 - 5** the hand turns 360° and the pair of stripes undergoes one complete twist. Between **6** and **6+** the hand rises above the shoulder, and stays above the shoulder until **1+**. Above the shoulder, further clockwise rotation of the hand *undoes* the twisting of the stripes, so that when the hand moves back down, **1+** to **1**, hand and stripes return to their original position.

Where is the topology? The rotations of the hand from **1** to **5** start and end at the identity.

The loop they form in the space of rotations of 3-space encloses a kink, shown by the twisting of the arm. But if the loop is repeated, with part of it slid upward, the kink comes undone. The existence of such a loop, a topological property of the space of rotations of 3-space, is part of the explanation of the neutron-precession experiment.

p. 124 para 3, line 13 "spin" $\to$ "spin $\frac{1}{2}$"

p. 126 para 5 line 3 *delete* "being"

p. 127 col 2 para 3 line 12 *delete* ": the ribbon can be untwisted even though the relative rotation of the two objects undergoes no further change"

line 15 "demonstrated" $\to$ "produced"

p. 128 col 1 para 2 line 18 "has given rise to" $\to$ "motivates"

p. 129 col 1 para 3 line 10 "At the third ear ... two partial beams" $\to$ "At the third ear the two partial beams are each divided again. This gives rise to two outgoing beams, each one the sum of the transmitted portion of one partial beam and the diffracted portion of the other. The two constituents of each outgoing beam interfere constructively or destructively depending on their relative generalized phase. Counters or detectors placed beyond the third ear record the number of neutrons in each of the outgoing beams."
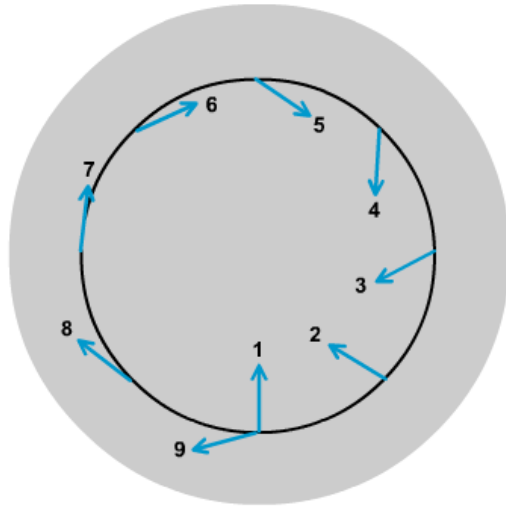
p. 129 for second and third parts of figure "NEUTRON INTERFEROMETER" *substitute*
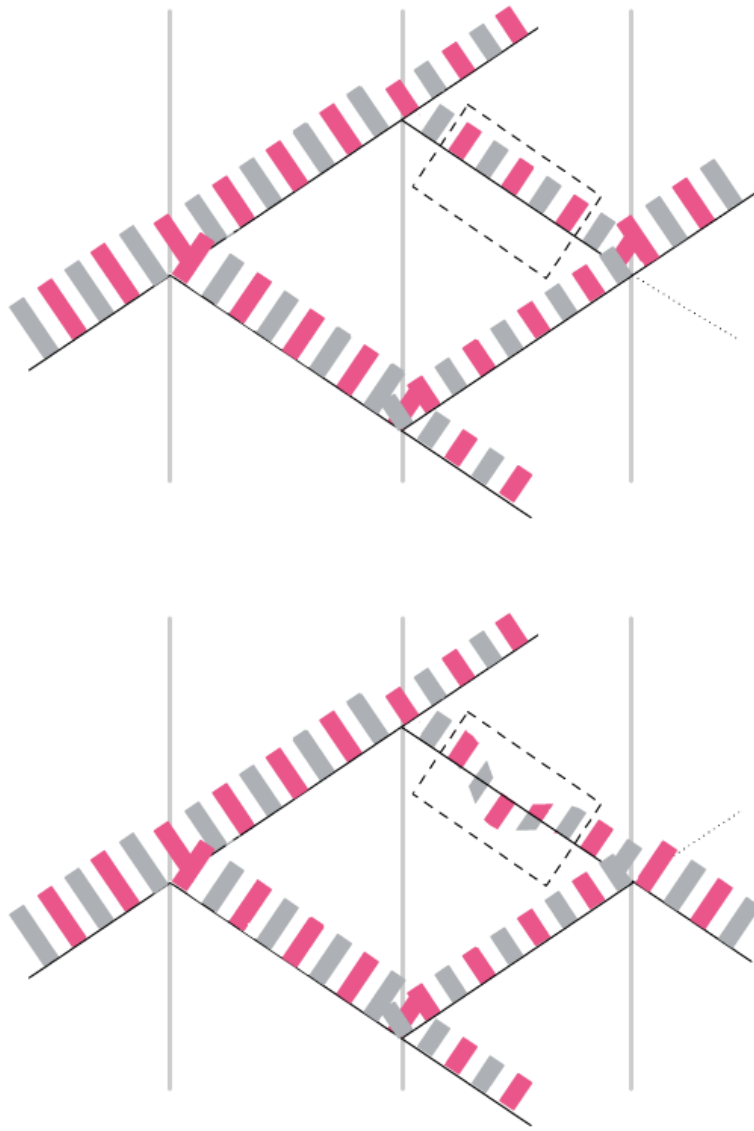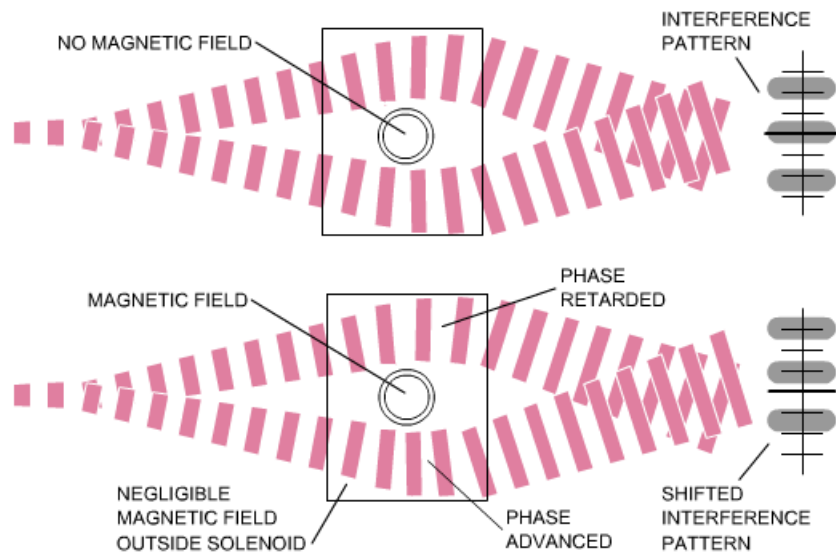
p. 130 figure caption "1620°, 1800°, 1980°, 2160°'" → "1800°, 2160°, 2520°, 2880°'"

col 3, para 4, last line "in order to comb its hair" → "in order to comb the hair on that hemisphere"

p. 133 for top right element of figure "LIFTING A PATH" *substitute*

p. 134 for bottom of figure "ELECTRON PHASE SHIFT" *substitute*

p. 135 "David Bohm of the University of London" → "David Bohm, then at the University of London"