

Table S1: Selected Spring and Autumn jade rings with Archimedes’ spiral grooves

SITE/COLLECTION	OBJECT	DATE	DIAM.	GROOVES	α
Henan Xichuan Xiasi	M1:7	552 BC	27	10	6.51±0.10
Anhui Shouxian	M102:2	491 BC	33.1	11	5.95±0.36
				11	6.11±0.50
	M102:1	491BC	38.1	14	11.40±0.70
Jiangsu Wuxian Yanshan	J2:31	S & A	75	17	21.12±1.46
				44	27.40±2.43
Shaanxi Xi’an Shahutuo		S & A	75	44	19.38±2.06
				48	20.01±2.20
The Art Institute of Chicago, The Edward and Louise B. Sonnenschein Collection	1950.615	S & A	52.4	44	19.38±2.06
Private collection		S & A	55	23	11.60±1.07

Notes:

“S&A” refers to the Spring and Autumn period, 771 to 475 BC.

When two measurements are given for a piece, each represents a different face of the ring.

“Diam.” is ring diameter, in millimeters.

“ α ” is the spiral constant in millimeters per radian, and expressed as a mean \pm one standard deviation of all of the grooves.

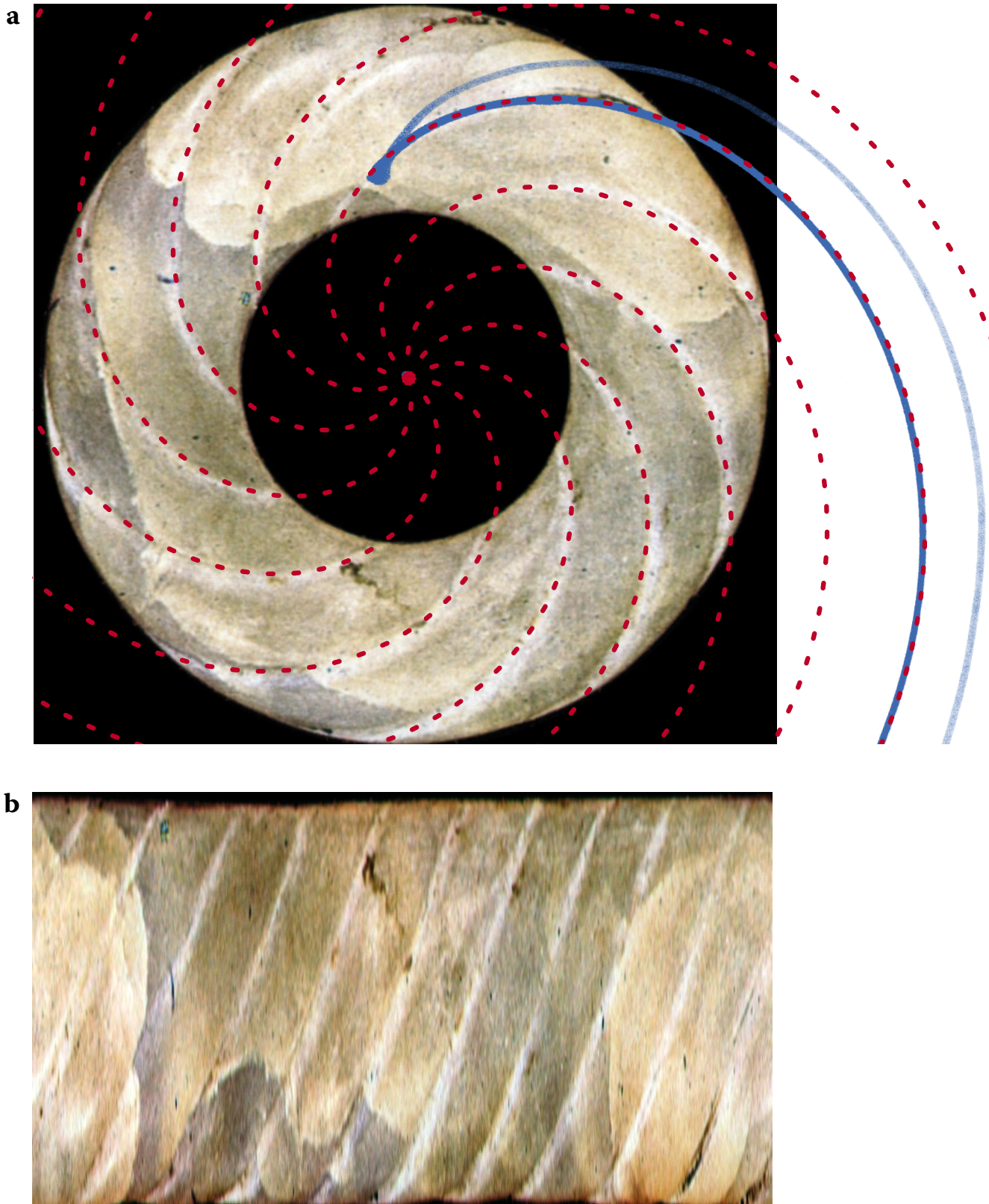


Figure S1: (a) Jade ring M1:7 from Tomb 1 of the Chu minister (d. 552 BC) at Henan Xichuan Xiasi. Red dotted (theoretical) Archimedes' spiral curves overlaid; dark blue curve is a spiral drawn by the apparatus depicted in figure 1C, fully overlapping the groove and red theoretical curve. Lighter blue curve was drawn by unwinding a string under tension, and does not reproduce the correct spiral. (b) Photograph transformed to polar coordinates. From E. Jia, Ed. *Zhongguo Yuqi Quanji* (Hebei Meishu, Shijiazhuang, 1993) vol 3, p. 37.

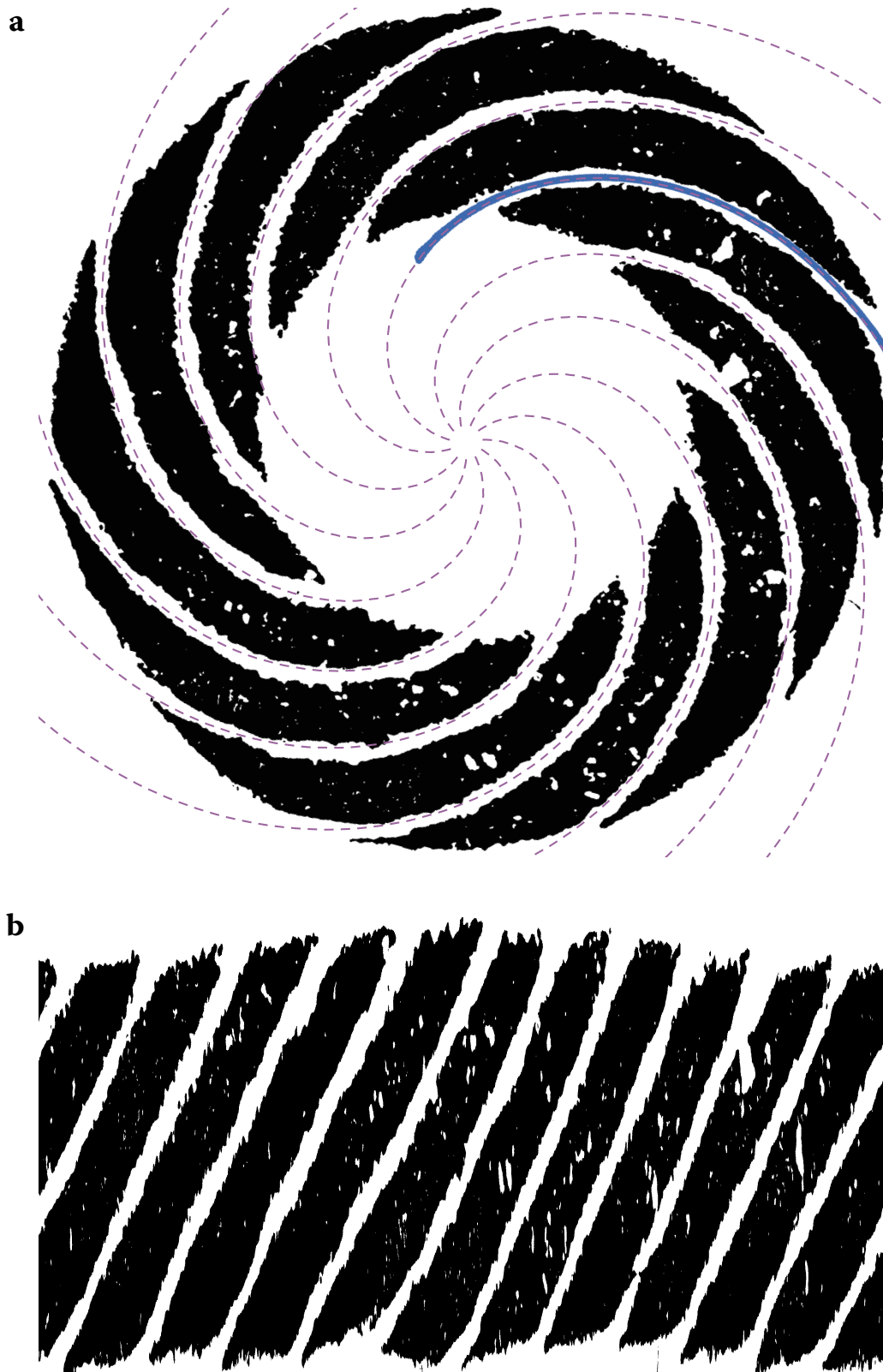


Figure S2: (a) Rubbing of jade ring M102:2 from the tomb of the Marquis of Cai (d. 491 BC) at Anhui Shouxian. Purple dotted (theoretical) Archimedes' spiral curves overlaid. Blue spiral drawn by the apparatus depicted in figure 1C. (b) Rubbing transformed to polar coordinates. From *Shouxian Cai Hou Mu Chutu Yiwu* (Kexue, Beijing, 1956), plate 105:10.

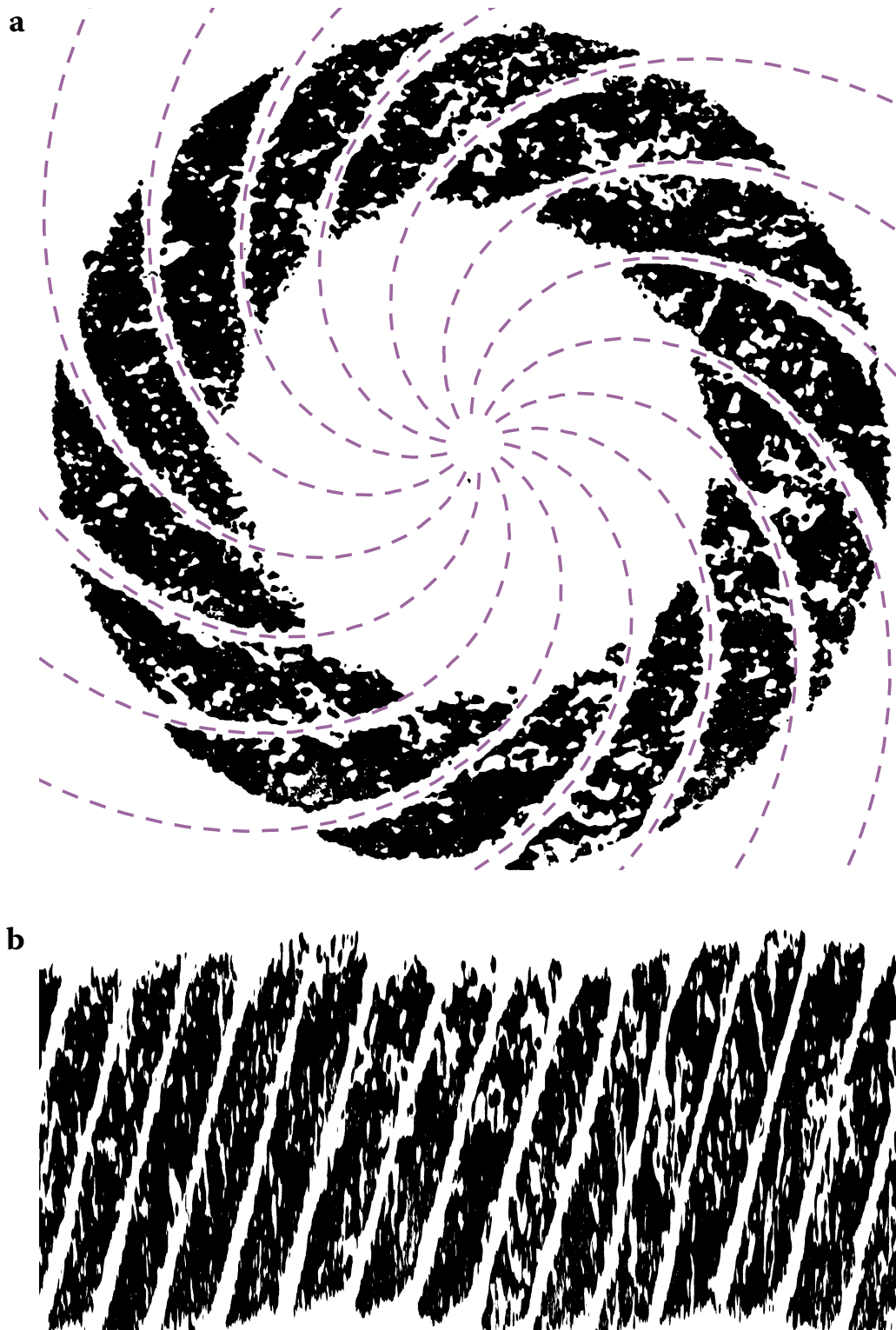


Figure S3: (a) Rubbing of jade ring M102:1 from the tomb of the Marquis of Cai at Anhui Shouxian. Purple dotted (theoretical) Archimedes' spiral curves overlaid. (b) Rubbing transformed to polar coordinates. From *Shouxian Cai Hou Mu Chutu Yiwu* (Kexue, Beijing, 1956), plate 105:14.

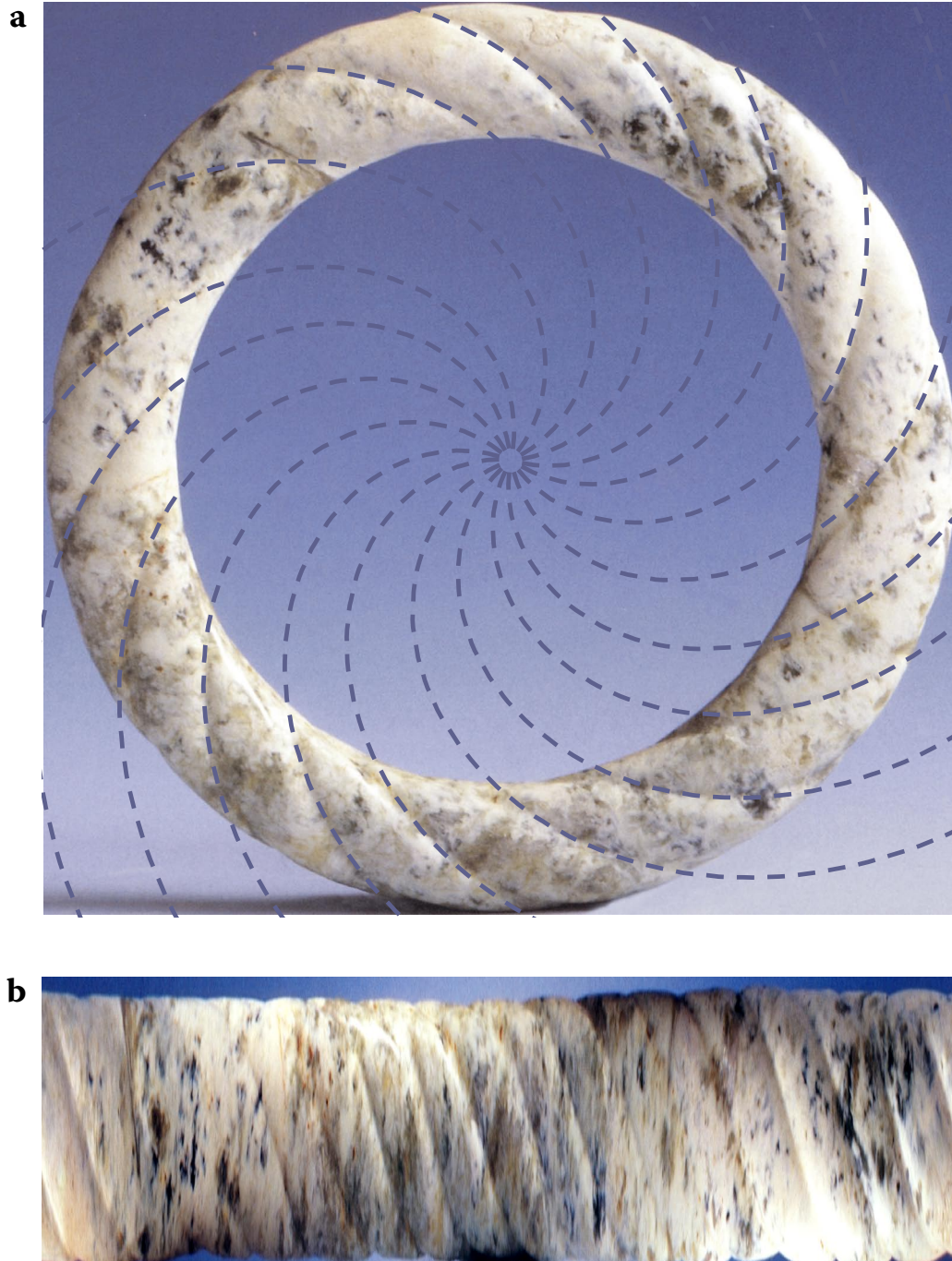


Figure S4: (a) Jade ring J2:31 from a Wu state hoard at Jiangsu Wuxian Yanshan, from the Spring and Autumn period. Blue dotted (theoretical) Archimedes' spiral curves overlaid. (b) Photograph transformed to polar coordinates. From Q. Yao, J. Gong, *Wuguo Wangshi Yuqi* [Royal Jades of Wu Guo] (Shanghai Renmin Meishu, Shanghai, 1996), p. 26.

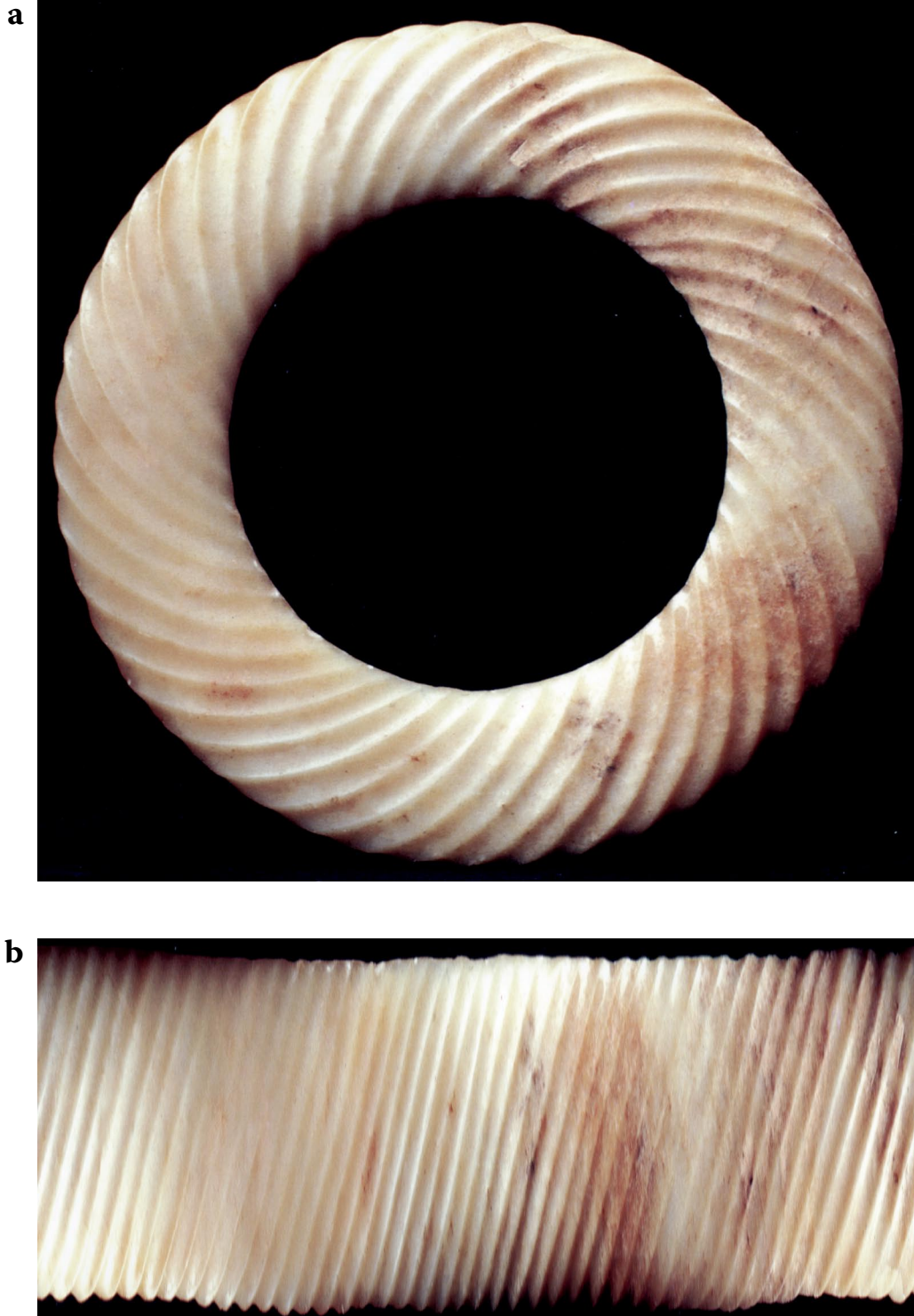


Figure S5: (a) Jade ring from a hoard at Shaanxi Xi'an Shahutuo, from the Spring and Autumn period. (b) Photograph transformed to polar coordinates. From B. Li, Ed. *Zhonghua Guobao Shaanxi Zhengui Wenwu Jicheng* [National Treasure Collection of Rare Cultural Relics of Shaanxi Province] (Shaanxi Renmin Jiaoyu, Xi'an, 1999), p. 125.

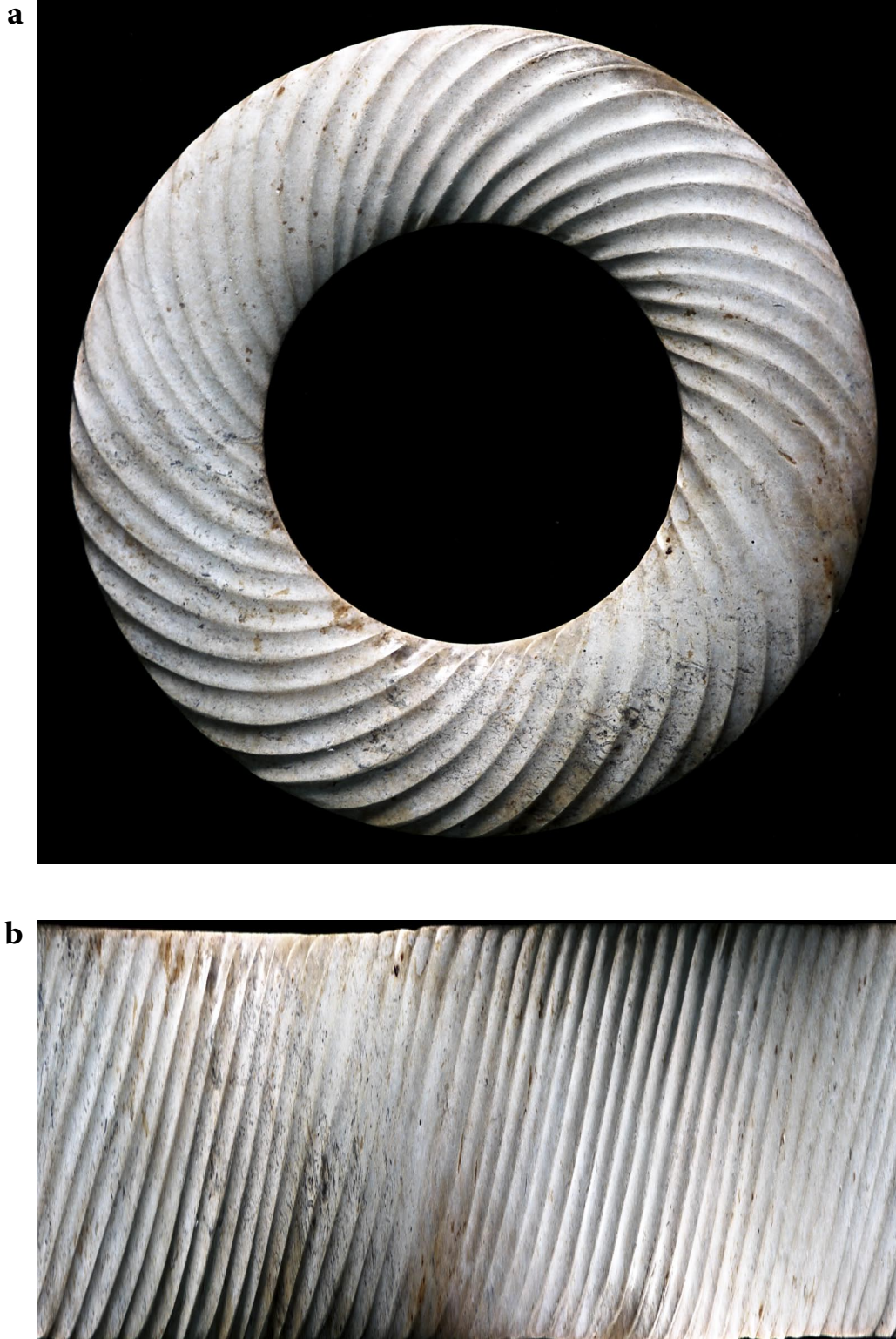


Figure S6: (a) Jade ring 1950.615 from The Art Institute of Chicago, The Edward and Louise B. Sonnenschein Collection, from the Spring and Autumn period. (b) Photograph transformed to polar coordinates. Author's photograph. Ring previously published in A. Salmony, *Archaic Chinese Jades from the Edward and Louise B. Sonnenschein Collection* (Art Institute, Chicago, 1952), pp. 204-205.

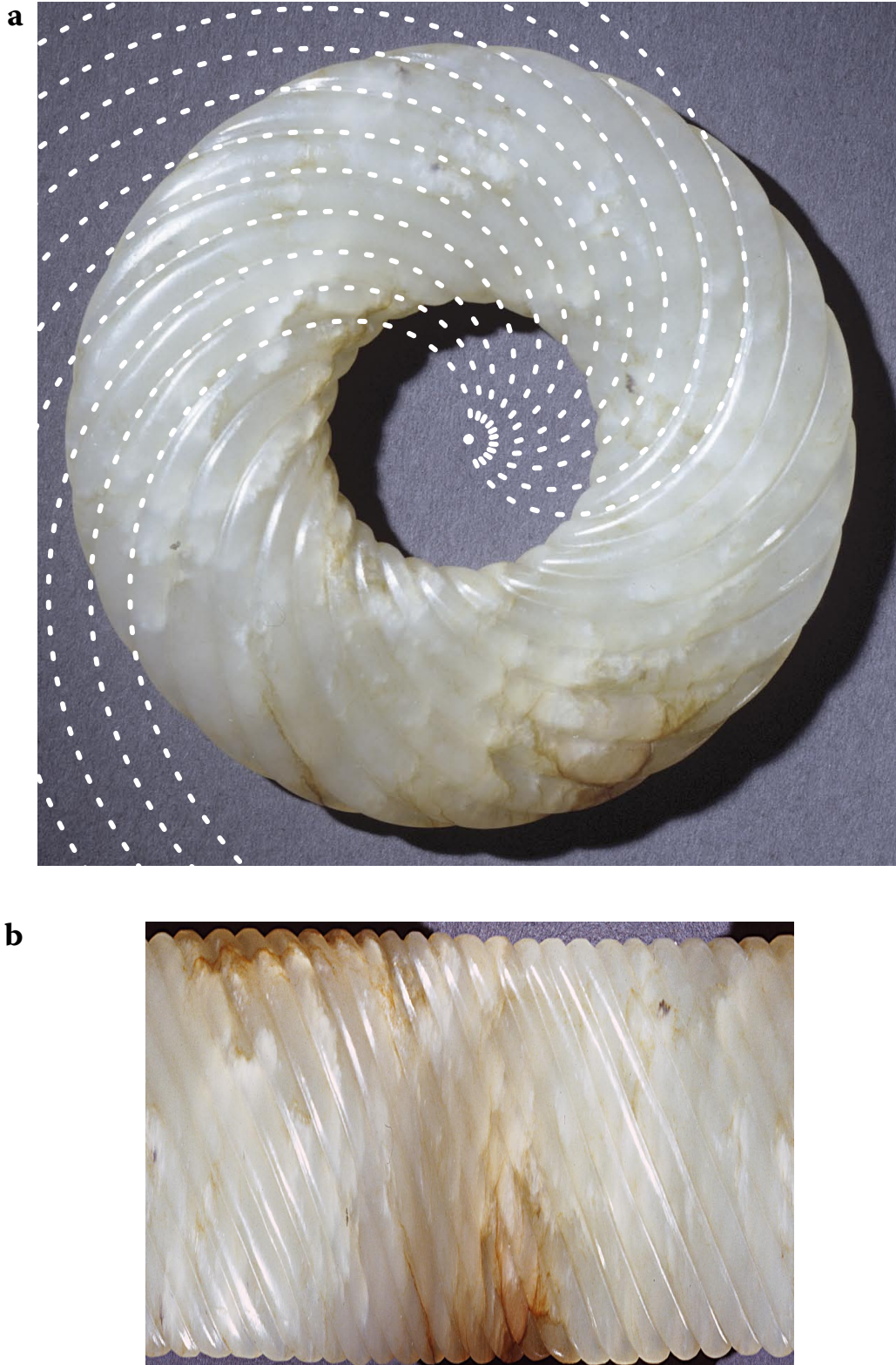


Figure S7: (a) Jade ring from a private collection, from the Spring and Autumn period. White dotted (theoretical) Archimedean spiral curves overlaid. (b) Photograph transformed to polar coordinates. From J. Rawson, *Chinese Jade: Neolithic to Qing* (British Museum, London, 1995), p. 263.