



REPRODUCTION OF SCULPTURE: A PROBLEM BETWEEN ART MARKET, CULTURAL HERITAGE AND LEGISLATION – THE CASE OF AN UNKNOWN BRONZE “MILE POGANY III” OF BRANCUSI

Bogdan Constantinescu, Daniela Stan

National Institute for Nuclear Physics and
Engineering POB MG-6, Magurele-Ilfov, Romania

Recently, a bronze (brass in reality) statuette “Mile Pogany III” unknown up-to-date was confiscated by Romanian Police. The 44.5cm x 19.5cm x 28cm artifact is practically the “twin” of Centre Pompidou’s exemplaire dated 1933. To establish its provenance, we determined the composition of its alloy using the non-destructive method of XRF (X-Ray Fluorescence): Copper 75%, Zinc 19%, Tin 3%, Lead 1.7%, traces of Iron and Nickel. This alloy is a common one used in French Fonderies d’Art (see Jean Pierre Rama “Le Bronze d’Art et ses techniques”, Editions H. Vial 1988) and is practically identical with the alloy used by Susse Foundry in 1955-1957 for a “posthumous” exemplaire of “Le Grand Cheval” of Duchamp-Villon - see Marcus L. Young et al – “Matisse to Picasso: a compositional study of modern bronze sculptures”, Analytical Bioanalytical Chemistry 395, 2009, 171-184. This study, performed on 62 modern bronze sculptures cast in Paris in the first half of the 20th century from the collections of The Art Institute of Chicago and the Philadelphia Museum of art, presents their alloy composition, including for two Brancusi artifacts – casting date 1907 and 1920 in Valsuani Foundry, whose brass is totally different from our statuette’s brass. The hypothesis of a “posthumous” cast and “le droit moral” to realize a Brancusi reproduction must be discussed in relation with the French and USA regulations governing bronze sculptures.

Table 1 Description of 62 modern bronze studied here, including artist, accession number (AIC and PMA indicate the sculpture is from the collection of The Art Institute of Chicago and the Philadelphia Museum of Art, respectively), title, foundry, casting method, date of creation, date of casting, and corresponding cluster (A, B, and C)

Artist	Accession #	Title	Foundry	Casting method	Creation date	Casting date	Cluster
Bernard	AIC: 1943.1189	Girl with Pall	Hebrard	Lost wax	1910	1920	A
Bornand	AIC: 1963.927	Spring Frolic			1904-1906		A
Bouraine	AIC: 1973.774	Dancing Woman with Hoop			1925		A
Bourdelle	AIC: 1997.543*	Head of Apollo	Alexis Rudier	Sand	1935		C
	AIC: 1950.141	Head of Young Woman	Alexis Rudier	Sand	c. 1910		C
	AIC: 1928.258*	Hercules Carrying	Alexis Rudier	Sand	1909	1920-1922	C
	AIC: 1953.168	Penelope		Sand	1911		C
Brancusi	PMA: 1967.306a,b	Danaide	C. Valsuani	Lost wax	1913	1920	A
	AIC: 1965.542a,b*	Suffering		Lost wax	Pre-1907	1907	A
Daumier	PMA: 1964.922.1a,b*	Alexandre-Simon Pottelle	Harbiedienne	(Sand)	c. 1932	c. 1958	
	AIC: 1971.127.11a,b	L'Obséquieux	Harbiedienne				
	PMA: 1946.26.275	Haropai	N.L.G.*				
	PMA: 1996.26.99a,b	Woman Rubbing her Back with a Sponge, Torso	Alexis Rudier		Pre-1925	c. 1925	C
Degas	AIC: 1954.324	Woman Rubbing her Back with a Sponge, Torso	Hebrard	Lost wax		Post-1920	A
	AIC: 1954.324	Woman Rubbing her Back with a Sponge, Torso	Hebrard	Lost wax		1920	A
Despiou	AIC: 1959.93	Maitresse de Warsquier	C. Valsuani	Lost wax	1927	1929	A
Duchamp-Villon	AIC: 1957.165	Home	C. Valsuani	Lost wax	1914	1955-1957	A
Landowski	AIC: 1923.314	Katherine Corwell	C. Valsuani	Lost wax	1918		A

Table 3 Normalized elemental composition (wt.%) for 62 modern bronzes from AIC and PMA, which have been separated according to compositionally similar groups: cluster A, cluster B, cluster C, and outliers

Artist	Accession #	Element in wt. %																		
		Cu	Zn	Sn	Pb	Fe	Ni	As	Cr	Sb										
Cluster A																				
Bernard	AIC: 1943.1189	87.0 (1)	9.4 (2)	3.34 (6)	0.093 (2)	0.04	0.01	0.03	Trace	0.02										
Bornand	AIC: 1963.927	82.9 (2)	10.74 (1)	3.84 (2)	2.42 (2)															
Brancusi	PMA: 1967.306a,b*	82.3 (4)	13.4 (1)	3.61 (5)	0.416 (3)	0.15	0.04	0.04	Trace	0.01										
	AIC: 1965.542a,b*	82.0 (5)	12.96 (8)	4.43 (6)	0.355 (5)	0.22	0.04	0.03	None	0.02										
Degas	PMA: 1954.922.1a,b*	81.9 (5)	12.8 (1)	4.02 (2)	1.23 (1)	0.26	0.02	0.05	Trace	0.02										
	AIC: 1971.127.11a,b	82.3 (2)	11.71 (8)	4.08 (4)	1.25 (1)	0.06														
Despiou	AIC: 1954.324	84.9 (8)	11.6 (1)	2.94 (5)	0.320 (5)	0.15	0.05	0.02	None	0.02										
	AIC: 1954.324	84.8 (1)	11.74 (2)	2.96 (2)	0.284 (2)	0.11	0.02	0.03	None	0.02										
Knoop	AIC: 1939.238	83.9 (5)	13.65 (9)	3.27 (4)	0.030 (3)	0.07	0.03	0.00	None	0.02										
Matisse	AIC: 1958.14	84.6 (5)	11.0 (1)	2.83 (5)	1.23 (1)	0.11	0.04	0.02	None	0.13										
	PMA: 1966.196.1a,b*	84.6 (4)	12.91 (6)	2.10 (3)	0.067 (2)	0.05	0.01	0.02	None	0.04										
	PMA: 1963.210a,b*	84.9 (3)	12.8 (1)	2.07 (2)	0.093 (1)	0.08	0.01	None	Trace	0.01										
	AIC: 1962.634	84.2 (6)	12.6 (1)	2.46 (3)	0.070 (2)	0.10	0.02	0.06	None	0.01										
Picasso	AIC: 1957.70a* (figure)	82.9 (4)	13.2 (3)	3.54 (3)	0.159 (3)	0.10	0.02	0.04	None	0.01										
	AIC: 1957.70b* (base)	81.84 (6)	14.2 (2)	3.09 (1)	0.612 (5)	0.12	0.02	0.09	None	0.05										
	AIC: 1967.685*	85.9 (1)	10.5 (1)	3.00 (5)	0.369 (5)	0.08	0.01	0.02	None	0.03										
	AIC: 1967.686*	82.3 (1)	14.10 (3)	3.48 (2)	0.304 (2)	0.19	0.01	0.02	None	0.01										
	AIC: 1967.687	82.6 (3)	13.5 (1)	3.51 (3)	0.187 (8)	0.09	0.01	0.04	Trace	0.03										
	AIC: 1967.688	81.7 (5)	14.8 (2)	3.49 (5)	0.236 (2)	0.10	0.02	0.06	None	0.01										
	AIC: 1967.689	82.78 (7)	13.7 (2)	3.13 (4)	0.162 (2)	0.12	0.01	0.04	Trace	0.03										
	AIC: 1967.690	81.0 (2)	14.26 (9)	3.54 (5)	0.267 (4)	0.16	0.02	0.06	None	0.03										
Pouplet	AIC: 1927.309a*	82.6 (1)	14.1 (2)	3.08 (3)	0.140 (4)	0.05	0.04	0.02	None	0.02										
Renaud	PMA: 1950.92.7a,b*	83.5 (2)	13.6 (1)	2.62 (3)	0.144 (2)	0.06	0.02	0.03	Trace	0.02										
Cluster B																				
Maitlo	AIC: 1943.383	92.28 (7)	5.85 (5)	1.58 (2)	0.232 (3)				None	0.41										
	AIC: 1947.836	93.0 (3)	4.56 (3)	1.42 (3)	0.239 (3)	0.09	0.02	Trace	Trace	Trace										

Table 3 (continued)

Artist	Accession #	Element in wt. %																		
		Cu	Zn	Sn	Pb	Fe	Ni	As	Cr	Sb										
Daumier	PMA: 1966.26.99a,b*	95.7 (3)	0.975 (5)	3.04 (3)	0.097 (1)	0.04	Trace	0.10	Trace	0.02										
Offord	AIC: 1930.227	95.0 (8)	1.32 (1)	3.48 (3)	0.053 (4)	0.04	0.03	0.04	None	Trace										
Pouplet	AIC: 1927.308b*	93.0 (1)	1.89 (1)	3.82 (4)	0.508 (6)	0.07	0.03	0.09	None	0.01										
	AIC: 1927.305.1	93.2 (6)	2.08 (2)	3.90 (5)	0.463 (7)	0.17	0.02	0.06	None	0.04										
Rodin	PMA: 1967.307.3a,b*	94.0 (3)	1.48 (2)	4.29 (8)	0.047 (1)	0.03	0.03	0.09	Trace	0.04										
	PMA: 1929.7.4a,b*	95.1 (4)	0.74 (1)	3.84 (5)	0.111 (2)	0.02	0.01	0.13	Trace	0.02										
Challier	AIC: 1973.774	77.9 (2)	20.4 (1)	0.45 (1)	0.87 (1)	0.20	0.04	0.06	None	Trace										
Bourdelle	AIC: 1953.168	88.97 (6)	8.1 (1)	2.70 (4)	0.153 (5)				0.07	None										
Daumier	AIC: 1957.127.11a,b*	88.6 (4)	8.06 (5)	2.68 (3)	0.381 (9)	0.13	0.06	0.06	Trace	0.05										
	PMA: 1966.26.275	88.2 (3)	8.54 (2)	2.96 (4)	0.155 (3)	0.04	0.02	0.02	Trace	0.01										
Duchamp-Villon	AIC: 1957.165	75.2 (5)	22.09 (5)	1.35 (3)	1.25 (3)	0.08	0.01	0.01	None	None										
Landowski	AIC: 1923.314	85.9 (6)	7.58 (3)	3.59 (7)	0.84 (1)	0.15	0.06	0.05	None	0.04										
Lipchitz	AIC: 1996.394	89.6 (1)	5.26 (2)	3.32 (1)	1.290 (6)	0.20	0.11	0.04	Trace	0.18										
	AIC: 1943.594	89.1 (1)	3.24 (1)	5.41 (4)	1.88 (2)	0.08	0.14	0.03	None	0.11										
	AIC: 1953.826	87.70 (9)	5.66 (6)	3.95 (6)	2.53 (3)				0.04	None										
	PMA: 1949.78.1a,b*	86.8 (2)	4.29 (4)	6.24 (5)	0.334 (6)	0.18	0.04	0.07	Trace	0.04										
	AIC: 1955.96.2a,b*	85.4 (3)	8.8 (1)	5.19 (6)	0.359 (3)	0.13	0.04	0.09	Trace	0.03										
	PMA: 1950.92.4a	82.5 (5)	14.16 (1)	2.76 (2)	0.123 (2)	1.32	0.04	0.06	Trace	0.02										
Picasso	AIC: 1949.584	91.5 (2)	2.96 (3)	4.90 (8)	0.545 (6)	0.04	0.02	0.03	None	Trace										
Pouplet	AIC: 1927.309b*	43.2 (9)	33.5 (1)	0.74 (1)	2.81 (6)	0.42	0.06	0.08	None	0.04										
Zaklaine	PMA: 1964.80.1a,b*	85.3 (4)	12.8 (1)	0.87 (2)	0.765 (2)	0.15	0.04	0.04	Trace	0.01										

Standard deviations of the elemental composition of modern bronzes are indicated by parenthesis. Elemental compositions from two different sites (base and main body of the same sculpture) are shown for Matisse's *Figure* (AIC: 1949.584) and Picasso's *Figure* in a vase (AIC: 1957.70a and b). For both sculptures, the base and main body are believed to have been cast separately and welded together.
*Value is an average of two measurements

“Apollo Magazine” – 1st of July 2012: Margit Rowell in “Sculpting with light” reported analyses of brass for two “Mile Pogany I” versions from USA. Version (“cast”) Chanler (the first owner): “soft” brass rich in copper, red colour, less adequate for delicate polishing. Version (“cast”) Margit Pogany - gift from Brancusi -, last “Mile Pogany I” version: “hard” brass rich in zinc, golden colour, very suitable for delicate polishing.



Casting damages (inside the sculpture)



Casting damages (outside the sculpture)



Brancusi “signature”



Casting damages (inside the sculpture)



Casting damages (inside the sculpture)



Casting damages (inside the sculpture)



Casting damages (inside the sculpture)