

How much is a dollar really worth? **The practical and aesthetical values of dollarware**

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Abstract: This project analyzes the value dollar store mugs have in terms of utility and aesthetics. Handle shape is compared to: (1) handle breadth, (2) handle pinch, and (3) mug weight. In order to assess aesthetics, the presence of handle imagery is observed. Chi-square tests show that: (1) "half-heart" shaped handles usually thinner than "C-shaped handles", (2) "half-heart" shaped handles usually have thinner pinch measures than "C-shaped" handles, (3) mugs with "half-heart" shaped handles usually weigh less than those with "C-shaped" handles, and (4) there is no difference between handle shape and whether or not there is imagery on the handle.

Introduction

J. Hefferson Reid, William L. Rathje, and Michael B. Schiffer (1974) outline the importance of relating material culture to human behaviour. The authors argue that, in the archaeological context, there are three strategies for investigating this problem: some archaeologists study "past material culture to illuminate past human behaviour," others study past material culture to determine "behavioural laws" that are applicable to the past and present behaviours, while still others study present material culture to "derive principles by which past human behaviour may be illuminated" (Reid et al. 1974, 125). The authors conclude that archaeologists can, and should, likewise study material culture in the modern industrial context to determine explanations for modern behaviours, especially in a context in which material culture is a "pervasive component of the behavioural matrix" (Reid et al. 1974, 126).

Yvonne Marshall and Alexandra Maas (1997), in their paper on how European pottery was adopted by non-agricultural groups in Canada, further emphasize the importance of investigating the evolution of material culture. They argue that the adoption of ceramics from Europe was initially to increase "the ceremonial serving of food, particularly tea" (277). It is interesting to them that, in the case of two case studies on the Northwest coast of Canada (Bella Bella and Nootka Sound), people adopted the use of ceramics not because it was "responsive to functional practicalities" (Marshall and Maas 1997, 277). Rather, the authors argue, that "functionality and practical usefulness are not intrinsic to an artefact...they are culturally defined" (Marshall and Maas, 1997, 277). As such, looking further into how material culture develops should tell us much about a particular society in terms of people's preferences.

The specific problem being investigated here is "dollarware," which refers to ceramic drinking vessels that cost \$1.00 or less. From an analysis of these vessels, obtained from a number of dollar stores across Montreal, Canada, we have investigated any variability and patterning in this particular type of material culture. In particular, the central research question of this project pertains to what value dollarware holds in a Canadian context: Is dollarware intended solely to be practical, or does it also hold significant aesthetical value for the user?

Methods

To analyze the question as to what sort of value dollar store mugs have in terms of utility and aesthetics, it is important to take into account mug handles, as these are what make mugs useful. Using callipers, we were able to measure different aspects of the handles from the various assemblages. These included: handle shape (which is defined in terms of “C-shaped,” [Figure 1] or “half-heart-shaped” [Figure 2]), maximum handle length (measured from the point of fusion to the maximum distance the handle reached away from the mug), handle pinch (the width of the handle looking at it from the side), handle width (the distance from the mug to the outermost curve of the handle), and handle breadth (the width of the handle looking at it from the front). All of this data was entered into an excel file to be analyzed together with various statistical tests (Appendix A). Other data (such as handle imagery) was simply collected upon inspecting the actual mugs. Other variables, like mug weight, were obtained from data collected by the class as a whole (Appendix B).



Figure 1: Example of a “C-shaped” handle (<http://dollarware.org/a-01.jpg>).



Figure 2: Example of a “half-heart shaped” handle (<http://dollarware.org/a-11.jpg>).

Handle breadth is a useful measurement in assessing how comfortable a hold one has on the handle. If the handle is thinner, the mug becomes heavier to hold and then must be held with a firmer grip. However, other measurements, such as the shape of the handle, are crucial as well in determining how practical a mug is.

Results

First, handle shape was compared to handle breadth to determine whether a particular handle type was thinner or thicker than the other. A chi-square test shows that “half-heart” shaped handles are much more likely to be thinner than “C-shaped handles” (Figure 3).

	<=15 mm	>=15.1 mm	Total
half-heart	96	38	134
c-shaped	49	39	88
Total	145	77	222

Level of significance 0.05
 number of rows 2
 number of columns 2
 degrees of freedom 1
 critical value 3.8415
 chi-square test statistic 5.9724
 P 0.014531816

Figure 3: Chi-square test results comparing handle shape to handle breadth.

Next, handle shape was compared to handle pinch to determine whether a particular shape of handle has a thinner or thicker pinch than the other. A chi-square test shows that “half-heart” shaped handles are much more likely to have thinner pinch measures than “C-shaped” handles (Figure 4).

	<=6 mm	>=6.1 mm	Total
c-shaped	21	88	109
half-heart shaped	65	109	174
Total	86	197	283

Level of significance 0.05
 number of rows 2
 number of columns 2
 degrees of freedom 1
 critical value 3.8415
 chi-square test statistic 10.3678
 P 0.001282309

Figure 4: Chi-square test results comparing handle shape to handle pinch.

Handle shape was then compared to the weight of the mug to determine whether there is a correlation between the shape of the handle and how much the mug weighs (Appendix B). A chi-square test shows that mugs with “half-heart” shaped handles are much more likely to weigh less than those with “C-shaped” handles (Figure 5).

	<=300 g	>=300.1 g	Total
c-shaped	21	69	90
half-heart shaped	63	73	136
Total	84	142	226

Level of significance 0.05
 number of rows 2
 number of columns 2
 degrees of freedom 1
 critical value 3.8415
 chi-square test statistic 12.2577
 P 0.000463352

Figure 5: Chi-square test results comparing handle shape to weight of mug.

In order to assess aesthetical qualities of dollarware mugs, taking into account handle shape, handle shape was compared to whether or not there was imagery on the handle. A chi-square test shows that there is no significant difference between handle shape and whether or not there is imagery on the handle (Figure 6).

	no	yes	Total
c-shaped	81	6	87
half-heart shaped	117	15	132
Total	198	21	219

Level of significance 0.05
 number of rows 2
 number of columns 2
 degrees of freedom 1
 critical value 3.8415
 chi-square test statistic 1.2070
 P 0.271930649

Figure 6: Chi-square test results comparing handle shape to presence of imagery on handle.

Taking into account the Dollarware assemblage as a whole, out of 228 mugs from which the data was obtained, 207 mugs did not have handle imagery while only 21 did (7 mugs were excluded as they did not have imagery data). Thus, only about 9% of the assemblage contained mugs with handle imagery (Appendix A). Data from the comparative collection of Value Village was also obtained, showing that out of those 61 mugs, 48 mugs did not have handle imagery while 13 did (6 mugs were excluded as they did not have imagery data). Thus, about 21% of the Value Village mugs contained handles with imagery on them. A chi-square test shows that this result is significant (Figure 7).

	no	yes	Total
Dollarware	207	21	228
Value Village	48	13	61
Total	255	34	289

Level of significance 0.05
 number of rows 2
 number of columns 2
 degrees of freedom 1
 critical value 3.8415
 chi-square test statistic 6.7886
 P 0.009174017

Figure 7: Chi-square test results comparing prevalence of Dollarware handle imagery to that of Value Village handle imagery.

Discussion

It was found that: (1) "half-heart" shaped handles are much more likely to be thinner than "C-shaped handles", (2) "half-heart" shaped handles are much more likely to have thinner pinch measures than "C-shaped" handles, and (3) mugs with "half-heart" shaped handles are much more likely to weigh less than those with "C-shaped" handles. In other words, "half-heart" shaped handles are thinner in both breadth and pinch, but also weigh much less than "C-shaped" handles. As previously mentioned, handles that are thinner on mugs that weigh more would be less practical since they would be too heavy to hold. As such, we can conclude that, although "half-heart" shaped handles are thinner, they are part of the mugs that are most practical. In addition, simply holding a "half-heart" shaped handle allows one's hand to be at a greater distance from the mug, which would usually be containing something hot.

Mugs with "half-heart" shaped handles do not necessarily have higher aesthetic or artistic qualities than those with "C-shaped" handles. However, this is only based on whether or not handles had imagery on them. This assumption is based on the idea that it would take more time and effort to put imagery on a mug handle. Moreover, since only about 9% of the Dollarware assemblage contained mugs with handle imagery, we can say that Dollarware as a whole may be more practical than "attractive". Also, since compared with the mugs of Value Village, dollarware mugs are less likely to have handle imagery, we can conclude that this is a particular dollarware pattern.

Although time did not permit it, it was intended to analyze other "comfort" variables such as how hot a mug becomes. This would have been compared to handle shape again, in order to see whether mugs with "half-heart" shaped handles became more or less hot than "C-shaped" handles. In addition, factors such as internal area of the mug and weight would be taken into account in assessing practicality: a mug that holds more contents (yet is still light) may be quite practical for most users. Additionally, it is obvious that only taking into account handle imagery is not going to tell us everything about the aesthetics of dollarware. Other interesting research could include comparing mug imagery as a whole, and assessing whether or not art on mugs with "half-heart" shaped handles is more complex/detailed than those with "C-shaped" handles or vice versa.

So, what do mug handles tell us about the choices of manufacturers, vendors, and users? For one, manufacturers seem to be more concerned with making a practical product than an aesthetic product. Perhaps this is because the latter would take too much time and effort. After all, these mugs are meant to be sold in dollar stores, so consumers who expect their mugs to have aesthetic qualities should be willing to spend more, and at higher-end stores. However, this does not necessarily belittle the value of dollarware. As we have seen, the most common mugs tend to be those with the most practical handles, and that weigh the least. Thus, for consumers who care more about the utility of their mugs, buying dollarware is definitely worthwhile.

References

- Marshall, Yvonne and Maas, Alexandra. 1997. Dashing dishes. *World Archaeology* 28(3): 275-290.
- Reid, J. Jefferson, Rathje, William L., and Schiffer, Michael B. 1974. Expanding archaeology. *American Antiquity* 39(1): 125-126.

Appendix A: Handle Data

Specimen	Handle Shape	Pinch	Width	Breadth	Imagery
A-01	C	7		16.2	none
A-02	C	7		14.2	none
A-03	C	6.95		16.2	none
A-04	C	6.35		16.4	none
A-05	C	7.55		14.7	none
A-06	C	6.45		16.2	none
A-07	C	5.15		12	none
A-08	C	4.9		11	none
A-09	C	7.35		15	none
A-10	C	7.9		14.4	none
A-11	H	7.5		14.6	none
A-12	H	5.55		9	none
A-13	C	7.6		12.3	none
A-14	C	7.15		12.3	none
A-15	H	8.6		17.4	none
A-16	H	7.35		15.4	yes
A-17	H	6.55		15.4	none
A-18	H	7.1		14.1	none
A-19	H	9		16	none
A-20	H	4.75		11.7	none
A-21	H	6.85		14	none
B-01	H	4.7		12	none
B-02	C	6.05		14.4	none
B-03	C	6.3		14.7	none
B-04	H	12.15		20	none
B-05	H	6.3		13.1	none
B-06	C	6.75		14.2	none
B-07	H	5.05		13	none
B-08	H	8.8		16	none
B-09	C	5.75		19.2	none
B-10	C	7.4		14.3	none
B-11	H	6.8		14.1	none
B-12	H	7.1		17.2	none
B-13	H	4.3		12	none
B-14	H	7.15		14.4	none
B-15	H	7.25		17	none
B-16	C	6.1		19.1	none
B-17	H	5.3		12.3	none
B-18	H	8.9		16.6	none
B-19	C	7.45		14.3	none
B-20	H	7.55		15	none
C-01	C	6.25		20.4	none
C-02	H	4.75		9	none
C-03	H	5.9		14	none
C-04	H	7		15.1	none
C-05	H	7.25		14.6	none

C-06	H	6.6	15.5	none
C-07	C	4.6	16.2	none
C-08	C	5.1	19.4	none
C-10	H	4.2	11.4	none
C-11	H	4.5	12	none
C-12	H	5.1	12.2	none
C-13	H	7	10.5	none
C-14	H	4.5	12.5	none
C-15	H	7.2	14.3	none
C-16	H	5.7	9.6	yes
C-17	H	6.5	13.4	none
C-18	H	6.4	14.3	none
C-19	C	4.55	16.2	yes
C-20	H	5.1	11.4	none
D-01	C	6.5	15.5	none
D-02	C	6	19	none
D-03	C	7.1	20.6	none
D-04	C	6.3	14.1	none
D-05	H	6.7	14	none
D-06	C	6	12.5	none
D-07	H	6.85	16.3	none
D-08	H	5.8	12.3	yes
D-09	C	6.7	15	none
D-10	\$	10.65	14	none
D-11	H	4.2	11	none
D-12	C	7.15	15.2	none
D-13	H	5.5	15.3	none
D-14	C	6.4	13.7	none
D-15	C	5.4	13.4	none
D-16	C	5.5	13.1	none
D-17	H	6.6	13.4	none
D-18	C	5.7	13	none
D-19	H	6.85	13.5	none
D-20	H	6.45	12	none
E-01	C	9.1	20.1	yes
E-02	H	7.65	17.5	none
E-03	C	6.95	14.5	none
E-04	H	6.25	13	none
E-05	H	7.7	18.2	none
E-06	C	6.85	15.1	none
E-07	C	6.75	15.4	none
E-08	H	7.55	17.2	none
E-09	C	6	14.6	none
E-10	H	6.35	13.2	none
E-11	C	6.55	13.6	none
E-12	H	8.25	15.7	none
E-13	H	7.8	17.7	none
E-14	C	5.6	13.7	none
E-15	C	6.3	14.5	none
E-16	H	4.9	12.7	yes

E-17	H	6.2		13.2	none
E-18	C	6.7		14.5	none
E-19	H	5.65		12.7	yes
E-20	H	9.1		19.2	none
F-02	C	4.85		7.7	none
F-03	C	6.25		16.3	yes
F-04	H	4.85		11	none
F-05	H	8.45		19.2	yes
F-06	C	4.65		10.3	none
F-07	H	12.2		15	yes
F-08	H	7.6		19.3	none
F-09	H	7.7		14.2	none
F-10	H	9.45		15	none
F-12	H	3.25		11.6	none
F-13	H	7.4		18.5	yes
F-14	H	8.2		19	none
F-15	H	9.4		15.6	none
F-16	H	7.25		21.5	none
F-17	C	6.2		15.6	none
F-18	H	7.3		14.1	none
F-19	H	6.35		14.1	none
F-20	C	6.5		14.2	yes
F-21	H	3.8		12.2	yes
G-01	H	6.15		14.1	none
G-02	H	5.45		13.3	none
G-03	H	6.1		14	none
G-04	H	5.25		13	none
H-01	C	7.25		15	none
H-02	C	7.6		16	none
H-03	C	6.85		15.3	none
H-04	C	6.6		15.2	none
H-05	C	6.8		16	none
H-06	C	6.3		14	none
I-01	C	6.8	33.9	15.2	none
I-02	C	7.6	40.1	15.3	none
I-03	H	4.6	29.4	12	none
I-04	C	9.35	19.4	6.3	none
I-05	H	10.9	36.1	17	none
I-06	C	6.4	40	15.1	none
I-07	C	8	40	17.6	none
I-08	H	5.5	38.9	20	none
I-09	H	12.1	53.7	18.5	yes
I-10	H	4.35	29.4	12.1	none
I-11	H	4.45	30	12	none
I-12	C	8.75	38.3	18.1	none
I-13	C	8.3	32.7	17.6	none
I-14	C	7.6	41.6	14.5	none
I-15	C	7.9	40.5	14.3	yes
I-16	H	6.3	37.7	15.6	yes
I-17	H	4.15	31.9	11.7	none

I-18	C	6.3	39.4	14.4	none
I-19	C	6.1	40	15.1	none
I-20	C	6.25	39	14.3	none
J-01	H	7.55		15.5	none
J-02	H	5.4	37	11.5	none
J-03	C	5.7	32.2	14.5	none
J-04	H	5.5	39	11.4	
J-05	H	9.55	32.2	12.6	none
J-06	C	7.1	36.1	14.6	none
J-07	C	7.3	39.3	15.1	none
J-08	H	7	39.4	13.5	none
J-09	H	6.05	32.2	15.1	
J-10	H	4.5	32.2	13.3	none
J-11	C	8.65	17.7	15.3	yes
J-12	H	7.05	21.1	14.1	none
J-13	C	6.05	31.1	14.6	none
J-14	H	6.75	37.7	15.2	none
J-15	H	6.25	35.5	12.1	none
J-16	H	5.15	28.8	8.6	none
J-18	H	6.6	43.4	13.2	none
J-19	H	6.2	31.5	11.5	none
J-20	H	6	32.7	14.7	
K-01	C	6.5	34	14.1	none
K-02	C	7.05	38	14.2	none
K-03	C	7.25	37.2	15.1	none
K-04	C	7.2	42	15.7	none
K-05	H	6.05	29.4	13.4	none
K-06	H	6.05	39.9	14.1	none
K-07	H	6.35	39.9	14.1	none
K-08	H	5.7	38.8	14.3	none
K-09	H	6.4	34.8	13.4	none
K-10	H	6.4	33	15.7	none
K-11	C	6.6	37.7	15	none
K-12	H	7	39.4	13.3	none
K-13	C	6.75	40.5	15	none
K-14	H	6.2	38.3	14.5	none
K-15	H	7.05	38	13.2	none
K-16	H	6.5	33.8	14.1	none
K-17	H	6.3	38	13	none
K-18	C	4.8	17.2	9.6	none
K-19	H	3.85	26	8.3	yes
K-20	C	5.85	34.4	14.1	none
L-01	C	7.5	39.8	15	none
L-02	C	6.8	38.8	14.2	none
L-03	H	4.6	33.6	11.2	none
L-04	H	4.55	34.7	12	none
L-05	H	5.25	35.5	11.4	none
L-06	C	7.05	36.1	14	none
L-07	C	7.7	38.8	14.5	none
L-08	H	6.65	32	15	none

L-09	H	6.75	32.2	13.1	none
L-10	H	6.55	32.2	16	none
L-11	H	7.35	34.4	15.1	none
L-12	H	5.3	32	12.2	yes
L-13	H	5.5	32	12.5	yes
L-14	H	5.8	35	12.4	none
L-15	H	5	35	12.3	none
L-16		5.8	35	13	none
M-01	H	6.8		14	none
M-02	C	6.4		14.4	none
M-03	H	5.15		17	none
M-04	H	5.8		12	yes
M-05	H	6.85		14	none
M-06	C	7.2		16.3	none
M-07	H	7.4		11	none
M-08	H	7.7		15	none
M-09	H	7.45		15.2	none
M-10	H	6.9		18.5	none
M-11	H	4.75		10.5	none
M-12	H	6.35		11.4	none
M-13	H	6.15		11.1	none
M-14	H	6.65		14.2	none
M-15	H	6.35		11.4	none
M-16	H	5.35		12.1	none
M-17	H	6.4		15.1	none
M-18	C	6.65		15.2	none
M-19	H	4.2		7	none
M-20	C	6.15		17	none
N-01				15	yes
N-02				14.6	none
N-03				14.2	none
N-04				14	none
N-05				13.5	none
N-06				16.4	yes
N-07				11.7	none
N-08				16.6	none
N-09				14.5	none
N-10				14.2	none
N-11				12.1	none
N-12				19.5	
N-13				13.3	none
N-14				12.7	
N-15					
N-16				14.7	yes
N-17				14.5	yes
N-18				6.1	none
N-19				20.5	
N-20				15.4	none
N-21				14.6	none
N-22				14.5	none

N-23	15.1	
N-24	10.6	none
N-25	12.5	yes
N-26	14.3	yes
N-27	16.2	none
N-28	13.7	none
N-29	15.5	none
N-30	13.6	none
N-31	14.5	none
N-32	11.3	none
N-33	14	none
N-34	18	none
N-35	15.2	none
N-36	11.6	none
N-37	12.2	none
N-38	15.2	none
N-39	12.5	
N-40	16.3	none
N-41		none
N-42	15.5	none
N-43	14.7	none
N-44	17.6	none
N-45		none
N-46	15	yes
N-47	14.4	none
N-48	14.1	none
N-49	11.1	none
N-50	16.3	none
N-51	14.5	none
N-52	17	none
N-53	12.4	yes
N-54	15.5	none
N-55	16.1	yes
N-56	13	yes
N-57	13	yes
N-58	15.1	
N-59	12.4	none
N-60	15.2	none
N-61	12.1	none