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INVENTORY AND ANALYSIS OF SOME OBSIDIAN ARTIFACTS IN THE JAMES M. COLLINS COLLECTION

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Abstract
An inventory and analysis of four lots of Native American artifacts within the James M. Collins Collection curated at Southern Methodist University reveals the research value of archaeological materials with less than perfect provenience information. All that is known about the origins of these artifacts is that they appear to have come from Oregon. Elemental analysis by energy-dispersive X-ray fluorescence identifies the most likely geochemical source for all of the obsidian artifacts in these lots. Source profiles identified from the 75 artifacts represent major sources located in southwestern Idaho. Similarly, the morphology of the artifacts is consistent with material from the northern Great Basin. Based on artifact morphology and the obsidian sources represented in the collection, we suspect these artifacts originally derive from far southeastern Oregon.

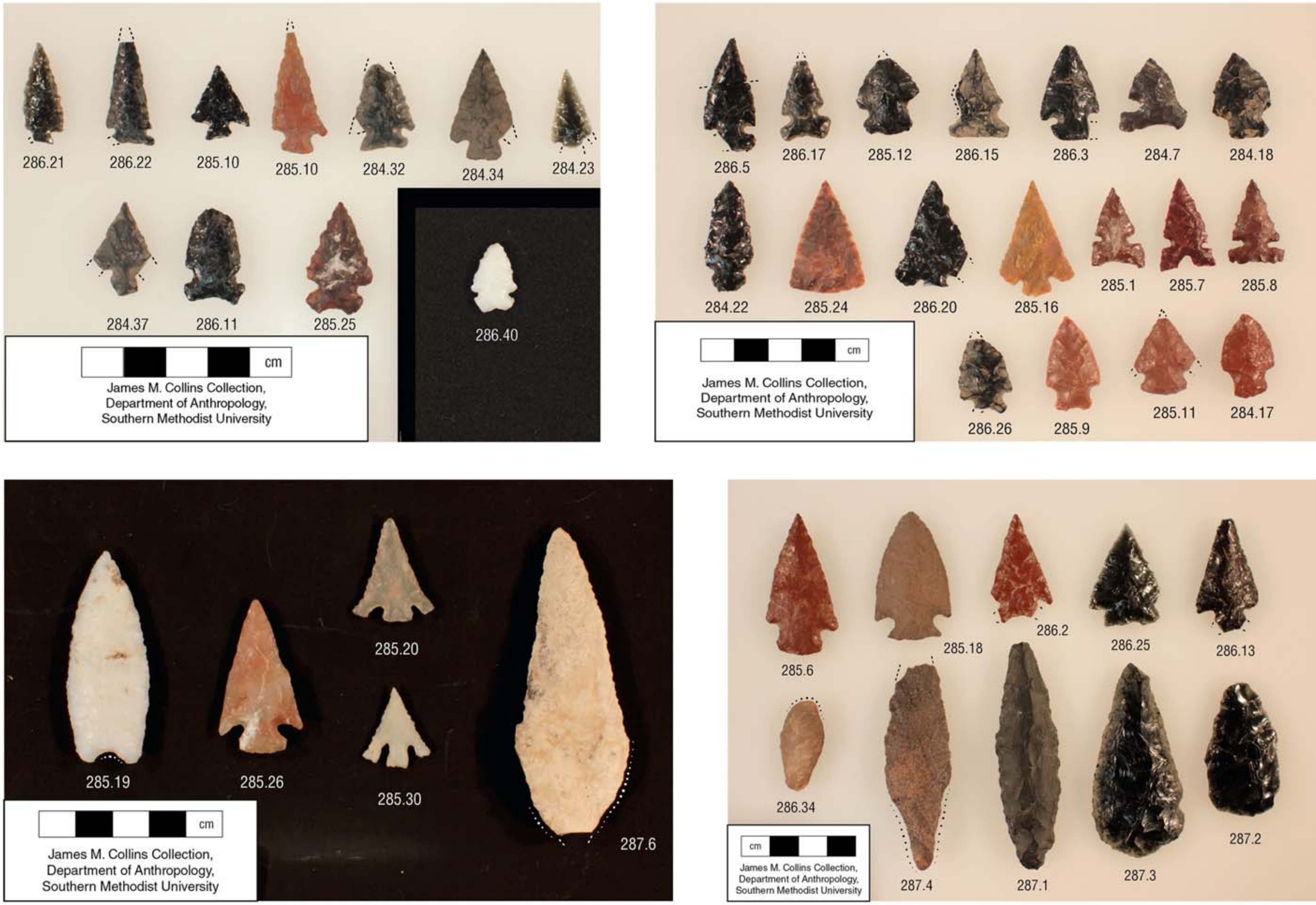
Introduction

Universities and museums are often the recipients of collections of artifacts, donated or gifted by well-meaning individuals who have expended considerable effort to accumulate their collections. In some instances, the artifact collector was an amateur archaeologist who retained reliable and specific information about the original find context of these artifacts. Too often, though, there is minimal information about how and where the collector obtained portions of the materials. This leaves the receiving institution with a collection of artifacts of relatively dubious utility from a research perspective. As a result, such collections typically receive little attention from research-oriented archaeologists, and very frequently languish in relative obscurity in storage (Brody 2002; Fürst 1991; Hilton 2009; Russell 1978).

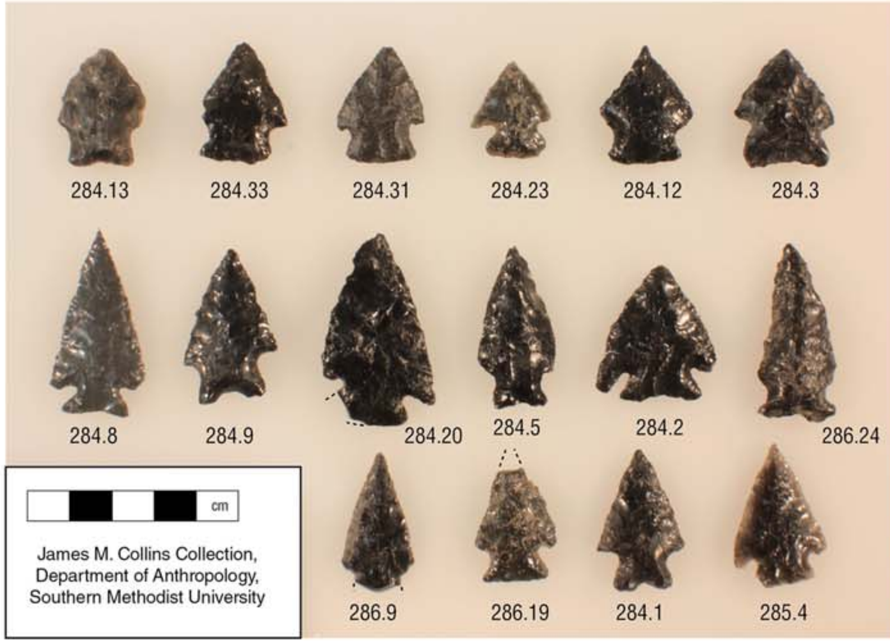
Such collections potentially could be useful for educational opportunities—providing students firsthand experience working with material culture, or as examples of specific types of tools representative of various culture-historical phases and Native American culture areas. The James M. Collins Collection is one such artifact collection that could be used for educational opportunities. The collection has never been thoroughly catalogued or inventoried. We present an inventory and analysis of a portion of the collection as part of ongoing efforts to integrate collections-based research into undergraduate curricula.

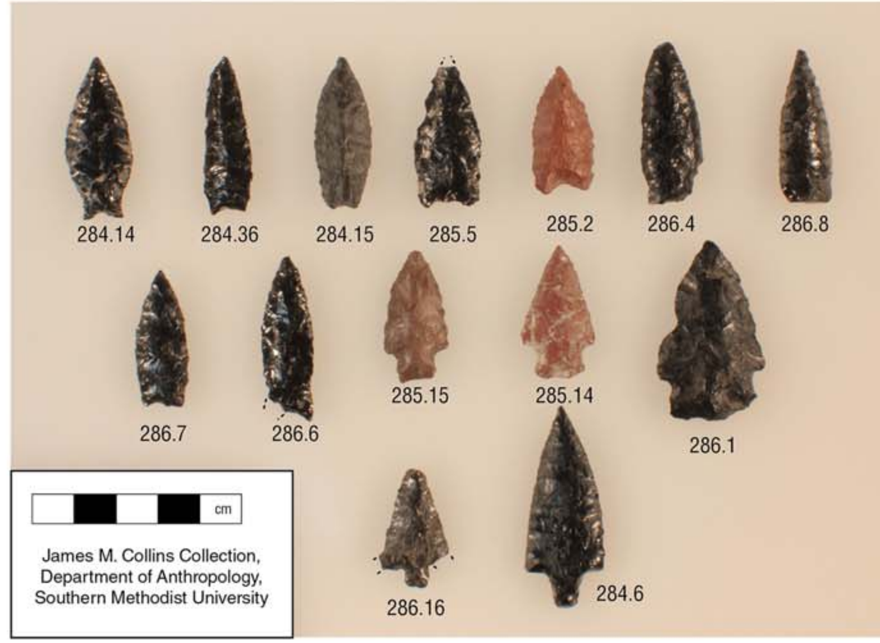
James M. Collins (b. 1916, d. 1989) is perhaps best known as a U.S. Representative of the Third Congressional District of Texas between 1968 and 1983. Collins was a graduate of Southern Methodist University (SMU), and an avid collector of Native American artifacts throughout his life. Collins traded for, or purchased, the majority of materials in his collection, often taking out advertisements in magazines such as *Popular Mechanics* and *Field and Stream* that announced Collins' interest in buying artifact collections. Based on limited paperwork and notes that Collins retained with the collection, most of the materials were acquired from individual artifact collectors from across the United States.

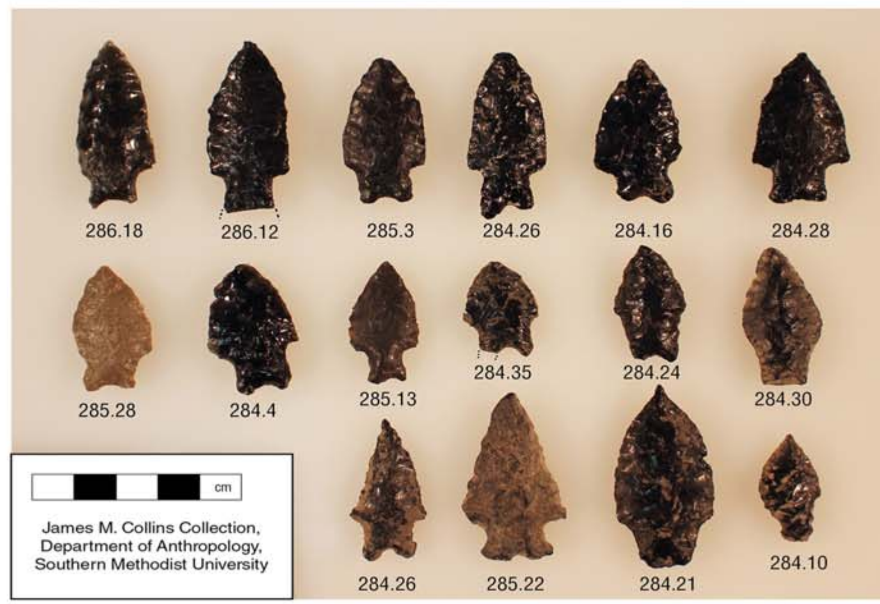
After his death, Collins' family gifted his collection to the Department of Anthropology at SMU. As part of the gifting process, the Collins family retained Gregory Perino to



Figures 1-4. Clockwise from upper left, Figures 1, 2, 3, 4. Selection of projectile points from the James M. Collins Collection curated at SMU.







Figures 5-7. Clockwise from upper left, Figures 5, 6, 7. Selection of projectile points from the James M. Collins Collection curated at SMU.

appraise the collection, and as part of that process Perino assigned numbers to various lots (boxes, bags, and coffee cans) of artifacts. Most of these lots appear to represent how the artifacts were acquired and stored by Collins. In some instances, the original correspondence between Collins and the individuals who sold the artifacts to him is included in the box, making it possible to identify the original provenience to a toponym, a general geographic locality, or the county level. Perino's appraisal contains brief descriptions and counts of artifacts in each lot.

After acquiring the collection in early 1992 SMU began the arduous task of inventorying and assigning unique catalog numbers to each piece within the collection. This process was never completed, resulting in many, but not all, of the artifacts being assigned unique catalog numbers.

Here, we draw attention to four closed wooden frames in the collection that contain roughly 130 artifacts, most of which are obsidian knives and projectile points. These frames bear stickers indicating they are lot numbers 284, 285, 286, and 287. However, the contents of these frames do not agree with the brief descriptions of lots 284—287 as given in Perino's appraisal:

- 284: Oregon (Box of 234 dart/knife points good to common)
- 285: Unnamed state (group of 2 mauls, 1 pestle, 3 mortars and 1 oval mano)
- 286: Unnamed state (5 large mauls, 1 stone bowl)
- 287: Unnamed state (11 stone mauls)

None of the frames contains groundstone implements, and lot 284 contains only 39 artifacts—not 234. An undated SMU curation document listing storage locations and brief descriptions of each lot in the collection does not contain entries for any lot numbers above 280. However, this catalog *does* describe lot 269 as a "Box with 4 wooden frames [and] 3 large black frames." This is the only entry in the document that mentions four wooden frames, and no other groups of four identical wooden frames (to which this description might refer) have been located within the collection.

Perino's appraisal describes lot 269 as "217 dart/knife points" from Oregon. The box stored at SMU that is labeled as containing 269 contains only three large black frames labeled as having come from Oregon and holding approximately 200 flaked-stone artifacts. It thus appears that at some point between Perino's appraisal and the creation of the undated curational document at SMU, some artifact lots were renumbered and combined into boxes, likely for ease of storage. Though we cannot demonstrate it, we strongly suspect that the four frames currently labeled lots 284–287 were, at the time of Perino's appraisal, inventoried as a single lot (Perino's 284) along with other as-yet unidentified materials. When small stickers with lot numbers were affixed to the frames, each frame was accidently assigned its own lot number, beginning with Perino's originally assigned number 284. At some point the four frames were then added to a cardboard box containing other materials from Oregon (labeled as lot 269). When the SMU curation document was produced, whomever inventoried this cardboard box simply assumed that all of the artifacts it contained belonged to a single artifact lot.

A final clue to the provenance of lots 284–287 may come from the frames themselves. The frames appear to be handmade and are more or less identical to each other. The backing of each frame consists of scrap pieces of plywood wood paneling, and though none of the frames has any writing on them indicating how and where the artifacts come from, one of the frames is stamped "Hearin Products." We suspect that this is a stamp of the Hearin Products Company, a supplier of plywood-paneling that operated

ANID	K %	Ti	Mn	Fe %	Zn	Ga	Th	Rb	Sr	Y	Zr	Nb
92-1.284.01	4.245	1487	223	1.449	63	19	25.7	192	40	64	412	49.9
92-1.284.02	3.526	1037	228	1.510	58	20	24.8	189	33	58	420	47.0
92-1.284.03	4.084	1338	297	1.340	61	19	28.5	181	41	55	396	46.7
92-1.284.04	3.857	2318	375	2.366	227	24	41.7	321	bdl	90	1117	110.7
92-1.284.05	3.781	1271	295	1.646	66	17	22.7	170	44	55	472	52.5
92-1.284.06	3.486	1176	355	1.641	76	21	27.3	195	42	54	448	45.0
92-1.284.07	3.455	1035	198	1.338	50	21	23.5	183	33	57	407	50.8
92-1.284.08	3.727	1114	191	1.374	61	17	23.3	189	37	51	406	39.9
92-1.284.09	3.712	866	499	2.448	245	31	44.1	350	bdl	108	1156	109.8
92-1.284.10	3.687	bdl	584	0.386	46	18	12.3	174	13	40	42	27.8
92-1.284.11	3.629	737	104	1.438	51	19	25.4	191	37	54	403	41.8
92-1.284.12	3.676	1109	249	1.202	35	17	23.3	190	38	44	396	43.3
92-1.284.13	3.305	244	251	1.202	221	31	22.5	263	bdl	226	309	271.8
92-1.284.14	3.797	1099	192	1.605	53	23	25.4	179	42	60	445	51.0
92-1.284.16	4.157	2163	623	2.061	191	31	39.4	319	bdl	99	1032	106.4
92-1.284.17	3.887	1208	213	1.093	57	18	36.1	171	40	47	439	45.6
92-1.284.18	4.528	1820	466	2.132	174	26	40.0	307	bdl	107	1103	110.2
92-1.284.19	3.610	325	454	1.187	268	30	29.8	264	bdl	238	312	274.5
92-1.284.20	4.134	1478	124	1.580	66	20	24.0	200	40	66	420	48.6
92-1.284.21	3.798	3667	251	1.956	37	20	18.9	198	40	72	438	50.4
92-1.284.22	3.312	1340	478	1.516	66	25	30.8	197	35	50	415	50.3
92-1.284.23	3.713	1749	352	2.192	239	27	35.1	330	bdl	102	1060	110.1
92-1.284.24	3.939	1615	343	1.417	58	22	28.8	193	43	61	425	41.5
92-1.284.25	3.961	1081	291	0.889	41	17	23.3	172	24	59	240	42.4
92-1.284.26	3.967	1589	264	1.479	58	18	24.6	167	39	59	407	50.4
92-1.284.27	4.07	1268	387	2.159	201	24	34.1	308	bdl	106	1064	102.8
92-1.284.28	3.894	2539	456	1.576	76	20	23.3	194	42	53	462	53.7
92-1.284.29	3.995	1762	182	1.435	42	16	22.0	198	30	58	431	39.6
92-1.284.30	3.854	2152	303	1.262	46	10	25.1	188	43	49	405	49.0
92-1.284.31	3.556	1259	348	0.877	53	21	23.7	183	18	48	243	44.7
92-1.284.32	4.053	338	184	0.750	51	17	16.5	208	20	23	91	11.4
92-1.284.33	4.859	1649	163	1.484	60	20	16.1	188	35	65	426	44.5
92-1.284.34	3.676	1310	367	1.884	106	23	27.5	228	46	57	459	45.1
92-1.284.35	3.519	1056	344	0.739	31	19	25.8	197	27	28	98	9.0
92-1.284.36	3.937	1722	414	1.149	52	18	20.1	162	35	56	354	43.9
92-1.284.37	3.470	1298	260	1.756	80	15	29.3	205	46	53	463	44.0
92-1.285.01	3.231	1259	406	2.201	137	34	18.7	199	59	74	574	56.5
92-1.285.02	4.826	1429	336	1.210	70	15	23.3	190	36	44	405	41.9
92-1.285.03	4.148	2132	600	1.821	84	20	16.5	165	50	60	537	44.5
92-1.285.04	4.190	695	291	1.181	225	32	31.0	270	bdl	227	300	288.4
92-1.285.05	4.309	2418	67	1.655	49	22	20.1	189	45	55	492	43.0
92-1.285.06	3.889	1813	335	1.423	45	30	34.9	194	43	44	433	45.8
92-1.285.10	3.500	1910	320	1.749	77	22	28.5	209	52	64	486	47.2
92-1.285.11	4.614	1258	531	1.779	51	26	24.5	160	45	58	477	48.9
92-1.285.12	4.133	1110	355	1.673	59	29	28.3	175	47	50	472	51.6
92-1.285.13	3.999	1385	236	1.487	101	17	21.5	165	43	67	437	54.2
92-1.286.01	4.955	1906	169	1.711	88	21	28.2	215	53	57	477	51.6
92-1.286.02	3.569	1877	256	1.767	54	23	25.0	175	48	75	478	48.1
92-1.286.03	4.267	1138	380	2.331	182	28	35.2	329	1	111	1154	111.1
92-1.286.04	4.283	1590	496	1.554	52	22	25.2	190	44	63	448	41.0
92-1.286.05	3.917	1529	412	1.632	70	19	22.2	187	36	70	436	54.6
92-1.286.06	3.794	1694	367	2.099	46	20	29.7	218	57	66	495	46.1
92-1.286.07	3.717	1176	111	1.634	53	16	27.9	206	47	46	428	38.0
92-1.286.08	3.806	1196	208	1.506	50	29	21.9	198	36	58	385	53.4

Table 1. Elemental abundances for obsidian specimens in lots 284–287 of the James M. Collins Collection. All values in ppm unless otherwise noted. Continued on next page.

ANID	K %	Ti	Mn	Fe %	Zn	Ga	Th	Rb	Sr	Y	Zr	Nb
92-1.286.09	3.480	68	275	0.691	82	18	15.8	310	bdl	67	62	10.4
92-1.286.11	3.972	1464	200	1.564	11	26	29.7	195	43	59	421	43.5
92-1.286.12	3.904	1319	482	1.499	75	20	28.0	205	44	66	489	57.6
92-1.286.13	3.911	1083	133	1.458	43	19	36.4	231	23	72	362	43.5
92-1.286.14	3.676	815	243	1.530	48	16	23.9	176	41	66	385	44.0
92-1.286.15	4.652	1150	297	2.156	55	29	28.4	231	48	63	501	38.1
92-1.286.16	3.780	1377	481	1.964	56	12	14.1	166	51	59	546	53.2
92-1.286.17	3.425	1186	611	2.605	266	17	42.1	352	bdl	106	1219	125.4
92-1.286.18	3.654	214	371	1.353	276	29	26.7	302	bdl	242	341	316.9
92-1.286.19	3.721	1765	345	2.435	177	32	52.5	342	bdl	101	1236	114.5
92-1.286.20	4.134	1478	124	1.580	66	20	24.0	200	40	66	420	48.6
92-1.286.21	3.119	899	321	2.299	159	36	38.4	312	bdl	87	962	103.6
92-1.286.22	4.149	1775	357	2.418	74	14	33.3	215	64	72	599	60.6
92-1.286.23	3.00	702	211	2.341	230	20	41.3	337	bdl	92	1175	115.0
92-1.286.24	4.089	1714	245	2.121	47	12	21.1	172	55	64	519	52.3
92-1.286.25	3.792	963	329	0.632	41	20	20.7	117	64	28	78	11.8
92-1.286.26	4.709	588	226	1.505	67	18	19.5	210	35	53	442	53.9
92-1.286.27	4.315	2282	358	2.043	79	21	29.7	199	39	68	552	52.9
92-1.286.45	4.121	1783	225	1.952	68	22	25.0	171	59	59	530	52.6
92-1.286.48	3.871	1359	268	1.448	45	21	24.6	206	34	56	388	42.8
92-1.287.02	4.298	1433	253	0.969	11	23	22.9	217	27	28	111	13.5
92-1.287.03	4.354	3131	294	1.757	55	29	25.6	197	44	54	449	44.0

Table 1. Elemental abundances for obsidian specimens in lots 284–287 of the James M. Collins Collection. All values in ppm unless otherwise noted. Continued from previous page.

out of Portland, Oregon during the early 1970s (Di Giorgio and Di Giorgio 1986: 188). While this is no guarantee that the artifacts come from Oregon, it is an independent line of evidence congruent with all other available evidence suggesting that these artifacts originated in Oregon.

Our goal in this paper is first to provide a thorough inventory and description of these four lots. Second, we use artifact typological descriptions and obsidian sourcing data to evaluate the likelihood that these artifacts indeed come from Oregon. Third, we hope that by identifying the sources of these artifacts, we are able to narrow down their possible origin to a particular region or area within Oregon.

Methods

All artifacts were removed from their enclosed wooden frames and assigned unique sequential catalog numbers following the trinomial system used at SMU. This system combines the designation for the Collins Collections (92-1), the lot number within the collection, and a unique sequential number for each specimen within each lot. Thus, specimen 92-1.284.1 is the first artifact cataloged within lot 284 of the first collection accessioned in 1992. Throughout our paper, we withhold the “92-1” segment of these numbers for brevity.

After assignment of catalog numbers, various measurements were recorded for each specimen. Dimensions measured on each specimen include: maximum length, maximum blade width, neck/stem width, basal width, height of maximum blade width, and medial length. All measurements were made to the nearest whole millimeter using a digital calipers[1]. Typological designations for each specimen were made using various references (e.g., Ireland 1986; Justice 2002).

[1] Though not provided here, a copy of all metric, typological, and XRF data is freely available upon request to the corresponding author or to the SMU Department of Anthropology.

		K %	Ti	Mn	Fe %	Zn	Ga	Th	Rb	Sr	Y	Zr	Nb
RGM-1	Cert.	3.57 ± .083	1619 ± 120	279 ± 31	1.301 ± .021	-32	15 ± 2	15 ± 1.3	150 ± 8	110 ± 10	-25	220 ± 20	8.9 ± .6
n = 10	Meas.	3.181 ± .168	516 ± 152	253 ± 74	1.459 ± .036	34 ± 10	17 ± 2	12.9 ± 1	158 ± 3	101 ± 2	19 ± 2	220 ± 4	10.5 ± .8
NIST 278	Cert.	3.453 ± .017	1469 ± 42	403 ± 15	1.427 ± .014	-55		12.4 ± .3	128 ± 1	63.5 ± .1			
n = 10	Meas.	3.419 ± .12	602 ± 201	473 ± 41	1.514 ± .04	45 ± 11	20 ± 2	10 ± 1.5	130 ± 3	59 ± 2	35 ± 2	284 ± 6	16.9 ± .7

Table 2. Certified (Cert.) and measured (Meas.) values for USGS RGM-1 (rhyolite) and NIST 278 (obsidian). Measured values are means based on ten separate assays.

Every piece of obsidian within the four lots was assayed using a Bruker III-V X-ray fluorescence spectrometer. The Tracer III-V uses a Rh-based tube set to operate at 40 kV and 25µa, and a thermoelectrically cooled silicon detector. We used a set of 40 well-characterized obsidian specimens described by Glascock and Ferguson (2012) to construct a calibration/quantification curve for our assays. Our calibration method also included NIST 610, a synthetic glass standard, and the recommended values provided by Jochum et al. (2011). This protocol and the calibration routing permit quantification of the following major, minor, and trace elements: K, Ti, Mn, Fe, Zn, Ga, Th, Rb, Sr, Y, Zr, and Nb. Elemental abundances determined for each specimen are provided in Table 1. Check standards consisting of pressed-discs (4 g of powder with 0.9 g of cellulose binder) of NIST 278 (obsidian rock) and USGS RGM-1 (Glass Mountain rhyolite) were run periodically during our assays and processed using identical quantification procedures. Measured values (mean of 10 assays) and certified values for these reference materials are presented in Table 2.

Results

Lots 284–287 contain a total of 136 artifacts and one piece of cryptocrystalline silicate (CCS) that shows no evidence of human modification. Ninety-six (70.5%) of these are bifacial (n = 93) or unifacial (n = 3) projectile points. Other flaked-stone artifacts include five large bifacial knives, 12 unifacial and bifacial scrapers, 19 bifacial and unifacial awls or perforators, and 3 flakes (one of which exhibits usewear). Non-flaked-stone artifacts in the assemblage include two awls made on bone, one bone bead, one Olivella bead, one bead made on an as-yet unidentified lithic material, one piece of coiled brass, and one mussel-shell valve that has been perforated with a single hole. Here, our attention is focused on those artifacts made on obsidian.

Seventy-five of the artifacts in the lots are made on obsidian, the vast majority of these (n = 69) are hafted projectile points. Morphologically, the projectile points fit well within typological units created for the northern Great Basin and the southern Columbia Plateau (Table 3, Figures 1-7). Small corner-, side-, and basal-notched arrowheads are the most common forms in the assemblage (n = 34). Large corner- and side-notched forms consistent with the Elko Series are the second most common (n = 28). Seventeen points in the collection are a shouldered and stemmed form with concave bases that fit comfortably within the Pinto Series, though some of these might be better classified as Gatecliff Split Stem. Four of the specimens represent forms of the Western Stemmed Tradition, including two large stemmed Haskett points, one large stemmed Lind Coulee point, and one small stemmed point that we have classified as a heavily resharpened Lake Mojave, though we note this point form appears very similar to what Beck and Jones (2015: 137–138) refer to as "Dugway Stubby" points from the Dugway Proving Ground in northwestern Utah.

Series	Type	Obs	FGV	CCS	Other
Stemmed					
	Haskett		1		1
	Lake Mojave				1
	Lind Coulee	1			
Black Rock/Humboldt					
	Concave Base	10	1	1	
Elko					
	Corner Notched	19	1	1	
	Eared	6			
	Side Notched	1			
Pinto					
	Barbed	1			
	Sloping Shoulder	4		2	1
	Square Shoulder	7	1	1	
Small Side Notched					
	Desert	9	1	1	
	Sierra (Tri-notch)			3	
Corner- and Basal Notched					
	Cottonwood Triangular	2		4	1
	Eastgate Expanding Stem	1		3	
	Rose Spring Corner Notched	6			
	Middle Columbia River Basal Notched			1	
	Upper Columbia Stemmed	1			
	Wallula Contracting Stem	1			
Miscellaneous					
	Broken biface	1			
	Knife	2		3	
	Scraper	2	1	7	
	Awl/Perforator	2	1	8	2

Table 3. Cross-tabulation of projectile point types made on obsidian, fine-grained volcanics (FGV), cryptocrystalline silicates (CCS), and other lithic materials.

Catalog ID	Type	Source
92-1.284.01	Elko Eared	Browns Bench
92-1.284.02	Elko Corner Notched	Browns Bench
92-1.284.03	Elko Corner Notched	Browns Bench
92-1.284.04	Pinto Square-Shoulder	Cannonball Mountain
92-1.284.05	Elko Eared	Browns Bench
92-1.284.06	Wallula Contracting Stem	Browns Bench
92-1.284.07	Northern Side Notched	Browns Bench
92-1.284.08	Elko Corner Notched	Browns Bench
92-1.284.09	Elko Eared	Cannonball Mountain
92-1.284.10	Pinto Sloping-Shoulder	Timber Butte
92-1.284.11	Awl/Perforator	Browns Bench
92-1.284.12	Elko Corner Notched	Browns Bench
92-1.284.13	Elko Corner Notched	Big Southern Butte
92-1.284.14	Humboldt Concave Base	Browns Bench
92-1.284.16	Elko Eared	Cannonball Mountain
92-1.284.17	Elko Side Notched	Browns Bench
92-1.284.18	Pinto Square-Shoulder	Cannonball Mountain
92-1.284.19	Cottonwood Triangular	Big Southern Butte
92-1.284.20	Elko Corner Notched	Browns Bench
92-1.284.21	Lind Coulee	Browns Bench
92-1.284.22	Upper Columbia Stemmed	Browns Bench
92-1.284.23	Elko Corner Notched	Cannonball Mountain
92-1.284.24	Humboldt Concave Base	Browns Bench
92-1.284.25	Pinto Square-Shoulder	American Falls
92-1.284.26	Pinto Barbed	Browns Bench
92-1.284.27	cf. Humboldt	Cannonball Mountain
92-1.284.28	Pinto Square-Shoulder	Browns Bench
92-1.284.29	Awl/Perforator	Browns Bench
92-1.284.30	Pinto Sloping-Shoulder	Browns Bench
92-1.284.31	Elko Corner Notched	American Falls
92-1.284.32	Elko Corner Notched	Owyhee
92-1.284.33	Elko Corner Notched	Browns Bench
92-1.284.34	Rose Spring Corner Notched	Browns Bench
92-1.284.35	Pinto Sloping-Shoulder	Owyhee
92-1.284.36	Humboldt Concave Base	Browns Bench
92-1.284.37	Rose Spring Corner Notched	Browns Bench
92-1.285.01	Northern Side Notched	Browns Bench
92-1.285.02	Humboldt Concave Base	Browns Bench
92-1.285.03	Pinto Square-Shoulder	Browns Bench
92-1.285.04	Elko Corner Notched	Big Southern Butte
92-1.285.05	Humboldt Concave Base	Browns Bench
92-1.285.06	Elko Corner Notched	Browns Bench
92-1.285.10	Rose Spring Corner Notched	Browns Bench

Table 4. Source assignments and typological designations for obsidian artifacts in lots 284–287 of the James M. Collins Collection. Continued on next page.

Catalog ID	Type	Source
92-1.285.11	Elko Corner Notched	Browns Bench
92-1.285.12	Elko Corner Notched	Browns Bench
92-1.285.13	Pinto Square-Shoulder	Browns Bench
92-1.286.01	Elko Corner Notched	Browns Bench
92-1.286.02	Elko Eared	Browns Bench
92-1.286.03	Northern Side Notched	Cannonball Mountain
92-1.286.04	Humboldt Concave Base	Browns Bench
92-1.286.05	Northern Side Notched	Browns Bench
92-1.286.06	Humboldt Concave Base	Browns Bench
92-1.286.07	Humboldt Concave Base	Browns Bench
92-1.286.08	Humboldt Concave Base	Browns Bench
92-1.286.09	Elko Corner Notched	Unknown
92-1.286.11	Northern Side Notched	Browns Bench
92-1.286.12	Pinto Square-Shoulder	Browns Bench
92-1.286.13	Elko Corner Notched	Browns Bench
92-1.286.14	Cottonwood Triangular	Browns Bench
92-1.286.15	Northern Side Notched	Browns Bench
92-1.286.16	Rose Spring Corner Notched	Browns Bench
92-1.286.17	Northern Side Notched	Cannonball Mountain
92-1.286.18	Pinto Sloping-Shoulder	Big Southern Butte
92-1.286.19	Elko Corner Notched	Cannonball Mountain
92-1.286.20	Eastgate Expanding Stem	Browns Bench
92-1.286.21	Rose Spring Corner Notched	Cannonball Mountain
92-1.286.22	Desert Side Notched	Browns Bench
92-1.286.23	Rose Spring Corner Notched	Cannonball Mountain
92-1.286.24	Elko Eared	Browns Bench
92-1.286.25	Elko Corner Notched	Malad
92-1.286.26	Northern Side Notched	Browns Bench
92-1.286.27	Ovate scraper	Browns Bench
92-1.286.45	Ovate scraper	Browns Bench
92-1.286.48	Medial fragment	Browns Bench
92-1.287.02	Lanceolate knife	Owyhee
92-1.287.03	Lanceolate knife	Browns Bench

Table 4. Source assignments and typological designations for obsidian artifacts in lots 284–287 of the James M. Collins Collection. Continued from previous page.

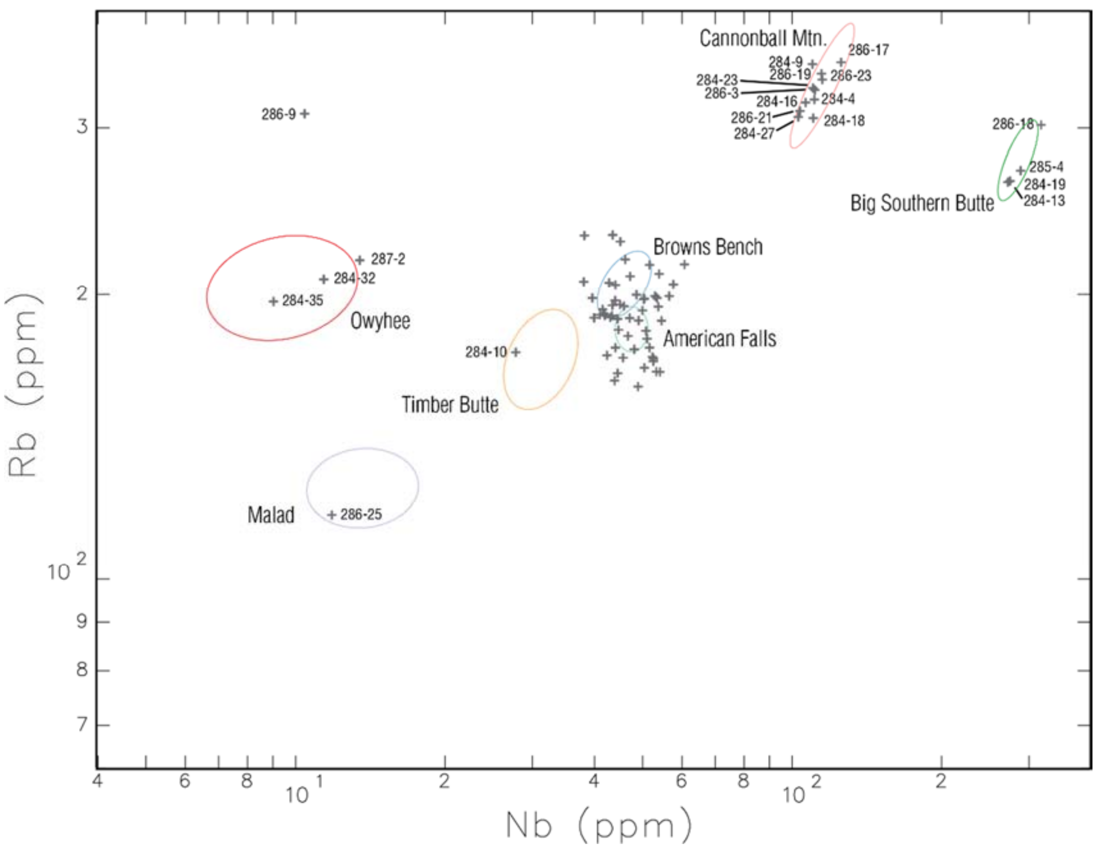


Figure 8. Bivariate plot of Y and Zr concentrations in obsidian artifacts from the James M. Collins Collection. Major obsidian sources are shown as 90% confidence ellipses.

Our XRF analysis reveals that a majority (n = 53) of these artifacts comes from the Browns Bench geochemical source in south-central Idaho and neighboring portions of Utah and Nevada (Figures 8 and 9). Eleven artifacts are made on obsidian from the Cannonball Mountain source locality. Thus, nearly 85% of the obsidian in these lots derives from two major sources located on either side of the Snake River in Idaho. The Big Southern Butte, Owyhee, and American Falls sources are represented in low amounts (5, 4, and 3% respectively). One artifact each from the Timber Butte and Malad sources are also present. One Elko Corner-Notched point in the collection comes from an as-yet unidentified source. Table 4 lists the catalog number, typological designation, and obsidian source for each of the pieces in the collection.

Discussion and Conclusion

Despite some ambiguity regarding the origins of these materials, available textual evidence suggests they come from Oregon. Our typological designations for these pieces suggest they are consistent with materials from the northern Great Basin, thus an Oregon provenance—particularly a southeastern Oregon provenance—would not be unreasonable. Similarly, the obsidian sources represented in the assemblage (Figure 10) are among the most commonly used sources in southwestern Idaho and the northern Great Basin (Black 2015; Fowler 2014; Holmer 1997; Willson 2007).

None of the major obsidian sources of southeastern Oregon and northern Nevada are represented (e.g., Buck Spring, Coyote Wells, Venator, Whitehorse). Indeed, the sources present in the collection, and the frequencies

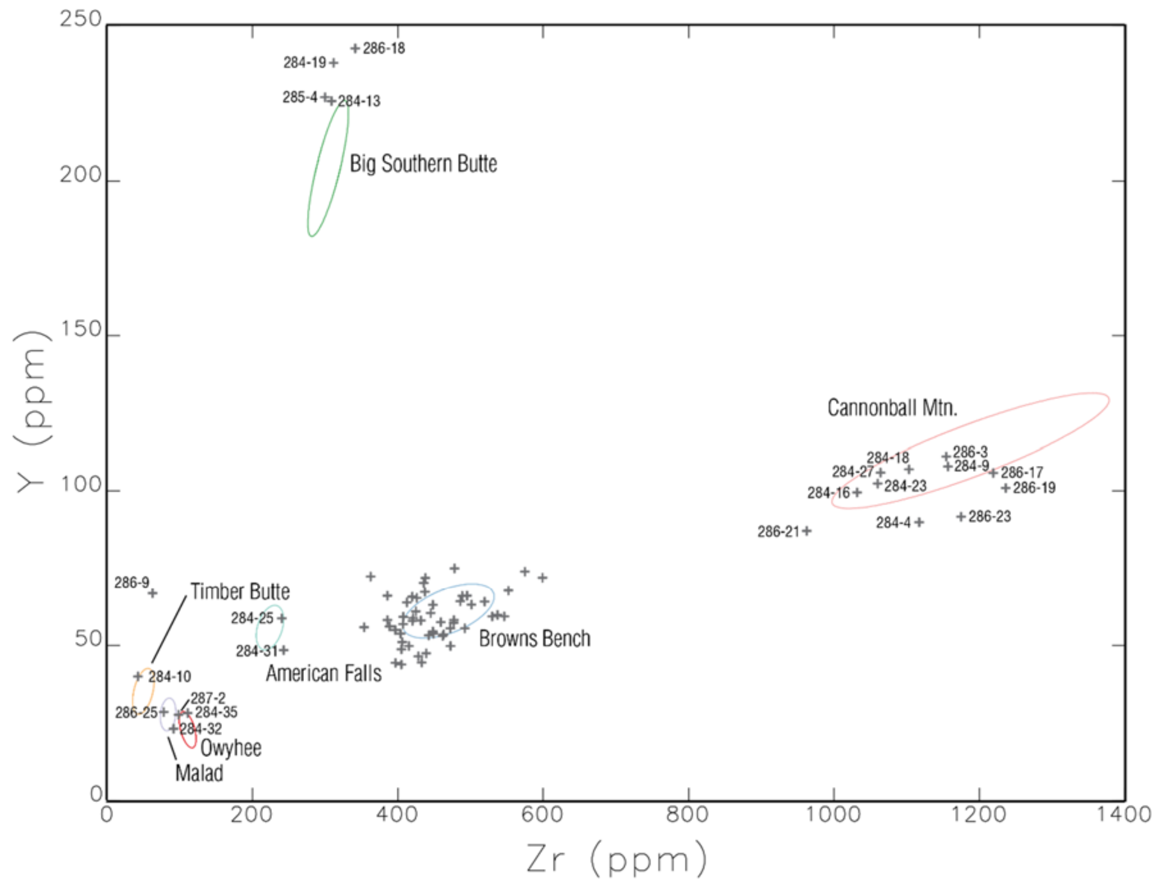


Figure 9. Bivariate plot of Rb and Nb concentrations in obsidian artifacts from the James M. Collins Collection. Major obsidian sources are shown as 90% confidence ellipses.

with which they are present, are similar to what Willson (2007: 19–21) documents for southwestern Idaho. Could this mean that the artifacts come from the very southeast corner of Oregon, in southern Malheur County (i.e., along the Owyhee River)? Given the available evidence as to the archaeological origin(s) of these pieces, we propose that this is the current best guess, as the Owyhee River drains in to the Snake River, and the Owyhee uplands straddle the border between Oregon and Idaho.

Unfortunately, there is minimal information relating to the origin of the artifacts in these four lots. Here, we have tried to tease as much information as possible from these artifacts based on general typology and geochemistry. We concede that the absence of any documentation regarding how Collins obtained these items, or from where they were originally collected renders their ability to provide significant archaeological information near nil. Yet, *some* information can still be obtained that may be useful for integrating into broad-scale studies of lithic procurement patterns (e.g., Fowler 2014; Jones et al. 2003).

Perhaps additional work with the Collins Collection will uncover some paperwork that allows us to confirm the original context of these pieces. Until such time, we believe that the most research value of these lots comes from their typological designations and obsidian-source determinations. The absence of detailed provenience should not be viewed as an *a priori* reason to conclude that an artifact collection cannot provide any research-related information. Rather, the

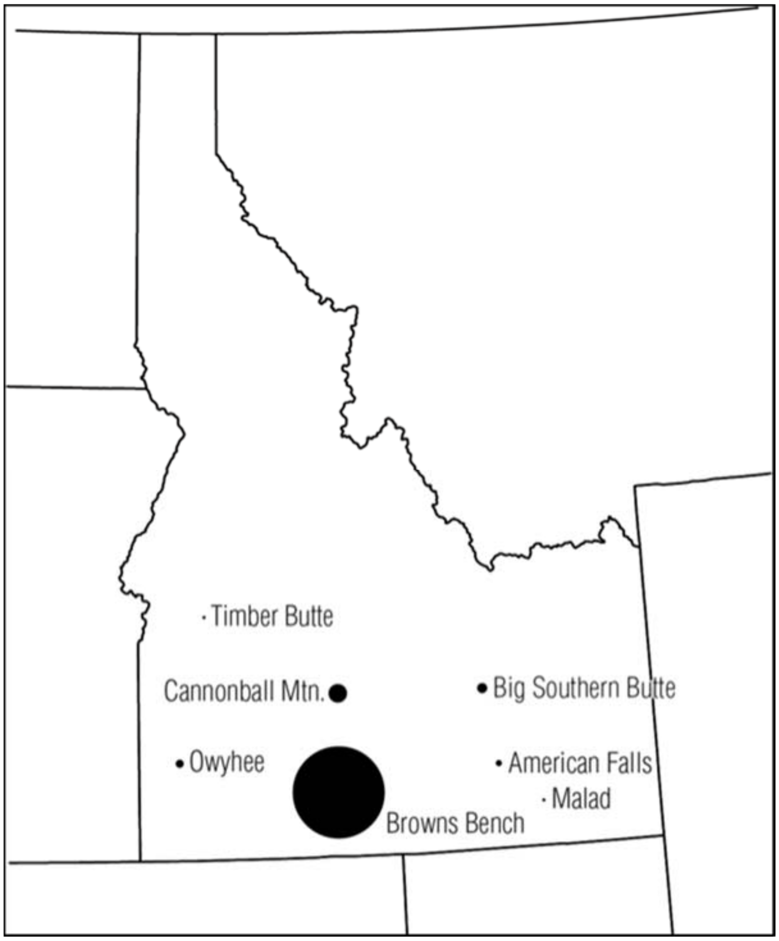


Figure 10. Obsidian sources represented in lots 284–287 of the James M. Collins Collection. Dots are proportional to the percentage of obsidian artifacts assigned to each source. Note that obsidian from both the Cannonball Mountain and Browns Bench sources can be found in secondary deposits along the Snake River Plain.

limited provenience of such collections places limitations on what *kinds* of information a collection. In this vein, we could conceptualize provenience as a probabilistic statement, rather than a binary declaration.

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