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**The Bore Diameter of Clay Tobacco Pipes made at Bristol
between 1620 and 1850**

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The Bore Diameter of Clay Tobacco Pipes made at Bristol between 1620 and 1850

By D. B. WHITEHOUSE

THIS paper discusses the validity of dating groups of clay tobacco pipes by bore analysis and relates the results already obtained at Bromsgrove (Worcestershire) and Cambridge to an examination of examples made at Bristol between 1620 and 1850.

INTRODUCTION

The method of dating tobacco pipes by stem bore analysis was developed in the United States by J. C. Harrington¹ and H. C. Omwake.² It assumed that the average bore diameter decreased as the stem became longer in response to a gradual increase in the size of the bowl. This process was thought to operate until 1800, when the trend was reversed. It followed from their hypothesis that a relative chronology might be constructed for groups of tobacco pipes and given absolute values by reference to a dated bowl typology. Its accuracy would be directly proportional to the size of the groups examined. The method was severely criticized by J. F. Chalkeley.³ However, the average bore diameter of groups of tobacco pipes excavated at Jamestown (Virginia) was later shown to have decreased from over 8/64 in. in the early 17th century to less than 6/64 in. by the mid 18th.⁴

In 1960 three groups of pottery and tobacco pipes were excavated by the writer at Bromsgrove.⁵ The tobacco pipes were subsequently published by Mr Adrian Oswald.⁶ The earliest group contained 124 examples, probably made at Bristol, Broseley, London and Worcester

¹ *Quarterly Bulletin Arch. Soc. of Virginia*, vol. 9 (1954), p. 1.

² *Ibid.*, vol. 11 (1956), p. 1.

³ *Ibid.*, vol. 10 (1955), p. 4.

⁴ Edward B. Jelks in John L. Cotter, *Archeological Excavations at Jamestown* (Washington, 1958), pp. 210-12.

⁵ *Trans. Worcestershire Arch. Soc.*, vol. 37 (NS) (1960), p. 48.

⁶ *Ibid.*, p. 65.

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and dated by the standard typology¹ about 1640-70. The stem bore diameters were as follows:

6/64 in.		7/64 in.		8/64 in.	
no.	%	no.	%	no.	%
28	22	76	60	20	18

In later groups, dated typologically about 1660-1710, the majority of bore diameters were 6/64 in., suggesting a rough correlation with the statistics obtained at Jamestown.

A second opportunity to test the method occurred in 1962, when Dr John Alexander recovered more than 200 tobacco pipes from stratified deposits at Castle Hill, Cambridge. The marked examples were made at Cambridge and London. This material was divided into four chronological groups by reference to the bowl typology and the following changes in bore diameter were recorded:²

	3/64 in.		4/64 in.		5/64 in.		6/64 in.		7/64 in.		Not known	
	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%
1. 1620-70 (Types 4a, 4c and 5b)	1	7	—	—	6	40	6	40	1	7	1	6
2. 1650-80 (Type 6b)	—	—	—	—	8	15	31	58	14	25	1	2
3. 1680-1730 (Types 8a, 8b, 9a and 9b/c)	3	4	14	20	30	40	11	16	5	6	4	4
4. 1820-70 (Types 12a, 12a/b and 12b)	—	—	5	60	2	20	—	—	—	—	2	20

Again progressive diminution was observed, from an average of about 6/64 in. during most of the 17th century to 5/64 in. shortly before and after 1700. However, within the 17th century, no regular

¹ Adrian Oswald, *Archaeological Newsletter*, vol. 5 (1955), p. 243.

² D. B. Whitehouse, report forthcoming.

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trend was observed and, furthermore, the overall decrease occurred at a rate different from that recorded at Jamestown and Bromsgrove.

BRISTOL

Finally, in 1963 Mr Kenneth Marochan kindly provided the writer with material for an analysis of tobacco pipes made at Bristol between 1620 and 1850. It comprised three groups:

Group 1. This contained fifty tobacco pipes with flat heels and bulbous bowls rilled at the top. They were dated about 1620-40 by Mr Marochan and the majority belonged to Oswald type 4a (dated about 1620-50 in London) with a few resembling types 5b and 5c. Eleven examples bore makers' marks on the heel. These were:

TD	Thomas Dean	1643 Apprentice Rolls ¹
FH	Flower Hunt	1651 Freedom Rolls
EL	Edward Lewis	1631 Apprentice Rolls
RN	? Richard Nooney	1655-99 Freedom Rolls
N/R	Not known	
Cartwheel	.	
Two illegible		

Group 2. This also contained fifty tobacco pipes of Oswald types 8b and 9b (dated about 1680-1730). Four-fifths had makers' initials on the side of the bowl. These were:

IA	James Arthur	1715
	James Abbot	1716
HH	Henry Hoare or Hare	1699-1722
	Henry Hives	1715
IS	Joseph Stanford	1691-1722
	John Squibb	1704
	James Stephens	1715-22
	John Sunderling	1716
	John Sunderling II	1727
	Joseph Stanford II	1727
RT	Robert Tippett	1713

¹ Adrian Oswald, *Journal Arch. Assoc.*, vol. 23 (Third Series) (1960), p. 40.

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These were related to bore diameters as follows:

	3/64 in.	4/64 in.	5/64 in.	6/64 in.
IA	—	—	1	—
HH	—	1	3	—
IS	—	1	1	—
RT etc.	—	—	23	10
Unmarked ...	2	5	2	1
Total	2	7	30	11

Group 3. This unfortunately contained only fifteen tobacco pipes, all with spurs and the majority with fairly tall, straight bowls. They thus belonged to Oswald type IIb (dated 1780–1850 in London). Moulded decoration on the bowls included simple vertical ribs, tobacco stems combined with Red Indians and sailing ships. Three makers were represented:

BT	Not known	1812 Freedom Rolls
SR	? Sam Reynolds	
TW	Not known at Bristol	

Summary. The stem bore diameters found in the three groups were as follows:

	3/64 in.		4/64 in.		5/64 in.		6/64 in.		7/64 in.		8/64 in.	
	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%
1. 1620–50	—	—	—	—	—	—	22	44	25	50	3	6
2. 1680–1730	2	4	7	14	31	62	11	22	—	—	—	—
3. 1780–1850	1	7	7	46.5	7	46.5	—	—	—	—	—	—

Thus, as at Bromsgrove and Cambridge, the bore diameter was shown to have decreased: here from over 6/64 in. in the early 17th century to 5/64 in. at the beginning of the 18th and to less than this between about 1780 and 1850.

DISCUSSION

An examination of tobacco pipes from Bromsgrove, Cambridge and Bristol did show, therefore, that, excepting the anomalous 17th-century material from Cambridge, the stem bore diameter decreased during the 17th and 18th centuries and, furthermore, that the trend probably continued for some time after 1800. However, it also showed that the rate of decrease was subject to considerable local variation, presumably in direct relationship to the regional styles which evolved within the broad limits of Oswald's typology for the bowls of all tobacco pipes of British manufacture. Thus, in the areas investigated, the average bore diameter in the early and mid 17th century was either $6/64$ in. (Cambridge) or $7/64$ in. (Bromsgrove and Bristol); and in the late 17th and early 18th centuries, $5/64$ in. (Bristol and Cambridge) or $6/64$ in. (Bromsgrove).

Nevertheless, it is likely that bore analysis might be used to date groups of tobacco pipes, once a series of measured collections became available from the same locality. However, the relatively close dating provided by the standard typology for bowls makes this possibility one of academic interest only.

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