

# The Rediscovery of Milk-based House Paints and the Myth of “Brickdust and Buttermilk” Paints

By RICHARD M. CANDEE

ONE of the most frequently stated stories regarding the use of paints in colonial America is that the eighteenth-century colonists often used a combination of “brickdust and buttermilk” paint. Such a combination would rely upon the binding power of milk or casein, a fact which was known to the ancient Hebrews and medieval craftsmen. Yet, extensive use of milk-based paints seems to have declined after the invention of oil-based paints in the fifteenth century.<sup>1</sup>

Where, then, did such a myth develop; or did the use of milk in house paints survive in the early colonies? Perhaps the answer lies in a common misunderstanding of terminology. To many early writers of social and architectural history, the “colonial” period included buildings of the first quarter of the nineteenth century. Thus, formulas for milk painting after 1800 have often been cited to suggest that earlier colonists had also used this method. Actually, the catalyst for the rediscovery and extensive use of casein house paints was the French Revolution.

**EDITORIAL NOTE:** Mr. Candee, a graduate student at the University of Pennsylvania, is now resident in New England, conducting a program of research for his doctoral dissertation on the subject of early architecture in Southern Maine and New Hampshire. He has earlier prepared as his Master's Thesis, State University of New York, College at Oneonta, “Materials Toward a History of Housepaints: The Materials and Craft of the Housepainter in 18th Century America.”

As one of the rediscoverers, Antoine-Alexis Cadet-de-Vaux, stated in an 1801 translation of his “Memoir on a method of Painting with Milk,” it was the “want of materials” such as linseed oil which induced him to substitute milk “instead of painting in distemper.”<sup>2</sup> The latter process, distemper painting, was a common substitute for glue “size” and hot water instead of oil throughout the eighteenth century. However, as Cadet-de-Vaux described in his “Memoir,” distemper was not a wholly satisfactory answer for an inexpensive house paint:

it comes off by the slightest friction, so that when it is used for staircases and passages one is obliged to be upon one's guard against suffering clothes to come into contact with it.

Furthermore, in wet weather:

The size, which forms the basis of distemper, grows moist and ferments. . . . The earth or ochre, formerly suspended in this gelatinous substance, are then left separate . . . and the paint falls off . . . unless it be varnished. . . .<sup>3</sup>

Distemper painting was probably as common in America as it once was in England and France, although physical evidence is less likely to have survived or has been confused with colored white-washes. It was not until the problems of the French Revolution led Cadet-de-Vaux to substitute milk, which was cheap and apparently plentiful in rural France, that casein-based paints were introduced for house painting.

He first published his method in a

French journal, "but at a time when the thoughts of everyone was absorbed by the public misfortunes" of the Revolution and apparently not translated into English until his later "Memoir" was republished from the *Dicade Philosophique* in the 1801 edition of *The Repertory of Arts and Manufactures* printed in London. Nearly all of the receipts subsequently published in America were based upon this article.<sup>4</sup>

One other variation, however, was published in this country. It appears to have been developed in France independently of Cadet-de-Vaux during the French Revolution. M. Ludicke's process for bruising fresh curds with an equal portion of lime and earth pigments first appeared in a French journal in 1792. The earliest English translation seems to have been that in *The Farmer's Calendar* published in London in 1805.<sup>5</sup>

How soon either of these formulas were reprinted in America is difficult to say with assurance. In 1828 a pamphlet published in 1808 in Connecticut was described as giving directions for the "then new process" of milk painting.<sup>6</sup> The earliest published source of the Cadet-de-Vaux receipt in America seems to have been that reprinted in the New York *Morning Chronicle* for April 27, 1803.<sup>7</sup> After this date numerous handbooks and domestic guides include variations based upon the French formula.

Both casein-based formulas are published in *The Domestic Encyclopedia* by A. T. N. Willach in the third edition of 1821. Whether either or both were included in the first edition of 1804, I have not been able to ascertain. However, a Connecticut manuscript receipt book entitled "Paints and receipts for wooden work" which is dated "at one point,

1801" contains the following injunction: for Laying on of your Colering, for outdore work it must be mixed with linseed oil, but for indore work it may be mixed with Strong Beer or milk.<sup>8</sup>

It would be interesting to know if this passage was written in 1801 or added to the book after the French receipts appeared in print. It is not impossible that the 1801 English translation was quickly available in America, although the fact that the process was "new" in 1808 suggests that its use in house painting was not common until after that time.

It is clear from every formula for milk paint published in the early nineteenth century that American variations are based upon the French receipts. The most commonly quoted is the English translation of Cadet-de-Vaux:

Take skimmed milk, one pint (or two Paris pints) [or "two quarts"].

Fresh slacked lime, six ounces.

Oil of carraway, or linseed, or nut, four ounces. Spanish white, five pounds.

Put the lime into a vessel of stone-ware, and pour upon it a sufficient quantity of milk to make a smooth mixture; then add the oil by degrees, stirring the mixture with a small wooden spatula; then add the remainder of the milk, and finally, the Spanish white. Skimmed milk in Summer is often curdled, but this is of no consequence to our purpose, as its fluidity is soon restored by its contact with the lime. . . . It is indifferent which of the three oils above-mentioned we use; however, for painting white, the oil of carraways is to be preferred, as it is colourless. For painting with the ochres the commonest lamp-oil may be used. . . . The Spanish white must be crumpled, and gently spread upon the surface of the liquid, which it generally inbibes, and at last sinks; it must then be stirred with a stick. This paint is coloured like distemper, with charcoal levigated in water, yellow ochre, &c.<sup>9</sup>

While the above was satisfactory for interior painting, Cadet-de-Vaux also developed an exterior formula for "Resinous Milk-painting":

. . . add to the proportions of the milk-distemper-painting,

slack'd lime,	2 ounces
oil,	2 ounces
White Burgandy pitch,	2 ounces

The pitch is to be melted in the oil by a gentle heat, and added to the smooth mixture of milk and oil. In cold weather the mixture ought to be warmed, to prevent its cooling the pitch too suddenly, and to facilitate its union with the milk and lime.<sup>10</sup>

With such a receipt as this it was possible, after 1800, to paint the exterior of a building with a relatively lasting casein paint. Whether or not such a milk-based paint was actually made with brick dust is difficult to determine. However, it certainly is not impossible. Brick dust had long been used in the eighteenth century as a colorant. In Philadelphia it was common to paint the façades of the city's brick buildings, and one local diarist recorded in 1782, "Ye Painter at work this week painting ye roof of our House and back Buildings with Brickdust."<sup>11</sup>

While no receipts for brick dust and milk paints have survived, there are several for tar or resins designed for exterior use. As with most receipts with brick dust, an 1819 guide published in New Haven provided a tar and brick dust formula designed to "give to red bricks

a soft lustre, by which their appearance is much improved." Tar and boiled linseed oil was to be melted several times, three ounces of pitch added and the whole heated and cooled. To this, brick dust ground to a fineness from pieces of good brick, sifted through a hair sieve and ground again with water before drying, was added to saturation. By mixing the color of the bricks ground in this manner, any desirable color of brick-dust "cement" could be created.<sup>12</sup>

With published descriptions of brick dust paints for brick surface available in early nineteenth-century handbooks and the cited formulas of milk-based paints republished in America at the same time, it is not impossible that the two inexpensive methods were combined. Nevertheless, contemporary description or formulas have not yet been found to document this commonly supposed painting method. If such a combination ever existed it would be interesting to know when it actually began and how widely it was practiced. Or was "brickdust and butter-milk paint" a myth of our grandparents born of a misreading of early nineteenth-century receipts for two different methods of exterior painting?

#### NOTES

<sup>1</sup> E. Sutermeister and F. Brown, *Casein and its Industrial Application*, second ed., N. Y., 1939, pp. 105, 315; T. Z. Penn, "Decorative and Protective Finishes, 1750: Materials, Process, and Craft" (unpublished Master's thesis, Univ. of Delaware), p. 82.

<sup>2</sup> Antoine-Alexis Cadet-de-Vaux, "Memoir on a Method of Painting with Milk," *The Repertory of Arts and Manufactures* (London, 1801), XV, 411.

<sup>3</sup> *Ibid.*, pp. 413-414.

<sup>4</sup> *Ibid.*, p. 411.

<sup>5</sup> Arthur Young, *The Farmer's Calendar* (London, sixth ed., 1805), p. 609.

<sup>6</sup> Nina Fletcher Little, *American Decorative*

*Wall Painting*, Old Sturbridge Village, 1952, p. 2, quoting Thomas Fessenden (ed.), *The New England Farmer* (Sept. 19, 1828) VII, 9.

<sup>7</sup> Rita S. Gottesman, *The Arts and Crafts in New York* (N. Y. Historical Society, N. Y., 1954), III, 276.

<sup>8</sup> *Bulletin of the Connecticut Historical Society*, Vol. 9, No. 2, Jan. 1943, p. 9.

<sup>9</sup> Cadet-de-Vaux, *op. cit.*, pp. 413-414.

<sup>10</sup> *Ibid.*, p. 418.

<sup>11</sup> H. D. Biddle (ed.), *The Journal of Elizabeth Drinker, 1759-1807*, Philadelphia, p. 140.

<sup>12</sup> *The New Family Receipt Book* (New Haven, Conn.: Howe & Spalding and Samuel Wade, 1819), pp. 133-134.