

# The Social Shaping of Technology

*How the refrigerator got its hum*

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to various correspondents; see, for example, 'Report to United American Bosch Co., Spring, 1934,' typescript, SOP [26]. *The Facts About Gas Refrigeration Today* American Gas Association (New York, 1933), will give the reader some sense of the reluctance of gas utility companies to become actively involved in selling gas refrigerators.

31 On estimates of the sales of Servel, see H. B. Hull, *Household Refrigeration*, 4th ed. (Chicago, 1933); and Don Wright, 'Gray Sees Bright Future for Gas Refrigerator', *Gas Age* 34 (March 1958): 84; and 'When Everybody Loves a Competitor,' *Business Week* (25 November 1950), p. 72.

32 On some of the different forms of washing machine, see Giedion, *Mechanization Takes Command* [3], pp. 562-70; as well as Edna B. Snyder, *A Study of Washing Machines*, University of Nebraska, Agricultural Experiment Station Research Bulletin 56 (Lincoln, 1931). On the tactics of the Maytag Corporation, see U.S. Federal Trade Commission, 'Kitchen Furnishings and Domestic Appliances,' vol. III of the *Report on the House Furnishings Industry* (Washington, 1925); and 'U.S. Supreme Court Hears Patent Suit Arguments,' *New York Times*, 20 April 1939 (25:3).

33 On the advantages of the central vacuum cleaner over the portable forms, see M. S. Cooley, *Vacuum Cleaning Systems* (New York, 1913), chap. 1. On the sales techniques of the portable vacuum cleaner manufacturers, see Frank G. Hoover, *Fabulous Dustpan: The Story of the Hoover Company* (New York, 1955); and Earl Lifshay, *The Housewares Story: A History of the American Housewares Industry* (Chicago, 1973), chap. 8.

34 The information in this sentence is derived from promotional material distributed by each of the companies mentioned; I am grateful to Richard Grant for helping me acquire these materials. See also Lifshay, *Housewares Story* [33], passim.

35 On Durant, see Mel Gustin, *Wild Billy: William C. Durant, Founder of General Motors* (Detroit, 1963), p. 187. On Landers, Frary and Clark, 'A History of Landers, Frary & Clark' (typescript) in *Dean S. Paden Collection* (no. 281), Baker Library, Harvard University. On Westinghouse, see 'Westinghouse Electric,' *Fortune* (February 1938), p. 45. On Maytag, see Jacob Swisher, 'The Evolution of Washday,' *Iowa Journal of History and Politics* 38 (1940): 39.

## Moyra Dooley

### A woman's place: Dolores Hayden on the 'grand domestic revolution'

In the last half of the 19th century and the first quarter of this one, there existed in the United States a remarkable school of feminist thought which tied together architecture and economics in a cogent social theory. The most basic cause of women's inequality, they argued, was the economic exploitation of women's labour by men. Women suffered from two of the fundamental characteristics of industrial capitalism: the physical separation of household space from public space and the economic separation of the domestic economy from the political economy.

These women - 'material feminists,' as they are dubbed in Dolores Hayden's classic study of their ideas - demanded a grand domestic revolution.\* They wanted wages for housework. They set up new kinds of neighbourhood organisation - such as housewives' cooperatives which would undertake housework for payment. Most significant of all, they chivvied architects into exploring radical new types of building. They pushed architects and town planners into looking more intently at the effects of design on family life.

The central object of their campaigning was the need to socialise domestic work. They wanted all household labour and child care to become social labour, in home-like, nurturing neighbourhoods. They wanted neighbourhoods planned to provide laundry facilities, dining and cooking services and extensive child care facilities. In her book, *The Grand Domestic Revolution*, Dolores Hayden records their belief 'that women must create feminist homes with socialised housework and child care before they could become truly equal members of society.'

Two of the more influential women were Melusina Fay Peirce, and Charlotte Perkins Gilman. Melusina Fay Peirce laid out her proposals for cooperative housekeeping in 1868. She loved Cambridge, Massachusetts and after six years of marriage to a Harvard lecturer she described the 'costly and unnatural sacrifice' of her wider talents to 'the dusty drudgery of house ordering.' Her idea was that 'groups of 12-50 women would

\* *The Grand Domestic Revolution*, subtitled *A History of Feminist Designs for American Homes, Neighbourhoods And Cities*, by Dolores Hayden is published by the MIT Press.

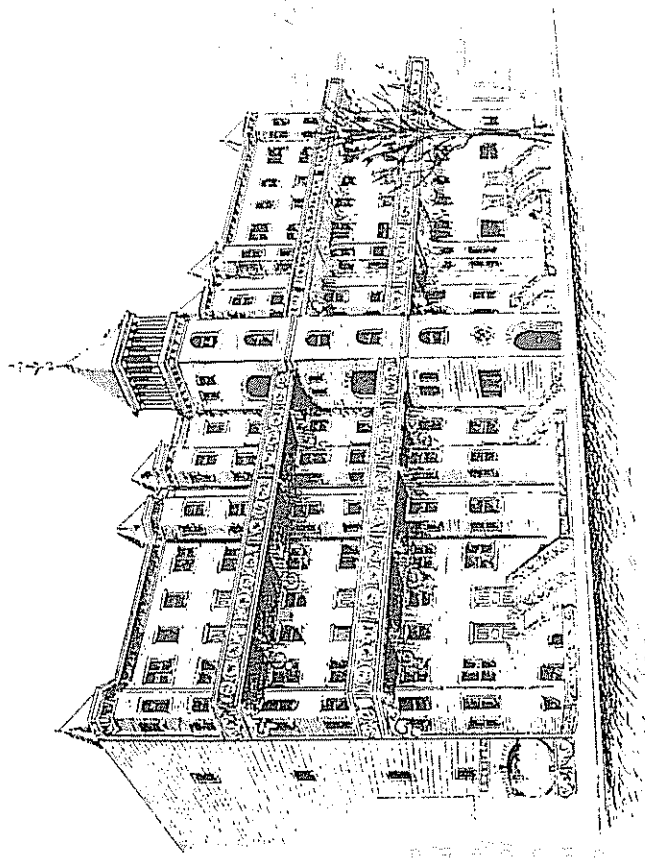


Figure 1 Melusina Fay Peirce, patent for apartment house, Chicago, 1903.

organise cooperative associations to perform all their domestic work collectively and charge their husbands for these services. Through membership fees a group would purchase a building to serve as its headquarters, furnish it with appropriate mechanical equipment for cooking, baking, laundry and sewing, and supply a cooperative store with provisions.' She goes on to describe how people with particular skills such as cooking would be hired and how workers would be paid wages equivalent to those paid to skilled men. Women would also be able to develop outside interests and careers.

These proposals had wide implications for neighbourhood planning and house design. She outlined plans for cooperative residential neighbourhoods made up of kitchenless houses and one cooperative housekeeping centre. She proposed apartment houses with communal kitchens, laundries, dining facilities, rest rooms etc., family hotels in other words. She advised women to 'gather in towns and cities, elect their own officers and set up women's committees to deal with public issues such as education, health and welfare' . . .

Dolores Hayden describes how in 1916 a self-educated architect, Alice Austin, drew up plans for a feminist socialist city that 'developed the urban infrastructure necessary for cooked food delivery and laundry services and carried Howard's proposals for cooperative housekeeping to their ultimate conclusion in terms of urban design.'

A group of farmers and urban workers planned to build this alternative to the suburban sprawl of Los Angeles at Llano del Rio, California. Austin first developed plans for kitchenless houses. She criticised the waste of time, strength and money which traditional houses with kitchens required and the 'breatfully monotonous drudgery' of preparing 1,095 meals in the year and cleaning up after each one. In her plans a network of underground tunnels linked each home to the centre and cooked food, laundry and other necessities would be delivered in railway cars. Dirty dishes could be returned to the central kitchen for washing by machine. All gas, water, electricity and telephone lines could be placed underground in the same tunnel as the residential system. The expense would be met by the savings in fuel and machinery, made by cutting down on the need for these activities to be carried out in each home. Public delivery services would also bring shopping to each home.

The city was never built. Sufficient funds couldn't be raised. But many other attempts to organise housing around communal facilities were tried out in New York and Chicago. Indeed, in the half century up to 1917, about 5,000 women and men took part in feminist experiments to socialise domestic work.

As Dolores Hayden points out, these experiments reflected an approach to the organisation of urban life similar to that advocated by Robert Owen and his French contemporary, Charles Fourier. As owner of a textile mill at New Lanark, in Scotland, between 1800 and 1824, Robert Owen included an attempt at developmental care for the children of working mothers. Owen also purchased land in New Harmony, Indiana and with his architect produced a model of an ideal settlement which included community kitchens, a childcare centre and a women's association.

This project was never completed but Charles Fourier, who identified the private dwelling as 'the greatest obstacle to improving the position of women in civilisation,' inspired about 30 Associations or Phalanxes in America beginning in the 1840s. At the North American Phalanx, a community of about 125 members established in New Jersey in 1843, a communal kitchen, laundry and bakery were contained in the same building as private, kitchenless apartments. Members were also allowed to own homes with kitchens on the domain.

Like Owen and Fourier, the material feminists held a place in middle ground between those two great 19th century social movements, socialism and feminism. They criticised industrial capitalism for its effects on human work, and saw the need to build communities which would give equal work to domestic and industrial labour. But they went beyond Owen in their proposals that the entire physical design of towns and cities must reflect equality for women.

Why did the grand domestic revolution 'fizzle out'? Dolores Hayden describes its ideas as part of a 'lost feminist tradition'. It flourished particularly during a period when urban populations were becoming

increasingly tightly packed into the new industrial cities. Houses with multiple occupation became more common – tenements for the poor, apartments for the better off.

At the same time, industrialisation and mass production changed the quality of women's lives. More paid work for women meant that more middle class housewives had to learn to cope with fewer servants. More goods which had to be bought – instead of home-produced, as in the pre-industrial economy – made women more conscious of their lack of cash. 'The growth of manufacturing,' records Dolores Hayden, 'meant that while the rest of society appeared to be moving forward to socialised labour, the housewife, encased in women's sphere, slowly became more isolated from her husband, who now worked away from home; her children, who attended school all day; and the rural social networks of kin and neighbours which were disrupted by migration to the growing urban centres.'

But by the 1920s and 1930s, the industrial cities of both Britain and America which had previously attracted vast populations from the countryside began spilling them out again to the new suburbs. Dolores Hayden marks 1931 as the end of the feminists' campaign. For it was in this year that the Hoover Commission report, *Home Building And Home Ownership*, was published in America. It advocated single family home ownership and 'eventually led to the development of 50 million low technology, single family homes, housing three quarters of American families.'

The retreat to the suburbs left the housewife more isolated than she had been in the new cities. At the same time, the pressures of Depression and high unemployment kept women firmly out of the job market. Meanwhile, appliance manufacturers were beginning to produce in huge quantities washing machines and other domestic gadgets which were small enough to justify individual usage in the single family kitchen.

The Victorian feminists might have been able to dream of communal kitchens and laundries as cheaper than the work of the individual housewife, as well as more sociable: with the growth of mass produced domestic appliances, the economic logic of the idea was shot away. The average home was soon to be filled with enough manufactured equipment to service a primitive village. Today, architecture is still very much a man's world. An advertisement for psychotropic drugs in the US recently showed a frowning housewife, with the caption, 'You can't change her environment but you can change her mood.' Perhaps architects could do more to improve the quality of women's lives if they rediscovered the revolutionary ideas of Charlotte Gilman and Melisina Fay Peirce.

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## PART FOUR

### Military technology

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