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THE KITCHEN STOVE AND ITS ROLE IN
AMERICAN HISTORY FROM 1830 TO 1930

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SUBTITLE: The Social Background And Details Of The Development Of The Kitchen Stove In America Between The Years 1830 And 1930 And Its Subsequent Impact On Middle Class Domesticity.

This thesis is completed as part-fulfilment of the B.Des in Industrial Design (1989).

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INTRODUCTION

In this thesis I intend to examine and assess how the roles of housewife and household were shaped in nineteenth century America.

By tracing its history and development I propose to investigate the role of the kitchen stove during this period; how it helped turn the home from a unit of production, to a unit of consumption and back to one of production.

I will address such topics as cooking and the division of labour within the home as well as the question of the liberation of women from the drudgery of housework.

The sections of this thesis have been arranged in chronological order and the time-periods discussed in each section were chosen by virtue of the amount or type of relevant activity occurring between specific years, or by key dates; 1850 for example, being the year of publication of 'Uncle Tom's Cabin'.

Each section outlines the social background to the development of the stove with reference to the changing attitudes towards the home and the housewife. The details of the development of the stove are followed by an overview of the domestic environment leading into the next period.

SECTION I: BEFORE 1830

From Colonialism to Republicanism: The New Ideology.

The Colonial American home in the mid-eighteenth century was a hive of productive activity. Predominantly rural and middle class, the families tended to be large. The centre of the family home unit was the kitchen, presided over by the mother and located around a open-hearth fire. (Illustration 1)

The housewife was in charge of a small domestic workforce that kept the home well stocked and ticking over. Hired farm girls were often employed to do the menial tasks of cleaning and ironing while the housewife could pursue more important matters such as child-rearing and making clothes for winter.

Children were always around to help the mother with chores and increased the capacity of the household to produce such necessities as soap, bread, cured meat, candles and even clothes. All products that were later to become available from the first stores.

Husbands and the older male children worked around the home and were always available for such masculine tasks as chopping wood or fixing fences.

Home production at this time, however was not valued as highly as it was later to become. Domestic skills were not considered particularly significant, nor was the home unit perceived to be the cornerstone of the economy as was the case later on. Indeed the home and with it, the housewife were largely taken for granted. The hierarchical, patriarchal distribution of power saw the husband in command with the wife in charge of the daily running and maintenance of the household. Children were strictly disciplined under the moral influence of the father and not the mother.

The distribution of chores in the pre-industrial American home saw a distinct rift between the types of activity performed by the male and female members of the family. Men and boys chopped wood, fixed fences and tended the orchards and fields. Women and girls tended the fires and preserved the fruit. Male chores usually dealt with outdoor physical labour, while female work was indoor, repetitive and somewhat menial.

All the cooking was done over an open hearth fire with a spit or a pot drawing heat from the flames. A plethora of primitive tools were at the housewife's disposal. Andirons, bellows, cranes and trammels kept the fire going and the food cooking.

The one-pot meal was the order of the day and consisted of many homegrown ingredients. It is apparent that, although cookbooks did exist at the time, the culinary "art" was not the chief concern of the 18th century housewife. Rather a utilitarian attitude prevailed with regard to the daily meal, which was quickly prepared and left over the fire to simmer while the more important tasks were seen to.

The series of events that was to lead to the American housewife being raised from a servile status to being the moral and cultural arbiter of the nation began in the 1770's when American patriots started to boycott British-made goods. Putting pressure on the British government meant putting pressure on the colonial housewife. Increasing the domestic workload put an enormous strain on the housewife. However, the new responsibilities were borne gladly and demanded greater respect for the housewife in return. Indeed the War of Independence that followed was to lift the housewife from her menial status to one of solid defender of the home and backbone of the republic.

The tide of republicanism that followed the American revolution

looked to women to develop in the next generation a uniquely public-spirited population; creating through matriarchal influence a populace of upstanding citizens with the interests of the embryonic nation in their hearts.

Thus the home had become of crucial importance to the success of the new republic and the "Republican Mother" was born.

This new age heralded many changes in society which were directly related to life in the home. Childhood became important, the education of children being of immeasurable national benefit. The rearing of children had, up until then been of an authoritarian nature with the emphasis on discipline and obedience. The turn of the century brought about an increased awareness of the necessity to nurture the child and to educate a new generation of "Americans". This shifting of emphasis was a complete reversal of the domestic ideal, a shift from predominantly patriarchal values to matriarchal values.

New pride in the art of the housewife initiated a change in attitudes towards cooking. Eating habits at the turn of the 19th century were already beginning to change. More and more native American ingredients were being used in the preparation of "American" meals. The utilitarian attitude to eating was being replaced by an interest in, and awareness of "American cuisine". Increasingly elaborate recipes were established and published widely. Heightened interest in vegetables reflected a new awareness of nutritional needs.

The new Republicanism infiltrated the culinary world through recipes for such delights as: Election cake, Independence cake and Federal Pan cake. This period also saw the development of such

eternal favourites as pumpkin pie and cranberry sauce.

By the 1820's the new domestic ideology had rooted itself in American society, however the liberation of womanhood from the drudgery of household chores had yet to take place. The housewife still spent her days huddled over the hearth with primitive cooking implements and usually with a large family to care for. Indeed, the increased awareness of the need to nurture and educate the children coupled with the new demand for culinary profficiency, inevitably resulted in the housewife spending more time at her chores.

Increased respect and recognition had come to the housewife at a high price; increased responsibility and an even greater workload.

The scene was now set for a domestic revolution as a direct result of the industrial revolution and the advent of mass production. A world of "newfangled" gadgets and products awaited the housewife of the 19th century. The most revolutionary of these inventions and products had been developed in the 1820's, but was not to have wide usage for another forty years: The humble stove.

SECTION II: 1830-1850

The Early Stoves.

By the 1830's an increasing percentage of American families had moved to the cities and towns of America.

The new urban middle class women could now purchase commodities that she would otherwise have produced at home. Soap and bread were bought rather than made, hence liberating the housewife from these onerous tasks. Clothing the family also became less of a worry as cloth and basic garments could now be obtained cheaply from supply stores in the towns.

Although slow to accept and make full use of centralised services, the housewife of the 1830's witnessed the birth of this trend which would have such a profound effect on the changing role of the home throughout the 19th century.

The 1830's and 40's were part of a very chaotic period in American cultural and sociological development. Mass immigration brought peoples from all around the globe with very diverse philosophies and religious beliefs. Traditional guardians of cultural stability, dignity and decency (ie. the church, the law, and the ruling classes), were rapidly becoming less influential and more remote from the heart of this increasingly heterogeneous society. The home had come to symbolize moral and emotional stability in a tumultuous nation. This concept of the home as a sanctuary and cultural fortress was later to be the subject of extensive writings and commentary; raising this homespun ideology to cult status in the 1850's by woman such as Harriet Beecher Stowe. The 1830's was a period of explosive economic growth. A booming economy lined the

pockets of the middle class with enough money to buy an ever

widening range of utensils and gadgets for the home. Manufacturing industry mushroomed, producing products of increasing complexity to be supplied to the housewives of the New World. The new devices were viewed as desirable items that were specifically designed to enhance the housewives' sense of craft and artistry, these included mincers, blenders and other culinary tools.

Servants became fashionable to have in the 1830's, called "domestic servants" or just "domestics"... writes one historian;

"Domestics were usually young girls of immigrant or black backgrounds. In hiring domestics middle class women found the means to make domesticity more flexible, accommodating roles of authority and activity, rather than passivity and isolation."(1)

The middle class attitude towards domestics was one of sufferance. Although the household relied on the help for all their needs, it appears that the servants who did the work were often of Irish or Black origins and were subsequently considered barbaric, uneducated and ignorant. Houses from this period in cities and towns often had built in back stairs for the servants as well as a servants' entrance. This situation effectively enforced class distinction within the home environment by putting as much distance as possible between the domestics and the family even though they all lived under the same roof.

The intervention of a domestic labour force freed the housewife from the drudgery of daily chores such as washing clothes and cleaning pots and pans. She was now free to concentrate her energies on the "noble arts" of baking and cooking. A profusion of cookery books and recipes flooded the shops and journals of America, raising the level of domestic culinary skills.

The utilitarian approach to feeding the hungry family was abandoned in favour of French and Italian dishes with exotic ingredients (often vegetables), such as garlic, artichoke, curry powder, etc. An anthology of recipes, "The Lady's Receipt Book" by Eliza Leslie (2), was the best selling American cookbook during the 1840's. Her style of cooking was extravagant and lavish, demanding wines and brandies to be used in the cooking process wherever possible. Another recipe collection, "The Virginia Housewife" by Mary Randolph published in 1838 describes such exotic dishes as gazpacho, the cold Spanish soup, and other unusual recipes which would have been unheard of in 18th century America.

As the American housewife improved her skills, she was deemed a very important member of society; a moral arbiter, an educator of children and guardian of the homestead. Society's expectations for the housewife had become increasingly difficult for the individual to fulfill. Even with servants, the running of a middle class household and family at the time was a complex managerial task and required dedication and practice. Many women found their new role quite unbearable; particularly those without domestic servants who were expected to clothe and feed a large family to the standards of this new domestic code.

Baking was the most popular craft and the standard of a woman's baking was a direct reflection of her perceived abilities as a housewife. The technological innovation of this time was soon to vastly improve the lot of the homebaker.

It was around this time (the 1830's), that a wave of German immigrants settled in the eastern states of the Union, opening iron foundries and manufacturing industries wherever they settled. These immigrants were amongst the first stovemakers and they were to set

the pace for all those who followed.

The initial products were made of cast-iron and were called "six-plate stoves". They were simply constructed square boxes with enclosed fires and a flat cooking surface. These stoves had four to eight "holes" on the top surface for pots and pans to draw heat from. These holes could have been considered paralogous to the electric "rings" used in most modern hob design. Two or three oven chambers were arranged inside the device for baking. One or two hot water resevoirs were usually attached to the side so that the household had a fairly constant supply of heated water. All this was organised around a solid fuel burning furnace which could be controlled to a limited extent by regulating the supply of wood or coal. Coal was the fuel of choice as it had a higher heat of combustion than wood and it could be purchased cheaply in sackloads. Indeed the supply and distribution of coal to the households of America was to become a very lucrative business.

Early manufacturers of these stoves did not "make" the stoves themselves, rather they assembled the components which were ordered from, and cast in large industrial foundries. The development of "Pig-iron" in Britain and Europe at the beginning of the 19th century spread slowly to the United States. American stovemaker Jordan Mott discovered that bars or "pigs" of wrought iron could be remelted in high temperature coke-burning furnaces and made into stove plates. Mott developed the "Cupola" furnace for the remelting of pig-iron which was to become the industry standard at that time. Dozens of stove manufacturers adopted the new method of in-house casting during the 1840's and 50's. Manufacturers such as F.D. Tucker of Williamsburgh, New York, and Currier of Haverhill Massachussets who produced the "Model Cookstore" and the "Grand

Kitchen Queen" respectively, typified the companies of the period.

The design of the early stoves was along predictable lines. In replacing the open hearth fire of Colonial times, the stove was proportioned to fit snugly into the existing domestic fireplaces. These hearths were usually about 5ft wide and 5ft high (12). Pre-existing chimney flues were used to vent the smoke and fumes from the furnace.

Jordan Mott's technique of both casting and assembling the entire product resulted in much design diversification between different manufacturers. Experimentation led to such innovations as the freestanding "American Kitchen" of 1840 (13). This classic design included two boiling plates, a side oven and a cast iron flue pipe. An identical model of this design appeared in the British firm Canon's catalogues during the 1930's, hence testifying to the quality and longevity of the product.

Although the transition from open-hearth cooking to the stove was not complete until perhaps as late as 1870, it was during the 1830's and 40's that the industry established itself in America. (The rest of the world was considered to be about ten years behind America in domestic technology at this time). Symbolically, the stove or "Kitchen" as it was also known was the most important domestic product of the 19th century. It was to become the focal point for many domestic commentators of the time and a progenitor of the modern cooker. Indeed the stove was perhaps the very first product to deserve fully the appellation "consumer durable". This was not only because it was the first major domestic product to be internationally mass produced, with replaceable parts and standardization of size, but by virtue of the way it was marketed.

In the 1840's the average pay received by a common labourer in

the United States was one dollar a day. A barrel of flour large enough to supply a family of five for eight weeks cost five dollars. A typical new stove would have cost between ten and fifteen dollars, which made it expensive but not out of reach for ordinary households. However being within the financial reach of the consumer did not sell the product. Manufacturers had to call upon all the skills of the developing advertising business to sell their products.

Newspaper and magazine advertising was extensively used. Smart adverts offered the lucky customer a six month supply of coal or a free set of pots and pans. Manufacturers sponsored cooking competitions at country fairs and made free donations to prominent citizens. Product endorsement by celebrities was found to be a successful marketing device. The introduction of licensed travelling salesmen was also initiated around this period and was used extensively to sell stoves.

Heralded as the liberator of womankind, the stove promised to free the housewife from the backbreaking tasks of tending an open fire. The art of cooking and baking were greatly enhanced by the adoption of the stove (according to the manufacturers). The housewife freed from the "one-pot-meal" utilitarian approach to food preparation, was at liberty to expand and improve her knowledge of the culinary arts as conveyed by the recipe books at that time.

By the 1850's, "...the universal function of cooking, ...had become something more than simply preparing food for human consumption. Even publications addressed to farm woman contained increasingly elaborate recipes for cakes and desserts, all recommended as symbols of domesticity as well as for their nutritional value." (4).

Indeed these "symbols of domesticity" had become not only qualitative gauges of housewifely skill, but more importantly perhaps, they had become the essential material props of Republican Motherhood. The stigma attached to the phrase "Mom's Apple Pie" is still a deep-rooted part of American childhood nostalgia and it perhaps no accident that has become so fundamental to the American psyche. Baking was considered to be the most difficult aspect of cooking, controlling the heated oven was very inaccurate with early stoves and ovens. Yeast for bread had to be cultured by the cook and was a very delicate operation, as was the beating of the eggs to the right consistency to support a large cake. Practically every step of the baking process required precise measurement, delicate skills gained through practice and were considered well beyond the abilities of most domestics. Women undoubtedly treasured this expertise and went to great pains to ensure it was passed from mother to daughter.

The arrival of the stove in the homes of American householders was to greatly improve the range of skills included in this "inherited craft tradition".

The stove provided a centre, and a hub in the kitchen and a subsequent focus for the "workshop/classroom" where upon this "altar" great secrets were imparted by wise elders to their apprentice offspring. For example, how to regulate temperatures within the oven, or the mixture of vegetables for the most flavoursome stew.

The serious nature of in which these lessons were treated was a reflection of the country's desperate will to populate itself with upstanding moral citizens; "there is no subject so much connected with individual happiness and national prosperity as the education

of daughters", writes Catherine Beecher (5).

In the eyes of the middle class housewife, maestro of the domestic arts and guardian of tradition,- the new "kitchener" must have seemed to be heaven-sent. Its benefits were multiple and measurable by virtue of its cooking potential. If the stove did not perhaps, as it promised, provide transport to a world of leisure, it at least allowed more room for the expression of her culinary arts. It gave the daughters of America a new tool to practise and improve their precious vocations.

For dear old "Bridget", the hired help it was perhaps the bane of her miserable life. The stove had to be cleaned every day unlike the open hearth, if dirty or wet for any length of time the iron would rust. It required daily scrubbing with wire brushes and in many households it was expected to be waxed and polished also. The pots and pans which came with the stove were often heavy copper and also required daily polishing.

Indeed this new cooking device often created more problems than it solved. For the domestic housewife without hired help the labour saving promises of the manufacturers were simply not fulfilled. The only important activity that was radically altered by the presence of a stove was fuel gathering. This was traditionally a male activity and involved the chopping and hauling of wood. The stove effectively halved the amount of fuel required by a household. The increased use of coal for stoves also reduced the amount of domestic male activity as it lasted much longer and was usually delivered. Later we shall see how this and other male activities in the home were eliminated, leading a situation where husbands and sons could more easily work away from the home.

The death of one-pot cooking meant an increase in preparation

time for meals as pressure for more varied and more wholesome meals was brought to bear on housewives and cooks. A constant supply of hot water from the storage reservoir allowed a reduction in the time previously spent heating and fetching water from an open fire. This improvement was however, neatly balanced by the extra time now required for scrubbing pots and pans.

It would seem then by 1850 as the stove was becoming increasingly popular in American homes that although a more sophisticated ethos surrounded domestic duties, the duties themselves had not improved with regard to either labour intensity or time consumption. What the stove succeeded in doing was to broaden the range of craft skills practiced by the housewife and handed down as a craft tradition. It had also become the central hub of the domestic household wherein lay the well-being of the nation. Indeed the craft of "housewifery" was seen by all members of society as healthy, moral and necessary. Not only did the housewife feed and clothe the professionals, workers and soldiers of the nation; she also nurtured and educated the nation's future.

This idea that the importance of womens' activities is based on their direct and measurable benefit to men specifically, is crucial. It was men who held sway over American society via their institutionalised power in both religion and politics. It was men who perpetuated the system which kept women in the home. It was ironic that when women did seek to gain a political voice, it was through the cult of domesticity and the application of domestic values that womens' movement was to succeed.

SECTION III: 1850-1890

The Golden Age of domesticity

This period in history saw the rise in status of women throughout the world. In America there was a flowering of the womens' movement, whose goal was to give the American woman a political voice and a new sense of self-esteem.

It was through the cult of domesticity and by virtue of her housewifely skills that the American woman was to make herself heard. It was by applying her quasi-religious philosophies of the home to contemporary national issues that she was to alter the consciousness of the nation.

It is ironic and sad perhaps, that this period also witnessed the demeaning of the skills of the housewife and the virtual death of the craft of housewifery.

The potential influence of the home on the world first manifested itself through the novel "Uncle Tom's Cabin", written by Harriet Beecher Stowe, the novel first appeared in serial form in the periodical "The National Era" on June 5th 1850. "Uncle Tom's Cabin" was the first novel to openly speak out against slavery in the U.S. The story revolves around a home in the wilderness of the northern heartland which becomes a place of sanctuary for a family of escaped black slaves. The heroine of the story is a matronly woman who embodies all the archetypal virtues of the skilled housewife and mother. Religious, political or ethical standpoints are set amidst lavish and exquisitely detailed descriptions of domesticity.

"Meanwhile the tea table had been silently gathering on its

snowy plateau the delicate china, the golden butter, the loaf of

faultless cake, a plate of crullers or wonders, as a sort sweet fried cake was commonly called -tea rusks, light as a puff, and shining on top with a varnish of egg, -jellies of apple and quince quivering in amber clearness, -whitets and purest honey in the comb, -in short, everything that could go into the getting up of a most faultless tea." (6).

Much of the novel is centred around a life in the kitchen and the hearth where the black family find peace and respite from a world of oppression. It is amidst this "joyous fizzles" of frying chicken that the runaway slave thinks:

"This, indeed was a home, -home, a word that George had never yet known a meaning for; and a belief in God, and trust in his providence, began to encircle his heart..." (7)

The book was a reflection of 19th century America seen through the eyes of a sympathetic woman, herself a housewife.

Stowe's epic vision of domesticity saw the home as a centre of love and kindness. Woman, closer to the home than men, were subsequently better able to sensitize themselves to the plight of the unfortunate and were therefore better qualified to remedy the ills of society.

The novel was an incredible success. In serial form it astounded the literary world:

"How she is shaking the world with her Uncle Tom's Cabin! At one step she has reached the top of the staircase up which the rest of us climb on our knees year after year." (Henry Wadsworth Longfellow - Journalist of the time) (8).

Uncle Tom's Cabin was to become the best selling novel of the 19th century in America. Woman took it to their hearts, for them it

was a token of recognition and a promise of greater appreciation for the housewife. Many female writers took up the pen and wrote similar stories, glorifying the home and sanctifying the Republican Mother/Craftswoman. A new genre of in literature was born -the domestic novel. Harking back to the previous era, much emphasis was put on the artistry and masterly skills of the accomplished housewife. As in Uncle Tom's Cabin the heroines were always portrayed as master-practitioners and guardians of the craft.

As in the 1770's when American housewives had boycotted British goods, the home was once more seen as a dynamic stage where the outcome of history could be affected by the actions of a woman. Such an action was the writing of Uncle Tom's Cabin by Stowe, a mother and housewife herself. Its historical importance with regard to history is reputed to have been attested to by president Lincoln during the civil war (1861-1865):

"So this is the little woman who made this big war".

Stowe advocated rebuilding the world in the image of the home, an idea that became known as Domestic Feminism.

Domestic Feminism, by idolizing the role of housewife and mother gave women a powerful tool for legitimizing their claims to influence the cultural and political history of America.

The cult had such an impact on society that it caused a backlash from male authors. The "bad-boy" genre of novel proliferated in the later decades of the 19th century. Mark Twain's Tom Sawyer and Huckleberry Finn were very popular characters whose actions were clearly in defiance and open rebellion against the idea of a well ordered home. The adventures of these "bad-boys" usually occurring when they openly disobey or run away from authoritarian matriarchal figures.

Domestic Feminism was essentially nostalgic. The ideal housewife was not the well-off urban woman of the 1860's, with stoves and servants to help her with her duties, but rather the trail-blazing colonial wife of the late 18th century in the wilderness with a healthy brood of children to feed and an open hearth to cook upon.

Indeed the womans' movement can be shown to have indirectly slowed the process of the stove's induction into the American home. Harriet Beecher Stowe herself wrote in praise of the open-hearth as late as 1869 when the stove had been widely available for almost forty years:

"Warming by an open fire is nearest to the natural mode of the Creator, who heats the earth and its furniture by the great central fire of heaven, and sends cool breezes to our lungs." (New York 1869 (American Womens Home, New York 1869) (9).

The adoption of the stove was seen to be at odds with the continued existence of the domestic ideal and craft of houswifery, particularly in the field of motherhood.

Albert Bolles, an early historian of the stove industry wrote:

"The old fashioned fireplace will never cease to be loved for the beautiful atmosphere it imparts to a room, and the snug and cheerful effect of an open wood-fire. When stoves were first introduced, a feeling of unutterable repugnance was felt by all classes toward adopting them and they were used for generation chiefly in school houses, courtrooms, bar-rooms, shops and other public and rough places. For the home, nothing except the fireplace would do. The open fire was the true centre of home life, and it seemed perfectly impossible to everybody to bring up a family around a stove." (Albert S. Bolles, Industrial History of the United States. Norwich, Connecticut 1879) (10).

As the occupation of housewife was slowly devalued and the sanctity of the home was eroded, the image of the open hearth heroine was rejected. It is not surprising therefore that the disillusioned American housewife turned away from the nostalgic, romantic image of housework and looked for the means to escape the fundamental drudgery of it all.

The turn around, when it occurred, was quite swift. New advances in technology offered the housewife a growing range of labour-saving products and so banishing drudgery for ever.

Oil was first discovered on American soil in 1858 and was soon being refined to obtain kerosene or paraffin which could be used in the home. Discovered by German scientists in 1830, it was a Scotsman, James Young who developed and patented a refining process for this useful by-product of petroleum. Oil lamps were very popular in the 1860's in America, and although producing more soot and smoke, they were extremely efficient compared to solid fuel. It was soon realized that the high heat output of a paraffin flame could be put use in a stove.

Manufacturers of stoves were very quick to realise the potential of paraffin and exploit it. By 1870 oil stoves were appearing all over America, particularly in areas where coal was scarce or expensive. The new railroads had opened up the country, making it much easier to supply new products and new fuels to the most isolated city or town.

The new paraffin stoves were smaller than traditional coal and wood-burning kitcheners and this meant certain disadvantages for very large families with many mouths to feed. The new oil stoves by producing more dirty smoke tended to coat the kitchen in a layer of greasy soot. However they were cheaper, easier to use and control,

more reliable and cooler in the summer months. One great

disadvantage of solid fuel stoves is that they have to be fed continuously. On hot summer afternoons the preparation of the evening meal would become a sweaty task as the kitchen became sweltering from within as well as outside. Paraffin was much more convenient than coal and was to become a serious rival to solid fuel as the most popular kitchen fuel.

The "Albionette" oil stove was a classic design of its time (Ill. 4). Originally designed and built in Birmingham, it was widely used in America by the turn of the century. As with solid fuel stoves the Albionette could roast, bake, heat plates and pots and boil water. Unlike the older stoves it did not need a large furnace to burn fuel or a thick chimney flue to extract smoke and fumes.

Solid fuel stoves were still being improved and perfected in iron foundries throughout the United States. Controlling and regulating heat evenly throughout the oven was a major problem for stove designers. Numerous means were used to get the heat from the fire to circulate around the enclosed ovens. New flues were built and tested which drew the heat from the fire at a right angle and passed behind the oven. Draught pits were dug underneath stoves which sucked the heat down and around the oven before it rushed up the chimney. The laws of convection and thermodynamics were still scarcely understood by scientists never mind stove manufacturers. It was not until Count Rumford's scientific application of thermodynamics was thoroughly understood that manufacturers had any real success.

Perhaps the greatest practical advance of the 1870's and 80's was the addition of a boiler on the larger ranges which meant freely

accessible hot water in large quantities for the household (Ill.

5).

Gas had been used for street lighting in London since 1807. The first gas cooking experiments took place in the 1830's, however gas stoves did not appear on sale until 1850. One early model illustrates how safety standards have changed in a century of gas cooking equipment; it is comprised of a sheet-metal stove box covered with wood! (Ill. 6).

Most early models though were made of cast iron. Usually box shaped, these austere designs consisted of a gas burner at the bottom and a hook at the top to hang meat on. The provision of shelves did not become commonplace until the 1850's. By 1866 the multiburner hotplate was added to the top of the cooker giving it all the functions of a solid fuel range. (Ill. 7)

Sugg's Gas Cooker of 1886 (Ill. 8), not only had hotplate facilities but also a grill feature just below the hotplates and above the oven. This was one of the first stoves to conform to the typeform that was to last a century.

The control taps on early gas cookers were usually on the side. A logical approach to space utilisation soon moved them around to the front. Improvements in burners appeared in the 1870's with the introduction of the air into the pipe supplying the burners, giving more efficient combustion. Oven walls were also improved and given better brick linings for heat insulation.

Difficulties in supplying gas to outlying areas of rural America meant that the gas stove was adopted more slowly. In towns where new technology was snapped up immediately and put to good use, gas cookers were popular and by the 1890's most stove manufacturers were starting to make combination ranges (coal and gas), as well as gas

cookers and paraffin stoves (19).

By 1890 the adoption of the stove was complete. Cooking over an open-hearth fire was a thing of the past for the American middle class housewife. The stove designs no longer needed to fit into existing hearth fireplaces of houses. Freestanding coal, gas and paraffin ranges were now in widespread use throughout the United States.

By 1890, although the cult of domesticity and domestic feminism had all but disappeared, the American housewife was still spending much of her time in the kitchen, but with vastly improved tools at her disposal and better working conditions.

The integration into late 19th century homes of gas and paraffin fueled cooking reduced once more the need for male labour around the house, splitting wood or carrying coal. Removal of such industries as butchering, soapmaking etc. from the home to centralised shops and factories meant yet fewer men about the house as they became free, and expected to, leave the home daily and go to work in factories, shops or offices. Added to this freedom was the increased pressure on men to provide for their wives all the new-fangled consumer products that were supposedly essential for the "modern" home.

Indeed the separation of male and female roles went hand in hand with the change in role of the domestic household from a unit of production to a unit of consumption. This was also coupled with a return to a definite patriarchal power base in the home.

New patterns of daily life evolved during the latter stages of the 19th century. These patterns would remain well into the late 20th century.

The removal of individual tasks from housework into the general

economy was reflected in a noticable decline in what could be

considered the classic skills of the housewife. The requisite skills of the late 19th century housewife were greatly diminished when compared to her predecessors. The money economy, owned and run by men was taking over from the domestic economy in many areas.

"Hither to men have allowed us at least to make up ...the fabrics they sell us. But this last corner of our once royal feminine domain they are determined now to wrest from us." (Fay Pierce, 1870) (11).

Product after product formerly made in the home was starting to be manufactured in factories, either by men or by young women under the supervision of men.

As the craft of housewifery was stripped of its skills, so it became devalued and its status in society slipped even further.

Husbands now spent less time at home, but were the providers of everything in the home. Housewives, instead of being the producers of the past, producing food and clothing etc, were now the consumers. They relied on the new products rather than applying their manual skills.

It was these new roles replacing the craft tradition that were handed down to the next generation. The craft of housewifery as an ongoing tradition lost out to the takeover by industrialised products.

The new patterns in daily life were absorbed by the children of the 20th century and became embedded in the fabric of family life.

As the century wore on, inventors, entrepreneurs, advertisers, even consumers themselves, all assumed that these new roles were normal, natural and continuous. It was not surprising therefore that they continued to build and refine further systems for the

"improvement" of housework. In "Hearts and Home" as early as 1850.

The stove as the major consumer durable of its time can be seen to have been at the very centre of the change in ideology and lifestyle during the closing decades of the 19th century. Its introduction into the American household was a catalyst shifting the domestic household from a state of production to one of consumption.

It might easily be taken for granted that the influence of the multipractical stove in the late 19th century was of great benefit to cooks and the culinary arts in general. However a study of American cuisine reveals two distinct changes in the aftermath of the stove and industrialisation. (12).

In the first stage (up until around 1850), there was no noticable decline in culinary skills, in fact on a nutritional and dietary basis there was an improvement, as the housewife found more time to devote to what actually went into the pot.

The second stage commenced around 1870 (post civil war), and saw the deterioration in American cuisine that was to continue into the 20th century. This deterioration was coincidental with the widespread adoption of the stove, the devaluation of domesticity, and the availability of mass produced ingredients.

Baking, as before, was seen to be the most difficult and most important of a housewife's skill repertoire. The advent and acceptance into the home of chemical leavening, factory-made flour and the increasing use of sugar brought about a detrimental effect on the craft of home baking.

"American cookery reached its highest level in the second quarter of the 19th century. ...from then on it was downhill all the way." (John & Karen Hess, "Taste of America") (12).

According to one writer in "Hearth and Home" as early as 1869:

"The arrangement of making things sour with one chemical in order to make them sweet again with another, had not yet entered into the practice or imagination of our mothers." (13).

Sponge cakes according to this anonymous author were "dry and choky" in comparison to her mother's.

The new products and ingredients required the cook to possess less skill and judgement than was previously needed and allowed her to take shortcuts during the baking and cooking process that were previously unheard of.

SECTION IV: 1890-1930

The Appliance of Science.

At the end of the 19th century, the general mood in the domestic world was one of optimism. Technology was proving itself limitless, its applications infinite. The emancipation of the housewife seemed imminent. Gadget after gadget appeared, promising to bring closer this day. Many domestic chores had been taken out of the home completely. By 1900 the baking industry had been established and seemed to be providing bread similar in quality to homebaked bread. Butchering, Soapmaking, and Clothes making had also become totally centralised.

Urbanisation was still taking place as towns and cities all over America grew larger and larger. Middle class families began to occupy what was to become suburbia. An urban-rural divide opened up. Rural middle class families remained farmers/producers while urban families entered urban professions and became consumers. By 1924 rural households produced about 70% of their own food, while urban households produced on average about 2%. The consumer society came into existence and a new task for the housewife was born: shopping.

Central to the new tide of optimism was a novel again. Written by Edward Bellamy, "Looking Backwards" was a book that spawned a short-lived Nationalist movement and was the inspiration for many imitations.

Looking Backwards was a best seller of the 1890's. It deals with the adventures of a man named Julian West, born in 1857, who wakes up one day to find himself in the year 2000. West goes on to criticise the world of 1890 and attempts to describe the utopian

society he finds. With reference to domesticity, the book is very

important because of all the energy being devoted at the time in an effort to rethink the nature of the domestic household and the role of the housewife.

Unlike the domestic novel of the previous era, the husbands and wives of Bellamy's book could no longer be described as the primary elements of society. Indeed the values of home had become problems of efficiency and productivity. Bellamy spoke directly to the hearts of many as he describes the world of the future.

To Julian West's amazement he finds 20th century America organised into industrial armies. People serve for a set number of years and each adult has a "credit card", thereby eliminating the need for wages. Homes are small and simple. Housework has all but disappeared. Domestic servants are no longer required. (The servant problem was on the minds of many people in the late 19th century).

Housework had become totally decentralised, clothes were not only made in factories, they were washed in public laundries. Meals were cooked in public kitchens. Women were truly liberated from drudgery in Bellamy's book.

As regards the "servant problem", many middle class Americans were acutely aware of the difficulty in obtaining experienced "help". Previously domestics had been drawn from the ranks of young farm-reared girls who were brought up to understand the American standards of domestic practice. The flood of immigrants from Ireland and later, southern Europe were ill-equipped to deal with the complexities of the American household. Not surprising therefore that any book, however fantastical, that seemed to show the solution to the servant problem, was a success.

The idea of decentralising household duties was not new, many of

the old crafts had been removed from the home to become commercial

enterprises. No less a figure than Harriet Beecher Stowe in an article advocating professionalised housework, envisioned a model village with a town laundry, a town bakery and town cooking shop where soup and cooked meats could be bought. Stowe believed, as many did at the end of the 19th century, that if soap and candles could make the transition from home to commercial production with no loss of quality, then so could all the other aspects of the housewife's job.

According to Bellamy the family unit was suffering from the new rationalising trends:

"Mothers have long ceased to make pies."

"The club and the restaurant now did successfully against the family table for the patronage of father, son and husband." (14).

The idea that technological progress was the way forward for domesticity firmly established itself in the early years of the 20th century.

Domestic science or home economics emerged as a new discipline at all levels of education. Largely conceived by woman for woman, domestic science was a subject which aimed to improve the inner workings of the home through the application of science and the instruction of "experts" outside the home. The founding of the American Home Economics Association in 1908 in Lake Placid, New York State was a turning point for the womens' movement. One of the most clear cut themes to be tackled by the association was the overruling of the palate in favour of nutrition. The new ideology told people that eating food that tasted good was unhealthy and self-indulgent. Eating nutritious food was a way towards leading a "higher life". Simple scientific principles were applied to nutrition and cooking

opportunity does present itself they will be able to embrace it intelligently." (15).

A peculiar aspect of the Home Economics movement was that with perhaps the best intentions at heart they managed to accelerate the loss of the housewife's skills.

Adoption of the new scientific principles of the movement throughout society (as before the ideology was disseminated via cookbooks, magazines and novels), led, through such principles as germ theory, to the casting out of the last vestiges of home production. Poultry keeping for example was frowned upon by the new vision for "Right Living". Subsequently the home unit was pushed towards total consumption.

Furthermore by extolling the domestic virtues of table manners and the etiquette of the hostess, the movement effectively trivialised the skills required by a "good housewife".

That the housewife of early 20th century America had time to give tea parties and worry about table settings was testimony to the benefit of the new gadgets and appliances. Unfortunately, without the nostalgic restraints of a domestic feminist movement, housewives of this period embraced technology in an entirely uncritical fashion. Making no real attempt to differentiate between household drudgery and work drawing on valuable traditional skills, they were confident that machines could do any job well.

Every kind of gadget appeared on the market. Production industries grew up providing the consumer housewife with services and products of every kind.

The period from 1890 to 1930 saw the increase in popularity of the gas stove. Due to technological advances of the 1890's, the "Welsbach mantle", a new incandescent fabric that could provide for

the indirect transfer of heat from burning gas, was responsible for the "gaslight era" 1880-1900, when the use of gas for lighting became extremely popular. By 1900 however Thomas Edisons' electric lightbulbs were replacing gas lighting.

Much energy was put into improving the gas cooker. By 1920 the gas stove had enamelled iron sheets to line the oven, making cleaning much easier. By 1922 the entire cooker had become lighter and more efficient, with enamelled sheeting both inside and outside. Some cookers became multipurpose like the Stimex combination gas range of 1920. (Ill. 10).

This not only had the usual oven, grill and boiling rings, but also a built in hot water circulator which could provide heat to radiators all over the house. It even had a small external fire for warming the cook on cold winter nights.

In 1923 the flue of many gas stoves was moved from the top of the oven to the bottom, thereby reflecting the heat back down on the food before it escaped. At the same time the flue was fitted with a thermostatic control which was called the "Regulo" by Radiation Ltd, a name still in use today.

The ease of control of the new gas cookers was to prove the deciding factor in the choice of gas over solid fuel. In areas where gas was easily supplied, most houses would have been fitted with gas cookers by the late 1920's. By 1930 14 million American homes were fitted with gas stoves.

After 1900 paraffin went into decline as a major domestic fuel type. Its popularity had become quite considerable up until the turn of the century and in 1930 6.4 million households still cooked with oil. Oil stoves tended to be used in rural areas where wood or coal was scarce and where piped gas had not reached outlying homes.

There was however, a new competitor on the market. While the foundries still struggled with the problem of heating ovens evenly and controlling the temperature, the first experiments were performed with electrical hotplates.

The first all-electrical kitchen appeared at the Chicago world fair in 1893 and encouraged manufacturers on both sides of the Atlantic to produce a viable electrical cooking alternative to gas, coal and oil. The earliest cookers resembled safes (Ill. 11), but the style soon settled down into a straight copy of the 'state of the art' gas cookers of the time. As early as 1912 the "Carron Iron Company" was producing a double-doored electric cooker (Ill. 12).

This cooker sported an enamelled oven with a glass inner door, the control switches were mounted on a wooden board above the boiling rings and were large and cumbersome. Each switch had its own fuse and a light to indicate which plates were on. Reading or controlling switches was understandably hazardous, as the operator had to lean across the cooking surface to access them.

Consumer reaction to electric cookers was very negative for the first quarter of the 20th century. Although the cleanest form of cooking ever devised, electric cookers were seen as unreliable, slow, uncontrollable and difficult to operate.

Much research was devoted to electric cooking, as it was quite rightly seen as the cooking medium of the future. The first split-level cooker, avoiding stooping or kneeling to access the oven, was electric and appeared in 1917 (Ill. 13).

The first light-weight cooker was also electric (Belling Modernette of 1919). It was made of sheet steel instead of cast iron and was to point the way to the future (Ill. 14).

By 1930 electric cooking had been adopted by only 875,000

households. It was not until after 1931 when the "Credastat" was invented (the electric equivalent to the regulo) by Creda that sales began to improve.

The solid fuel range of the 19th century was still very popular, owing to its strength, reliability and general character. It was deemed irreplaceable by 7.7 million households. Indeed, the solid fuel stove was to the 20th century what the open-hearth fire had been to the late 19th century. Essentially the solid fuel cooker did not change considerably throughout the hundred years prior to 1930.

In 1924 the Swedish physicist, Gustaf Dalen, developed the perfect solid fuel stove. As clean and controllable as a gas cooker, the "Aga" was based on sound physical principles, Swedish iron and excellent thermal insulation, using Kieselguhr (heat resistant padding lining the oven). Thermostatically controlled, the "Aga" also provided hot water for circulation around the house (Ill.15).

In Europe the "Aga" filled an important gap in the market between the outdated kitcheners and new-fangled enamelled gas cookers. It was to become a cult object and remains to this day a design classic, largely due to its rationalised design and ergonomic approach to cooking. The "Aga" is an extremely practical cooker which has, on its own, come to symbolise a way of life that is lost in the past, just as earlier kitcheners and, before that, open hearths did in their time.

The development of the stove through the period 1890 to 1930 is central to the developments in domestic and social values and reflects the ongoing changes in American culture at the time.

Advertising had come of age in the 1920's, as had installment

buying. The capitalist society required the generation of consumer demand to keep the economy afloat. The supreme social duty of the housewife had become that of mass consumption. Waste and inefficiency of the housewife's time were in the interest of the economy, as this kept wealth circulating and industrial production ticking over.

The high status of the housewife had been greatly eroded by technological innovation, as well as by neo-Darwinist evolutionary theory, which perceived human progression as being chiefly due to male activity outside the home. The demoralised housewife of the 1920's was, therefore, ready to throw in her lot with the "new way", in the hope that she would be liberated from her daily chores, by purchasing the new devices available to her.

Her failure to achieve that liberation was due to the ensuing rate and direction of change. The re-organisation of housework that saw the decentralisation of many of the conventional housework tasks was an ongoing process of this period. This process was incomplete when the market became flooded with new-fangled goods. Some tasks, which were more suited to commercial production, had not yet made a successful transfer into industry when products designed for the same purpose in the home became available. Clothes washing, for example, is an onerous task that has always been done in the home. The logical development and application of technology (with hindsight) should have transferred this wearisome task to the commercial field. However, modern electric washing machines appeared which, through clever advertising, kept the work in the home.

Coupled to this lack of re-organisation were the new levels of cleanliness expected in the home and instigated by domestic

scientists. Together they were to contribute to the return of the housewife to servile status and the household, to some extent, to a unit of production.

Time studies show that the average housewife of 1929 spent 64 hours a week at housework, while housewives in 1977 spent 77 hours a week on the same task. Commonsense would suggest that new technology would reduce the time spent cooking and cleaning; the truth is that, because of new standards of cooking and cleaning, coupled with new chores, such as shopping and chauffeuring children, the amount of time spent has actually increased.

It is easily shown that the development of the stove and the impact of pre-processed food actually played a part in the increase in time spent on housework. In the past, meals were freshly made from scratch, with the same food type being served and often re-heated for later meals. Modern meals involve serving three different types of food at different times of the day, making three separate periods of meal preparation necessary and sometimes more if there are children to feed.

Under the influence of the intellectual trends of the late 19th century and early 20th century, such as the infatuation with science and efficiency, the new society strove to make the home as much like a male work place as possible. Through such male-dominated spheres as science and business, the home had once more become an area of patriarchal dominance. The housewife's submission to this new state of affairs, and her inability to resist a scientific solution to a domestic problem, is still in evidence today with male advertisers (particularly on television) extolling the quasi-scientific virtues of commercial products to a receptive female audience.

SECTION V CONCLUSION

By 1930 then, the role of the middle class housewife had been firmly established. The 100 years up until 1930 had witnessed many changes in the fortunes of the home and the job of the housewife. The craft tradition of housewifery, having emerged in the 1830's and blossomed through the cult of domesticity in the 1850's and 60's, had, through technology, rationalisation and the domestic science movement, effectively deskilled and devalued the status of married woman by the second quarter of the 20th century.

Coupled with this devaluation of the craft of housewifery was the emergence of the cult of consumerism. Born of industry and advertising, the U.S. housewife of the 20th century was to become the lynchpin of the capitalist society. Whereas in previous eras, the housewife had been the productive backbone of America, feeding and providing for the men of the nation, she had now become the ally of the business man, spending her money freely on consumer products that kept the dynamic economy on its feet.

That the modern housewife embraced the new cult of consumerism, buying every new gadget that came her way, did not mean that she had become liberated from the full-time labour-intensive job of the housewife.

The new housewives of the 20th century were faced with a new range of household chores. Valuable and traditional craft-like jobs had been replaced by machine handling. New levels of expectation were imposed on the housewife in such fields as cleaning and hygiene. All this culminated in the return of the household to a producing unit. Whereas before the products were the result of skill and artistry (baking, candlemaking etc.), now they were born

of drudgery and hardwork (laundry, scrubbing, dusting etc.)

The power struggle within the home had come to an unhappy, yet stable, end for the housewife. Her job, now trivialised by the home economists and deskilled by technology, had been stripped of the respect gained in the 19th century. The matriarchal mother-producer-protector of the 19th century had been replaced by the patriarchal father-earner-provider of the 20th century. All moral and ethical decisions with regard to child rearing were now made with reference to such masculine ideals as logic and science, whereas one hundred years before it was the mother figure who was the moral arbiter and who extolled the virtues of sympathy and sentiment.

During the 1850's the open-hearth fire was looked upon as a symbol of "the good old days" of colonial America. Domestic feminists reflected on the simple way of life and the rural values of the 18th century. Open-hearth cooking was seen to be desirable, but not practical in the light of 19th century technological innovation. The stove was initially rejected, therefore, by the essentially nostalgic mood of the 1860's and 70's. However, the stove was accepted into American homes and came to replace the open hearth fire as the centre of the kitchen, the home and the family.

First appearing as a solid fuel burning kitchener in the 1820's, the stove changed greatly over one hundred years. Experiment and technological change led to great diversification. As new fuel types were used to power the stoves, so their functions and forms were developed until by 1930 two distinct product types appeared: the first was a definite type form for all gas and electric cookers to follow, which incorporated an oven, a grill and a hob in that order from the ground up with controls above the hob or in front of it;

the second distinct product type to emerge from a hundred years development was exemplified by the Aga cooker, which is essentially a rationalised version of the older solid fuel ranges, with a central fire surrounded by ovens, water boilers and a two-plate hob above.

The Aga cooker and other stoves like it are still produced to this day. Although not a serious rival to modern electric and gas cookers, these stoves are still very popular amongst certain social groups. Their appeal is perhaps understandable. As in the 19th century with open hearth fires, stoves to us, although not as practical as modern products, have come to symbolise a bygone age of natural simplicity and family life.

(18) Harry Bayly, as quoted in "The Aga Cooker", Howard Munford Jones, 22, in chief, Cambridge, Mass.: Harvard Press, (1962).

(19) Harry Bayly, "The Aga Cooker", New York: New York Press, (1962).

(20) Albert E. Bailey, "The Aga Cooker", New York: New York Press, (1962).

(21) Ray Plater, (1970).

(22) John A. Hays, "The Aga Cooker", New York: New York Press, (1962).

(23) John A. Hays, "The Aga Cooker", New York: New York Press, (1962).

(24) John A. Hays, "The Aga Cooker", New York: New York Press, (1962).

(25) John A. Hays, "The Aga Cooker", New York: New York Press, (1962).

- (1) Fay Dudden, "Serving Women: Household Service in 19th Century America." Middletown, Conn: Wesleyan Univ. Press. (1983).
- (2) Eliza Leslie, "The Ladies Reciept Book", Philadelphia: Carey & Hart. (1847).
- (3) Mary Randolph, "The Virginia Housewife or Methodical Cook", Baltimore: Plaskitt, Fite. (1838).
- (4) Mary Ryan, "The Cradle of the Middle Class: The Family in Oneida County, New York, 1790-1865", Cambridge Univ. Press. (1981).
- (5) Catherine Beecher, "A Study in American Domesticity", New York: W.W. Norton. (1976).
- (6) Harriet Beecher Stowe, "Uncle Tom's Cabin", New York: New American Library. (1966).
- (7) "
- (8) Henry Longfellow, As quoted in "Uncle Tom's Cabin", Howard Mumford Jones, ed. in chief, Cambridge, Mass.: Belknap Press. (1962).
- (9) Harriet Beecher Stowe, "American Woman's Home", New York. (1869).
- (10) Albert S. Bolles, "Industrial History of the United States", Norwich, Conn.: (1879).
- (11) Fay Pierce, (1870).
- (12) John & Karen Hess, "The Taste of America", New York: Grossman. (1977).
- (13) Anon, "Hearth & Home", (1969).
- (14) Edward Bellamy, "Good Housekeeping" (1869).
- (15) Isabel Hyanus, "Minutes on the 1900 Second Annual Conference on Home Economics".

TABLE OF ILLUSTRATIONS

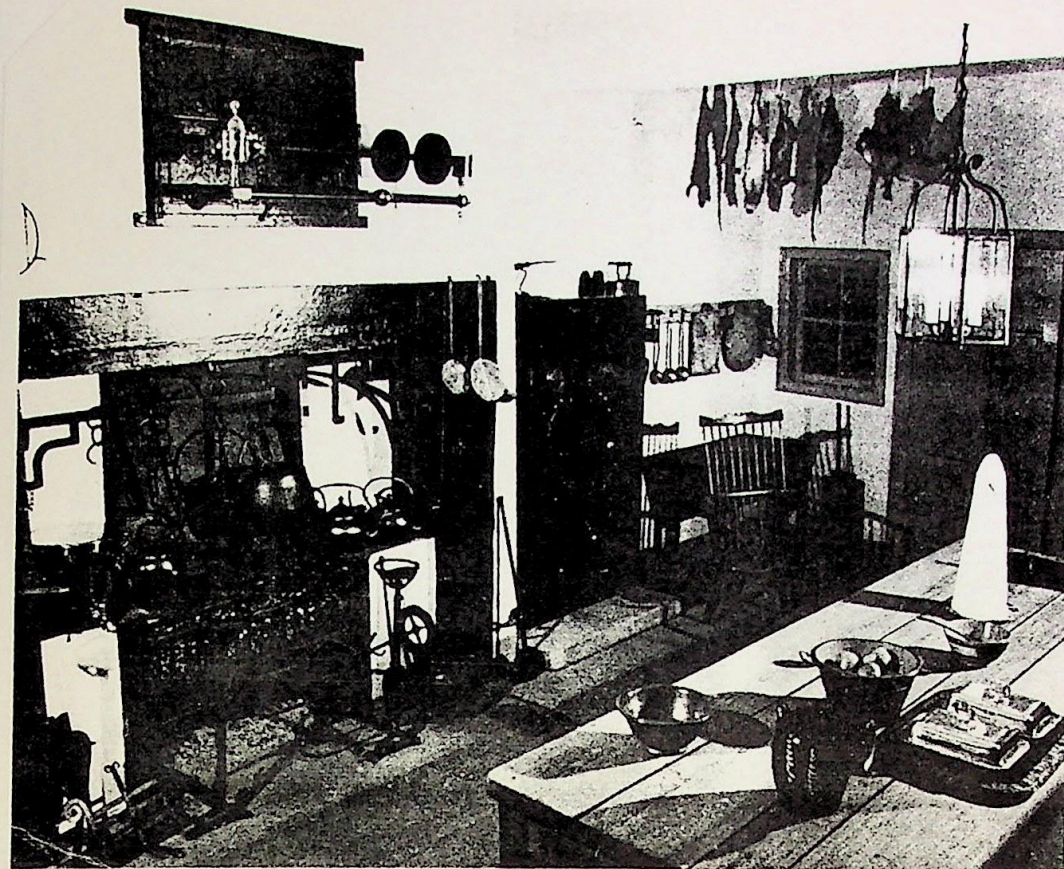
1. 18th Century Kitchen with Open Hearth Fire c.1793.
2. Early Stove c.1827.
3. "American Kitchener" c.1840.
4. "Albionette" c.1890.
5. "Albert Kitchener" c.1860.
6. Early Gas Stove c.1850.
7. "Universal" Gas Cooker c.1866.
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10. "Stimex" Combination Stove c.1920.
11. "G.E.C." Early Electric Cooker c. 1895.
12. "Carron" Double-Door Cooker c.1912.
13. "Hughes" Electric Range c.1917.
14. "Belling Modernette" c.1919.
15. "Aga" Cooker c.1924.

SECTION VI QUOTATIONS FROM...

- (1) Ray Dadden, "Serving Women: Household Service in America," Middletown, Conn: Wesleyan Univ. Press.
- (2) Eliza Leslie, "The Ladies Recipe Book," Phila. & Hart. (1845).
- (3) Mary Randolph, "The Virginia Housewife or Meth. Baltimore: Fiskist, Rice. (1883).
- (4) Mary Ryan, "The Cradle of the Middle Class: Oneida County, New York, 1790-1860," Cambridge (1981).
- (5) Catherine Beecher, "A Study in American Domesticity," W.W. Norton. (1976).
- (6) Harriet Beecher Stowe, "Uncle Tom's Cabin," Ne American Library. (1966).
- (7) Henry Longfellow, as quoted in "Uncle Tom's Cabin," ed. in chief, Cambridge, Mass.: Ea (1982).
- (8) Harriet Beecher Stowe, "American Women's Home (1983).
- (9) Albert B. Bolles, "Industrial History of States," Norwich, Conn.: (1975).
- (10) Ray Pierce, (1870).
- (11) John & Karen Hess, "The Taste of America," Grossman. (1977).
- (12) Anon, "Heath & Home", (1989).
- (13) Edward Bellamy, "Good Housekeeping" (1989).
- (14) Isabel Hyman, "Minutes on the 1900 Econ Conference on Home Economics".

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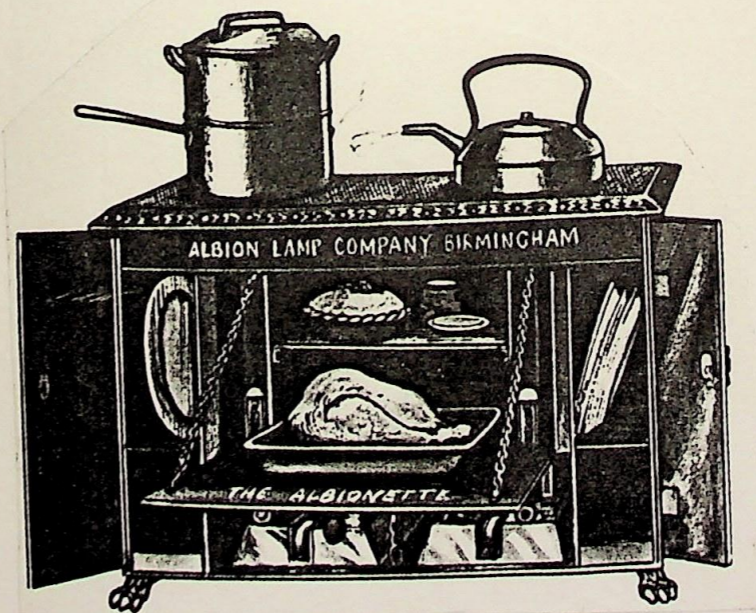
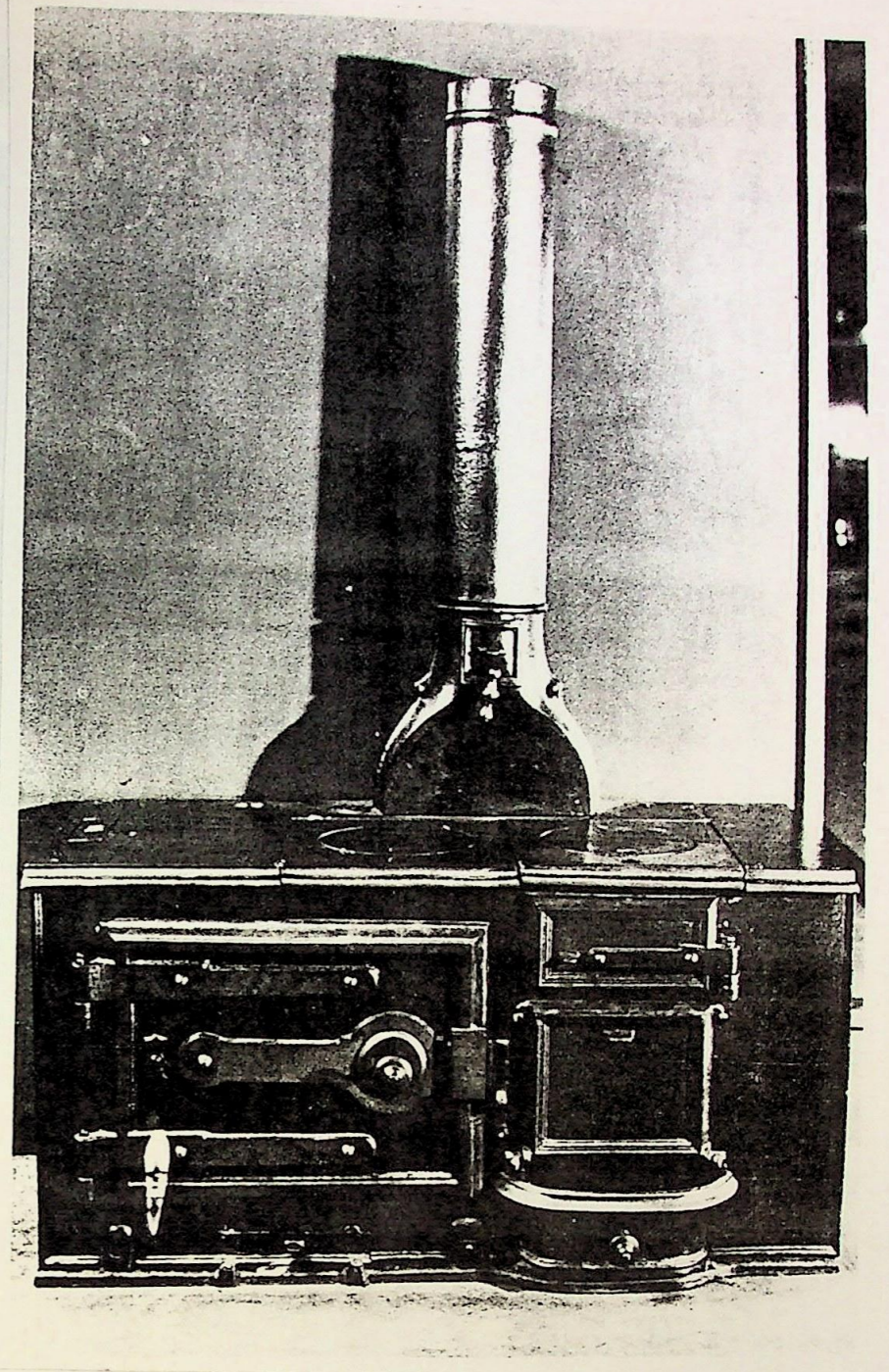
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3. "American Kitchen" c.1840
4. "Albion" c.1850
5. "Albion Kitchen" c.1850
6. Early Gas Stove c.1850
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8. "Sage" Gas Cooker c.1855
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11. "G.E.C." Early Electric Cooker c.1885
12. "Carson" Double-Door Cooker c.1891
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15. "Rays" Cooker c.1925



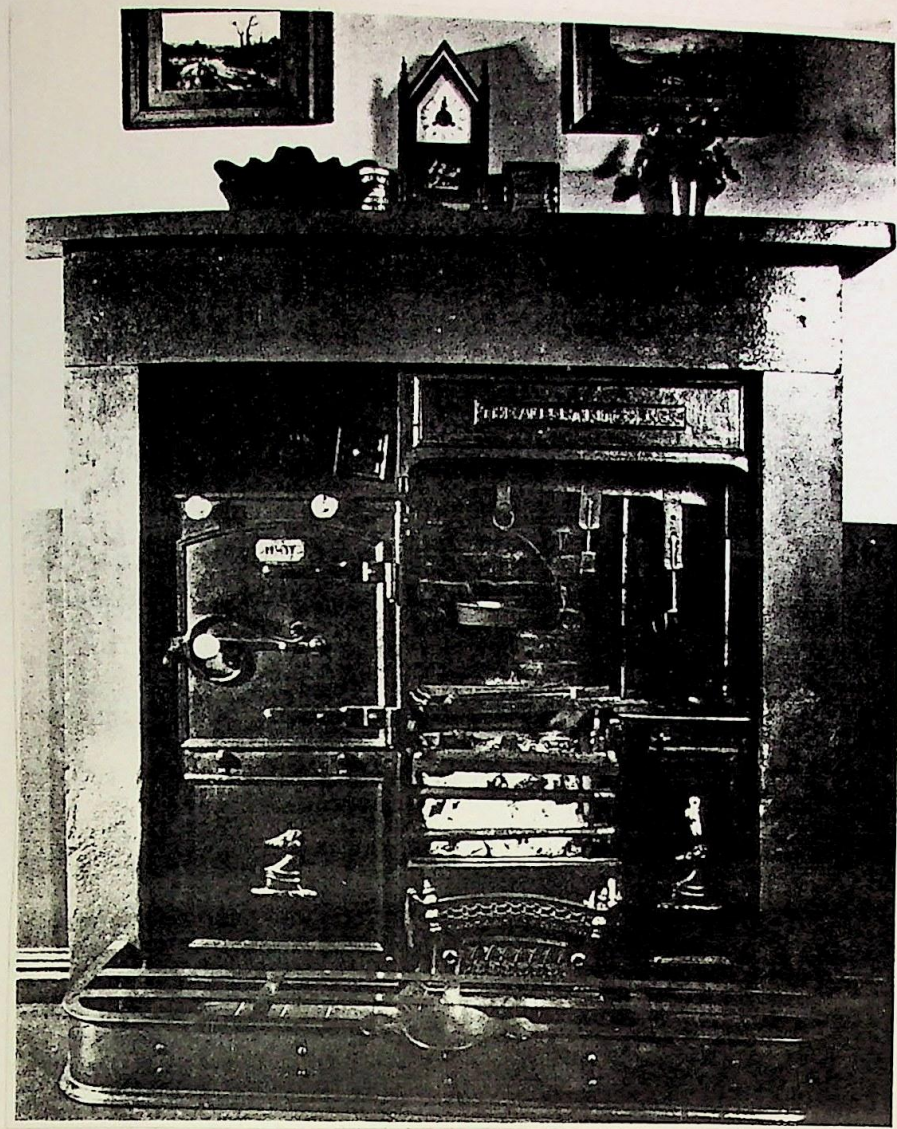
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2. Early Stove c.1827



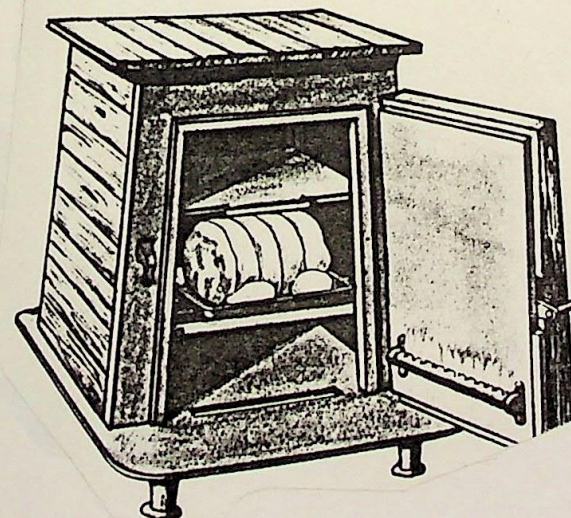
3. "American
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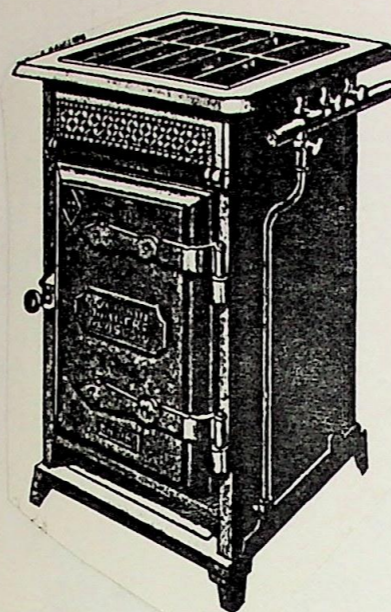
4. "Albionette" c. 1890



5. "Albert
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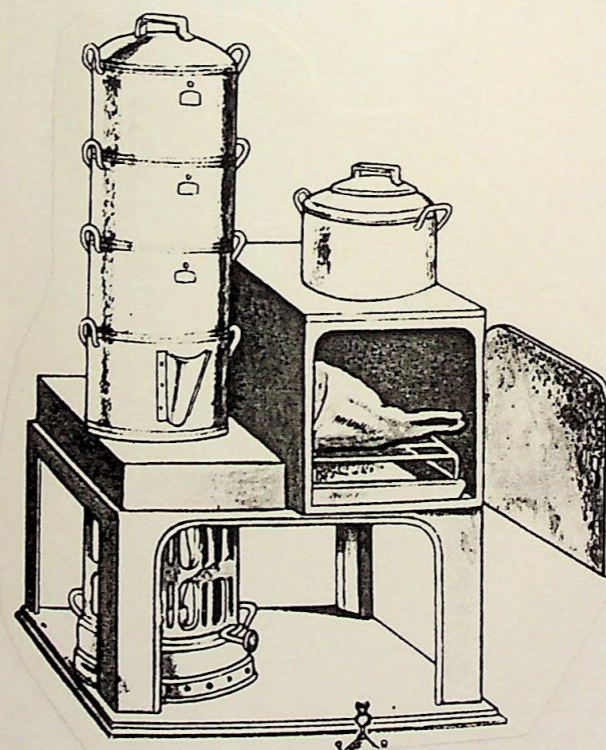
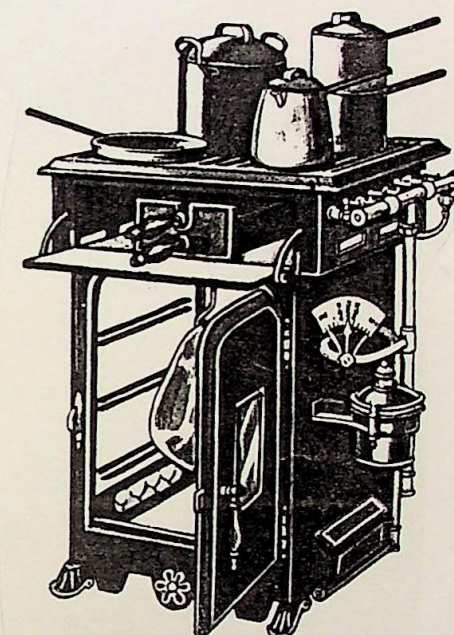


6. Early Gas Cooker
c. 1850

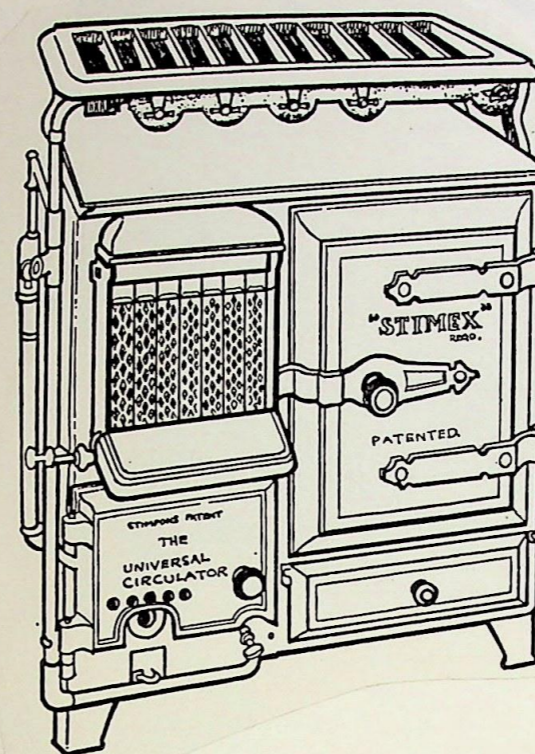


7. "Universal" Gas Cooker c. 1866

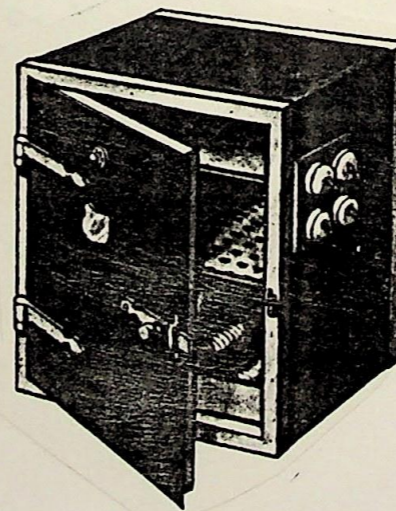
8. "Suggs" Gas Cooker c. 1886



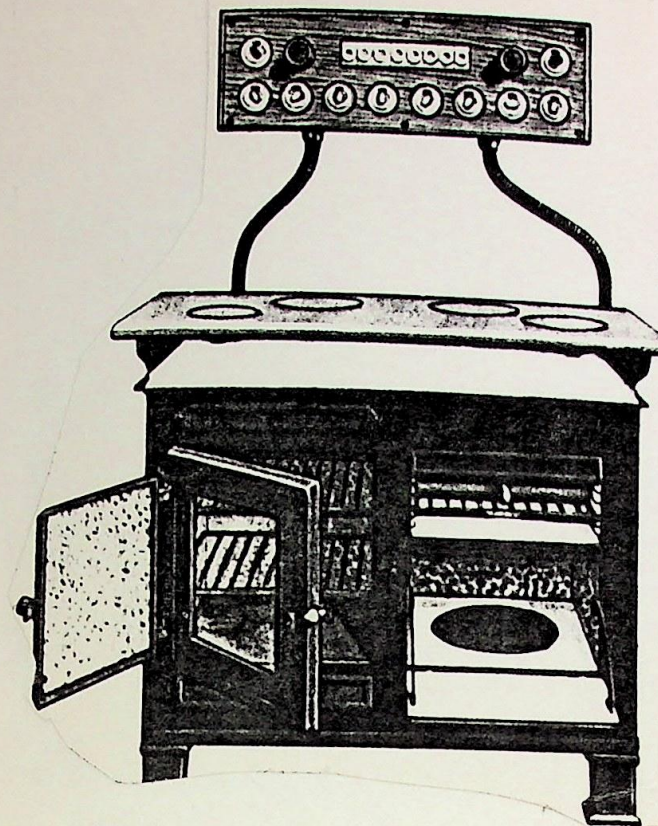
9. Paraffin Stove c. 1882



10. "Stimex" Combination
Stove c.1920

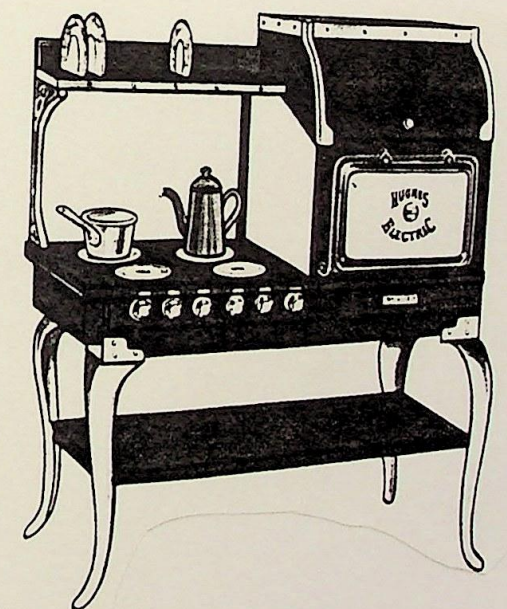


11. "G.E.C" Early Electric
Stove c. 1895

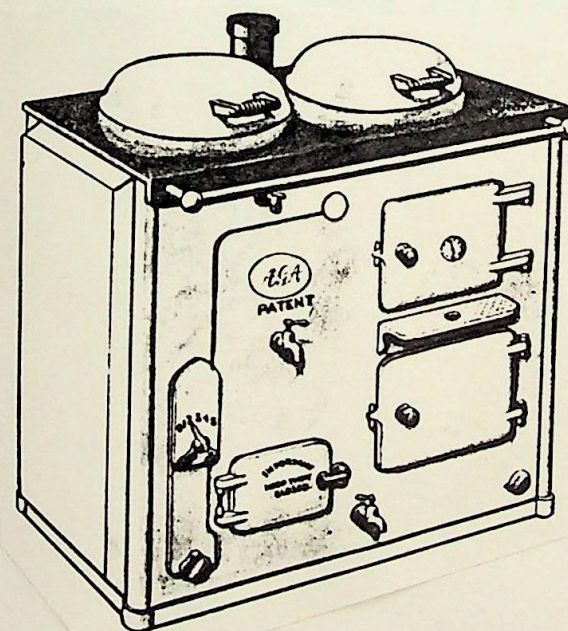
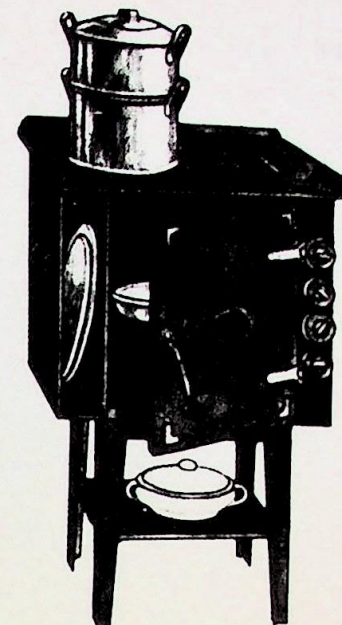


12. "Carron" Double-
Door Cooker c.1912

13. "Hughes" Electric Range
c. 1917



14. "Belling Modernette" c. 1919



15. "AGA" Cooker c. 1924

BIBLIOGRAPHY

- (1) Edward Bellamy, "Looking Backward, 2000-1887", New York: Modern Library. (1951).
- (2) Barbara Ehrenreich & Deirdre English, "For Own Good: 150 Years of Experts' Advice to Woman", London: Pluto Press. (1979).
- (3) Wendy Faulkner, "Smothered By Invention: Technology in Womens' Lives", Guernsey: Pluto Press. (1985).
- (4) Rachael Field, "Irons in the Fire: A History of Cooking Equipment", Wiltshire: Crowood. (1984).
- (5) David de Hann, "Antique Household Gadgets and Appliances", Poole, Dorset: Blandford Press. (1977).
- (6) John & Karen Hess, "A Taste of America", New York: Grossman. (1977).
- (7) Glenna Mathews, "Just A Housewife: The Rise and Fall of Domesticity in America", Oxford Univ. Press. (1987).
- (8) Ruth Schwartz, "More Work for Mother", New York: Basic Books. (1983).
- (9) Harriet Beecher Stowe, "Uncle Tom's Cabin", New York: New American Library. (1966).
- (10) Harriet Beecher Stowe, "Article: A Model Village" in "The Revolution", April 2nd 1868.