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## Households, Gender, and Energies: Issues and Perspectives

**Abstract**

By connecting two historiographies that, with a few exceptions, have generally ignored one another—gender history and the history of energy—this introductory article for the special issue "Home and Hearth: Gender and Energies within the Domestic Space, 19th-21st Centuries" highlights the fruitfulness of this encounter. The household is a locus for energy practices and choices, where the marketing strategies of energy suppliers, public policies, and family decisions meet, all of which bring gender relations into play. We propose different avenues of analysis that open up prospects for research, especially regarding issues connected to the energy transition.

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- Connecting Gender and Energy: A Problematic in Need of Renewal
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### CONNECTING GENDER AND ENERGY: A PROBLEMATIC IN NEED OF RENEWAL

- 1 Observing and analyzing issues relating to energy use within the domestic space opens up broad perspectives for understanding how consumption choices are organized. They depend on numerous factors; the offer of a particular energy, along with the combination of multiple energies to meet different needs, determine their role. Rates and selling price are therefore essential. Household equipment, and more broadly energy infrastructure, can facilitate consumption or, on the contrary, prevent it. Technological possibilities are therefore equally important in explaining the emergence or abandonment of certain domestic uses. In any event, members of the household intervene at every step in a series of decisions leading to energy uses. Choosing appliances, preferring a particular form of lighting or heating, performing the everyday gestures that go along with the use of equipment, taking action regarding consumption expenses, determining the forms of comfort desired, and inscribing one's own practices in energy-consuming or energy-efficient societal behaviors are so many decisions made in households. They are never dissociated from the relations established outside the household, whether it is the advertising that guides consumers, the commercial strategy of energy suppliers, the purchase of appliances, or energy delivery. All of these aspects that are part of the history of energy, in accordance with diverse chronological sequences, contribute to a vast historiography of energy choices, which focuses on the history of companies, the economy of consumption, and the sociology of uses. Stimulating reflection and research in this direction would not be particularly original, even though the history of energy is quite often written based on companies that produce or distribute energy, or on the geopolitical mechanisms of the energy business.
- 2 Our objective is to follow a different path. Focusing on the household and understanding how energy consumption occurs invite us to bring to bear the questions raised by the history of consumption, and even more so by

gender history. Who fulfilled what roles? What power of decision did each member have in the choice of energies? What duties fell to women and men in domestic practices connected to lighting for rooms, heating for living spaces, cooking methods, hot water needs, regulating air conditioning, and keeping the embers going in a fireplace? By proposing a conference bringing together specialists from the history of energy and gender studies, we hope to spark questions that link fields of study that are not frequently connected. These issues have of course already been raised in books. The one by Ruth Schwartz-Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*,<sup>1</sup> was one of the first to emphasize the importance of doing so, indicating right from its title the question that should be asked regarding domestic energy use. Additional studies followed. Some focused more on a particular technology or energy,<sup>2</sup> while others often isolated the feminine figure in home economics and the division of chores.<sup>3</sup> Recent research programs have also emphasized the need for a cross-cutting approach involving gender and energy, with greater awareness of all aspects required by the

<sup>1</sup> Ruth Schwartz-Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983).

<sup>2</sup> Marsha Ackermann, *Cool Comfort: America's Romance with Air-Conditioning* (Washington: Smithsonian Books, 2013), Anne Clendinning, *Demons of Domesticity: Women and the English Gas Industry 1889-1939* (London: Routledge, 2017), Graeme Gooday, *Domesticating Electricity: Technology, Uncertainty and Gender, 1880-1914* (London: Pickering & Chatto, 2008), Joao Luiz Maximo da Silva, *Cozinha modelo : o impacto do gas e da electricidade na casa paulistina* (Sao Paulo: Edusp, 2008).

<sup>3</sup> Caitriona Beaumont, *Housewives and Citizens* (Oxford: Oxford University Press, 2015), Priscilla Brewer, *From Fireplace to Cookstove: Technology and the Domestic Ideal in America* (Syracuse: Syracuse University Press, 2000), June Freeman, *The Making of the Modern Kitchen* (London: Bloomsbury, 2004), Victoria De Grazia, Ellen Furlough, *The Sex of Things* (Berkeley: University of California Press, 1996), Hiroki Shin, "Energy/Culture: A Reading Guide for Historical Literature", *Science Museum Group Journal*, 2018, n° 9; Katherine Parkin, *Food is Love: Advertising and Gender Roles in Modern America* (Philadelphia: University of Pennsylvania Press, 2006), Jennifer Scanlon (ed.), *The Gender and Consumer Culture Reader* (New York: New York University Press, 2000), Elizabeth B. Silva, *Technology, Culture, Family: Influences on Home Life* (London: Palgrave Macmillan, 2010).

energy transition, particularly the recent book by Abigail Harrison Moore and Ruth Sandwell, *In a New Light: Histories of Women and Energy*.<sup>4</sup>

### From the Conference to its Publication: Avenues for Future Research

- 3 The conference we launched in 2019 under the title “Home and Hearth: Gender and Energies within the Domestic Space, 19th–21st Centuries (Wood, Coal, Electricity, Gas, Oil): Societal, Economic, and Mediation Issues” is in keeping with this movement. The call for papers helped identify angles of interest, and justified what resembled a first go around the table.<sup>5</sup> The 35 proposals received were formulated by 49 participants, emphasizing the international attention garnered by this topic. They were from 38 geographical origins located in South America (2), Africa (5), North America (6), and Europe (25). Representatives from Asia were clearly missing from the call for proposals. It was also regrettable that while there was genuine diversity of nationalities among Europeans (the Netherlands, Great Britain, Italy, Spain, Germany, Austria, Finland, Denmark, Belgium, France), the proposals often focused on an energy-based approach without including, as much as desirable, issues relating to gender history. Opening up research to other fields and interpretations is not self-evident. Presentations were heavily weighted toward the twentieth century (88%). Topics clearly emerged, such as the organization of home economics and associated material cultures, the

4 Abigail Harrison Moore and Ruth Sandwell, *In a New Light: Histories of Women and Energy* (Montreal: McGill-Queen’s University Press, 2021). See also Martin Anfinson and Sara Heidenreich, *Energy and Gender - A Social Sciences and Humanities Cross-cutting Theme Report* (Cambridge: Shape Energy, 2017). Another driver of this topic is the AHRC program entitled “Electrifying Women: Understanding the Long History of Women in Engineering” led by Graeme Gooday and Elizabeth Bruton at the Science Museum in London, in partnership with the Women’s Engineering Society and the archives of the Institution of Engineering and Technology. See the sites: <https://ahc.leeds.ac.uk/philosophy/staff/51/graeme-gooday> <https://blog.science-museum.org.uk/author/elizabethb>.

5 The initial organizing committee included Ana Cardoso de Matos (University of Evora), Léonard Laborie (CNRS), Isabelle Matamoros (Labex EHNE), Charles-François Mathis (Université Bordeaux Montaigne), Renan Viguié (Université Bordeaux Montaigne), Fabrice Virgili (CNRS), and Jean-Pierre Williot (Sorbonne Université).

distribution of domestic work and women’s role therein, the history of increasing energy consumption, media channels for the commercial promotion of energies, and the technological choices and standards most often established by male actors. Among the 35 proposals submitted, 17 were selected (48%). The pandemic and the suspension of travel prevented the conference from being held, and prompted the organizers to establish a different calendar that inverted the various stages.

4 Issue number 6 of the *Revue d’histoire de l’énergie/Journal of Energy History* will therefore provide the introductory foundation for the topic rather than present the conclusions from a conference. In an effort to develop this idea, nine contributions have been included in this issue, each exploring one of the approaches we would like to emphasize. The current issue consequently offers a reminder of the prospective field of study we are advocating. Different sources of energy (wood, coal, oil, gas, electricity) changed ways of life in the domestic space, doing so in accelerated fashion beginning in the nineteenth century. Markets for new energy uses increased with the expansion of multiple types of household equipment. Living conditions were transformed through the promotion of comfort, the reduction of domestic hardship, and the simplification of tasks. Cooking, heating, refrigeration, hot water, household chores—taken both individually and collectively—have been highlighted as sources of well-being in the household. Their promotion brought the simplification of the most basic everyday practices, from bathroom to the kitchen, from lighting to cleaning. They also transformed activities outside the home, and changed the sociabilities associated with them. They brought about the decline of collective washhouses, and reduced the provision of water and wood, both of which were synonymous with domestic drudgery. These evolutions have already been studied.

### From Energy Companies to Households

5 The emergence of new means of communication from the late nineteenth to the mid-twentieth century (posters, advertising images, radio

conferences, television shows, audiovisual publicity, websites and social media on the internet) served as one of the privileged avenues for the diffusion of new energy uses. Means of communication especially ensured the transmission of commercial discourses and solicitations aimed at consumers, after the conception and shaping of these discourses by various actors. They sparked competition between energies (coal, coke, gas, electricity, oil) in order to boast about the advantages offered by each one, as well as the multiple types of appliances available. While other means were used to further equip domestic spaces, and the energy consumption subsequently required (for instance rates and selling price, service or equipment offers, usage demonstration, showrooms and stores), the transmission toward consumers grew out of market analysis, as well as the needs and creation of such markets through advertising communications. Other avenues also contributed through the intervention of hygienists, consumer associations, and protest movements. The role of hardware dealers in small towns, and the diffusion of catalogs extending into rural areas, also played an important role in this diffusion. These approaches are not ignored, but they have hardly been explored from a comparative standpoint.

- 6 Gas and electricity companies, along with companies for other energy sources (oil, wood, coal), quickly took advantage of new opportunities to communicate with clients. Grid companies were more visible because they regularly purchased posters and advertising to boast of the advantages of their energy, as they benefited from the market effect connected to local and later to both regional and national networks. However, all energies will be taken into account. Did advertising targets, slogans, and graphic dramatizations substantially contribute to presenting a highly characteristic division of female and male roles in the domestic space? Commercial strategies followed the emergence of the domestic rationalization objectives that appeared in the late nineteenth century, and that were amplified during the interwar period. They supported the growing trend after the Second World War of the transformation of the domestic environment and

mass consumption. It is important to measure the effect that company policies—in the choice of target audiences, slogans, and graphic imaginations—had on female and male roles in the domestic space.

These advertising mediations were accompanied by educational measures connected to uses (radio shows, conferences, demonstration workshops, domestic advisors, competitions, development of a dedicated press, television shows, etc.). The education that grew out of this beginning in the late nineteenth century, broadly based on the *Home Economics* initiatives born in the United States in the circles of Cornell University—or in the movement to develop the architecture of domestic space (we are very familiar with the roles of Christine Frederick and Paulette Bernège from the 1920s onward, although this should be expanded to include, for instance, Margaret Schütte-Lihotsky and her kitchen in Frankfurt, or Erne Meyer and her kitchen in Stuttgart)—helped to educate starting in childhood regarding the sharing (or not) of tasks and lifestyles. The emergence of women's associations offering an opinion about the uses of appliances—to orient their production or contest their use—contributes to an analysis of the interaction between the reception of the message and the appropriation of techniques. Without a new itinerary exploring the paths laid out by gender history, these topics will remain a descriptive history of energy consumption.

### Primary Fields of Analysis

The first objective is to grasp, within the limits of the domestic space, the discourse and forms of marketing used by companies selling an energy source. Carrying coal up from the cellar, using the gas cooker, showing the refrigerator, chopping wood for the fireplace, and declaiming the advantages of hot water were so many situations that dramatized the mother, father, children, young woman, housewife, cook, and coal deliveryman. In what ways were such messages received? What protests were there against uses? What evolutions were imposed on companies through the acceptance or rejection of innovation on the part of consumers? Ana

Cardoso de Matos and Diego Bussola provide initial answers by analyzing the complementary strategies of the gas and electricity industries in Lisbon between 1891 and 1970, which relied on gender stereotypes to diffuse their products.

9 Second, attention can be focused on a particular country, as these practices reveal similarities from one country to another, relating to the sometimes international commercial strategy of energy companies, or the modelization of communication mediums that were diffused via transnational transmission, which is proposed by Mariëlle Feenstra and Rachel Guyet for France and the Netherlands during the 1950s. However, as also stressed by the two authors, different cultures and original contextualized slogans equally contributed to creating distinct choices. Comparing discourses, types of advertisements, the topics promoted by companies in each country, the educational and pedagogical practices of home economics, and the attitudes of women and men within the domestic space should shed light on the existence of national forms of communication. The latter will be analyzed both with regard to the description of energies themselves, as well as the forms of competition between energies in the fairly different economic and energy contexts in the European countries under consideration, as well as with respect to the favored uses of each energy.

10 Finally, if sources from energy companies enable it, a third approach could focus on the expenses and investment dedicated to commercial strategies. We are familiar with the role of credit in household equipment, which incidentally was unequal across countries, and followed variable chronologies. It could be reinterpreted by paying closer attention to forms of cooperative economy, the role of company stores, and mutualist action often more concerned with the family dimension of the publics involved. Yet we are less familiar with the budgets allocated by companies to create sales targets, and to adjust their strategies to uses. Similarly, should there be a focus on the budgetary approach, in conjunction with legal capacity, in order to determine who paid for energy in the household, who made

choices relating to it, and who purchased the new equipment that was indispensable for its uses? What mediation occurred within couples regarding these life choices and their associated budget?

In an effort to launch these perspectives, this special feature will include a number of articles that initiate this reflection along multiple guiding lines. The household may seem narrow as a scope of analysis. Let us immediately rid ourselves of this criticism.

### From Spheres to the Sexes

The human and social sciences, namely philosophy (Habermas, Arendt), sociology (Delphy, Kergoat), anthropology (Tabet), and history (Perrot), agree about the essential importance of the separation—if not the invention—of the private and public spheres beginning in the nineteenth century, whether it is the organization of work and hence of each person's time, the increasing separation between home and factory, the organization of these spaces in the lives of individuals, the distribution of tasks intended for the interior or exterior, and the role of each person both inside and outside. While major cities represent, according to Habermas, the ideal type of the bourgeois public sphere for its dominant members, the latter preserve their private sphere from the political, economic, and intimate powers of the state.<sup>6</sup> For this period simultaneously saw the sidelining of women from politics and public speaking, their radical exclusion from the military, the subjection of wives to their husbands as inscribed in the Civil Code and its many adaptations, an unequal gendered division of labor, and an educational system highly differentiated to the detriment of young girls in the humanities as well as science and technology, with this accumulated submission making the separation between the public

<sup>6</sup> Jürgen Habermas, *L'espace public* (Paris: Payot, 1992 [1962]), especially chapter I, "Définition propédeutique d'un modèle de la sphère publique bourgeoise", 13-37, cited by Michel Christian and Sandrine Kott, "Introduction. Sphère publique et sphère privée dans les sociétés socialistes. La mise à l'épreuve d'une dichotomie", *Histoire@Politique* no. 7/1, 2009, 1.

and private spheres increasingly seem like one between the male and female. Whether seen as the lady of the house or a prisoner of the household, women were clearly located in a secluded space with their husband and family. Outside of this alienating and protective space, they could be exposed to the many dangers of urban and industrious promiscuity, and quickly fall into immorality.

13 It was initially outside of this space that the social sciences, among them the pioneers of women's history, sought to make women visible in history. Because it enabled an even relative financial independence, the workplace was a space where women met one another, and where participation in the struggle for freedom was initially fostered. When the family and the household garnered attention, in an extension of the mid-1960s slogan "the private is political," it was firstly to denounce it as a place of male control: at best a place where it is difficult to have "a room of one's own," at worst a place where domination is endured up to and including violence. In 1970, Christine Delphy denounced a specific exploitation of women within the exploitation of families, which translated into free work (child-care, housework, sewing, meal preparation).<sup>7</sup> On the other side of the Atlantic, Ann Oakley, who is known for developing the concept of gender in the social sciences, deconstructed naturalist justifications for domestic activities, on the contrary pointing out how much they were perceived by women as monotonous, exhausting, and demeaning, thereby reflecting the weight of social constraints.<sup>8</sup> At the end of that decade the anthropologist Paola Tabet showed, in a pioneering article, how male domination was exerted over women by excluding them from technological resources.<sup>9</sup> She rejected any notion of

a "natural" sexual division of labor as part of a complementarity or reciprocity of work, and envisioned this division as a "political relation between the sexes." In this issue, Sean Adams provides an account of this by showing how the division of energy-related tasks as idealized by energy companies in particular (the husband buys, the woman manages) is actually clouded by multiple negotiations within the household.

14 While the social sciences took little interest in the household other than to imagine forms of protest and evasion from this place where women were kept apart from our societies, energy production companies already perceived, in the nineteenth century, the role of the "lady of the house" in changes to energy choices. If the *foyer* (household, hearth and home), initially defined as a "place where a fire is made"<sup>10</sup> gradually became a "space for sheltering individuals," and later a place where "a family lives or inhabits," it was by meeting needs that gradually became essential, namely providing light, heating, and the ability to cook. Since the nineteenth century, there have been numerous technological innovations that were subsequently diffused to a wide audience, with changes to practices that largely surpassed the single choice of "flame," and instead became that of a lifestyle. In this respect, the installation of geothermal heating in the city of Reykjavik between 1939 and 1944, as studied by Odinn Melsted, is exemplary in that it reveals the liberating discourse of authorities, women's hopes for emancipation and subsequent disappointment and injustice, persistent inequality, and the transformation of domestic roles.

15 Finally, we wanted to make the household central to our investigation, as it is at the intersection of numerous transformations. Firstly those involving relations between its inhabitants, whether it is a single, mixed, or blended household, and whether they are from the same family or include a certain domesticity. Then there are

<sup>7</sup> Christine Delphy, "L'ennemi principal", *Partisans*, special issue of "Libération des femmes, année zéro", 1970, n° 54-55.

<sup>8</sup> Caroline Ibos, "Travail domestique/domesticité", in Juliette Rennes (dir.), *Encyclopédie critique du genre* (Paris: La Découverte, 2016), 649-658.

<sup>9</sup> Paola Tabet, "Les Mains, les outils, les armes", *L'Homme*, vol.19/3-4 (Les catégories de sexe en anthropologie sociale), 1979, 5-61.

<sup>10</sup> "Foyer," *Trésor de la langue Française informatisé*, <https://www.cnrtl.fr/definition/foyer>, accessed on August 26, 2021.

the transformations stemming from changes to housing and the arrangement of interior space, including the relation to the “outside,” whether it is thought of as a place for work, consumption, leisure, or public life. The household bore the shifting of spheres (public or private) among the sexes,<sup>11</sup> while the gradual separation of the place of work and place of residence prompted a reorganization of lifestyles. The transformations that formed the general framework for changes to households affected bourgeois homes, such as the *Sweet Home* described by Catherine Hall in the United Kingdom<sup>12</sup> or the bourgeois homes of Northern France,<sup>13</sup> which were more capable of welcoming successive innovations. They also modified, on other scales, working-class housing, ranging from the oldest, most dilapidated and insalubrious specimens to the most recent, which grew out of an awareness that housing had to provide the conditions needed for the well-being and hygiene henceforth promised to proletarians. In the example of Denmark in the second half of the twentieth century, studied here by Mogens Rüdiger, the modernization of homes, installation of central heating, and new standards of thermal comfort did not lead—with all due respect to the architects of the time—to a new distribution of roles among spouses.

### WHAT GENDER ISSUES RELATING TO ENERGY IN THE HOUSEHOLD?

16 A detailed list of the major changes that have occurred in dwellings since the Industrial Revolution would be too long to provide here. It is nevertheless important to keep in mind that these changes involved the location (rural, urban), size, and number of rooms of the housing, including specialized rooms (kitchen, bathroom); the number of available energy products (wood, candles, coal, coke, oil, electricity, geothermal), changes in their cost and accessibility,

their connection to outside networks, and individual and/or collective choices in their use. It is in this most shifting of worlds that individuals have met their energy needs.

### Which Energy to Choose?

17 Women could sometimes use their command of gestures and knowledge to defend their role in the household and impose a certain authority, an area of skill and action that could not be challenged by spouses without leading to unpleasantness and great tension in the couple. Joanna Bourke has shown the emergence of this form of empowerment in English working-class interiors at the turn of the twentieth century: by demanding instruction in home economics, working-class women were able to attribute scientific endorsement to their expertise, which they could subsequently emphasize before their spouses. Watch out if he had a notion to challenge their choices or energy spending!<sup>14</sup> Similarly, the cook who resisted a gas or electric appliance was not simply displaying archaic stubbornness, she was also defending her know-how acquired over the years, a source of pride and recognition. A change in cooking method meant relearning everything, going back to the end of the line, starting from zero.<sup>15</sup> Hence the efforts, recounted by Jan Hansen, of the Los Angeles Department of Water and Power (MADWP) in the very early twentieth century to train the city’s inhabitants in the pioneering and sometimes constraining use of electricity, which meant that “after turning on your heating, instead of taking a nap (...) you have to keep an eye on the water heater.”

### Who Pays with What Money?

18 We cannot overemphasize these tasks weighing on the shoulders of domestic employees, female workers, and working-class women, which took up so much of their time in running a household

11 Michelle Perrot, “Public, privé et rapports de sexes”, in Jacques Chevalier (dir.), *Public/Privé* (Paris: PUF, 1995).

12 Leonore Davidoff and Catherine Hall, *Family Fortunes : hommes et femmes de la bourgeoisie anglaise 1780-1850* (Paris: La Dispute, 2014 [1987]).

13 Bonnie Smith, *Les Bourgeoises du Nord, 1850-1914* (Paris: Perrin, 1989 [1981]).

14 Joanna Bourke, “Housewifery in Working-Class England”, *Past & Present*, 1994, n° 143, 167-197.

15 Jean-Pierre Williot, “Cuire avec ou sans flamme ? Le gaz en transition énergétique, de la modernité à la défaveur”, in Nathalie Ortar and Hélène Subrémon (dir.), *L'énergie et ses usages domestiques. Anthropologie d'une transition en cours* (Paris: Pétra, 2018), chapter 2.



through energy use. This raises the essential question of the value of women's time, with the electrification of households proving revelatory in this regard, for it was no doubt electricity that best personified the construction of a singular mental world, given the powerful imaginary of emancipation and wonder it conveyed in its beginnings.<sup>16</sup> The promotion of gas had also traveled along this path, but without creating the same level of disruption. The use of earlier energy sources presented less complexity. Most household appliances were invented in the early twentieth century, such as the washing machine in 1910, the refrigerator in 1913, and the vacuum in 1915, thereby increasing the domestic use of energy with the trio of lighting, heating, and cooking. An abundance of appliances with different purposes now made it possible to save time. Other occupations became possible, with the novelty of spending one's time listening to the radio or a record, and much later watching television.<sup>17</sup> Analyzing the electrification of our societies is highly instructive with respect to gender relations, especially the many impediments to this change. The gradual reduction of production cost, in conjunction with improved purchasing power and the development of credit, did not translate into a linear development that transformed these luxury objects into products of everyday consumption. In this issue, Gooday and Harrison show how aristocratic elites served as a basis for experimentation, with a few wealthy celebrities subsequently setting a trend. An essential economic and social question remains behind these descriptions of uses and diffusion, namely the financing of such energy uses.

- 19 What is the point of spending sums of money, which for a long time remained substantial, in order to save a woman's time, which precisely was free? Only working-class women

whose outside wages were needed to maintain the household would appreciate reducing their double day, although their modest income could not buy these "marvelous machines." These economic reasons were joined by those of know-how acquired over the long term, habits that one did not want to abandon, in addition to the more difficult to quantify role of taste, sensation, and pleasure. Energy prices thus emerge as a key to gender relations, inasmuch as the portion of budgets spent on energy consumption could provide flexibility in terms of the household's time.

### Energy for What Purpose?

A hierarchy of uses must therefore be recon- 20 sidered, one that is no longer based on domestic utility (lighting, cooking station), but on the increased activity and distribution of chores they enabled. Studying appliances for passing the time—initially the radio—is very stimulating, as they spread very quickly without being associated with a vital need. The fact that the electrification of households was accompanied by a massive and initial diffusion of radio sets raises questions. Should we see it as the husband imposing a preference for leisure that he would enjoy, at the expense of appliances that would surely reduce his spouse's hard work, but in any event would not prevent the home from being clean and the laundry from being done? We could also see it as a joint decision for shared leisure at night, one that also made domestic work less boring when it could be done to music, or while listening to entertaining shows. Beyond this very traditional blueprint of a household, what of the other households that did not consist of a family?

### What Gendered Mediums of Energy Diffusion Were Used by Companies?

What distinguishes the commercial policies of 21 appliance merchants, like those of energy companies, was that their messages were explicit enough such that none of the household's members were left indifferent, an energy's use responded to a felt need, and the description of use created hopes of savings in time, money, and comfort. They consequently had to come

<sup>16</sup> Alain Beltran, Patrice Carré, *La Vie électrique. Histoire et imaginaire* (18e – 21e siècles) (Paris: Belin, 2016).

<sup>17</sup> Sue Bowden and Arner Offer, "The Technological Revolution That Never Was", in Victoria de Grazia and Ellen Furlough (eds.), *The Sex of Things: Gender and Consumption in Historical Perspective* (Berkeley: University of California Press, 1996).

up with brief appeals, attractive messages, and effective slogans. Ultimately this was not very different from other advertising strategies, although the discourse on energy also had to spark dreams and take its place within the mentalities of a period. It is much more interesting to understand how the prices of an energy were determined, and what societal symbols justified changes to them. Dreaming of a brighter interior at the ideal temperature and with minimal constraints, such are the elements that companies have underscored since commercial advertising strategies were initiated in the late nineteenth century. It has also involved providing lessons, for this dream required financial efforts as well as the learning of new practices. Each energy companies followed its own score when providing instructions, advice, or demonstrations on how best to use a particular electric appliance or gas cooker.<sup>18</sup> This is what Jordi Ferran Boleda shows in his article retracing the efforts of electricity companies in the 1930s to initiate “housewives” to electricity, especially through the prosaically titled journal *Electricidad Industrial y Domestica*.

### Should Gendered Cultures of Energy be Considered?

22 Challenging the apparent determinism of the energy source as an energy system using a gender-based approach raises numerous issues. The energy choices of societies shape what have been called energy systems: a series of technical, social, political, cultural, and economic relations that reflect, at least partially, the structures born of the energies used.<sup>19</sup> Without of course evaluating any potential determinism, a society is clearly not organized in the same way when it is based essentially on muscle power (of men, women, and animals) or on fossil energies, for example. Hence the emergence, within this framework, of energy cultures that have drawn increasing interest from sociologists,

anthropologists, and historians.<sup>20</sup> Whether we speak of “petroculture” to refer to the symbolic and material world that grew out of the unbridled consumption of hydrocarbons,<sup>21</sup> or whether we take an interest in the representations, hopes, and fears connected to the atom, especially in France,<sup>22</sup> a singular relation to dominant energies always emerges, far from the supposed rationality of economic actors, one that includes both consumers and suppliers. However, this energy culture can be understood differently if, based on gender approaches, focus is placed on the division of chores and the market value ascribed to the work required to use a particular energy.

Energy is something that is learned, and here 23 we have an entire area of research that remains little explored by historians. The nineteenth century saw the blossoming of the science of thermodynamics, instruments for measuring power, a theorization of energy, and a reflection on the origins of fossil sources. In the nineteenth century, at school or at home, the schoolteacher, mother, father or grandparent taught children about the benefits of coal; the risks to national power and individual well-being from a lack of resources, such as forest or fossil ones; the uses of a particular fuel; the gestures to be performed for lighting, heating, and cooking; the danger of gas; and the defect of electricity, which causes electrocution. In the mid-twentieth century, alphabet books bore the trace of a modernity connected to energy equipment, the extraordinary oil, the new natural gas, and the wonders of electricity. Today junior high school students are made aware of the management of limited resources, although digital uses necessitate considerable quantities of electricity that must be supplied.

In doing so, gender distinctions can of course 24 appear. The example of Britain is quite telling

<sup>18</sup> Caroll Pursell, “Domesticating Modernity: The Electrical Association for Women, 1924–86”, *The British Journal for the History of Science*, vol. 32/1, 1999, 47–67.

<sup>19</sup> Jean-Claude Debeir, Jean-Paul Deléage and Daniel Hémerly, *Une Histoire de l'énergie* (Paris, Flammarion, 2013 [1986]).

<sup>20</sup> Sarah Strauss, Stephanie Rupp and Thomas Love (eds.), *Cultures of Energy* (Walnut Creek: Left Coast Press, 2013); Brendan Dooley (ed.), *Energy and Culture: Perspectives on the Power to Work* (London: Routledge, 2016).

<sup>21</sup> Stephanie LeMenager, *Living Oil: Petroleum Culture in the American Century* (Oxford: Oxford University Press, 2014).

<sup>22</sup> Gabrielle Hecht, *Le rayonnement de la France* (Paris: La Découverte, 2004).

in this area. In the nineteenth century, children learned, sometimes very young, about the central role of coal in their nation's global hegemony, as well as its spectacular origins in ancient forests that had since decomposed and been transformed. They also learned ways of using it—how to light a fire, how to arrange the pieces in the hearth for optimal burning, how to poke, how to save this fuel, etc. Significantly, this teaching became somewhat specialized around the age of 9 or 10: girls were more directly involved in learning the right gesture for managing a coal fire, already preparing them to be a good lady of the house.<sup>23</sup> In the late nineteenth century, an entire home economics curriculum was established for them. Science was marshaled to train female experts in maintaining the household, especially with regard to energy: people learned just enough theory to understand the process of combustion; they practiced cleaning the hearth properly, polishing the grating by applying a layer of graphite, and cooking while correctly managing the fire.<sup>24</sup> Of course these gender distinctions varied over time and with social background. A poor girl had to learn very early on how to help her mother: if her strength allowed, she would bring up coal from the storeroom, light the fire early in the morning so the men of the household could leave for work fortified by a filling meal. Her future subordination required her to master these tasks as early as possible, which she would repeat throughout her life for employers and in her own household. This daily instruction also took place in other European countries, in Finland by crafting tales involving knowledge of the forest and the use of wood, and in France by teaching girls basic kitchen procedures via home economics lessons promoted by the republican school system. Multiple avenues can be used to recapture this teaching, namely by exploring the discourse specifically addressed to women

and men. It can also be grasped based on how energy was used. For example, cookbooks are a documentary medium that food history has traditionally used, but rarely in combination with the study of energy techniques, the domestic economy, or gender discourse. Yet this is a very fertile approach, as demonstrated by books in the field of food history.<sup>25</sup>

In her work on Canada, Ruth Sandwell has similarly revealed the often justified fears connected to the use of gas, electricity, and certain appliances, as well as the role they played in the energy choices of stay-at-home wives and mothers.<sup>26</sup> Contemporaries, energy companies in particular, were of course not insensitive to this resistance—sometimes interpreted as proof of women's weak intellectual capacities and meager scientific knowledge—which experienced door-to-door salespersons strove to overcome.<sup>27</sup> Nevertheless, women's central role in domestic energy decisions and their imagined expectations were integrated more often. During the interwar period, suppliers of gas, electricity, and coal all used the same language: their advertising touted, in almost identical fashion, the ease of use, cleanliness, and low cost of their energies, whose benefits were praised by female employees recruited to convince their colleagues in the household. Associations were explicitly created for this purpose, for instance in the United Kingdom with the Electrical Association for Women in 1925, the Women's Gas Council in 1935, and the Women's Advisory Council on Solid

<sup>23</sup> Charles-François Mathis, *La civilisation du charbon* (Paris: Vendémiaire, 2021), chapter 6.

<sup>24</sup> On home economics, see especially Carol Dyhouse, "Towards a 'Feminine' Curriculum for English Schoolgirls: The Demands of Ideology, 1870-1963", *Women's Studies International Quarterly*, vol. 1, 1978, 291-311; Vanessa Heggie, "Domestic and Domesticating Education in the late Victorian City" *History of Education*, vol. 40/3, 2011, 273-290.

<sup>25</sup> For example Sonja Petersen, "Das elektrische Kochen - Die vollelektrische Küche als Leitbild moderner Haushaltsführung", *Food & History*, vol. 11/1, 2013, 75-106; Jean-Pierre Williot, "Vendre la cuisine au gaz et la cuisine électrique par l'affiche, des années 1890 aux années 1930", *Food & History*, vol. 16/2, 2018, 83-105.

<sup>26</sup> Ruth Sandwell (ed.), *Powering Up Canada: The History of Power, Fuel, and Energy from 1600* (Montreal: McGill University Press, 2017). See also Ruth Sandwell, "Fear and Anxiety on the Energy Frontier", in Abigail Harrison, Ruth Sandwell (eds.), *Women and Energy*, issue of *Rachel Carson Center Perspectives*, 2020/1, 37-41.

<sup>27</sup> See for example the remarks in a sales manual from an association including coal producers and distributors in interwar England: Coal Utilisation Council, *Course in Coal Salesmanship*, 1st handbook: *The Groundwork of Coal Salesmanship* (London: CUC, 1936?), 53-54.

Fuels in 1943. Yves Bouvier has shown the marketing strategies of companies, and how they successfully included some of the consumer's expectations and shaped some of their representations.<sup>28</sup>

26 The distribution of gender roles can extend the boundaries of the household, where an energy culture was practiced, to broader cultural spaces. Gathering wood, going to the washhouse, buying a bag of coal, a can of oil, or a bottle of gas were so many chores but also opportunities to go out and frequent places of female sociability, certainly in the case of the washhouse and potentially for other places. Understanding the role of women in energy decisions, evaluating their expectations and fears, hearing the reasons for their resistance, and measuring their pride in mastering gestures and knowledge are all needed to make practices and representations evolve. Because it is at the intersection of issues relating to the family, entrepreneurship, and public policy, the household is a locus for national energy trajectories, for instance during the fascist *ventennio* in Italy, where the state effort described by Andrea Giuntini brought about a shift in national gas use from lighting to kitchens. A policy of technological innovation was initiated in order to combine modernization

and economic autarky, as was a cultural change in which women and their culinary practices were a major consideration.

There are therefore many avenues of exploration surrounding this fertile intersection between gender and energies: one can focus, for example, on opinion surveys for energy expenses; women's educational programs relating to domestic uses on all continents; the research laboratories of major energy companies, which conducted usage tests on household appliances, such as at Cornell University in the 1920s as part *Home Economics* initiatives; the vocabulary of transmission that appeared in user manuals; and consumer associations, among others. Without attempting to outline a working program that would later become a major project combining gender and energies—active convergence of interests would be needed to do so—the topics explored can take their place in a wider ambition. The roles that will determine the paths to success—or failure—in the dynamics of the energy transition imposed by a changing environmental context can contribute to changes involving women and men in equal parts. Analyzing them can help formulate proposals for the future, as done by Beatrice Khamati-Njenga for countries of the Global South, and by Benoît Granier for Japan.<sup>29</sup>

<sup>28</sup> Yves Bouvier, "Entreprises, énergies et consommateurs en France depuis 1945" (unpublished HDR thesis, Sorbonne Université, December 2020).

<sup>29</sup> Beatrice Khamati-Njenga, Joy Clancy, "Concepts and Issues in Gender and Energy", *Energia*, 2003; Benoît Granier, "Gouverner la consommation d'énergie des ménages. Renouvellement des enjeux et des instruments d'intervention (1973-2017)", *Ebisu. Etudes japonaises*, n° 56, 2019.

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