

SOCIAL STRATIFICATION AND APPLIANCE SATURATION

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This paper examines the relationship between household appliance saturations or "profiles" and the position of the household in the social hierarchy--the latter indicated primarily by income differentials--and also explores other ways in which technologies can be socially stratified. Data from a southern California appliance saturation survey reveal a strong correlation between income and appliance holdings, although the "income elasticity of demand" varies considerably from one appliance to another. We offer a partly speculative reconstruction of the bearing of saturations on the experience of possessing various appliances, and utilize the concept of "institutionalization" to describe the extent to which particular appliances are included in the *definition* of the setting they occupy or the types of people who use them. We also discuss types of stratification other than saturation: the distinction between "necessary" and "optional" and between "high" and "low" technology, for example.

The paper also includes a brief discussion of social *mobility* as it relates to appliance-possession, including the receipt of *gifts* (a major source of appliances, as data from our own research indicates) as a process of experiencing "involuntary affluence." The implications of this process for models of appliance "demand" are noted. The paper urges the development of cross-cultural models to address this and related issues in the stratification-consumption relationship.

INTRODUCTION

In this paper we examine the relationship between a household's appliance holdings and its position in the social hierarchy. The paper offers data from a San Diego Gas and Electric appliance saturation survey and from our own research on apartment energy consumption, but this discussion is also preliminary and speculative, an effort to clarify the issues that need to be addressed and the kinds of data that are needed in order to uncover the meaning of domestic appliance profiles.

The paper also tries to be consistent with the broad outlines of a rapidly emerging economic sociology, a field of inquiry whose general aim is to trace the embeddedness of economic activities in social relations (Granovetter 1985). One unavoidable

consequence of this perspective, at least in our reading of it, is a challenge to the rationalistic assumption that "ends" are altogether separate from "means," that values are essentially exogenous to a proper economic model, and that technologies are restricted to their instrumental functions, having no implications for the social identities of their users. Instead, close attention to the actual uses and to the *histories* of tools, including the appliances under review here, suggests that the *utility* or value of a tool may best be seen as a *secondary* phenomenon, a product of the use of the tool itself (Hackett and Lutzenhiser 1985). Put somewhat differently, these technologies unavoidably fashion and re-fashion human problems to make them amenable to the

solutions the technologies represent. And there seem to be some important implications of this approach, including the idea that technologies are *dispensable* and that *demand is a function of supply*, including the promotional activities of the supplier. Thus the general injunction, which we try to follow here, is to treat the demand for an appliance, its social meaning and its utility as problematic, and to try to find the social structures and processes that shape these. This correlation of appliance holdings with household income constitutes a second form of appliance-related stratification--obviously related to, by analytically distinct from, the necessity/luxury distinction.

STRATIFICATION

We can clarify this approach in part with reference to our first form of stratification: the distinction between basic and optional, or necessary and luxury, appliances. This distinction privileges the former; placed in historical perspective, however, yesterday's luxury is today's necessity. Note that we do not argue here that necessities do not "really" exist, but only that they are not *a priori*, that their current utility cannot be used to rationalize or explain their existence, and that they are thus likely to be the result of personal ambition and *in principle* dispensable. When we talk about degrees of appliance saturation we are also likely to be talking about the transition from optional to necessary, and about degrees of "institutionalization," a big term that sociologists like to use to designate a situation in which a tool has gained a place in the community or the household such that the place it is "in" cannot be defined without reference to it: the refrigerator, for example, is an "institution" when the virtual definition of the kitchen includes it. The automobile--certainly the most important "appliance" for students of energy consumption in general--clearly did not begin its career as a necessity but today it is an institution in San Jose, if not quite so in San Francisco.

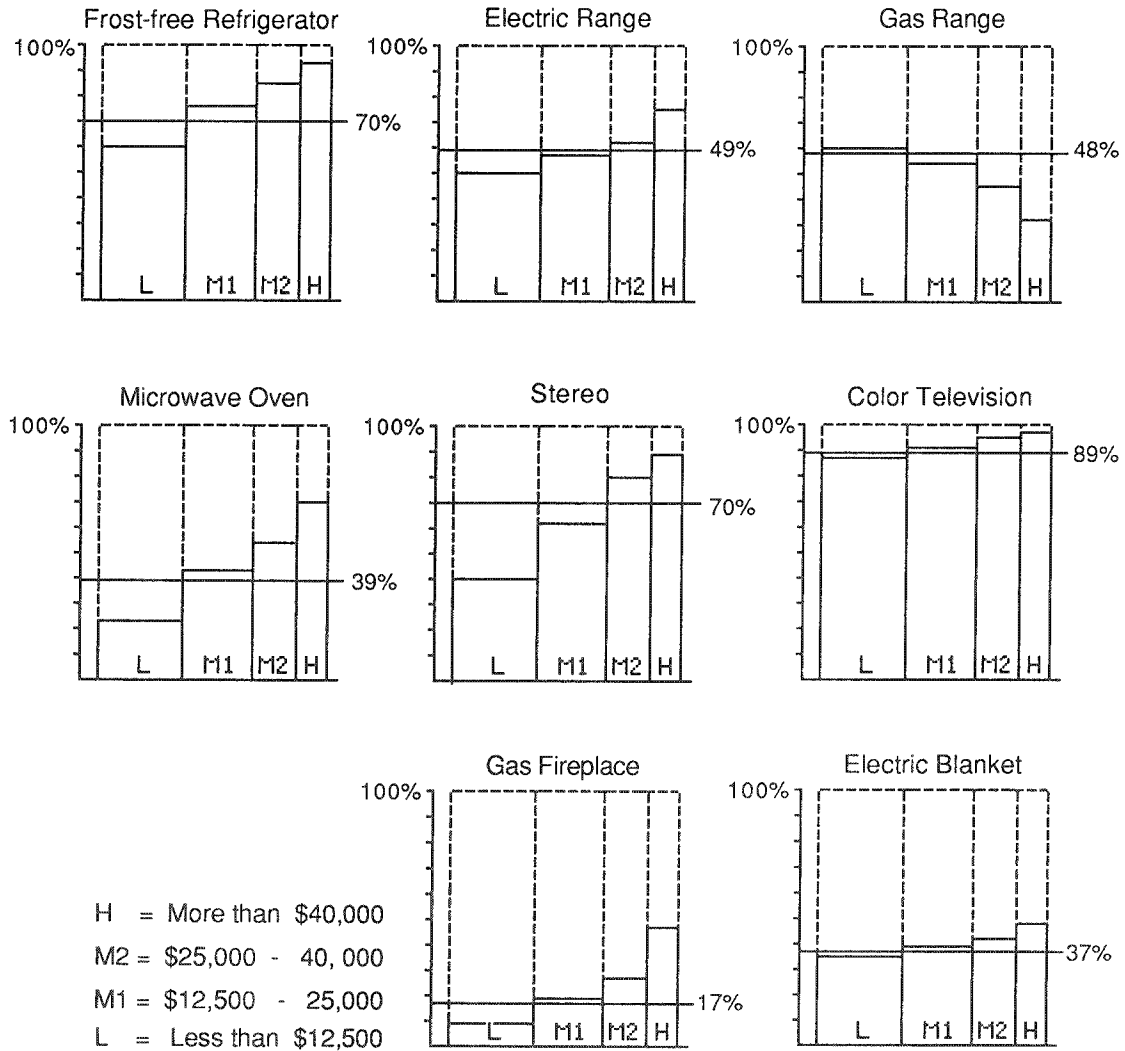
Now, it is a suggestive feature of the general access to appliances and other in a community that the distinction between basic and optional tends to distinguish the less and the more affluent, and to do so in a special way: the poor or the less affluent

have, among the valued goods, only what everyone has, while the wealthy or the more affluent have something in addition. It is also true, of course, that if one considers appliance vintage or model there is an important sense in which the affluent may occupy a realm wholly different from that of the poor, but these refinements are as yet muffled, perhaps in part because of the ambiguous social meaning of "old" goods. The main point for us, however, is that the lower orders have access *only* to those devices which are otherwise said to be privileged by being thought of as basic, and this no doubt colors our thinking about dispensability: an appliance must be important if even the poor families have one. The possessions of the poor give us access, then, to our own notions of what it is that we cannot do without.

One implication of this reasoning is that there are, indeed, few things we can't do without--at least insofar as we can safely call a luxury a luxury, and not impute to the affluent a different and simply more expensive set of "basic needs." As Figure 1 data (from a 1985 San Diego Gas & Electric Company appliance saturation survey) show, household appliances are distributed very unevenly across the income classes. With the exception of the color television, even those appliances that are relatively highly saturated in the population at large--the clothes washer, stereo and frost-free refrigerator--are missing in many lower-income homes and their presence is, in general, consistently correlated with income. Our concern in this paper, then, is not primarily with appliance efficiencies but with the demand for household appliances and with what might be termed appliance *dependency*.

APPLIANCES AND EXPERIENCE

Provocative differences and hypotheses can be teased from these bargraphs. One way to do so is to examine the *experience* of owning or not owning an appliance--thus far, in our work, a speculative matter--as this is conditioned solely by saturations. We might imagine, for example, that owning a dishwasher among the poorest in this population can be a real status marker because the dishwasher is almost definitive of, institutionalized within, the most affluent category. At the same time, only half the population owns a dishwasher--it is not yet



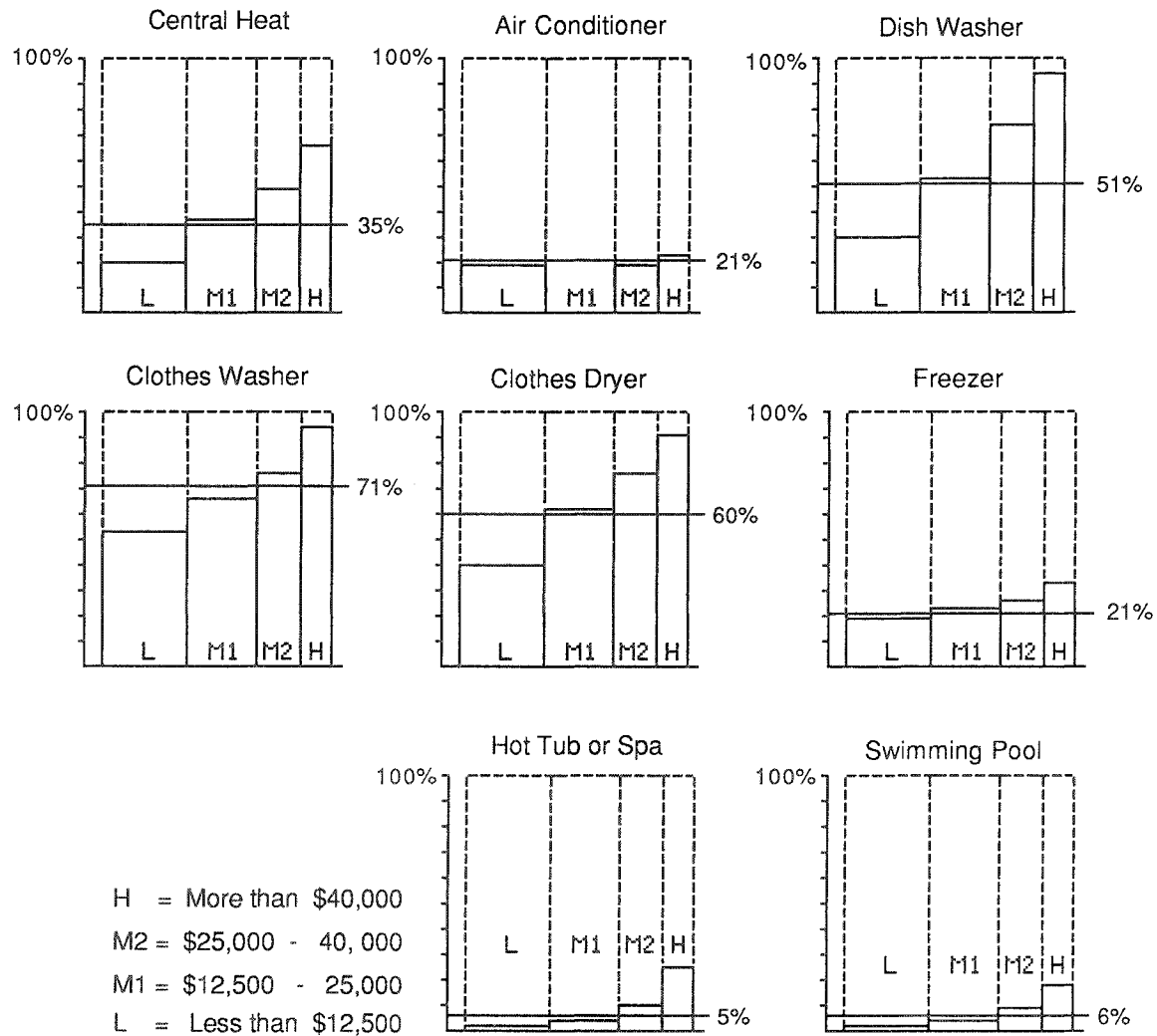
Saturation estimates weighted to 1980 Census proportions. Bar widths proportionate to sizes of income groups in the population: H (14%) M2 (16%) M1 (33%) L (37%)

Figure 1. *Income and Saturations of Selected Appliances, San Diego, California, 1985. Source: San Diego Gas and Electric Co. Appliance Saturation Survey.*

institutionalized within the community as a whole--and so its absence anywhere (except, perhaps, among the comparatively wealthy) would not constitute an embarrassment. By this time in history, the same is probably true of the microwave oven. The absence of either a clothes washer or a stereo, on the other hand, could be painful, since these are about 70% saturated. The presence of both a refrigerator and a color TV is more important, even crucial, these being not only highly

saturated but, again, institutionalized or definitive: features of the definition of a modern household, a modern kitchen, and even--in terms of taken-for-granted tool-using competencies--a modern person.

And "model" or "vintage" is, of course, sometimes very important: black and white televisions, wall heaters and, as Figure 1 suggests, gas RANGES are appliances whose presence can be a problem, especially if there are teenagers in the family. Yet it seems



Saturation estimates weighted to 1980 Census proportions. Bar widths proportionate to sizes of income groups in the population: H (14%) M2 (16%) M1 (33%) L (37%)

Figure 1. (contd)

to be one of the sometimes confusing features of our stratification system that the signs of modest means and of affluence are alike: the correlation between income and technological modernity can flatten out and even reverse itself at the highest income levels--those who drive Cadillacs being the ones who can't afford horses, or so the saying goes. The difference between affluent modesty and poor modesty, we imagine, lies in the fact that the former is voluntary, although there may be other meanings. Paul Fussell argues this, in *Class*:

The upper-class kitchen, designed to be entered only by servants, is identifiable at once: it's beat up, inconvenient, and out-of-date, with lots of wood, no Formica whatever, and a minimum of accessories and labor-saving devices like dishwashers or garbage-disposals. Why tolerate these noisy things when you can have a silent servant do precisely what they do.... Neatness and modernity enter as we move down toward the middle class, and the more your kitchen

resembles a lab, the worse for you socially. An electric stove has less class than a gas one, the appearance of modernity and efficiency, here as elsewhere, severely compromising one's status presentation. (Fussell 1983, p. 103)

So we note the negative correlation between income and gas stove usage, and imagine that those among the comparatively affluent who have gas stoves are Fussell's upper class. Of course we know that these data are less than adequate to the interpretive work given them; the gas stoves of the affluent are no doubt in older homes and, we suspect, the absence of a number of appliances among the affluent in these data is due to *cohort* effects and the availability of gas service that are not revealed here.

But it should also be clear, then, that the nature of the strong correlation between income and appliance holdings, the meaning of it, is not clear and begs for clarification. For such clarification we need cross-cultural data, since appliance stocks may be more income-elastic in the U.S. than elsewhere. There may also be a sense in which the income "variable" conduces to an exaggeration of the quantitative as opposed to qualitative differences between the lifestyles of the income classes. Do the affluent classes have more of what everyone wants? Or, do people invariably want what the affluent have? Our reading of the relevant literature thus far suggests that new technologies tend to start their social careers toward the top of the social hierarchy and work their way down, changing from toys into tools or from luxuries into necessities in the process. But then the question remains of how and where the higher classes assume an interest in new technologies, and how these incipient tools begin their journey through the social structure; higher income cannot be assumed to operate behavioristically to induce the accumulation of appliances, or be sought in order to help one experience "the state of the art" as if that ambition could be taken for granted.

DOMESTIC MECHANIZATION

And the invidious distinction between "high" and "low" technology is another form of stratification whose nature might be thought to be given in the

high/low metaphor itself, but in fact the matter is hardly settled. At the workplace, high-tech innovations have achieved a mixed reception, accused of "deskilling" workers, spawning "electronic sweatshops" and generating new forms of Luddism (Garson 1988; Grossman 1990). Domestic appliances are thought to be labor-saving but the reality here is ironic, as Ruth Cowan has shown (COWAN 1983), these devices making for "more work for mother" as they accommodated the displacement of household help into the industrial labor force. The question might also be raised as to whether or not the marketing of domestic appliances involved the degradation and the analytic reduction of household work to "labor" in order to rationalize the appliances themselves--that "home" is not so different from "work" in this regard. If this is so it might, for better or worse, add yet another irony to the apparently close association between the mechanization of the home and the efforts of women to contend with another form of stratification: the gender-based inequities that have been part of the household's virtual definition.

The mechanization of the home may be producing, in any case, a new mutant of anthropological interest: Appliance Man, the energy research community's reconstruction of the colloquial "yuppie," perhaps (Skumatz 1988). This admittedly light-headed notion is at least congruent with the view that technologies are not simply instrumentalities but produce identities as well, and that they are embedded in and work to transform social structures. In the present case we see domestic energy consumption, and the tools that this involves, as not only having identity meanings but having them to the exclusion or subordination of others. Of course it may also be the case that our new mutant is the result of a new form of perception, a recognition that what one "uses" is what one "is," that the purpose of having these tools is to *have these tools*. A variant here would be Max Weber's famous Calvinist (Weber, 1930, 1958), whose appliance stocks, like his yacht, would have no need of conventional "use" but rather constitute the signage of affluence, being arguably the fruits of hard work, and hence virtue. And included here as a possible consequence is yet another form of stratification, in which appliances become not only items of culture

but pretend to the status of "high" culture, as in the 1985 San Francisco Museum of Modern Art exhibit (cosponsored by the Italian Consulate) in which household appliances were displayed as art forms.

MOBILITY

Those who are eager to promote the upward social mobility of technologies of any kind will want to know the best strategies for accomplishing this; similarly, we assume that those who produce and market appliances will be concerned with the ways in which purchases are tied to the upward mobility of persons or families and whether such ties might be institutionalized--as, for example, in the notion of the "starter home," with its plain suggestion that in time one will be wanting to move up. Moreover, there is the related question of whether there are not stages through which one ought properly to go in this upward movement, stages perhaps similar to "The Pattern" revealed by one of William H. Whyte, Jr.'s informants in *Is Anybody Listening*: to go directly from Ferncrest Village to Eastmere Hills would be "pushy," one should spend at least a few years in the hilly section of Scrubbs Mill Pike. (Whyte 1952: 154).

Not all of this upward movement or improvement is voluntary in the strict sense of that term. In our own study of energy consumption in a Davis, California apartment complex we noted, for example, that a substantial proportion of appliances were received as gifts. The array in Table 1--consistent, incidentally, with national data (Belk 1979)--suggests in particular that the "mechanization of the home" may be in large measure a gifting phenomenon, specifically the giving of gifts to women since all of the appliances on this list that are obtained as gifts more than 40% of the time are destined for the kitchen, primarily the woman's domain. Nothing in these data suggests, of course, that these gifts were not appreciated or even requested; but we would suggest that the gift is a clever idea socially, and nicely ambiguous, being almost by definition something that one cannot reject and representing, then, a kind of involuntary affluence--the logical opposite, we note, of the "voluntary simplicity"

concept developed at Stanford by Duane Elgin and Arnold Mitchell to describe what they viewed as an emergent social type (Elgin and Mitchell 1977)--that may be especially important in accounting for appliance saturations. And in general the question of under what *auspices* mechanization takes place is important, not only because mechanization may be ironic in the senses noted above, or serve over much the interests of suppliers, but because a basic dilemma, an "accounting problem," is involved: how does one obtain a desired reputation for good works that are, in fact, accomplished by the machine?

CONCLUSION

We have noted a variety of ways in which household appliance saturations, and appliance types or "profiles," may be correlated with the forms of social stratification (e.g., income and gender) or may themselves produce new forms of stratification (necessary/luxury; high/low technology). We have also argued that "high" technology can come to compete with other and earlier forms of "high culture," and perhaps even produce a relatively comprehensive new social type ("Appliance Person"). No doubt this reckoning is preliminary, but we think it reveals a path that comparative inquiry can usefully follow.

We have also tried to suggest that there are features of the appliance-procurement process that may give it some of the characteristics of a forced march, one that may or may not reveal a distinctive pattern but has nonetheless a socially obligatory or even involuntary quality. One of the values of a sociological perspective is that it helps to reveal the sense in which acts of consumption, of what is said to reveal demand, are not precisely voluntary. This again argues for attention to the ways in which demand may be a function of supply and of the actions of suppliers, and it allows a final note of cautious optimism: if consumption is not, or not always, a function of demand, it follows that those of us who are concerned to constrain the consumption of natural resources may find a surprising degree of as-yet-unwitting support from a theoretically unlikely source, the consumers themselves.

Table 1. Appliances Arrayed by Percent Received as Gifts, With Saturations. Source: Authors' research on apartment energy consumption, Davis, California., 1987.

	Number (sample n=396)	Saturation Rate	% Gift
Clothes Washer	117	.30	10
Air Filter	24	.06	13
Air Conditioner	135	.34	14
Computer	100	.25	15
Stereo	270	.68	15
2nd Refrigerator	6	.02	17
Freezer	6	.02	17
Video Recorder	107	.27	17
Hair Dyer	317	.80	17
Curling Iron	151	.38	19
Dish Washer	32	.08	19
Electric Heater	54	.14	19
Humidifier	82	.21	20
Heated Waterbed	20	.05	20
Color Television	309	.78	21
Tooth Brush	13	.03	23
Electric Drill	59	.15	24
Movie Projector	12	.03	25
Vacuum Cleaner	269	.68	26
Iron	343	.86	28
Table Radio	199	.50	28
Slide Projector	41	.10	29
Rice Cooker	94	.24	30
Electric Saw	24	.06	33
Coffee Maker	133	.34	34
Toaster	256	.65	35
Microwave	117	.30	36
Electric Blanket	68	.17	37
Black & White TV	102	.26	38
Sewing Machine	178	.45	38
Blender	251	.63	39
Electric Shaver	139	.35	40
Electric Mixer	196	.49	47
Deep Fryer	46	.16	48
Electric Can Opener	72	.18	49
Food Processor	93	.23	52
Coffee Grinder	44	.11	53
Popcorn Popper	99	.25	54
Toaster Oven	90	.23	59
Electric Fry Pan	94	.24	62
Food Slicer	8	.02	63
Waffle Iron	79	.20	63
Crock Pot	124	.31	65
Electric Knife	22	.06	73
Electric Wok	32	.08	75

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