

# *Cultures of Consumption*

## **Working Paper Series**

### **Materialising Consumption: Products, Projects and the Dynamics of Practice**

Matt Watson, Department of Geography, Durham University  
Elizabeth Shove, Department of Sociology, Lancaster University

Nothing in this paper may be cited, quoted or summarised or reproduced without  
permission of the author(s)

*Cultures of Consumption, and ESRC-AHRC Research Programme*  
Birkbeck College, Malet Street, London, WC1E 7HX  
Tel: + 44 (0) 20 7079 0601  
Fax: + 44 (0) 20 7079 0602  
[www.consume.bbk.ac.uk](http://www.consume.bbk.ac.uk)

Working Paper No. 30

Date: October 2006

# **Materialising consumption: products, projects and the dynamics of practice**

**Matt Watson**, Department of Geography, Durham University

**Elizabeth Shove**, Department of Sociology, Lancaster University

## **Abstract**

The recognition that people routinely consume as part of the effective accomplishment of everyday life creates a new agenda for consumption studies: one more focused on relatively mundane commodities and on ordinary processes of use and acquisition. In this paper we take such ideas forward by looking in detail at the co-evolution of products, forms of competence, projects and associated patterns of demand. We use an empirical study of home DIY to elaborate, first, on the relation between consumers and the tools and materials they buy and use. Having underlined the dynamic but also pragmatic nature of this relationship we go on to consider the changing location and distribution of competences involved in doing DIY. We suggest that new combinations of materials and skills arise from and are important for the formulation of consumer projects. These projects in turn engender specific forms of consumption. In conclusion we comment on the relevance of our study for the more general task of understanding the recursive relation between consumer products, projects and practices.

## **Introduction**

Cultural studies of consumption have focused upon the symbolic, concentrating on the semiotic significance of conspicuous commodities and on the role of goods in constituting identity or in otherwise mediating social relations (McCracken 1988; Featherstone 1990). Yet it is plain that the bulk of consumption is pressingly mundane, embedded in relatively inconspicuous routines and socio-technical systems of everyday life. This observation has informed what is becoming a distinctive agenda and a significantly different way of analysing and interpreting the cultural dimensions of 'ordinary' consumption (Gronow and Warde 2001). Rather than investigating actions and contexts in which meanings are materialised – for example, in shopping or the self-conscious construction of identity through the purchase and display of consumer goods (Lury 1996, Miller 1998) – those who write about ordinary consumption are increasingly concerned to understand the hardware of material culture: how are things appropriated, and what social and practical arrangements do they make possible?

Such enquiries have generated renewed interest in bringing social theories of practice to bear on the conceptualisation and analysis of consumption (Shove and Pantzar 2005; Warde 2005). In reviewing and elaborating on the relevance of practice theoretic approaches, Alan Warde expands on the implications of the view that "consumption occurs as items are appropriated in the course of engaging in particular practices" (2005: 131). As he goes on to explain, the proposition that practices are the 'bedrock of consumption' (Warde 2005: 144) points to a new menu of questions for research and theoretical development. When framed like this, it is impossible to understand the dynamics of

consumption without also understanding how practices emerge, stabilise and disappear. In this paper we home in on just part of this agenda, focusing in particular on the material bases of practice and on the mutually constitutive relation between what people consume and what they do.

Much has been written about the relation between objects and the humans with whom they interact (Akrich 1992; Latour 1992), but what do concepts like those of hybridity, affordance and distributed competence mean for the dynamics of practice and consumption? One possible answer is that in some - and perhaps in many - fields of consumption, products are actively implicated in the detailed configuration of skill, in what people are willing and able to do, in the dynamics of practice and hence in related forms of consumption and demand. This is an intriguing and unorthodox response for it suggests that the hardware of consumption is of some significance for demand, and that practices – the bedrock of consumption – do not develop independent of the materials on which they depend. In exploring these ideas we also begin to close the loop between theories of practice and of consumption.

In the process, we contribute to recent efforts to reconceptualise both the figure of the consumer and the forces held to underpin patterns of acquisition and use. Familiar if contrasting representations of consumers as rationally acting heroes, as the dupes of market forces, or as self-conscious manipulators of symbolic resources fail to capture important qualities of consumption when this is defined as a consequence of everyday practice. In this context, Campbell's (2005) recent discussion of the "craft consumer" provides a plausible model and a useful point of reference. For Campbell, craft consumption entails the application of 'skill, knowledge, judgement and passion' and results in the production of something 'made and designed by the same person' (Campbell 2005:23). In these respects, craft consumption is very much like craft production of the type valued by thinkers such as Marx, Veblen and Morris, all of whom viewed it as an authentic expression of humanity in contrast to the alienating production processes of industrialisation. The key difference is that Campbell's version of craft consumption is inextricable from mass production. It is so because craft consumers are frequently involved in making connections and producing assemblies and creations that may "consist of several items that are themselves mass-produced retail commodities" (Campbell 2005: 27). Campbell restricts the definition of craft consumption to instances in which demand is generated by consumers engaged in the skilful process of constructing recognisable assemblages that are more than the sum of their parts and singles out cooking, creating outfits and entire wardrobes of clothing, and DIY, as examples. In Campbell's analysis, craft consumption requires a measure of self-confidence, reflexive awareness and cultural capital. He suggests that it frequently represents an essentially bourgeois desire for self-expression and an effort to resist the alienating effects of mass consumption.

For the purposes of our argument, the key point is that consumers are viewed as knowledgeable actors whose consumption is in some sense an expression of their capabilities and project-oriented ambitions. In such situations, the relation between products (what is consumed) and practice is likely to be active and generative for the formulation and accomplishment of future projects, and hence for future patterns of consumption. Although Campbell does not say much about the projects in which craft consumers are engaged we suggest that the emergent qualities of experience and practical engagement are crucial. As we argue below, new possibilities of practice – and hence consumption – arise as individual careers and collective trajectories unfold. In what follows, we elaborate on the dynamic relation between product and practice through a critical investigation of one area of 'craft' consumption.

There are several reasons for choosing to focus on DIY. First, it constitutes a significant but relatively unexplored domain both of consumption and of practice. The market research company, Mintel, defines DIY as “repairs or additions to the home or garden, including installing a new bathroom or kitchen, central heating, putting up shelves, fixing a fence, building a barbecue etc.”. Despite periodic ups and downs, spending on DIY/decorating has been growing at a fairly steady rate of around 7-8% per year since the late 1990s (Mintel 2003; 2005). Around 62% of the UK adult population claim to participate in DIY, including decorating – a separate category defined as “internal and external painting, staining or wallpapering” (Mintel 2003; 2005). Such activities account for around 13% of the time spent on house related activities in 2000 (ONS 2001)<sup>1</sup> and generate a market for related products that is currently worth around £12 billion per year in the UK. Second, DIY is a field in which the relation between tools, materials and competence is plainly significant. As such it allows us to investigate the characteristics and qualities of specific combinations of skill and consumer goods, here including tools and materials, involved in accomplishing projects such as the renovation of a room. Third, the process is typically transformative, both of those who do DIY and of the physical objects and structures on which they work. One round of DIY has implications for what might be tackled next and for the confidence, or otherwise, with which new projects are approached. As a result, practitioners’ ‘careers’ – both individually and collectively – determine related forms and types of production and consumption.

In-depth interviews with a small sample of committed DIY practitioners provided an opportunity to explore these more abstract issues through detailed discussion of past projects, future ambitions and the history and current contents of the household tool box. This qualitative data, together with a tour of the respondents’ home and of the changes they had made to it has generated relevant insight into the experience of doing DIY. Our fourteen respondents - seven men and seven women - ranged in age from early twenties to mid seventies. Additional interviews were conducted with representatives of organisations involved in designing and manufacturing DIY tools or in DIY retailing and with a couple of professional painters and decorators. Further information was acquired through observation at DIY stores and documentary analysis of sales materials, instruction manuals and handbooks. Respondents’ names have been changed in the text for purposes of anonymity.

We draw upon these data in briefly reviewing the development of DIY as a legitimate and increasingly normal practice and in analysing the terms in which it is defined and justified. Having considered different rationales for doing it yourself, we concentrate on the process and on what the experience and practice of *doing* means for related forms of consumption. Our interviews point to three critical relationships and it is around these that we organise the main body of our discussion. The first has to do with acquiring and owning tools and with concepts of ‘need’ and ‘utility’, interpretations of which proved to be individually and situationally specific. The second concerns the dynamic of competence and the manner in which skills and experience develop through doing, consuming and using. The third relates to an ongoing dialogue between person and property through which actual and potential projects are conceptualised and realised. In conjunction, these three dimensions of DIY inform what we might think of as a practice-based interpretation of demand mediated through iterative cycles of competence and confidence. Such an interpretation suggests that in transforming distributions of competence, products influence the emergence of

---

<sup>1</sup> cf., for example, c.60% on cleaning, c.15% on gardening (ONS 2001)

projects, practices and patterns of consumption. Before getting into detail we begin by commenting on the history and characteristics of home DIY.

## Introducing DIY

People have cared for their own homes throughout history and across cultures. Yet the label 'DIY', and the possibility of bounding a field of activity as a referent for that term, is historically and culturally specific. According to Gelber (1997), the phrase Do-It-Yourself, which was used in US advertising as early as 1912, but did not become common currency until the 1950s. However, its taken-for-granted application to a distinct set of activities and its contraction to 'DIY' seems particular to the UK in the late twentieth century. Some of this cultural specificity remains today. For example, two of our respondents, both lifelong and second generation 'DIYers', and both from the United States had never heard of the term before arriving in England.<sup>2</sup> Differences of terminology complicate the task of locating scholarly discussion of the subject, but this is not the only problem. Despite its scale and significance as a social phenomenon, DIY does not figure prominently in social scientific or historical analyses either of leisure or of consumption.

It is nonetheless possible to identify relevant trends in the making of DIY. Until the development of dedicated DIY stores in the 1970s, people who wanted to decorate, repair or modify their own home had to venture into the specialised world of the traditional builders' merchant (Roush 1999). The very idea of DIY arguably developed alongside, and was undoubtedly promoted by companies making and selling tools and materials to amateur rather than professional customers. Although power tools were widely used in the building trade long before, they did not find their way into the domestic market on any scale until the mid-twentieth century. In recent years the range available to the home DIYer has expanded dramatically. At the same time, prices – especially of basic items like the 'entry level' power drill – have dropped spectacularly.<sup>3</sup> Although the general trend remains one in which professional models are adapted for less demanding domestic use, some power tools have been substantially re-designed from the bottom up with the amateur consumer explicitly in mind (see, for example, Black and Decker's multi-functional Quattro or B&Q's ergonomic and zoomorphic 'Sandbug'). Other innovations, for instance in materials like fibreboard (MDF), in plastic (plumbing) and in fixing technology (especially glues) have transformed the field and extended the range of what the 'ordinary' handyperson is willing and able to tackle.

Methods of retailing and new product ranges have helped define DIY, but sources of consumer competence and confidence are also critical. Woodwork, sometimes metalwork and more recently, craft, design and technology have figured on UK school curricula – at least for boys – since the nineteenth century. Schools continue to teach children how to handle materials and tools and have equipped at least some of them with the confidence to tackle DIY projects and to use power tools at home.

A rather different source for the normalisation of DIY has been the rise of home improvement and make-over shows on day time and prime time TV. In the view of our industry respondents, these shows fail to transmit meaningful knowledge

---

<sup>2</sup> The Compact Oxford English Dictionary and the Cambridge Advanced Learners' Dictionary identify 'DIY' as British/UK.

<sup>3</sup> This reflects global relocation of manufacturing to countries in which labour is cheaper.

or impart the skills required to tackle the jobs they represent but are impressively effective in inspiring householders and giving them the (possibly misplaced) confidence to tackle relatively ambitious projects.

These separate influences (manufacturers, retailers, schools and the media), have arguably combined to make DIY something that 'ordinary' households might do. Given that participation is culturally and practically possible, further questions arise: who actually does DIY and why do people spend their time and money in this way?

## Accounting for DIY

Statistical analyses of large data sets such as the American Housing Survey (Pollakowski 1988; Bogdon 1996; Baker and Kaul 2002) and the Scottish House Condition Survey (Littlewood and Munro 1996) have been used to identify generic correlates of decisions to undertake home improvement and whether or not to employ someone to do it. For example, Pollakowski (Pollakowski 1988) finds a strong and clear association between age and the likelihood of a household undertaking DIY, but a more complex relation with income. According to Bogdon (Bogdon 1996), renovations are most likely to be undertaken by recent movers. Baker and Kaul (2002) notice that changes in household composition affect the probability of home remodelling and Bogdon (1996) finds that household composition matters: multiple adult households are much more likely to do DIY than single parent families. In addition, people are more likely to employ a contractor when dealing with large scale, complex or risky jobs and to reserve other 'easier' tasks for themselves.

Home improvement projects are often expected to increase the value of the property. The notion that people seek to maximise value – measured in terms of actual or anticipated returns on investment – is at the heart of neo-classical economics:

"the sphere of consumption itself takes on some of the characteristics of commercial life: working out how to maximise retirement income, treating one's home as a business investment and so on." (Keat and Abercrombie 1991; quoted in Slater 1997)

Industry and retail commentators share this view, routinely attributing growth in the DIY market – especially since the late 1990s - to a buoyant housing market combined with an increase in home makeover and property development shows on television.

"Well the big thing with the DIY market is that it all came at once, the TV programmes, massive house price movement so people are moving house at the same time, so there was a massive boom."  
(respondent, B&Q stock manager)

Decline is routinely explained in the same terms. The current drop in B&Q's profits<sup>4</sup> is for example attributed to a reining in of consumer spending:

Consumer spending in the year was increasingly impacted by high levels of household debt and rising taxes, as well as higher utility and fuel bills. Concerns about the outlook for the housing market further impacted the

---

<sup>4</sup> B&Q's total reported sales fell 3.7% to £3.9 billion. Retail profit of £208.5 million, down 52.0% in 52 weeks ending 28 January 2006 (Kingfisher 2006)

home improvement sector, as seen in the 3.7% decline in the household goods market (ONS) and an estimated decline in the Repair Maintenance and Improvement market of nearly 4% in the year, the weakest market for over 10 years. (Kingfisher 2006)

In so far as they limit and shape household priorities, macro economic circumstances clearly have a bearing upon the DIY market. At the micro level, market analysts conventionally assume that DIY represents a rational response on the part of those who cannot afford to pay for external labour (Williams 2004). However, and as is repeatedly highlighted in the literature (Bogdon 1996; Williams 2004; Mintel 2005) ability to pay under-determines the decision to DIY.

Economic arguments undoubtedly informed our interviewees' accounts of their own DIY histories and projects, but real-life narratives were rarely that simple. For example, a number of our respondents had the means to employ a contractor, but were unwilling or unable to identify and pay someone else to produce the distinctive and innovative solutions to which they aspired and which they knew they could achieve themselves. Kathleen and Joseph are a couple in their 30s, renovating a small flat in an early 20<sup>th</sup> century building located in central London. Both have a background in creative professions and this is reflected in the standards which they aspire to, and the innovative solutions they have designed and executed in this and previous properties.

Matt        So when did you start doing DIY?

Kathleen   When we realised we couldn't afford anything that we really liked. And also, the stuff that you do pay more for its not something that we like anyway.

Household economics is a relevant but not sufficient explanation of why Kathleen and Joseph do DIY. For other respondents, issues of quality and control were just as relevant. Michael and his partner Katrina are Americans living in a Victorian terrace in North West England with their 9 month old child. Michael is a confident DIYer, our only respondent prepared to tackle gas-related tasks. He explained that his confidence in doing DIY largely comes from an attitude inherited from his father:

"And the attitude, in a way it's a bit of an elitist attitude, but "you can't tell me that they can do it better than me" and that's very much my attitude, in my work life I have a lot of responsibility, you can't tell me that someone's going to do it better than me...so a lot of it, deep down inside, is that I'm going to have a crack at it myself. If I get into trouble, I know I can hire, I can bring someone in to do it, but how boring would it be to just have somebody come in and do it. And another thing is, particularly in the UK, I don't think things are really done to a good standard, so it would be really painful for me to have someone come in and sand my floors and finish them cos I'd just know that they probably wouldn't be clean, that they'd probably get dust everywhere, I just know they wouldn't do it as well as I will."

More generally, even without this level of confidence, the effort of finding a tradesperson to do the work and the trauma of having someone else in the house, combined with the risk of getting a botch job or of being ripped off, constituted powerful reasons for doing it yourself.

As these responses indicate, DIY sits awkwardly between conventional sociological categories like those of work and leisure and of consumption and production. According to Mintel's consumer research (2005) over 25% of UK adults enjoy DIY and 8% go so far as to identify it as a hobby. These figures

provide only limited insight into what makes DIY rewarding - is it the process itself, the exercise of existing competence, the challenge of learning new skills or the satisfaction of the result? – yet they suggest that there is a significant minority for whom DIY represents an effective arena for creativity, self-expression and fun. As market research data confirms, this sometimes involves pursuing ideals, images and aspirations formed and disseminated by the mass media and fuelled by massive retail corporations.

In reflecting on reasons for doing DIY, we have touched upon explanations that variously view the consumer as a rational actor (saving money, increasing property values); as a 'dupe' lured into new ways of spending time and money by TV programmes, magazines and DIY stores (Slater 1997); and as a figure engaged in absorbing forms of self-expression (Woodward 2003).

Interestingly and – given the subject – paradoxically, these accounts *all* revolve around the result rather than the process involved. This emphasis is also reflected in social scientific literature which focuses on the effects of DIY in mediating and maintaining relationships between people, for example, within the family (Nelson 2004); through the maintenance of self-esteem (Woodward 2003); by means of reconstructing space and identity (Miller 1995); or in the consequences of project-definition for modes of provision (Williams 2004) and in-store purchasing (Van Kenhove et al. 1999). It is as if it is only the material effect that is 'consumed' and as if means of arriving at this effect – for example, through one's own labour or with professional help is of secondary importance. In other words, such explanations are, for the most part, more useful in understanding why people engage in home improvement than in why they do it themselves. For this we need a more robust analysis of consumption as production and a more thorough understanding of what is literally involved in *doing* DIY.

## Doing DIY

What is missing from the accounts considered above, but what a practice orientation undoubtedly requires, is an interpretation that takes due account of the sweat, dust and frustration generated through the active combination of bodies, tools, materials and existing structures, all of which are implicated in repairing, maintaining or improving the home. Although most writers focus on the outcome, some do recognise that the activity is itself significant. For example, Leadbeater and Miller (2004) claim that participation in gardening, sports and home improvement represents a form of everyday resistance to the alienating effects of contemporary society. More specifically, Miller (1997) writes about the therapeutic enterprise of making a council house one's own through physical engagement with it:

The transformation of kitchens was regarded as a positive move that changed the relationship from one of alienation from 'council things' to one of a sense of belonging within a home *created from one's own labour*.

(Miller 1997: 17, emphasis added)

Steven Gelber, an historian, takes a longer term view in his analysis of the emergence and embedding do-it-yourself in models of masculine domesticity in the US through early to mid 20<sup>th</sup> century. Gelber (1997) highlights the role of tools, skill and the very ambiguity of do-it-yourself as at once leisure and work, as central themes through which DIY enabled the negotiation of coherent

masculinity into the increasing expectation that men should play an active role in the home. Aspects of this argument arguably apply within present day Britain, where most DIY is still done by men.<sup>5</sup>

Notwithstanding such isolated acknowledgements of the role of *doing* it yourself, existing discussions attend to the social and cultural qualities of the activity only in the most general of terms. They consequently skate over many of the most compelling issues that emerged from our interview data. In particular, they fail to account for the immediate pleasures, challenges, satisfactions and frustrations of tackling projects around the home or for the seemingly autotelic nature of DIY. In talking about their own careers our interviewees explained how one project led to another, how plans were disrupted and diverted in the course of 'doing', and how changes to the fabric of the house reconfigured the range and nature of possible future projects. In the next three sections we draw upon the experiences of the DIY practitioners with whom we spoke in order to describe and analyse the process itself.

## Consuming hardware

To believe that all consumer goods signify social status, or that they are always conduits of communication is to reveal that you have not rummaged through someone's tool store or wandered around the aisles at Homebase, Wickes or B&Q. While the outcome of DIY projects – the new bathroom, the re-decorated lounge - may well constitute visible markers of identity, this is not so for the nuts, bolts and spanners involved. As described by our respondents, the majority of DIY related purchases are pragmatic, driven by the exigencies of projects that are planned or already underway. Put simply, people buy what they 'need' for the job in hand. In thinking about exactly what is consumed, when and why, it is important to notice that individual components are typically useless until brought together in appropriate relation with other artefacts through an active process of assembly. Concepts of utility and necessity are correspondingly specific.

To point out that nuts, bolts and spanners *need* each other, or that people buy what they require for the job in hand, is in many ways to state the blindingly obvious. Yet such mundane observations remind us of the need to distinguish between the semiotically significant effects of DIY projects and the pragmatic character of the bulk of DIY-related purchasing.

This distinction is physically reproduced in the design and layout of large DIY stores. For example, some of the new B&Q Warehouse outlets contain extensive showrooms featuring 'completed' kitchens and bathrooms. These show pieces undoubtedly figure as sources of inspiration and aspiration yet the reality of the business is that DIYers consume not completed kitchens but rather tools, materials and items like screws, rawlplugs, fillers, abrasives, surface preparation products, electric cable, tap washers and drill bits. This is demonstrated by the much greater proportion of space given over to aisles and aisles of stunningly unspectacular products.

On the other hand, and from the consumers' point of view, it is the vision of a completed 'project' that defines and shapes demand and that determines what is

---

<sup>5</sup> It is worth noting that DIY retailers and manufacturers are increasingly targeting the female market, partly in recognition of the number who live alone but also of broader female involvement in both shopping for and the doing of DIY.

on the shopping list. This is something of a problem for the retailers: since the majority of products have so many potential uses it is impractical to group them together in ways that relate to the immediate requirements of individual consumers. The thousands of items on sale are therefore organised according to a recognisable taxonomy which distinguishes between fixings, paints, timber products, hand tools, power tools and so forth. Having set goods out in this way, the challenge is then one of helping consumers first formulate and then accomplish more and less complex projects.

In offering information and advice - through details of store layout, information panels and leaflets and, where present, staff expertise - DIY stores explain what products go together and how component parts should be assembled to achieve the desired result. In the same move, they seek to furnish people with the skills and confidence they need to become practitioners and therefore customers. As DIY retailers are only too well aware, to be necessary and useful, tools and materials have to be situated in proper relation to each other, to the fabric of the home *and* to the competencies and capacities of the DIYer.

Consumers' toolboxes contain the material traces of such efforts and provide a telling record of the progress of the DIY market and of product development and retailing. As we were to discover, their contents also reveal much more personal histories of inheritance, exchange and gift-giving. Although all our respondents were active DIY practitioners, some were much better equipped than others. The contrast between more and less extensive collections provides further insight into the relational qualities of utility and related trends in specialisation and obsolescence. At one extreme, Anna's toolbox contained only the most generic items, enough for the work she does herself in the process of renovating her early 20<sup>th</sup> century terraced house largely with professional help: a few screwdrivers, a claw and a lump hammer, pliers and paint brushes. The only power tool in this household was a wallpaper stripper. At the other extreme, is Beverley's collection of tools. These are spread across five different parts of the substantial town house she shares with her elderly mother. There were several boxes devoted to hand tools and just about every powered device a DIYer could want. The tour finally finished in the cellar where, thanks to the luxury of space, Beverley keeps all the tools and accessories she inherited from her father, including some items that she cannot confidently identify, let alone use.

The contrast between these two collections highlights central aspects of usefulness. Hammers and screwdrivers are basic requisites for most elementary forms of home maintenance and there can be few households from which these tools are missing. The all-purpose claw hammer is valuable precisely because of its versatility - it can be used to hit just about anything, and there will always be things which need hitting.<sup>6</sup> Hammers consequently have a role in an extraordinarily wide range of potential projects, as do other relatively 'open' resources such as lengths of timber, filler, nails and screws. Other tools and materials are physically interdependent. For example, nuts go with bolts and screws with screwdrivers: bound by such a close-coupled relation that one is of little value without the other. Such technical specialisation and interdependence is extremely common, though often existing in less focused form. While they can and often do generate new 'needs', relationships of this kind also results in pockets of obsolescence. One consequence is that sheds, attics and cellars (like those of Beverley) frequently contain tools that have no further function, having

---

<sup>6</sup> Of course, the diversity of hammers – pin, ball pein, claw, brick, club, lump, sledge, brick, scotch hammers, mallets, mells, etc – shows that hammers can be very highly specialised instruments - but the ubiquitous claw hammer is nevertheless outstandingly versatile.

been rendered redundant by changes in related technologies upon which they used to depend, by the demise of relevant consumables or the loss of necessary services (e.g. sharpening).

Developments of this kind affect entire classes of previously 'useful' tools, demonstrating relatively large scale historical trends in the network of relationships through which need and utility are constituted. More immediately, and at the scale of the individual household, the value of different items fluctuates depending upon the projects in hand. By way of illustration, at the time of interview, Kathleen and Joseph were undertaking extensive renovations with a limited range of carefully chosen equipment. Their flat is very small, they have the benefit of a network of friends involved with similar projects ready to lend tools, and they are reluctant to accumulate bulky possessions because they expect to leave the country at some point in the future. Even so, they bought a Bosch reciprocating saw. This saw was in frequent use, along with a wrecking bar, in the initial destructive phase of work which included taking out a partition wall. Now that Kathleen and Joseph have reached the stage of considered reconstruction the powerful saw is rarely in action and does not make the short list of invaluable tools they would take with them if they were to move. Likewise, a wallpaper stripper, the tool with which Anna still identifies most, sits idle now that the floral wallpaper has all been peeled away.

As these examples indicate, the 'need' for individual tools, and especially for those whose value is determined by other devices and technologies, reflects generic trends in the technological complex that is small-scale building work *and* the ebb and flow of DIY projects tackled within the household. The toolboxes we have investigated underline the extent to which it is the complex of consumer goods – for example, the screws plus the screwdriver or the elbow joint together with the straight connector - that matter more than any one item alone. Many boxes contain things that will never be used, these having been brought as part of a project that has yet to be realised (Sullivan and Gershuny 2004), acquired as gifts, or left over from some previous task and kept, 'just in case' they come in handy. The point here is that with DIY as with other complex forms of assembly and integration, redundancy and utility go hand in hand, both being constituted by the same dynamic processes within the same networks of relationships.

Interpretations of utility are not driven by patterns of technical interdependence alone. Most obviously, the same 'necessary' assembly of a drill, appropriate drill bits, fixings and materials, has substantially different potential when in the hands of a novice or of an experienced DIYer. Likewise, copper plumbing fittings represent just so much metal to those who lack the skills required to fit them together. As the DIY stores recognise, confidence and skill are essential components of 'need', utility, demand and practice. In the next section we consider the development and distribution of competence, and the allocation of capacity between the human and non-human actors that are jointly implicated in the doing of DIY.

## **Distributed competence**

Questions of competence are attracting increasing attention as commentators focus on ordinary rather than spectacular consumption and on forms associated with the effective accomplishment and reproduction of practice (Warde 2005). Many instances of 'craft' consumption suppose and at the same time develop the skills of those involved. As Campbell (2005: 36) observes, practical know-how and related forms of folk knowledge frequently filter through informal networks of

family and friends and between specialised groups of 'expert' amateurs (Franke and Shah 2003). Self-development is not always a priority but in writing about the contemporary explosion of 'pro-am' pastimes like serious DIY, Leadbeater and Miller (2004) conclude that the satisfaction of acquiring knowledge is one of the central attractions. More pragmatically, knowledge or confidence that one's past experience can be applied and extended is a key consideration for individuals contemplating new and potentially challenging DIY projects.

Conventionally seen as a property of the human subject, the history of DIY suggests that competence is perhaps better understood as something that is in effect distributed between practitioners and the tools and materials they use. In this respect product evolution has important consequences for the ever changing threshold of doing and not doing it yourself. In the words of a Mintel report,

product innovation continues apace, bringing new tasks within reach of the amateur DIY enthusiast and making traditional tasks faster. (Mintel 2003)

In short, product development has enabled amateurs to take on work which would have been otherwise left undone or contracted out to tradespeople. There are various ways in which this occurs. Power tools evidently make 'lighter' work of physically demanding tasks. Other products modify the relation between process and result. For example, a few decades ago, painting a panel door was a complicated business. For best results paint had to be applied to each section in the right sequence and time and experience were both required to do so without drags or drips. Today, amateur decorators can choose fast-drying non-drip water-based paints that 'know' how to go on to a door: with these technologies in place, even novices can produce an acceptable finish.

If one takes competence to be an essentially human quality, technological developments of this kind represent familiar instances of de-skilling. As if to confirm the point, the professional painters and decorators with whom we spoke persisted in using traditional gloss paints in part because the final result, still distinctive from the matt finish of water based alternatives, provides a tangible demonstration of their skill. Conversely, one might argue that the entire process of painting is not necessarily any less skilled. The point is, rather, that aspects of the competence needed to paint the door have been redistributed between person and technology, the paint having effectively absorbed capacities previously embodied in the individual wielding the brush.

The implication of this argument is that competence is not only an attribute of the human doing the painting. From this perspective, painting is something achieved only in the doing, only as the diverse elements involved in accomplishing the task are brought together, and only as distributed fragments of knowledge - the knowledge embodied in the human, the formal knowledge from the back of the paint tin and the embedded knowledge in the paint, the brushes and their relation to the door - are actively woven together.

The idea that competence is at once embodied in humans *and* in things relates to a strand of thought aspects of which are exemplified by the concept of the human-non-human 'hybrid' (Latour 1993). "Hybrid" was one of a number of terms (see also 'cyborg' (Haraway 1991); 'collectif' (Callon and Law 1997); 'co-agent' (Michael 2000) coined in science and technology studies during the 1990s with the aim of capturing and characterising alignments, relations, and interminglings between human and non-human actors. The combination of a person and a hand-tool constitutes one of the simplest examples of such a hybrid. Put simply, a human with a tool - whether it is a rock, a hammer or a power drill

- is an entity with different capabilities and capacities for engaging with world, than a human without a tool (or a tool without a human). It therefore makes sense to see the agent involved in hammering not as a discrete human subject but rather as a hybrid of person and tool. Having taken that step, the idea that competence is distributed across human and nonhuman entities is both plausible and likely.

However, the reality of DIY projects confounds any such simple one-person, one-tool interpretation of hybridity. As established in the previous section, tools are useless except when brought into appropriate combination with other tools, with materials and with the structure of the house itself. When we focus on process of doing DIY, the range of this distributed network and the multiple elements of competence at stake are immediately apparent.

The following discussion of an attic conversion illustrates the extent to which competence is embedded in and distributed between tools and materials and many other sources including people, DIY manuals and the internet. Tom is in his 30s and lives with his partner and their two young children in Victorian terraced house. Tom and his partner wanted to turn an attic space into a room for the children, but was initially thwarted by the layout and by the need to move an existing radiator a metre or so to the left. Tom had no experience of plumbing and the whole project would have been abandoned had he not learned about speedfit, a relatively new approach based on plastic push-fit connections. With speedfit, there is no need to assemble washers, couplings, solder etc. and no need for the specialist knowledge required to fit these elements together with any confidence of success. This is important. In a project of this kind, failure will result in a leak – only detectable when the central heating system is refilled and only curable once the system has been drained down again. Technologies such as speedfit bring jobs like moving a radiator within the reach of those who lack traditional skills. In Tom's case, this was a necessary but not sufficient condition for taking the project on.

Before going ahead, Tom sought advice from others more experienced than himself and enlisted the help of a neighbour who had previously witnessed a plumber connecting a radiator with speedfit. With the help of this neighbour, the form and function of the plumbing fittings and the drawings that came with them, Tom successfully shifted the radiator, a task he identified as the most challenging he had ever tackled.

In this example, competence appears to be scattered across various humans and assorted material artefacts including products and instructions about how to use them. Just as important, and as is also evident in Dant's (2005) discussion of car repair and maintenance, these elements, and with them the competence necessary for achieving the job, only come together in the immediate process of accomplishing projects in real time. In trying to make sense of what goes on in garages, Dant differentiates between embodied knowledge (i.e. embodied human subject) and embedded knowledge (i.e. embedded in the objects and materials with and on which the subject acts) and the role of 'immutable mobiles' (after Latour 1987), here representing intermediaries such as instruction sheets, manuals, etc) In taking a similar approach, we also conclude that the considerable levels of competence necessary to accomplish DIY tasks are distributed between diverse human and nonhuman entities.

This analysis provides new insights to the dynamics of craft consumption. Specifically it situates technological developments – such as intelligent paints or speedfit plumbing – not as instruments of de-skilling and dumbing down but as agents that rearrange the distribution of competence within the entire network of

entities that have to be brought together to accomplish the job in hand. Analysis of the dynamics of what people do – for example how the boundary shifts between what tasks people routinely do themselves and what they employ a professional for – has to focus on the co-evolution of these hybrid entities rather than on only the human or non-human elements alone.

Hybridised and distributed knowledge systems of this kind are inherently unstable. They are so not only because of the kind of re-arranging described above but also because DIY practitioners (along with flat-pack constructors, mechanics, gardeners and others) learn from experience. Some experiences are bad and some are so bad that aspiring practitioners are put off for good. However, others serve to increase competence and confidence and thereby extend the range of possible future projects. Alex, in his early 20s and an IT professional, has recently acquired a small late 20<sup>th</sup> century house and is deploying and developing his DIY abilities in making relatively superficial modifications. In talking about his own DIY career, Alex distinguished between moments of relatively formal knowledge acquisition - these included lessons at school, being deliberately taught by his dad, carefully reading DIY manuals and searching the internet for advice – and situations in which he drew upon previous experience in figuring out how to approach new tasks and solve unexpected problems as they arose along the way. Alex claimed that his confidence grew through physical engagement with tools and materials and through the practical accomplishment of specific projects. In reflecting on this process he commented, almost in passing, that individual products sometimes led the way. Elaborating on this point, he discussed his desire for an angle grinder and his belief that with such a device in hand, new grinding projects would necessarily emerge. In this example, Alex's account points to a further dynamic in which re-distributions of competence have cumulative, co-evolutionary consequences for the accomplishment of specific tasks and for the formulation of entire projects.

The range of tools, consumables and materials involved in the vast array of projects that constitute DIY is truly enormous and changing patterns of distributed competence are correspondingly complex. As hinted at above, but not yet discussed in any detail, the relation between specific skills, tools and products is vital for the formulation and effective accomplishment of complete projects. The notion of 'the project' is central to the forms of consumption and practice with which we are concerned and it is to this concept that we now turn.

## **Emerging Projects**

Respondents used the notion of 'a project' frequently and fluidly. Putting up a shelf counted as a project and so did knocking down a wall. In talking about his attic renovation, Tom referred to moving the radiator as 'a project', even though this task was but one step in the larger scheme of creating a space in which the children could play. For the most part, people used the term to describe planned, temporally bounded episodes or sequences of activity resulting in an observable outcome. What counted as a project varied widely yet the notion was uniformly important as a way of structuring the otherwise boundless flow of daily life (Zerubavel 1985). Time was set aside for projects, tools and materials were acquired or assembled with the project in mind, and projects were the basic building blocks of individual DIY careers. Used in these ways, the project stands somewhat outside the streams of practice and the momentary conjunctions of tools and skills that characterise the doing of DIY.

While individuals might well figure as the 'carriers' of practices (Reckwitz 2002: 259), projects have a rather different status. For one thing, they are more obviously 'made' by human actors who weave multiple practices together in the course of defining and realising the landmarks around which their DIY lives are built. Even if they take years to achieve, projects consequently constitute 'orchestrating' forces, condensing diverse resources and energies around specific goals. Tools and materials can and often do 'configure' their users and variously generate or demand specific forms of competence but their role in framing projects is typically less direct. As Alex's experience indicates, those who own an angle grinder - or who are confident in using one - are perhaps more likely to formulate projects in which a bit of grinding is involved. Similarly, those who have spare materials to hand often think about how they might be used. In other words, tools, materials and associated forms of competence influence the range of what people take to be possible but they rarely drive the entire process of 'project' definition.

It is therefore tempting to think of project definition (and of all the consumption that entails) as the outcome of deliberate human planning and of individual decision-making. However, our respondents suggest that these are not the only dynamics at play and that other terms and concepts are required in understanding how complexes of practice and consumption come together.

Some interviewees (retrospectively) represented the work they had done as the gradual realisation of a 'grand design'. Lisa is in her 30's and shares an early 20<sup>th</sup> century terraced house with her young daughter. The house was structurally sound when she moved in but decorated to poor standards and with a rather floral character which ran counter to Lisa's modernist aesthetic standards. In recounting the work she has so far overseen (done largely by professionals, Lisa limiting her contribution to basic preparation and final finishing), she can articulate a coherent approach to realising her own vision of the property. This is reflected in the work so far accomplished, most evidently in the striking shapes and contrasts created by an imaginative knocking through from the dining room to the kitchen. However, the more common pattern was one in which projects unfolded in the course of an ongoing 'conversation' between a changing household - its composition, routines, accumulation of possessions, etc. - and the physical fabric of the home. Most of the DIYers with whom we spoke described an initial flurry of activity on first moving into their current property and for those who move frequently, this is the only kind of DIY they do. However, people who remained at one address for longer routinely attributed subsequent DIY 'projects' to life events like the arrival of a new baby, the departure of grown children, retirement or changed financial circumstances. These were driven not by a grand plan, by fashion or by the desire to materialise a modified self image (Clarke 2001) but by the ordinary exigencies of everyday life.

Whatever the reason for embarking upon them, there are other more immediate senses in which DIY projects emerge. There can be few DIYers who have completed a project of any scale in exactly the way they anticipated, having gone through only the processes envisaged and used only the tools and materials they thought they would need. For any one DIYer, some jobs will go exactly according to plan but as a field of activity, DIY is almost inherently exploratory. It is so because of the sheer complexity of coordinating tools, materials, fixings and human expertise; because of the unpredictability of working in relation to an often intractable or surprising structure (i.e. the existing house), and because of the need to adapt and cope with the contingencies that inevitably arise.

Experience removes some of this uncertainty but for most of our respondents, understanding exactly what a project involved and hence what tools and materials would (ideally) be required, developed through an iterative process of doing, reflecting and adapting. The interrelation of this process with the tools and materials of the work is clear when we return to Tom's attic conversion. The initial planning of the attic room was determined through discussion with his partner and the children, by the extent of what Tom felt he could confidently do himself and by the reality of an exposed roof timber running the entire length of the room and at a such a height that the children were sure to bang their heads. The final arrangement – in which a small section of the exposed timber formed the entrance to a cosy den and in which the remainder became part of a fixed play house – reflected some of this deliberation. However, the precise shape of the play house, the size and location of its window and the closing mechanism of the door were determined along the way as Tom stretched his carpentry skills to the limit in assembling new and existing materials - wood, nails and screws - with the tools he had to hand.

In this case, nothing went significantly awry and there were no nasty surprises. However, new projects often emerge from the very process of DIY. Michael and Jenny had just such an experience when they felt they needed to change some old gas heater:

The latest project was putting, there were two old gas, like 1950s style gas heaters here and we lived with them for about 3 years until we grew really tired of them. And it really started with that one over there, where one Saturday morning we were griping about it and I just sort of pulled it off the wall and I discovered there was a bit more to it. That [*indicating an open fire place*] was all bricked in where there's now the wood burning stove. I just started knocking a few bricks off, and before you know it the whole thing opened up and then that turned into about a five week project at weekends, doing, I did that all by myself. We've kind of had to babyproof it a bit because we've got a 9 month old, but Katrina did all the tiling.

(Michael)

Beyond emergent properties within the accomplishment of discrete projects, the effective completion of one project can prompt DIYers to formulate another. In touring the house with Lisa, some of the details of the ways in which she is realising her Grand Design for the house emerged, including examples of this effect. Having removed the floral wallpaper and painted the downstairs walls a nice clean white, Lisa felt compelled to replace the patterned carpet left by the previous owners. Although acceptable alongside the 'offensive' wallpaper, the carpet in turn became 'offensive' once the walls had been dealt with (a good example of what McCracken (1988) refers to as the 'Diderot' effect). In both scenarios, one thing leads to another with what are often unpredictable consequences. In some cases, stocks of tools and skills build up as DIYers resolve unforeseen difficulties: in others, they lead to disillusionment, failure and defeat. Whatever the outcome, the point is that narratives of DIY and associated careers of consumption are typically carried along by a tide of projects, problems, challenges, outcomes, frustrations and future ambitions.

As we have already discussed, the relation between tools, materials and embodied competence is important for the process of DIY. It now seems that project formation also has a material dimension. This takes at least two forms: one in which projects are defined with the aim of closing the gap between what the home affords in terms of space, shelving, etc. and the changing demands made of it, and another in which projects – in process or once completed - generate new material conditions and new possibilities or requirements for future DIY.

To summarise, project formulation often contains an element of economic rationality, for example, in the idea of adding value and/or in the logic of doing it yourself; there is some evidence of market manipulation, especially in matters of style and aesthetics, and questions of self-identity are undoubtedly important for those for whom DIY is part of making the house a home. However, our respondents also describe other much more emergent, much more contingent aspects of project formation, many of which have to do with pragmatic processes of engaging with their immediate physical environment and the materials of which it is made.

## **Product, project and practice**

We began this paper with the idea of linking and building on the agenda-setting contributions of Warde (2005), who identifies consumption as an outcome of practice, and Campbell (2005) who highlights the active and creative role of craft consumers. We also began with the suspicion that there was more to be said – in both cases – about the relation between what people consume (i.e. the hardware of consumption) and what they do. Our study of home DIY projects and those who do them has indeed generated new insight into the material bases and dynamics of consumption. In this final section, we elaborate on the theoretical implications of these observations and comment on their relevance for other areas of consumption and practice. In drawing the threads of our analysis together we highlight two related ideas. The first is that in structuring distributions of competence, objects indirectly structure possibilities of practice and consumption. Second, that the doing of DIY is itself of consequence for individual careers, emergent projects and future patterns of demand: including demand for objects that indirectly define the possibilities of future practice.

In laying the ground for this discussion we commented on the concepts of utility and need around which so many accounts of DIY-related consumption depend. Some hardware purchases are surely aspirational and many tools are bought but used barely at all. It is nonetheless certain that you need blocks and mortar if you are to build a wall, just as you need chicken if you are to make a chicken soup. In both cases these are quite literally the ingredients required for the project in hand. This kind of pressing need is not confined to cases of craft consumption alone. If we accept that “consumption occurs as items are appropriated in the course of engaging in particular practices” (Warde 2005: 131), and if we also agree that practices consist of ‘embodied, *materially mediated arrays*, shared meanings’ (Schatzki 2001: 3), it makes sense to reinstate the somewhat unfashionable idea that people buy things because they ‘need’ them in order to accomplish valued but ordinary social practices.

This is not to deny the importance and relevance of sociological and anthropological efforts to demonstrate the interpretive flexibility of objects or the essentially *social* construction of meaning and demand (Appadurai 1986). Nor is it to suggest that needs are simply natural, inherent or physically determined. Instead, the more prosaic point, also made by Reckwitz, is that objects – footballs, breeze blocks, chickens – are materially implicated in the construction and reproduction of what people do. As Reckwitz puts it, “in order to play football we need a ball and goals as indispensable resources” (Reckwitz 2002: 252).

Exactly what ‘materially implicated’ actually means has been the subject of extensive debate, particularly within science and technology studies (see concepts of hybridity, affordance, scripting, appropriation etc.). Not all of the resulting literature is of relevance for the conceptualisation of consumption and

practice but as we have demonstrated, there are potentially fruitful opportunities for cross-fertilisation. We have elaborated on three.

First, in underlining the *relational* quality of utility we made the point that many consumer goods are only of value when brought together in conjunction with each other. In the case of DIY, we observed numerous instances of specialisation and technical interdependency. In reality, these are not unique to DIY or even to cases of craft consumption. It is not only nuts and bolts that have to go together: similar relationships, and similar forms of 'necessity' also arise with respect to coffee makers and their filters, hoovers and their belts, printers and their cartridges and all manner of everyday consumables. In addition, we noticed that many products are only of value when combined with necessary forms of skill and expertise - for those who do not know how to connect them, plumbing fittings are only bits of metal. Again this is an observation that applies to more than DIY and again it is one that is already widely accepted in technology studies. As Suchman and Blomberg put it: "individual technologies add value only to the extent that they are assembled together into effective configurations" (Suchman et al. 1999). Partly because they have focused more on moments of acquisition than on processes of use, theories of consumption have yet to pay sufficient attention to relations *between* consumer goods or *between* objects and associated forms of expertise.

Second, in concentrating on this latter feature, and in doing so with respect to DIY, we have explored the possibility that consumer goods - the conceptually invisible stuff of consumption - sometimes have an active part to play in the dynamics of doing, desire and demand. Despite coming from different intellectual traditions the notion that objects can create "user experiences" (Kuniavsky 2003); configure specific actions (Woolgar 1990) and engender or sustain programmes of social and institutional order (Latour 1992) have potentially important implications for theories of consumption and change. In the examples we have considered, products like non-drip paint, power tools, speedfit plumbing and MDF have tangible consequences for the distribution of competence. As such these items are potentially important in setting and moving the boundary between what amateurs are and are not willing to do for themselves and in permitting and sustaining innovations in practice. There is more that might be said but for now, and to summarise this part of our discussion, the proposition that materials and practices co-evolve is critical for understanding the dynamics certainly of craft consumption and perhaps of other forms as well.

Third, we have made much of the transformative character of DIY. As we have seen, each project and each task of which each project is made is of consequence for the development of competence, skill or disillusionment and so for the formulation, or otherwise, of future projects. Although often missed in discussions of consumer culture, this temporal aspect is vital in understanding the careers of individual craft consumers and the trajectories of the practices they collectively reproduce and transform. In describing their own histories and experiences, the DIYers with whom we spoke routinely referred to the projects with which they had been involved. For them, the project - however loosely defined - was the critical conceptual unit around which doing and consuming were organised. In discussing processes of project formulation we noticed that many emerged through and in the course of practical engagement between people and the materials and properties with and on which they worked. Further research would be required to discover whether the cumulative, complicated and emergent relation between what Pred (1981) refers to as 'paths' and punctuating 'projects' is a feature of other practice-oriented patterns of consumption but this is work that could and should be undertaken.

In conclusion, we chose to study DIY because it appeared to have certain distinctive and distinctively interesting features, for example, straddling categories of work and leisure and of production and consumption; being directly about the engagement of people and materials, and being a field in which competence is evidently important. Analysis of this arguably special case has allowed us to identify a provisional chain of relationships through which consumer goods are linked to competence; competence to practice and practice to the consumption of consumer goods. Some words of caution are immediately in order. One link does not necessarily follow from another, the ending is not always the same and in any case this is only part of the story. It is, however, a story in which the materials of consumption play a part. As indicated above, there are reasons to suspect that aspects of this narrative apply to more than DIY and that the task of suitably and subtly materialising theories of consumption and practice has only just begun.

### **Acknowledgements**

We are grateful for discussion and feedback on various iterations of material and ideas in this paper from departmental seminars in Sociology at the University of Surrey (April 2005) and Geography at the University of Sheffield (April 2005); attendees at the European Sociological Association conference at Torun, Poland, consumption stream (September 2005); in the workshop *STS and Housing Research*, Durham University (October 2005); at *Cultures of Consumption* programme workshop, *Restless Interiors*, V&A, London (November 2005); and at project workshop, *Designing and consuming: objects, practices and processes*, Durham University (January 2006). Comments on an earlier draft from Frank Trentmann, Rebecca Leach and Alan Warde helped with its final refinement.

The research on which this paper is based is part of "Designing and consuming: objects, practices and processes", a two year project supported by the Economic and Social Research Council and Arts and Humanities Research Council research programme, *Cultures of Consumption*: Award no. RES-154-25-0011. Further details of the project can be found at: [www.durham.ac.uk/designing.consuming](http://www.durham.ac.uk/designing.consuming).

## References

- Akrich, M. (1992). The De-Description of Technical Objects. Shaping Technology/Building Society: Studies in Sociotechnical Change. Bijker, Wiebe and Law. Cambridge Mass, MIT Press: 205-224.
- Appadurai, A., Ed. (1986). The social life of things. Cambridge, Cambridge University Press.
- Baker, K. and B. Kaul (2002). "Using multiperiod variables in the analysis of home improvement decisions by homeowners." Real Estate Economics **30**(4): 551-566.
- Bogdon, A. S. (1996). "Homeowner Renovation and Repair: The Decision to Hire Someone Else to Do the Project." Journal of Housing Economics **5**(4): 323-350.
- Callon, M. and J. Law (1997). Agency and the hybrid Collectif. Mathematics, Science and Postclassical Theory. B. H. Smith and A. Plotnitsky. Durham and London, Duke University Press: 95-117.
- Campbell, C. (2005). "The craft consumer: Culture, craft and consumption in a postmodern society." Journal of Consumer Culture **5**(1): 23-42.
- Clarke, A. (2001). The Aesthetics of Social Aspiration. Home Possessions. D. Miller. Oxford, Berg.
- Dant, T. (2005). Materiality and Society. Maidenhead, Open University Press.
- Featherstone, M. (1990). "Perspectives on Consumer Culture." Sociology **24**(1): 5-22.
- Franke, N. and S. Shah (2003). "How communities support innovative activities: an exploration of assistance and sharing among end-users." Research Policy **32**: 157-178.
- Gebler, S. (1997). "Do-It-Yourself: Constructing, Repairing and Maintaining Domestic Masculinity." American Quarterly **49**(1): 66-112.
- Gronow, J. and A. Warde (2001). Ordinary Consumption. Reading, Harwood.
- Haraway, D. (1991). Simians, Cyborgs and Women: The Reinvention of Nature. London, Free Association Books.
- Keat, R. and N. Abercrombie, Eds. (1991). Enterprise Culture. London, Routledge.
- Kingfisher (2006). "Preliminary results for the 52 weeks ended 28 January 2006", London: Kingfisher, available at [www.kingfisher.co.uk/files/english/reports/prelim06.pdf](http://www.kingfisher.co.uk/files/english/reports/prelim06.pdf) accessed 29 March 2006
- Kuniavsky, M. (2003). Observing the User Experience. A practitioner's Guide to User Research. San Francisco, Morgan Kaufman.
- Latour, B. (1987). Science in Action: How to follow scientists and engineers through society. Cambridge Mass, Harvard University Press.
- Latour, B. (1992). Where are the Missing Masses? A Sociology of a Few Mundane Artifacts'. Shaping Technology/Building Society. W. E. Bijker and J. Law. Cambridge Mass, MIT Press: 225-258.
- Latour, B. (1993). We Have Never Been Modern. Hemel Hempsted, Harvester Wheatsheaf.

- Leadbeater, C. and P. Miller (2004). The Pro-Am Revolution. London, Demos.
- Littlewood, A. and M. Munro (1996). "Explaining disrepair: Examining owner occupiers' repair and maintenance behaviour." Housing Studies **11**(4): 503-525.
- Lury, C. (1996). Consumer Culture. Cambridge, Polity Press.
- McCracken, G. (1988). Culture and Consumption: New Approaches to the Symbolic Character of Consumer Goods and Activities. Bloomington, Indiana University Press.
- Michael, M. (2000). Reconnecting culture, technology and nature: from society to heterogeneity. London, Routledge.
- Miller, D. (1997). Consumption and its consequences. Consumption and everyday life. H. Mackay. London, Sage and the Open University.
- Miller, D. (1998). A Theory of Shopping. New York, Cornell University Press.
- Miller, L. J. (1995). "Family Togetherness And The Suburban Ideal." Sociological Forum **10**(3): 393-418.
- Mintel (2003). DIY Review 2003, Mintel International Group Ltd.
- Mintel (2005). DIY Review 2005, Mintel International Group Ltd.
- Nelson, M. K. (2004). "How men matter: Housework and self-provisioning among rural single-mother and married-couple families in Vermont, US." Feminist Economics **10**(2): 9-36.
- ONS (2001). "Household Satellite Survey 2000." Office of National Statistics <http://www.statistics.gov.uk/hhsa> accessed 2005.
- Pollakowski, H. O. (1988). The Determinants of Residential Renovation and Repair Activity. Final Report Prepared for the Office of Policy Development and Research, U.S. Department of Housing and Urban Development. Washington, DC, US Department of Housing and Urban Development.
- Pred, A. (1981). Of Paths and Projects: Individual Behaviour and its Societal Contexts. Behavioural Problems in Geography Revisited. R. Golledge and K. Cox. London, Methuen: 26 pages in total (copied to end).
- Reckwitz, A. (2002). "Towards a Theory of Social Practices: A development in culturalist theorizing." European Journal of Social Theory **5**(2): 243-63.
- Roush, C. (1999). Inside Home Depot: how one company revolutionized an industry through the relentless pursuit of growth. New York, McGraw Hill.
- Schatzki, T., Ed. (2001). The Practice Turn in Contemporary Theory. London, Routledge.
- Shove, E. and M. Pantzar (2005). "Consumers, producers and practices: understanding the invention and reinvention of Nordic Walking." Journal of Consumer Culture **5**(1): 43-64.
- Slater, D. (1997). Consumer Culture and Modernity. Cambridge, Polity Press.
- Suchman, L., J. Blomberg, J. Orr and R. Trigg (1999). "Reconstructing Technologies as Social Practice." American Behavioural Scientist **43**(3): 392-408.
- Sullivan, O. and J. Gershuny (2004). "Inconspicuous Consumption: Work-Rich, Time-Poor in the Liberal Market Economy." Journal of Consumer Culture **4**(1): 79 - 100.
- Van Kenhove, P., K. De Wulf and W. Van Waterschoot (1999). "The impact of task definition on store-attribute saliences and store choice." Journal Of Retailing **75**(1): 125-137.

- Warde, A. (2005). "Consumption and Theories of Practice." Journal of Consumer Culture **5**(2): 131-153.
- Williams, C. (2004). "A lifestyle choice? Evaluating the motives of do-it-yourself (DIY) consumers." International Journal of Retail and Distribution Management **32**(5): 270-278.
- Woodward, I. (2003). "Divergent narratives in the imagining of the home amongst middle-class consumers - Aesthetics, comfort and the symbolic boundaries of self and home." Journal Of Sociology **39**(4): 391-412.
- Woolgar, S. (1990). Configuring the User: The Case of Usability Trials. Sociology of Monsters. J. Law. London, Routledge.
- Zerubavel, E. (1985). Hidden Rhythms. Berkeley, University of California Press.