9 Non-Compensatory Choices in Retrospect and Prospect

9.1 INTRODUCTION

It would be very gratifying to discover that most economists who encountered Chapters 7 and 8 found themselves easy converts to the analysis contained therein. Were this the case, I would have brought about a peaceful but revolutionary change in their attitudes; for they would be jettisoning the general principle of 'gross substitution', a core construct in the neoclassical economics research programme. Their minds would admit the possibility of non-compensatory and often priorities-based choice heuristics. They would also recognise the possibility that seriously erroneous policy recommendations could be the sequel to analysis conducted with the aid of choice models into which substitution effects have been built via the assumption that preferences are always convex. (We shall see in Chapter 10 that my alternative analysis does indeed have distinctive policy implications.) The kinds of research they wished to undertake, and/or the notions they wished to teach, could change dramatically.

Unfortunately, the omens are not encouraging. As I have already pointed out, much of what is contained in Chapters 7 and 8 is not unprecedented, but previous attempts to propose non-compensatory analyses of choice have not succeeded in bringing about a revolutionary change in outlook amongst consumer behaviour scholars in general. The aims of this chapter are therefore: to provide converts with more ammunition to justify to sceptics their acceptance of the ideas I have outlined, and to try to open further the minds of at least some of those readers who, as yet, remain incompletely convinced of the plausibility of the present analysis. The plan of this chapter is to explore some of the previous contributions (section 9.2), examine how orthodox theorists have reacted to them (section 9.3) and consider some additional arguments to show how non-compensatory notions are not as easily disbelieved as some theorists might like to think (section 9.4 and 9.5). The chapter ends with a consideration of new possibilities for empirical work (section 9.6).

9.2 ANTECEDENT ANALYSES

The first thing to note about many of the forerunners to the present analysis of non-compensatory choices is that they are not 'behavioural' in spirit, since they do not involve satiation or the setting of aspirational cut-offs. In particular, they pertain to choice procedures usually described as 'lexicographic', owing to their resemblance to the process of looking up a word in a dictionary (a 'lexicon'). One only looks at the second priority (proceeds to find the second letter) if there is a tie in respect of outright attainments for the first priority (if one has found the first letter). Some near examples of this procedure are to be found in Linder (1977, p. 145) and Hawkins et al. (1980, p. 454), while Fishburn (1974) has provided a very thorough and technical review of the various methods. I prefer to call such a procedure by the name 'naive lexicographic', and to class characteristic filtering as a 'behavioural lexicographic' rule, in order to contrast the two approaches.

It is certainly important that characteristic filtering procedures are not confused with the more widespread expositions of 'naive' priority approaches to choice. The adjective 'naive' may sound somewhat derogatory; but in many cases it would indeed be a foolish consumer who followed a strict lexicographic procedure. A 'naive lexicographic' procedure is far more obviously likely to result in a consumer choosing action schemes that are needlessly inferior as far as the development of her construct system is concerned. Most consumers will at least be able to see why the 'naive' procedure is likely to result in error, even if they cannot confidently sum together all implications associated with different dimensions of choice. Such a procedure, then, is to say, may not appear a rational one to employ even if one is suffering from bounded rationality. By contrast, a particular characteristic filtering procedure that has been chosen as a means of approximating compensatory choices in complex situations seems to have a decidedly rational basis (see section 7.4).
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Having attempted to make clear how my approach differs from conventional lexicographic procedures, I must now try to make sure it is not instead confused with the ‘elimination by aspects’ procedure proposed by Tversky (1972) and for which Payne (1976) and Svenson (1979) have identified a good deal of empirical support. With this procedure, aspirational cut-offs are set and rival schemes are examined in respect of them, one characteristic at a time, just as in characteristic filtering. However, the filtering procedure embodied in elimination by aspects involves no particular ordering of desired characteristics; as Hawkins et al. (1980, p. 445) put it, ‘there is an equal chance of any attribute being considered at each stage of the choice process.’ With this rule, the scheme that wins passes a test that no other scheme still on the agenda can pass. The victorious scheme may be the only one to possess the characteristic in question, but it may have been possessed by a scheme that was eliminated at an earlier stage. The scope for misidentifying elimination by aspects as characteristic filtering—particularly as some of the short-cut variants of the latter (section 7.5)—seems considerable: not everyone is as careful as Hawkins et al. to mention the absence of a specific ordering of characteristics. I can recall how I failed to see the difference when I first encountered elimination by aspects in a paper by Johnson (1979), and it is interesting to note that although Hawkins et al. and Johnson each consider ‘naive’ lexicographic rules and elimination by aspects neither considers a priority-based procedure involving cut-off targets.

Yet more scope for confusion arises because of the variety of contexts in which the priority idea has so far been discussed. It has been applied to:

1. the characteristics space without necessarily having to apply to the goods space;
2. the characteristics and goods spaces simultaneously;
3. patterns of choice in the goods space, though not to preferences;
4. preferences in the goods space, with no consideration of how they relate to preferences in characteristics space.

Approach (1) is the one that I have adopted (see also Ironmonger, 1972, pp. 23–25); but let us now consider some examples of the other approaches.

Approach (2) underlies the emphasis that Post Keynesian authors such as Cantrhern (1979) and Pasinetti (1981, Chapter IV) give to the role of income effects, rather than substitution effects, in explaining changes in the structure of production. The idea that consumers have a hierarchy of wants is argued to fit in well with observations of Engel curves with kinks: having satisfied their basic nourishment wants, consumers do not buy ever-larger volumes of food as their incomes rise; rather, they use their extra incomes to help satisfy their second-most-important want, and so on. Engel curves that depict behaviour in the aggregate will gradually flatten out as income trickles down to the relatively poor. However, these authors do not appear to have given a great deal of attention to the complications caused by the possibility that particular wants may be satisfied by a variety of different goods in different combinations. If one is to observe kinked Engel curves for all commodity classes (as Cantrhern, 1979, pp. 85–7, seems to expect), then this only seems compatible with each class of commodity having at least one want which it alone is capable of satisfying. Otherwise, we should expect to observe that inferior goods are very common.

How important an objection this is to the idea that priorities over wants imply priorities over goods depends on the level of aggregation—for example, potatoes may be an inferior good, while food as a whole is not.

Approach (3) is used in the work of Paroush (1965, 1973) who uses theoretical models based on, respectively, conventional n-dimensional indifference analysis and Lancaster’s characteristics approach to analyse the tendency for consumers to acquire indivisible durables in well-defined sequences. Paroush emphasises that priority patterns of consumption in a world of indivisibilities and complementarities may be technologically determined and very largely independent of underlying willingnesses to make trade-offs. He notes, for example, that ‘the usefulness of an electric mixer for making a pie cannot be exploited in the absence of an oven to bake it in and a refrigerator to preserve it’ (1973, p. 92). It is thus easy to see why someone might purchase goods in the order: stove, refrigerator, mixer—even if her underlying preferences, in either the goods or characteristics spaces, were such that she would ideally be keen to perform trade-offs.

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Approach (4) is what advanced neoclassical consumer theory texts usually have in mind when they mention lexicographic
orderings as preference systems that violate the axiom of continuity (see Deaton and Muellbauer, 1980, p. 27, and Malinvaud, 1972, p. 20). The empirical work carried out by Pyatt (1964) on the acquisition of consumer durables could also be listed as following approach (4), even though Pyatt (1964, pp. 4-5) does briefly consider the possibility of wants being satisﬁed. It is irrelevant to Pyatt ‘whether or not consumers have weakly or strongly ordered preferences or if they are rational or irrational in their behaviour’ (1964, p. 10). For he begins with observations concerning: (a) the orders in which samples of individual consumers have made their purchases of durables in the past, (b) how fast they moved along these orderings, and (c) what they say they plan next to purchase. With this data he moves to a probabilistic, differential equation model which enables him to derive short-run estimates of the overall patterns of demand for the household durables that different groups are accumulating in different orders and at different rates. These estimates—made at the market, not the brand, level—can be derived without trying to decide which underlying wants households are trying to satisfy, or how these wants might be structured (see also Pickering, 1977, Chapter 1).

Within the literature of the behavioural theory of the ﬁrm, one ﬁnds a decision-making procedure that has a good deal in common with characteristic ﬁltering, namely the procedure of giving ‘sequential attention to goals’ (Cyert and March, 1963, pp. 35-6; 118). It is suggested that an organisation attempts to deal ﬁrst with the most important failure to meet aspirations and, having seemingly done this, moves on to ﬁght the next ﬁre (see also Radner, 1975). Attempt to solve one problem seem to succeed for a time, but cause other problems to arise, with the result that the organisation seems constantly to be ‘going round in circles’. I have observed this happen in university student assessment systems—even in those designed by academics who have read Cyert and March! Coursework part-assessment is phased out owing to the administrative complexities and marking burdens it imposes; examination-only assessment then results in the defection of potential students to departments that offer coursework assessments; the crisis of numbers leads to the reintroduction of coursework assessments; and so on.

Two conditions seem to promote such behaviour: a sudden perception of a crisis of attainments (that is, a kaleidic shift of view which admits all manner of disturbing implications associated with allowing the present state to persist), and possible remedies that involve spill-over effects that are too complex to assess properly. The crisis heightens the decision maker’s awareness of the bad implications of the choice she has made, which have put her in the situation she now constructs; it also adds a pressure to come up rapidly with a solution. Under pressure, however, it is not easy to develop the lines of thought that may be necessary for seeing spill-over effects of potential solutions. All that the decision maker can do is go ‘from the sublime to the ridiculous’, to switch her preferred pole on an existing construct from one end to the other (see Kelly, 1955, pp. 128-9, and, for a similarly spirited view which also involves an application of catastrophic theory to the analysis of curriculum cycles, see Thompson, 1979, Chapter 8).

In the context of consumer behaviour, the practice of giving sequential attention to goals may be illustrated, in the light of this discussion, with a scenario concerning a consumer who superficially sees cars in terms of a ‘performance versus economy’ construct. The latest repair bill and weekly petrol bill combine to form ‘the last straw’ as far as her research programme of running an old ‘gas-guzzler’ is concerned; she swings impulsively from the ‘performance’ pole to the ‘economy’ pole of her construct and trades in her vehicle as part-payment for a brand new mini. She fails to construct the appropriate channels for thinking in depth about the real economy, potential of her forsaken car, for example, whether or not the new car’s lower running costs might be swamped by the higher depreciation costs and interest charges/forgone interest on capital that she now incurs. Subsequently, she may suffer another crisis, but one of performance, not economy (for example, an over-taking near-miss), which makes her admit that her small-car experiment has failed. She then embarks upon another attempt at running a successful research programme with a different, old, high-powered car.

In the light of my analysis of the choice of aspirations and priorities (section 7.4) it is appropriate to note that such extreme gyrations of behaviour—where goals are attended to via sequentially separated choices rather than within a single filtering procedure— may not be repeated if the consumer starts to see that a
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fairly new, medium-powered car might do the trick. Even so, it could be the case that over a number of years the consumer's preferences oscillated between different mixes of performance and economy before she stumbled upon a 'happy medium'. And it should not be forgotten that changes in income and technological possibilities could prevent the consumer from ever settling on one particular mould of tolerance for the commodity category in question.

9.3 ORTHODOX REACTIONS

The literature just considered—which is by no means the total output of its kind—should represent a cause for discomfort amongst mainstream neoclassical economists, for it suggests that there are quite a few people who are willing to dispense with continuous, differentiable utility functions. To assume preferences are ordered in terms of priorities not only precludes the use of a simple mathematical technique such as calculus in the formal analysis of choice. It also poses serious questions in respect of attempts to analyse convergence and stability in economic systems from a general equilibrium standpoint. This is because the utilities enjoyed by decision makers with lexicographic preferences may break off or change direction sharply with movements along some paths in their consumption sets (see Green, 1976, p. 82). Thus, as from ongner (1972) has emphasised, stable market level connections between changes in price and consumption depend on consumers differing in their tastes, incomes and awareness of consumption technologies. Remove these differences, and markets populated by 'representative' priorities-oriented consumers become prone to discontinuous kaleidoscopic changes, not incremental adjustments.

That the priority idea should pose such a threat to the overall methodology of the modern neoclassical theorists is rather ironic, since it was on the principle of an hierarchy of needs that Menger's (1871) initial explanation of the Law of Diminishing Marginal Utility was based. This point is emphasised in the work of Lutz and Lux (1979, pp. 44-5)—work which is strongly influenced by more recent writings on priorities, and on hierarchies of needs, by Georgescu-Roegen (1954) and by the psychologist Maslow (1970). Menger illustrated his idea with the example of an isolated farmer with a poor harvest. The farmer's most urgent need would be to keep himself and his family alive. If his harvest exceeded this subsistence level, he could move on to allocate the surplus to meet his other needs, in the order of their decreasing importance—first, seeds for next year's crop; second, food for the farm animals, and so on. The one commodity—grain—could satisfy a series of needs ranked according to their diminishing importance. Lutz and Lux suggest that Menger's idea of a hierarchy of needs was swept aside in the flood of mathematical contributions that the marginal utility idea provoked; the idea of a list of needs did not mesh with the original marginalists' treatment of utility in cardinalist terms.

Despite only using an ordinalist approach to preferences, modern-day marginalists show little inclination to examine the literature on non-compensatory preferences either critically or in detail as they proceed to define the axiom of continuity. Even in 'state of the art' graduate texts, one only finds very brief discussions of lexicographic orderings, which are included merely as vehicles for demonstrating the analytical convenience of convex preferences. Deaton and Muellbauer (1990, p. 27) devote a paragraph to a 'naive' lexicographic example set in the goods space. They then say merely that it represents 'a perfectly reasonable system of choice', but one that it is 'convenient' to rule out. It is quite clear that Deaton and Muellbauer are utterly unconcerned with the empirical significance of lexicographic orderings; it is as if their first priority concerned mathematical tractability. Noteworthy, too, is their total failure to consider a satisfying priority model in characteristics space; this would be even more inconvenient as it would conflict with the axiom of non-satiation. Its omission is, perhaps, hardly surprising since only one of the fourteen chapters of the work in question deals with choice in terms of characteristics. Malinvaud's (1972, p. 20) example of lexicographic preferences is similar, though aided by a diagrammatic presentation. He asserts that 'it is hardly likely to arise in economics' and that its elimination involves little loss 'in the way of realism'. But Malinvaud does not seem to pause long enough to consider the events in everyday life where people apparently attempt to achieve some goals, or pursue some activities, 'at all costs'. Nor does he apply his skills as a casual empiricist to a
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Imagine that a final product decision is imminent' (1982, p. 423). They do not note that this study is built around potentially crucial choices of family-planning techniques, as they go on to profess a casual preference for compensatory heuristics (despite their later (pp. 454–9) newly cautious approach to Fishbein's model in the light of recent empirical work that has been conducted in the field as opposed to the classroom). What they do say is this: 'It is important to note that there is a growing consensus that compensatory strategies are used under high involvement. Most likely there is a relatively large set of evaluation criteria, and product attributes are then combined in a compensatory fashion' (p. 423).

And then, briefly, they suddenly recognize the possibility of contingent sets of rules being used; citing the findings of Lusser and Olshavsky (1979), they add the throw-away comment that, when the number of alternatives is large, 'a non-compensatory conjunctive strategy often is used to eliminate unacceptable alternatives, followed by a shift to compensatory assessment of the remaining acceptable alternatives'.

The minimal justification offered by Engel and Blackwell for their preference for compensatory approaches to choice looks particularly curious when set against the somewhat more open-minded and cautious approach of Green and Srinivasan (1978) in a major survey article on conjoint compensatory models (actually cited in Engel and Blackwell, 1982, pp. 427–8). They note that research aimed at discovering whether consumers actually use compensatory methods, or conjunctive or lexicographic simplifying procedures (for example, Russ, 1971; Wright, 1975, and Hansen, 1976) seems to suggest that different consumers prefer different decision methods, though there is a general preference in the direction of those requiring simpler processes. Those findings ultimately do not prevent Green and Srinivasan from proposing to continue to use compensatory models as general theories of decision making—but at least they offer a reasoned justification for doing so.

First they argue that the lexicographic procedure is 'a special case... where the weight for the most important attribute is considerably larger than the second most important attribute' (1978, p. 107). This seems to fail to grapple with the potential for outright intolerance in priorities-based procedures, which means that schemes knocked out in a high-level test are not even
behavioural lexicographic' choice system; like Deaton and Muehlbaier, he moves on without further ado to propose the axiom of non-satiation.

Kelvin Lancaster (1971, pp. 146-56) is the only neoclassical theorist that I have discovered displaying a good awareness of the earlier literature on hierarchies and on the satiability of needs and wants, in both characteristics and goods spaces. His analysis is both tantalising and infuriating to a behavioural theorist, since his neoclassical upbringing seems to lead him to want automatically to examine satiation in terms of indifference curves, with only one characteristic depicted in his two-dimensional diagrams as being prone to satiation. Had he drawn diagrams where all characteristics were salient (see Figure 9.2 in section 9.4 below), he might naturally have come to think in characteristic filtering terms. Unfortunately for the profession, though not for the present author, he did not do so.

Priorities-based choice heuristics also fail to receive major attention in most marketing texts. In my earlier work (1983c, p. 91) I highlighted the methodological sloppiness of the third edition of the market leader written by Engel and Blackwell. Their fourth edition appeared while my work was in the press; it is hardly less cavalier in its treatment of non-compensatory choice heuristics. For the first time, Engel and Blackwell (1982, pp. 422-3) introduce a 'sequential elimination' heuristic but they do not explicitly say whether this involves elimination by aspects or whether it is a behavioural version of the (naive) lexicographic heuristic that, citing Tversky (1969), they briefly mention. They have edited out any reference to the discussion paper by Reilly et al. (1976); hitherto, they had noted this as a study in which a majority of a sample of car-buying subjects said a lexicographic decision rule sounded most like the one they used and in which only about a third professed to employ a compensatory heuristic. (These findings have since been published in Reilly and Holman, 1977. In this investigation, the lack of empirical support for a conjunctive procedure may merely reflect the fact that, as far as the subjects in the sample were concerned, none of the options would survive a conjunctive test.) Instead, in relation to the sequential elimination heuristic, Engel and Blackwell note the study by Weitz and Wright (1979) as suggesting that this rule is used when people must make relatively hasty judgements and imagine that a final product decision is imminent' (1982, p. 423). They do not note that this study is built around potentially crucial choices of family-planning techniques, as they go on to profess a casual preference for compensatory heuristics (despite their later (pp. 454-9) newly cautious approach to Fishbein's model in the light of recent empirical work that has been conducted in the field as opposed to the classroom). What they do say is this: 'It is important to note that there is a growing consensus that compensatory strategies are used under high involvement. Most likely there is a relatively large set of evaluation criteria, and product attributes are then combined in a compensatory fashion' (p. 423).

And then, briefly, they suddenly recognise the possibility of contingent sets of rules being used; citing the findings of Lusser and Olshavsky (1979), they add the throw-away comment that, when the number of alternatives is large, 'a non-compensatory conjunctive strategy often is used to eliminate unacceptable alternatives, followed by a shift to compensatory assessment of the remaining acceptable alternatives'.

The minimal justification offered by Engel and Blackwell for their preference for compensatory approaches to choice looks particularly curious when set against the somewhat more open-minded and cautious approach of Green and Srinivasan (1978) in a major survey article on conjoint compensatory models (actually cited in Engel and Blackwell, 1982, pp. 427-8). They note that research aimed at discovering whether consumers actually use compensatory methods, or conjunctive or lexicographic simplifying procedures (for example, Russ, 1971, Wright, 1975, and Hansen, 1976) seems to suggest that different consumers prefer different decision methods, though there is a general preference in the direction of those requiring simpler processes. These findings ultimately do not prevent Green and Srinivasan from proposing to continue to use compensatory models as general theories of decision making—but at least they offer a reasoned justification for doing so.

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evaluated at lower-level filters (see Blatt's (1983) critique of expected utility theory, discussed in section 8.4, which implies that formally it is inappropriate to represent breaches of the principle of gross substitution in terms of extreme skewness of weights). Second, Green and Srinivasan make an instrumentalist case, that the compensatory model of conjoint analysis can approximate the outcomes of other kinds of decision rules quite closely (p. 107), and they suggest that the conditions under which this can happen are not implausible. The conditions involve tendencies for: (a) attribute ratings to be correlated, (b) consumers with differing perceptions to make errors in rating attributes, and (c) preference functions to be monotonically increasing or decreasing over increasing ratings of an attribute if other attribute ratings are held constant (implying an absence of saturation). In many cases, this instrumentalist methodology might generate satisfactory market-level predictions, even if underlying individual choice processes were lexicographic in nature. However, one should be alert to the possibility that better results might be achieved by policy makers who formulated strategies in the light of the distinctive implications of the characteristic filtering analysis—as I hope to demonstrate in Chapter 10.

The rarity of carefully considered instrumentalist justifications for adhering to compensatory models, and the brevity of axiomatic pure theorists' dismissals of priorities-based models, serves to suggest a widespread ignorance of the extent of the literature on non-compensatory choice. For such ignorance would remove the pressure from theorists to offer detailed rebuttals of foundation-threatening, priorities-based notions and make them seem easily dismissed as oddities. This ignorance is particularly easy to understand in respect of economists, since they are unlikely to be led by cross-references to the marketing and behavioural science journals wherein lie most of the recent sources (see Earl, 1983a), as well as likely to be misled into thinking that Ironmonger's (1972) work is simply an extension of Lancaster's approach, despite its prior origins as a 1961 doctoral thesis, and despite its emphasis on priorities over wants. However, my experience is that when one freshly confronts an orthodox economist with the possibility that choices may often be made in a non-compensatory manner, the reaction usually involves some attempt to demonstrate that all choices can be fitted into the orthodox framework (see my remarks about 'general' models in section 7.8). In the next section I want to show how two may play at this academic game.

9.4 THE VALIDITY OF THE NON-COMPENSATORY PRINCIPLE

On more than one occasion, the neoclassical opening gambit has been to remind me of a joke that is both old and terribly sexist:

**Man:** Will you sleep with me?
**Woman:** No.
**Man:** Will you sleep with me for $100?
**Woman:** No. I'm not that kind of woman.
**Man:** Will you sleep with me for $1000?
**Woman:** Look, I said I'm not that kind of woman.
**Man:** Will you sleep with me for $100,000?
**Woman:** Yes.
**Man:** I've only got $100.
**Woman:** I'm not that kind of woman.
**Man:** We've established that you are that kind of woman; now we're just haggling over the price!

The woman's position seems to suggest that she is willing to make a trade-off between remuneration and self-esteem despite her protestations to the contrary, providing that enough remuneration is offered. The suggestion, implicitly, is that 'every woman has her price'. However, even if this is the case, it can still be fitted into my characteristic filtering framework, for it is very easy to misconstrue the nature of preferences when they are only partially revealed. Two kinds of defence may in fact be offered against the 'every woman has her price' objection to priorities-based choice models.

The first defence takes us back to a basic idea in household production theory, namely, that different activity combinations—different production technologies—may be used to produce similar outputs of characteristics. Now, while the behavioural use of this idea denies that people are always able to sum together scores in respect of seemingly different characteristics, it does not deny that people may aggregate the contributions that a variety
evaluated at lower-level filters (see Blatt’s (1983) critique of expected utility theory, discussed in section 8.4, which implies that formally it is inappropriate to represent breaches of the principle of gross substitution in terms of extreme skewness of weights). Second, Green and Srinivasan make out an instrumentalist case, that ‘the compensatory model of conjoint analysis can approximate the outcomes of other kinds of decision rules quite closely’ (p. 107), and they suggest that the conditions under which this can happen are not implausible. The conditions involve tendencies for: (a) attribute ratings to be correlated, (b) consumers with differing perceptions to make errors in rating attributes, and (c) preference functions to be monotonically increasing or decreasing over increasing ratings of an attribute if other attribute ratings are held constant (implying an absence of satiation). In many cases, this instrumentalist methodology might generate satisfactory market-level predictions, even if underlying individual choice processes were lexicographic in nature. However, one should be alert to the possibility that better results might be achieved by policy makers who formulated strategies in the light of the distinctive implications of the characteristic filtering analysis—as I hope to demonstrate in Chapter 10.

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of activities can make in respect of a particular characteristic. In fact, such aggregation possibilities are actually central to my analysis of budgeting. Thus, computational problems may force the decision maker to treat the prospective state of her image—in her own eyes and in those of the rest of the world—as a separate feature, to which she attaches a particular aspiration and a very high priority ranking. However, once she has made this simplification, she may be perfectly able to estimate the overall image-related implications of the various choices she might make. Some activities would involve her in humiliation and embarrassment; others would fill her with pride. But what ultimately concerns her is the sum total of these ups and downs. To sell one’s body may involve a very big humiliation, but it may ‘set one up for life’ against further humiliation and offer the prospect of self-enhancement through conspicuous consumption. And the bigger the remuneration, the less guilt the person would be likely to feel, since she would find it harder to disbelieve the possibility that people she construes as similar to herself would accept similar offers.

For my second defence of the characteristic filtering idea against the claim that it founders if ‘everyone has their price’, I would like to use a somewhat more complex (imaginary?) example as a basis for discussion.

Suppose I have allowed a neoclassical proponent of the characteristics analysis of choice to extract the following information about my attitudes towards some academic employment possibilities. (The numbers 1 to 4 refer to ranking, with 1 at the top and 4 at the bottom.)

<table>
<thead>
<tr>
<th>Academic position</th>
<th>Overall rating</th>
<th>Remuneration</th>
<th>Research reputation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Lecturer, University of Stirling</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>B: Lecturer, University of Cambridge</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>C: Principal Lecturer, Oxford Polytechnic</td>
<td>4</td>
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<td>4</td>
</tr>
<tr>
<td>D: Lecturer, University of Tasmania</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

This information seems to suggest that, if I cannot get a post in my ideal university, I may be willing to trade the reputed quality of my research environment for higher remuneration, even if I profess to be horrified at the idea of working in a department that is not a hot-bed of research activity. An onlooker might conclude that, if the price were right, I would even work in a polytechnic rather than a university. From a neoclassical perspective, it would seem quite natural to represent this information with an indifference diagram such as Figure 9.1.

![Figure 9.1: Academic employment preferences: a neoclassical view](image)

Things look rather different from the behavioural perspective shown in Figure 9.2. Here, my target for the research reputation is shown by the horizontal dotted line, and my remuneration target by the vertical dotted line. I happen to rank departmental research reputation above remuneration. In terms of these two criteria, positions B and D are both acceptable, but I prefer B, if it is available, on the basis of other criteria not included in the attitude investigation and which can be ranked above, below or in between the two criteria represented in the data. For example,
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I might rank the calibre of the students above the quality of the research environment, because of the implications of being able to teach ‘high-fliers’. Such an elitist attitude to students might lead me to rate students in A, C and D as equally unsatisfactory; so if I cannot get position B I must feel frustrated in my teaching and choose on the basis of lower-priority criteria, such as research reputation and income. With such an attitude to student calibre, I will rank the four jobs in the same order even if I accord a lower priority to student calibre than to remuneration.

9.5 PRINCIPLES—AT ‘ALL COSTS’

Although I have just been showing how easily one might confuse compensatory and non-compensatory choice procedures, I think it is important to highlight the potential for outright intolerance that the latter contain. There are very many situations in which I find it difficult to envisage that a brilliant performance in one respect will compensate for a failing elsewhere. Prejudice, overwhelming desires and inviolable principles are widespread features of everyday life, and neoclassical economists would do well to open their eyes to these phenomena and recognise them as such, instead of trying to bend them to fit their existing constructs.

Consider the following examples. First: a reader of What Car? magazine writes in defence of the Talbot Horizon, saying, ‘I am over six foot and cannot get comfortable in the driving seat of either the Golf or the Escort. No matter how superior the Golf or the Escort may be ‘mechanically’ that is of no consequence if I find myself permanently uncomfortable in them’ (October 1983 issue, p. 19). Perhaps the person in question would act as a neoclassical consumer if the price of the Golf or the Escort were reduced so far as to compensate for any costs of relocating the steering column and driver’s seat.

Second: while visiting Perth, Western Australia, I am refused entry to a not-particularly-fancy bar ‘because’ I am ‘wearing a sweatshirt’ that bears the slogan ‘Theatre Royal: Scottish Opera’, despite being generally tidily presented. Obviously, my mistake is that I do not produce a large roll of notes and ask the doorman if I can see the manager. (Interestingly enough, I am not refused the possibility of mingling with the mink-coated Glasgow elite.
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![Diagram](image)

**Figure 9.2: Academic employment preferences: a behavioural view**

But suppose I rank student calibre above remuneration but not necessarily above research reputation. Once again, I will favour position B even if it actually offers insufficient remuneration (that is, even if my remuneration target lies some way to the right of the one shown in Figure 9.2). In this last case, I will be somewhat frustrated to be in position B, though less so than if I could only get position A. However, it is likely that I will attempt to console myself with arguments that deny the existence of a trade-off between student calibre and remuneration (see Steinbruner, 1974, pp. 106-7). One line of argument which could come to mind and not be ruled out of court is that, by occupying position B, I have obtained the best way of ensuring that I will meet my remuneration target, without making any compromises, in the long run, as many previous holders of such a post have become professors in universities with high-calibre students.

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when I turn up to see a performance by the Scottish Opera at the Theatre Royal and am clad in faded denims and an ‘animal liberation’ sweatshirt—though the subject of dress at the opera often produces some remarkably strong expressions of opinion on the letters page of Scottish Opera News.)

Third: a friend who is a strict vegetarian is eating out and discovers that her ‘vegetarian curry’ has chicken in it. She leaves it aside and refuses to pay. An argument ensues and the hostler threatens to call the police. Obviously, had she normally been planning to leave a large tip, she could have compensated herself for the inconvenience of eating meat by declining to leave a tip and not losing her temper.

Fourth: I know of a case where the husband of a wealthy hostler had an affair with one of the chambermaids and was in the space of a few months ‘reduced’ from driving a Daimler and generally living in style, to being a divorced, unemployed bartender but one who was happy with his new partner. Evidently, he could well have been a sound neoclassical consumer who had weighed up his chances of being caught, after forming subjective probabilities. And, had he offered better performances in respect of husbandly characteristics other than fidelity, he might not have been rejected by his wife ‘on the grounds of his adultery’. These are possibilities, sure enough, but not obviously ones that we should believe.

Two things may strike readers as they consider these examples. First, there can come a point when it looks as though attempts to rationalise some modes of behaviour into conformity with the principle of gross substitution do themselves appear to involve adherence to that principle ‘at all costs’. Secondly, it is by no means obvious that one needs to adduce information-processing problems as the reason why people choose in ways that are difficult to reconcile with the substitution idea. Certainly passion, like the pressure of a crisis, may cloud one’s ability to make overall implicational assessments, while a rule of admittance according to style of dress may be a cost-effective screen against ‘riff-raff’, especially if potential customers employ a similar means of assessing the atmosphere of social gathering places.

However, if we recall sections 6.2 and 6.6, we can note that many people may adhere to ‘principles’ even when they can count up the implicational costs of doing so: their construct systems are organised in ways that make them see some events as intrinsic to, or prerequisites for, the maintenance of certain images, even though these constricting channels of construction are their personal creations. To me, it is not obvious that driving a car intrinsically requires one to have a comfortable driving position—but then I am rather shorter than the Talbot Horizon enthusiast. However, like my vegetarian friend, I can see that an intrinsically human obligation is to avoid the killing of other species; I organise my life according to a different (but not completely different) code of ethics from the systems employed by my Christian acquaintances, who merrily devour animals and dress in leather because they have not yet had their eyes opened to the broader possible implications of the principle that ‘thou shalt not kill’. Anyone who is not completely schizophrenic may have some principles which on occasion cause her to disregard opportunity costs that others see as significant.

To see how other theorists might react to these comments about ‘principles’, we only have to go as far as the work of Elster (1984, pp. 126 7). In discussing lexicographic preferences, he considers how far they fit into orthodox economists’ views of ‘rational behaviour’ and of what constitutes ‘economic behaviour’. Elster juxtaposes Becker’s (1976, p. 8) claim that the economic approach to choice has a comprehensive range of applicability with the following passage from Borch (1968, p. 22), who argues that, in economics, it is a core assumption that:

some kind of ‘trade-off’ will always be possible. Formally we can express this by assuming the so-called axioms of Archimedean. This means in our example that if we have:

\[(x_1, y_1) \text{ preferred to } (x_2, y_2)\]

we can always reverse the preference by increasing \(y_2\) that is, there exists a \(y > y_2\) such that:

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This means that a loss of some units of one commodity can always be compensated by a gain of some units of another commodity or, to put it another way, everything has its price. It may be tempting to define economics as the science of things which have a price, in a very general sense. Questions of life and death and ethical principles have an absolute aversion to gambling would then be considered as belonging to the more general social sciences (emphasis in the original).

In this quotation from Borch we have a very clear statement
when I turn up to see a performance by the Scottish Opera at the Theatre Royal and am clad in faded denims and an ‘animal liberation’ sweatshirt—though the subject of dress at the opera often produces some remarkably strong expressions of opinion on the letters page of Scottish Opera News.

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we can always reverse the preference by increasing \(y_2\); that is, there exists a \(y > y_2\) such that:

\[(x_1, y) \text{ preferred to } (x_2, y_2)\]

This means that a loss of some units of one commodity can always be compensated by a gain of some units of another commodity or, to put it another way, everything has its price. It may be tempting to define economics as the science of things which have a price, in a very general sense. Questions of life and death and ethical principles like an absolute aversion to gambling would then be considered as belonging to the more general social sciences (emphasis in the original).

In this quotation from Borch we have a very clear statement
about the central importance of substitution in economics; phenomena that involve behaviour at variance with this notion are, in his way of thinking, not admissible as 'economic' phenomena.

In his own discussion, Elster comes down in favour of the view of Borch, on the philosophical ground that 'when the Archimedean criterion is not satisfied, we are dealing with goods or activities that are in a sense non-comparable and do not lend themselves to the economic approach'. One can, of course, construe the 'economic approach' to choice whichever way one's construct system will admit. My own view is that considerable confusion is liable to result if one insists on arguing that choices involving principles and priorities are 'not within the sphere of economics'. Suppose some buyers in a market are successfully applying compensatory choice heuristics and others are employing non-compensatory ones. From the Borch/Elster standpoint, it is only the behaviour of the former group that should be discussed by a person acting in the role of 'economist'. If policy makers had hired an economist in order to obtain advice on the possible impacts of particular policy options, I doubt if they would be impressed with a report which suggested psychologists and ethnographers would need to be hired for advice on the behaviour of those consumers who brought principles and priorities to bear on choices in the market.

9.6 FUTURE EMPIRICAL WORK

When people with different world-views disagree over how events should be construed, it is quite often the case that empirical work, still less an unsystematic 'appeal to the facts', fails to bring about a change in attitudes on either or both sides. Evidence must be admissible and different systems of thought will admit different kinds of evidence as acceptable. This seems to be so within 'scientific' disciplines, as well as in everyday life. If neo-classical economists cannot bear to face up to evidence that, according to others, refutes their analyses, they can, and probably will, 'carry on regardless' so long as their sheer strength of numbers can determine who gets appointed and what gets taught within the profession (see Feycrabend, 1975, and Lichner, 1983).

But before such evidence exists, they will insist that deviant theorists set about gathering it.

In section 7.7, I noted the possibility of trying to simulate via computer programs the use of contingent sets of choice heuristics. However, I then suggested that it might be more practicable to see how closely consumers approximated in their preferences to predictions derived from various individual heuristics. Here, I wish to consider how the latter kinds of predictions might be generated in relation to characteristic filtering procedures. I would suggest that the researcher might begin by using repertory grid technique to construct impressions of: (1) how subjects construed rival products on their agendas of possibilities, (2) subjects' moulds of tolerance (by asking them each to include a personally imagined 'just about completely adequate' product in their lists of elements), and (3) the areas of tensions where 'mould tightening' might take place in the event of a tie (by asking each subject to include a personally imagined 'ideal' product in her list of elements). To obtain evidence of 'mould-deepening' and/or 'mould-tightening', one might construct repertory grids at an early stage in a decision process, and again around the time of the actual choice: increased numbers of constructs would indicate 'deepening', while 'tightening' would manifest itself in a movement of constructions of 'adequacy' in the direction of the 'ideal'.

To uncover priorities (that orthodox theorists might try to see as importance 'weights'), one could ask subjects to rank their construct adequacy targets in the order in which they would be prepared to sacrifice the prospect of meeting them, if forced to do so—one should not ask them to list the order in which they would address the possibility of meeting their various targets, since they might well expect to employ 'short-cut/backtrack' procedures. Such rankings, along with the revealed moulds of tolerance and perceptions of rival products, would enable the researcher to predict individual subjects' preferences; these predictions could then be compared with rankings obtained from each subject by asking her which of the products on her agenda she would prefer, which one she would prefer if the first-preferred option were excluded, which one she would prefer if the first- and second-preferred options were both excluded, and so on.

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It would then be interesting to compare the predictive success
of this kind of methodology against results obtained by conventional methods for estimating compensatory choice models (see section 2.6). But I would ask researchers to bear in mind the remarks at the end of Chapter 7, before jumping to conclusions about the general validity of any particular model.

In situations where decision makers were facing up to rival self-imagined sequels to particular choices, one could use very much the same techniques to investigate the shapes of mounds of tolerance for uncertain prospects. Having elicited constructs, the researcher could ask the subject whether he was uncertain about how to rate the elements on each construct scale. Given an affirmative answer, the researcher could ask the subject to rate the elements in terms of a five-point potential surprise scale as well as on the (say, seven-point) uncertain construct scale. For each point on the construct scale, the subject could be asked how much of a prospect of surprise she would willingly tolerate (for desired outcomes) or would at least wish to expect (for counter-desired outcomes). It would then be evident which schemes might seem satisfactory gambles. Using a version of the ‘which would you prefer if X were impossible?’ technique, opportunity costs amongst rival sequels and rival action schemes could be elicited as a means for investigating procedures used for resolving conflicts when no gambles looked entirely satisfactory.

The results of such an investigation of the potential surprise concept could be compared with those from research aimed at testing orthodox views of hazardous choices. This would certainly be a novel line of research. The relative merits of possible means of conducting research to discriminate between rival theories of decision making under uncertainty were considered long ago in Roy’s (1954) contribution to a British Association symposium on Shackle’s original model. But a decade later, Cyert and March (1963, p. 46) noted that there was still an absence of empirical work on potential surprise. Twenty years after Cyert and March, Ford (1983, p. 187) could still lament the fact that:

Whilst there has been a vast quantity of empirical work surrounding the orthodox model in one form or another... there has been no such research carried out for the Shackle theory on similar topics. Indeed, there is still a dearth of empirical work on the Shackle theory in any context.

All Ford could point to was some limited use of Shackle’s analysis being made by Wray (1957), in her investigation of the women’s outerwear industry. (The pertinent part of her book is more easily available as Wray, 1956). Given this prolonged absence of empirical work on potential surprise, John Hey’s (1985) recent experimental study is something I heartily welcome even though Hey (p. 84) is driven to conclude that ‘the experiment casts doubt on both the conventional wisdom and on Professor Shackle’s position, though in my opinion the damage to the latter is the greater’. Hey does admit there are some limitations with his experimental methodology and makes some suggestions for improving it in subsequent experiments. Anyone tempted to do experimental work in this area will be well advised to consult his paper for inspiration. But they might also note Roy’s (1954, p. 78) warning that the laboratory may not be the appropriate place for attempting to assess rival theories of choice under uncertainty: it will usually be too expensive to construct a ‘brutal’ enough choice environment for participants to have an interest in carrying into the laboratory the same procedures that they would use to resolve the dilemmas of everyday life.

If we cannot place much faith in experimental test procedures for investigating choice under uncertainty, we appear to be left either with aggregative statistics, or with a case-study/protocol analysis methodology. Roy’s (1954, p. 80) case for questioning the former has a similar basis to my objections to ‘demand-side’ interpretations of hedonic regressions (see section 2.5), as well as anticipating the individuality corollary of Kelly’s theory of personality, for he emphasises that ‘much economic phenomena is to be explained by the fact that people believe different things about the future and by their attempts to do different things, whatever the similarities of their basic motives’. Such considerations explain my willingness to favour the inelegant and time-consuming methodology of face-to-face research, in which we must be prepared to make greater use of our own powers of judgement as we study real-life decision situations that force our subjects themselves to make judgements. Such an approach to empirical work may not appeal to the typical decision theorist (and the present analysis may help to explain its lack of appeal), but it is important that it should be undertaken. In the next and final chapter, it will be shown that my analysis offers distinctive policy implications of considerable importance for policy makers.
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