

**THE SIGNIFICANCE OF VISCERAL
PHENOMENA AND EMOTIONS
IN DECISION-MAKING IN
ECONOMIC ANALYSIS**

by

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1) Introduction

This paper is primarily a “tour d’horizon” (or at least part of the horizon!) which is also meant to serve as a critique of various propositions.

Intrusions of visceral factors and of emotions in decision theory have not been very satisfactorily dealt with by economists. The present paper attempts to rectify this shortcoming. The attempt was made difficult by what are referred to as essentially taxonomical issues that might at first sight seem to blur the boundary somewhat between visceral phenomena on the one hand and what are usually taken to be emotions on the other. Hopefully, the present paper will help to eliminate at least some of this blur.

2) Setting the Stage for an Examination of Visceral Phenomena

The stage has already been set for us by George Loewenstein of Carnegie Mellon University whose scholarly endeavours in this area – and other matters – are to be explored in the present paper. Loewenstein’s contributions have surely placed him in a unique position among his peers in the profession. At any rate, I can think of no better way to set the stage for a close look at the role of visceral factors in decision theory in economics than to quote in extenso and verbatim from Loewenstein:

“The decision-making paradigm, as it has developed, is the product of a marriage

between cognitive psychology and economics. From economics, decision theory inherited, or was socialized into, the language of preferences and beliefs and the religion of utility maximization that provides a unitary perspective for understanding all behavior. From cognitive psychology, decision theory inherited its descriptive focus, concern with process, and many specific theoretical insights. Decision theory is thus the brilliant child of equally brilliant parents. With all its cleverness, however, decision theory is somewhat crippled emotionally, and thus detached from the emotional and visceral richness of life.”

“Contrary to the central assumption of decision theory, not all behavior is volitional, and very likely most of it is not...My argument is that much behavior is non-volitional or only partly volitional – even in situations characterized by substantial deliberation.” (Loewenstein, 1996, p. 289.)

3) **A Miscellany of Observations Concerning the Presence of Visceral Factors in Decision-making in Economics.**

The referent for “visceral” in the context of decision-making in economic analysis is a mode, or modes, of thinking, or more felicitously, of reacting to a variety of stimuli – in the extreme, reacting by what may simply be termed “gut reaction” – rather than by resort to intellect. More generally, though, visceral factors or states of mind are characterized by intuition or instinct rather than by thought. The type of visceral factor that features most prominently in the literature is usually (but not always or necessarily) a “negative” phenomenon such as anger or fear.

Granted that the defining property is resort to instinct or intuition rather than to a more

cerebral process, visceral factors can presumably also include “positive” phenomena or states such as love or joy. Whether the visceral factors are “negative” (which they usually are) or “positive,” the reactive modes in question have decidedly **not** found their way into “standard” economics textbooks. A succinct statement of what could become an issue here might be this: “when behavior is driven by visceral factors it stretches the meaning of the term to say that people are making ‘decisions’.” (Loewenstein, 2000, p. 428.) On the other hand, to be devil’s advocate, one might be inclined to ask, “Is it really?” That is, is such behaviour invariably at odds with (constrained) utility maximization? This query, together with a suggested answer, will reappear below.

The intrusion of visceral factors in decision-making may well diminish the effectiveness of the decision-making apparatus in a variety of contexts. Furthermore, even where the decision maker is cognizant of the intrusion of visceral factors and aware of their potentially undesirable influence, such awareness may not prove to be a sufficient safeguard. Indeed, “out of control,” words which appear in the title of a seminal paper by George Loewenstein on this subject, seem to say it all. At any rate, they provide an apt description of the behaviour (predicament!) of those people who **know** what they are doing when they engage in activities that may be inimical to their economic well-being. It was doubtless a point of view like this that drew comments from Loewenstein to the effect that what currently passes muster as decision theory is quite a propos for “cool” or “dispassionate” settings but, at the same time can run into insurmountable problems (for decision theory, that is) at the ‘hot’ end of the spectrum of alternative intensities of visceral factors (cp. Loewenstein, 1996, p. 274). This being so, then a good deal of contemporary decision theory is ill-equipped to provide any understanding of the kind of behaviour which may be deemed “economic” because of the phenomena with which it deals, but is at the same time to be considered (as Loewenstein put it)

“non-volitional or...only partly volitional” (Loewenstein, 1996, p.289). Furthermore, because we seem to be unable “to recall visceral sensations as we can recall other types of information, their power over our behavior is difficult to make sense of retrospectively or anticipate prospectively.” (Loewenstein, 1996, p. 284.)

4) **Visceral Phenomena: More on the Problem Set.**

It will perhaps be useful to draw a distinction between (1), the appearance of visceral phenomena which, it may be argued, are readily reconcilable with the dicta of utility maximization; and (2), intrusions of phenomena termed visceral that may simply be associated with **faulty analysis**. Obviously to some extent, (1) and (2) have to be considered intersecting sets.

As to (1), Loewenstein points out that understanding “discrepancies between behavior and perceived self-interest has been one of the major, but largely untackled challenges confronting decision theory from its infancy to the present. People often act against their self-interest in full knowledge that they are doing so.” (Loewenstein, 1996, p 272.)

However, there **seems** to be a strong intimation here that this gap between behaviour and self-interest is a **mystery**. If so, the mystery can be readily dispelled, as can the anomaly upon which it is based, as soon as an antique but sturdy bundle of notions is brought into the picture. We refer of course to the set of notions - and set of behaviours - which can be brought under the rubric, utility maximization. Of course, and at the risk of descending into excessively abstract philosophical speculation, it may be argued (without courting contradiction from economists!) that whatever is reconcilable with utility maximization is **ex definitione** reconcilable with “self-interest.” (Instances of physically and/or psychologically addictive behavior are of course not to be brought within the

purview of this contention.)

But what about (2), or instances of the appearance of visceral factors that are either part and parcel of, or have the consequence of, **faulty analysis**? Here, the stage may be set in the way that it was by George Akerlof, at the very beginning of his 1990 Ely Lecture (“Procrastination and Obedience”) to the American Economic Association: “...in my examples, decision makers are quite close to the intelligent, well-informed individuals usually assumed in economic analysis, but cumulatively make wrong decisions that do not occur in standard textbook economics.” (Akerlof, 1991, p.1.) These are far less controversial and perhaps less interesting, too, than what is to be found in (1).

An example of (2) is provided by the intrusion of visceral phenomena that result in either insufficient discounting or excessive discounting of prospective risk or future happenings, where the decision maker is under the sway of either preternatural euphoria or preternatural fear. Or, to make a more far-reaching observation here: as Loewenstein has observed, “....people tend to underestimate the impact of visceral factors on their own current and future behavior.” (Loewenstein, 2000, p. 428.)

Yet another instance of (2) may be said to occur where there is an adverse impact upon bargaining behaviour. Specifically, we have in mind the appearance of excessive or unwarranted **fear** among those engaged in **collective** bargaining.

5) **The Role of Visceral Phenomena in the Introduction of “Projection Bias.”**

This is really an exercise in “flogging the obvious.” The “projection bias” which is at issue here can be discovered in forecasting future utility. Thus as Loewenstein, O’Donoghue and Rabin (1999) have pointed out, people planning winter vacations may have an incorrect “fix” on what may

turn out to be the excessive “tropicality” of a chosen winter vacation site, which results in a diminution of utility. In short, previous experiences of coldness and heat may not turn out to be very apt guides in making decisions about what is optimal within the relevant spectrum of choices here.

6) **Attempting to Work Out an Appropriate Taxonomy for Both Visceral Phenomena and “Emotions”**

Citing Loewenstein (1996), Elster writes that “emotions differ from other ‘visceral factors’ such as pain, hunger and drowsiness in that they are triggered by beliefs” (Elster, 1998, p 49, emphasis added). “Although some emotions,” Elster continues, “may be triggered by sensory signals rather than cognitives [...] and pain as well as hunger may be influenced by beliefs, the contrast remains broadly valid.” (Elster, ibid.) Then attempting to bring somewhat more precision to bear upon Loewenstein’s observation concerning “emotions being different from other visceral factors,” Elster offers the opinion that “emotions also differ from other visceral factors in that they have an intentional object: they are about something. The object of an emotion may be a person [envy]... or a state of affairs. Usually, the object of an emotion is closely tied to its cognitive antecedent” (ibid., emphasis in original). Thus, the object of anger may be a person (or presumably also an institution, including a business firm) whom we believe has “hurt us” in some way. But, in some cases, the object may be indeterminate (ibid.). However, the “taxonomical” issue here is somewhat clouded by Elster, with his reference to Loewenstein’s opinion that emotions differ from “other visceral factors.” Is “visceral” here being used in a generic sense that includes “emotions”? If so, this impression is reinforced by Elster when he (Elster) writes of emotions differing from other visceral factors. In short, the “generic” status of “visceral” remains unclarified here. And, the clouds are not dispelled

by Loewenstein when he writes that “visceral factors refer to a wide range of negative emotions (e.g., anger, fear)...” (Loewenstein, 2000, p. 426, emphasis added). So, is either one of these sets of phenomena – visceral factors and emotions – generic with respect to the other? If so, this should not be. To return to the defining property of visceral phenomena: such phenomena, recall, are characterized by instinct rather than resort to thought. In fact, to continue with this description of the relevant defining property, an even stronger statement could be made: what are normally considered to be visceral factors are surely almost wholly untouched by any resort to intellect or thought. On the other hand, it could not be argued that emotions are invariably wholly untouched by thought.

In short, neither “visceral factor” nor “emotion” should be used in a generic sense which would include the other. So that if emotion is to be used in a generic sense, or is to be regarded as a set, visceral phenomena should have no place in that set.

Jon Elster introduces his paper on “Emotions in Economic Theory” in the March, 1998, issue of the Journal of Economic Literature with an observation that, in the same issue of the journal, Mathew Rabin’s survey article on Psychology and Economics “contains virtually no reference to emotions” and that furthermore “this neglect is typical” (Elster, 1998, p. 47). Continuing, Elster writes that “although economists occasionally use emotion terms such as envy or guilt, the referents of these words usually have little to do with emotions as philosophers and psychologists...have understood them. And where a handful of economists have in fact appealed to emotions in [the] more traditional sense, it is always to address specific issues rather than to suggest a general way of incorporating emotions into the tool kit of economics.” (Elster, ibid.)

What, though, are emotions? Elster reports that his investigations into this matter show “a

large degree of consensus in the scholarly literature concerning emotions. In fact, Elster reports, there is “quite good agreement on what emotions are” (Elster, 1998, p. 48).

Then, putting his inventory of emotions on display, Elster writes that “among the states that unambiguously qualify as emotions, we may first list various ‘social’ emotions” (*ibid.*, emphasis added). These, Elster reports, include “anger, hatred, guilt, shame, pridefulness, admiration, and liking” (*ibid.*). Next, there are various “counterfactual emotions”. These are “generated by thought of what might have happened but didn’t (Elster, *ibid.*, emphasis added). Such emotions include regret, rejoicing, disappointment, elation. A third category of emotions consists of those which are generated by thinking about “what may happen (Elster, *ibid.*, emphasis added). Here, one might instance fear and hope. A fourth set of emotions can be brought on by the occurrence of good and bad happenings, and include joy and grief. Fifth, there is the set of emotions that are occasioned by thoughts concerning the possessions of others. Included here are, not surprisingly, envy, malice, indignation and jealousy. Then, there are those emotions which do not really belong to any of the categories just described. Elster’s list of those emotions that do not seem to fit – at least in an obvious way – into any of these categories include contempt, disgust and romantic love. To round out this account of Elster’s taxonomy of emotions, there is the set that could be considered “borderline” cases; these are emotions which are amenable to innumerable variations and/or nuances. Here, one might instance sexual desire, enjoyment, worry, frustration (Elster, *ibid.*, p. 48, emphasis added). Clearly, many of these sets – whether or not they are borderline – may be considered intersecting sets.

7) **Avoiding an Encounter with the “Fallacy of Misplaced Concreteness”**

In this case, the “encounter” is that which has to do with an extremely sharply-drawn distinction between what is considered to be “rational” behaviour on the one hand, and what is regarded as “irrational” behaviour on the other. What is up front here is what might be thought by some to be the excessive sharpness of the “rational”/“irrational” distinction – so sharp as to make the terms rational and irrational “definition-begging”, and consequently render difficult if not impossible efforts to work out precise definitions and meaningful descriptions.

Admittedly, what is more or less of a “continuum” problem may also dog the efforts of those who wish to develop both precise definitions and accurate descriptions of visceral phenomena and emotions. However, unlike the rational/irrational distinction, “shadings” and nuances may make “legitimate” appearances in investigations of visceral phenomena and emotions: that is, appearances that do not nullify efforts to define and describe.

But the principal point to be made here is this. Dwelling upon “rational” and “irrational” cannot possibly shed any light upon the nature of visceral phenomena and emotions, or suggest how such phenomena should be treated within the ambit of economic analysis. (Although its universe of discourse is really quite outside that of the present paper, Gary Becker’s “Irrational Behavior and Economic Theory” might be consulted. This paper which was republished in Becker’s The Economic Approach to Human Behavior, 1976, originally appeared in the Journal of Political Economy, Feb., 1962).

8) **Negative Visceral Phenomena, Emotions, and “Planned” Forgetfulness**

Since “negative” visceral phenomena and certain emotions are presumably sources of pain

or discomfort – phenomena to be avoided, if at all possible – there may be a conscious effort to underestimate the influence of such phenomena. While the deleterious effect of “negative visceral factors” and some of the emotions may well be recognized by individuals and their negative effect upon the efficacy of one’s analytical apparatus acknowledged, recognition of the latter may be compromised by a conscious effort to forget. One presumably tries to suppress memories of pain and its sources. (Loewenstein, 1996, Table I, p. 278; and Loewenstein, May 2000, p. 428.)

9) Visceral Phenomena, Emotions and Tastes: What are the Relationships?

Taking tastes to refer to the relative desirability of various goods and activities, then, clearly, visceral phenomena and emotions may be said to impact upon tastes. The relationships between visceral phenomena and tastes, and between emotions and tastes, obviously spring from this impact. Furthermore, regarding a set of tastes as being in fact largely a matter of the relative desirability of various goods, etc., then the formation of tastes as well as changes in the latter becomes a question of all the relevant “external” circumstances and changes in these circumstances. The same may of course be said of the effects of external phenomena upon visceral factors as well as upon tastes. But there the intersection between visceral factors and tastes (leaving emotions out of the picture) would seem to terminate. Why? The intersection or relationship becomes a non-starter on the level of concept, at least, for the reason that, as Loewenstein pointed out, “visceral factors change more rapidly than tastes.” (Loewenstein, *ibid.*) “Tastes also change, but tend to be stable in the short run” (*ibid.*). At this juncture in his comparison of visceral phenomena and tastes, Loewenstein defers to a paper on “neurophysiological mechanisms.” I assume that most readers of this paper will (like myself) be somewhat unfamiliar with such mechanisms (if this is not the case, I apologise). Tastes

and visceral factors draw upon quite different neuropsychological mechanisms. For further elucidation here, Loewenstein cites K.H. Pribram's "neurobehavioral analysis" of emotions (Pribram, 1984). I reproduce verbatim, the relevant quotation from Pribram's essay that Loewenstein provides: "the core of the brain...uses chemical regulations to control body functions. The configuration of concentrations of these chemicals, although fluctuating around some set point, is sufficiently stable over time to constitute steady "states." These states are experienced as hunger, thirst, sleepiness, elation, depression, effort and so on." (Pribram, 1984). Then, continuing with an exegesis on tastes and visceral phenomena, Loewenstein reports that the common neurochemical basis of tastes and visceral factors can provide an explanation of why it is that so many behavioral disorders that appear to be associated with visceral phenomena – for example, overeating, impulsive shopping, a great many phobias, and also drug addictions – seem to be treatable by a single drug, Fluoxetine (Loewenstein, 1996, p. 273). Furthermore, and continuing with this comparison of tastes and visceral phenomena, Loewenstein reports that it appears that – this in marked contrast to visceral factors – tastes consist of information that has been stored in memory: specifically, as was indicated above, information about the relative desirability of various goods and activities.

10) Striking a "favourable" note on behalf of certain "negative" visceral phenomena.

"Negative" visceral factors are not to be viewed as having solely harmful consequences for the individual. In fact, one can argue, as Loewenstein has (Loewenstein, 2000, p. 427), that visceral factors, even those with an allegedly negative aspect, can have important favorable consequences. Here, one can cite the case of a visceral factor like hunger leading to avoidance of harmful self-imposed excessive reduction of food intake. Then, there is the matter of the absence of pain

“receptors” leading to indulgence in various activities that are really tantamount to self-mutilation. Appropriate pain receptors can therefore presumably prevent such indulgence.

11) Conclusions and Afterthoughts:

There does not as yet exist a body of literature or a set of interests within the profession that centres upon the intrusion of visceral phenomena – fear, anger and the like – in those decision-making contexts that are the stock in trade of economists. Accepting Elster’s position here, the same may be said of the intrusion of emotions in these decision-making contexts.

Decision makers who appear to be driven by visceral phenomena such as fear, hatred, or whatever, to an extent such that the effectiveness of their decision-making apparatus is impaired, with the further consequence that activities are embarked upon that are quite inimical to the economic well-being of the decision maker and his firm, do not seem to appear on any economist’s research agenda. This may seem passing strange, because surely we would expect at the very least a mild interest in the problem of why it is that examples of this discrepancy between behaviour and perceived self-interest is a case of neglect.

There appears to be an unstated but strong intimation here that this gap between behaviour and self-interest is a mystery. The present paper had as one of its objectives, a demonstration of the way in which this mystery can be dispelled.

Just as importantly, there was a recognition of the intrusion of visceral factors in decision-making having, in some instances as a possible consequence or be the result of, simply faulty analysis (examples: egregiously inappropriate treatment of discounting prospective risk and other “future happenings”).

Then, some attention was given to the (not so curious) fact that since “negative” visceral factors and certain emotions could be sources of pain or discomfort, investigators might encounter instances of what was described in the paper as “planned” forgetfulness.

With respect to what little treatment there has been, in the literature, of visceral phenomena, mention was made of the noticeable proneness to treat these as usually being negative phenomena. However, care was taken in the paper to point out that visceral factors can also include examples of “positive” visceral factors such as love or joy; also, care was taken to point out that even “negative” visceral factors can have not unimportant favourable consequences.

Visceral phenomena and emotions were both dealt with in this paper. An important distinction, though, was drawn between these two. Visceral phenomena appear to be unvariably wholly untouched by any thought process. This, however, cannot be said of emotions.

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