

Emotional Decisions - The Induction-of-Intrinsic-Desires Theory

Christoph Lumer

University of Siena, Italy

Università di Siena
Dipartimento di Filosofia
Via Roma 45
I-53100 Siena
Italy

E-Mail: lumer@unisi.it

Homepage: www.unisi.it/ricerca/dip/fil_sc_soc/lumer.htm

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Abstract: (1) Emotions influence decisions in various ways. In particular, they can induce new intrinsic desires. This mechanism is the topic of this paper. (2) After briefly discussing some rival approaches a new theory of such emotional decisions is presented. (3) The general framework into which this theory is integrated is an expectancy-valence or decision-theoretic model of decision, however with a strict distinction between intrinsic and other desires. (4) The specific part of the theory then explains emotional decisions by non-hedonic emotion-induced intrinsic desires that grow and wane with the respective emotion, e.g. when in rage the desire to destroy or hurt the ‘aggressor’. A general approach to the content of these desires is provided, namely that they take up the values inherent in specific satisfying emotions coupled with the present emotion. (5) Finally, some theoretical consequences and advantages of this theory are shown.

1. Introduction: Collocating the Approach to Be Presented

There are several ways how emotions or feelings in general can influence decisions; among the most important are the following [cf. Rottenstreich & Shu 2004; Zeelenberg et al. 2008; Weber & Lindemann 2008]:

1. In a first group of mechanisms the emotion precedes the deliberation:

1.1. The emotion or feeling may induce a specific emotion-related aim or desire; e.g. if we feel compassion with someone we may be inclined to help him, without aiming at personal advantages for ourselves.

1.2. A mood or emotion may alter our subjective probabilities; if we are quite happy we may be induced to believe that the world is on our side and hence that certain aspired events will likely occur, where the likelihood is higher than the one we would have expected without the emotion.

1.3. The emotion or mood may change our risk behavior: in good moods we tend to underrate risk, and in bad moods we tend to overrate risks – in part this may already be a consequence of the second effect mentioned, but only in part.

2. In the second group of mechanisms the emotion or feeling arises during the deliberation.

2.1. In such a case we may use our emotional feeling about a certain option as a heuristic for the value of this option (affect heuristics); if, for example, we inspect an apartment as a possible candidate for rental a good emotional state during the inspection may be taken as a heuristic that this apartment is attractive as compared to other apartments.

2.2. The emotion may arise from thinking about a certain consequence of an option and thus stress the respective importance of this consequence (Damasio's emotional markers); e.g, thinking of the possibility of a certain kind of accident that may occur as a consequence of one of our options may horrify us so that we become very careful in our planning to avoid this possible negative effect.

2.3. The decision process itself may lead to certain feelings which influence the process itself, e.g. difficult decisions may lead to avoidance behaviour; or nervous unrest about the decision may lead to an immediate choice of the last considered option.

3. Finally, emotions very often have a final(istic) "influence" on our decisions: they are the aim of our decisions.

All these mechanisms exist, and they do not exclude each other.

The topic of this paper is the very first mechanism mentioned: emotions and feelings in general often induce aims or desires, which even may lead to open the deliberation in the first place for realising this aim or desire. The induced aim or desire is not simply *triggered* by the emotion; but its specific content is determined by the emotion's content. Fear e.g. may induce a particular search for security; rage may induce the aim to hurt or kill the person one is furious with; sympathy may induce the aim to help the other person. In addition, the content of the induced aim or desire may completely depend on the inducing emotion in such a way that a desire or aim with this content would be impossible without the respective emotion. Emotions or feelings inducing aims or desires is the most specific way how emotions causally influence decisions, namely because they determine the action's content so specifically.

The aim of this paper is to sketch a general theory of emotion induced desires, which resolves problems of some existing approaches to the phenomenon and provides a good explanation of acts committed in the heat of the moment, in particular elaborating the aims and desires underlying such actions (the induction-of-intrinsic-desires theory), as well as some reflections on the origin and value of this mechanism.

2. Some Approaches to Emotional Decisions

Before presenting the induction-of-intrinsic-desires theory, some words about existing approaches to emotional decisions shall elucidate the problems and lacunae the theory has to respond to. Several approaches for explaining emotional decisions have been provided in the literature. First, there are some approaches that see emotions as special kinds of motivations [Frijda 1986, 460; 466;

469; 479; Izard 1977; Lang 1988, 186]. However, this is simply ontologically impossible; emotions can have motivational influence and force – whose content and extent then have to be determined – but they *are* not motives. Then there are more sophisticated approaches like those of Heckhausen or of Zeelenberg and others. Heckhausen assumes that emotions are a rudimentary motivational system with emotionally induced motives leading directly to decisions and actions without any expectancy-value elaboration [Heckhausen 1989, 71-76, esp. 74]. Problems with this approach are, first, that Heckhausen did not elaborate an exhaustive and specific list of the motives induced and, *a fortiori*, he did not explain such a list. Second, the assumption that there are two motivational mechanisms does not explain how the two types of motives can be combined and contribute to one and the same decision – as they however do, for example when someone is acting out of revenge but carefully chooses his action as to avoid damages to himself.

Zeelenberg and others, instead, propose that emotions lead to specific *aims* [Zeelenberg et al. 2008, 183], where they see the necessity and desirability of having a precise list of these aims, yet without providing it. This approach fares much better with respect to the second of Heckhausen's problems because it makes it possible to combine emotional and calm components into one decision; and it is quite close to my own. Therefore, I want to stress some critical points about it for motivating my own approach.

One main target of my critique is that in this approach *aims* or *goals* are the specific elements induced by emotions. Aims or, better, goal intentions are opposed to executive intentions. *Executive intentions* are 1. self-binding commitments to realise a certain behavior, 2. where the action is subjectively described in a way understandable to the executive system (e.g. to write a specific word, to walk to the fridge), and 3. which can cause the respective behavior via one's executive system. *Aim intentions*, on the other hand, are 1. self-binding commitments to realise a certain behavior as well, 2. however the behavior to be executed is described by reference to a desired end (e.g. to have something fresh to drink, to pass an exam) and, therefore, is not understandable for the subject's executive system, and 3. their function is to cause a deliberation during which an executive intention whose realisation leads to the desired end is formed.

What is particularly important here is that goal intentions are already self-binding commitments. That emotions – regularly, always? – induce goal intentions is a strong hypothesis because, usually, forming a goal intention is already the result of some deliberation during which several options and their most important consequences are considered and weighted against each other. If emotions induced aims this would imply that the deliberation and its weighting is skipped. I think this hypothesis is too strong. 1. Most of our emotions are weak. If they all induced some goal we would not have the time to do anything else than react to emotions. To avoid this probably false consequence one could introduce a cut-off mechanism into the model, i.e. a threshold of emotional intensity below which emotions would not influence our decision. However, not even this is very convincing. 2. Strong-willed people often do not follow the indications given by their emotions. However, if the emotions induce already aims this is hardly possible. 3. Even not so strong-willed person have their other desires and aims, which often make them decide against the emotion-induced indication. So there must be a way to include these desires and aims even in case

of emotion-induced inclinations. 4. Goal intentions are not specified up to entailing an executable action description but, nonetheless, they usually contain already rather specific aims; the emotional system alone, however, does not have the information to make such specific choices. Being e.g. in rage, the ultimately resulting aim may vary from killing the person one is furious with to making a smug observation about that person to one's friends; inventing such (medium-specified) options and selecting from this spectrum probably is beyond the emotional system's capacities.

I think it is true that emotions influence our decisions quite specifically. But the upshot of the criticisms just raised is that the assumed place of influence is not the *aim* or *goal intention* but one or two steps before them, so that more flexible reactions to the emotion and its indications are possible.

3. Preliminaries to the Induction-of-Intrinsic-Desires Hypothesis

The hypotheses to be proposed in this paper imply that the place where emotions bring in their indications for decisions are desires, or more specifically, *intrinsic desires*. I have developed these hypotheses in earlier publications as part of a more embracing theory about the content of intrinsic desires [Lumer <2000> 2009, 477-493; Lumer 1997]. Here I want to repropose and expand these hypotheses to a theory of emotional decisions.

The approach presupposes some expectancy-valence or desire-belief or decision-theoretic model of decision. This is a theory according to which actions are chosen on the basis of information about various possible consequences of several options, the (conditional) probabilities of these consequences and evaluations of these consequences and the options; all these elements are integrated to build an overall evaluation of the options; finally the best option is chosen. Which form of expectancy-valence theory is the empirically right one (e.g. subjective expected utility theory [e.g. Davidson & Suppes <1957> 1977] or prospect theory [Tversky & Kahneman 1992] etc.) is not important to our present concern.¹ However, I will stick to a more action philosophical terminology. Hence the psychological "valences" here will be called "desires" or "motivational judgements".

Desires and motivational value judgements may be intrinsic, extrinsic, total or prospect desires. In an *intrinsic desire* a certain state of affairs is valued in a certain way for its own sake, not for its consequences or other states of affairs implied by it. If subjects are asked why they (intrinsically) value this state of affairs in a certain way, they cannot give any further answer: 'There is no further reason or consequence why this is good (or bad); it is simply good, good in itself.' All the other desires are dependent on intrinsic desires. Someone *desires* something *p* *extrinsically* in some respect if he desires it in this respect because he thinks that *p* will have a specific intrinsically desirable consequence *c*. A person *desires* something *p* *totally* to a certain degree, if he thinks that the intrinsic desirability of *p* and all its extrinsic desirabilities add up to that degree. This does not imply that people valuing something as *totally* good in that moment must be

¹ I have developed my own approach in: Lumer 2005.

aware of the intrinsic desires behind that value judgement. But on reflection they may work out their reasons. Finally, someone *desires* an object *p prospectively* (or has a *prospective desire* for *p*) if he integrates the intrinsic or extrinsic values of the consequences plus the information about the probability of these consequences into a comprehensive value judgment, which makes use of the probabilistic information. By convention, I will call also the total desires (impure) prospect desires. Most aims people are consciously striving for (rushing to work, having breakfast, washing their hands, earning money etc.) are *not* intrinsically desired. Instead such aims are rather directly accessible by well known actions, and they are held to have a certain positive *prospect* desirability because their realisation does ensure some intrinsic ends. The above introduced criterion for intrinsic desires was that the respective subject desires the object for its own sake and cannot give any reason why he does so. Now people may simply forget these reasons – because they are too obvious –; in this way what originally was a prospect desire turns into an intrinsic desire. For our purposes only originally intrinsic desires are of interest and will be discussed in the following. However, I will mostly omit the qualification “original”.

The just introduced usage of “intrinsic” should not be confused with the psychological use of “intrinsic motivation”, whose most common meaning seems to be: autotelic motivation, i.e. that someone is doing something with a motivation not aiming beyond the immediate situation: playing, humming, working with flow. However, according to the philosophical meaning, these activities are not intrinsically desired; what is intrinsically desired instead are the immediate consequences of these activities: the enjoyment during playing or working with flow.

What are the contents of intrinsic desires in the philosophical sense, i.e. which things are desired for their own sake? *Strong psychological hedonism* says that only the respective subject’s own feelings, i.e. bodily feelings, emotions or moods, are intrinsically desired. Many authors (beginning with Plato [Philebus] and continuing e.g. with Joseph Butler [1726–1896] and G. E. Moore [1912–1966, ch. 7] as famous modern followers) have contested strong psychological hedonism and claimed that other things can also be intrinsically desired. But usually they do not criticise that we desire our own feelings according to their pleasantness; so they accept weak psychological hedonism. (Hedonic desires are very stable: we always desire our pleasant feelings *intrinsically* positively, independently of the time of their occurrence. So today, I can desire e.g. not to have unpleasant feelings of hunger *tomorrow* and therefore today buy some food for tomorrow; tomorrow my respective desire has not changed, I am glad to have bought the food. This stability over time is a very important basis for rational planning.) The hypotheses to be presented now imply that emotion-induced intrinsic desires have a non-hedonic content. So the theory implies that strong hedonism is false; but it is compatible with weak psychological hedonism.

4. The Model of Feeling-Induced Desires

Having presented the preliminaries, now the topic of emotional desires can be resumed. A paradigm case may be this: A little girl of about three who has been provoked by her elder brother (who is around ten years old), and being really furious with him grabs his arm and bites his

forearm, directly above his wristwatch with all her strength. Surely our girl knows what she is doing – biting her brother’s forearm – and she will have known in advance that this action will “damage” or “destroy” the aggressor, perhaps even that it will injure him and that he will suffer. And she has chosen “carefully” the point where to bite him: in a place where her mouth has enough grip, and not on the wristwatch which would hurt her. Damaging or destroying the aggressor seems to be the (desired) aim of that action, and there seems to be no other aim behind that; so she desires intrinsically to damage the aggressor. This is a non-hedonic intrinsic desire. Afterwards the girl will be satisfied in a crude moral way. But it seems to be too far-fetched to suppose that such a little girl already knows about such hedonic consequences of her acting out of rage; at least when she acts out of rage the first time she cannot have the empirical knowledge about these hedonic consequences, but must acquire this knowledge and perhaps some time, some years later may even have the intrinsic hedonic aim of being morally satisfied.

Such desires here are called “feeling-induced” or in this case: “emotion-induced”. What is the general mechanism behind feeling-induced desires? (Table 1 summarises the various steps now to be explained.)

Phase I: first emotion: In the first phase an emotion occurs. Emotions themselves typically – but not always ² – arise out of some *affective* valuation of a situation or thought: The subject considers some situation or has some thought and classifies this in a specific way, e.g. – in case of what later will develop to be pride – as proof of his own strength or – in case of developing into rage – as an (unjustified) aggression by someone against himself (with the other neither being too strong nor too insignificant). This classification is implicitly a valuation, i.e. the classificatory attributes are meant to be positive or negative attributes (cf. table 1, steps 1-2).

The next step is that the affective valuation causes the core of the appertaining emotion, i.e. its phenomenal, feeling part, e.g. pride or rage, with its hedonic component. The content of the affective valuation is the propositional content of the emotion (cf. table 1, step 3): in the examples, the subject will be proud of his strength, or furious at the aggressor and his aggression. The affective evaluation can also cause bodily phenomena, like accelerated heartbeat, blushing, upset stomach, which may be subjectively felt in addition to the primary emotional feeling (cf. table 1, step 4).

Table 1: Succession of events belonging to emotion-induced desires

The table lists a complete sequence from the first emotion to the accompanying emotion. This sequence may be interrupted after nearly every step.	
<i>I. First emotion e_1</i> [*]	
1.	Thoughts or consideration of a situation
2.	Affective valuation of that thought or situation (i.e. classification as being of a certain (positive or negative) type F_1)
3.	Emotion e_1 (i.e. emotional feelings)
(4.	Accompanying bodily phenomena)

² Exceptions are e.g. fear induced by unexpected loss of ground or quickly approaching big objects.

<i>II. Emotion-induced desire and action</i>	
5.	Consideration of some action a and of its consequences
6.	Classification of one of the consequences c as F_2 (F_2 being the affective value criterion of the satisfying emotion type E_2 belonging to e_1 , qua E_1)
7.	Emotion-induced desire, i.e. intrinsic motivational appraisal of the consequence's c being F_2 (as positive according to the criterion of emotion type E_2 , with the absolute value being proportional to the intensity of emotion e_1)
8.	Total appraisal of action a as being optimum
9.	Action a
10.	Occurring of consequence c
<i>III. Satisfying Emotion e_2</i>	
11.	Perception of c
12.	Affective valuation of c as being F_2 (and, therefore, being positive)
13.	Emotion e_2
(14.	Accompanying bodily phenomena)
* Capital letters here denote types or qualities, lower case letters denote tokens or individuals	

Phase II: emotion-induced desire and action: Every type of emotion has its specific affective valuation like pride and rage (cf. above and table 1, step 2), e.g. fear rests on the classification and valuation that something rather harmful probably will happen [cf. Solomon <1976> 1993, 220-310]. Such classifications and valuations are not hedonic; but they are only *affective* in the sense that they cause certain emotions; they are *not* motivational, i.e. influencing (at least somewhat) our decisions. So this is not yet the non-hedonic intrinsic motivational desirability function we are looking for. However, every type of emotion is linked with another, satisfying type of emotion in the way that tokens of the first emotion seem to aim at tokens of this second emotion. Rage has (moral) satisfaction as its satisfying companion, happiness has attachment as its satisfying companion, fear has relief as its satisfying companion etc. – see table 2. This sort of companionship that every emotion is aiming at another emotion is not ordered in a circular way but points to ultimate emotions having themselves as their satisfying companion, e.g. aesthetic pleasure aims at further aesthetic pleasure, a feeling of power aims at more feelings of power, a feeling of security at more feelings of security, satisfaction at more satisfaction, positive self-esteem at higher positive self-esteem, positive sympathy at more positive sympathy. Such ultimate emotions are always some form of satisfaction.

This interrelation, in particular the nonhedonic *motivational* and originally intrinsic valuation, can be described somewhat more precisely in the following hypothesis:

Law of emotion-induced desires:

1. If someone has a certain emotion e_1 (of type E_1) and
2. during his emotional arousal classifies some consequence c of a potential action a of himself as F_2 and
3. F_2 is the classificatory attribute of the (positive) *affective* valuations of the satisfying emotion type E_2 belonging to E_1 then
4. the state of affairs that c is F_2 is originally intrinsically (positively) desired proportional to the strength of the emotion e_1 . (Cf. table 1, steps 5-7.)

Consider our little girl: The girl is furious with her brother (emotion e_1 ; cf. table 1, steps 1-4); the satisfying accompanying emotion type is (moral) satisfaction (E_2); and the affective valuation causing this (moral) satisfaction rests on classifying that some villain or aggressor has gotten his just punishment or, a bit more primitively, is damaged or destroyed (F_2); now the girl considers the possibility that one of her actions will have the consequence that the brother will be hurt (c), which is classified as damaging the aggressor (F_2 ; cf. table 1, steps 5-6); this possible consequence then is motivationally (positively) intrinsically desired (cf. table 1, step 7); and the strength of that desire corresponds to the intensity of our girl's rage.

Table 2: Emotions and their satisfying counterparts³

first emotion E_1	satisfying emotion E_2	value quality F_2 (core of induced intrinsic desire)
admiration	positive self-esteem	I am valuable (by being near the admired object)
aesthetic pleasure	further aesthetic pleasure / positive sympathy	others are enjoying the same aesthetic pleasure
anger	gratification / satisfaction	cause destroyed, punished / just situation restored
attachment	more attachment / positive sympathy	we are close(r) to each other / others are well off
contempt	feeling of security	safety from the despised being
curiosity	satisfaction	things (new knowledge) are as I have desired them
depression	joy, happiness	desire (unexpectedly) fulfilled, i.e. lost things regained
despair	hope	not too bad chance that the world changes to the better
disappointment	joy	desire (unexpectedly) fulfilled
disgust	feeling of security	safety from disgusting entity
embarrassment	feeling of being recognised	others accept me or what I do
envy	gratification / satisfaction	morally just situation restored (the other reduced) / desire fulfilled (myself elevated)
fear	relief	danger vanished
feeling of being recognised	positive sympathy	the others are well off
feeling of power	more feeling of power	I control still more important domains
feeling of security	further feeling of security	more safety from further danger protection against everything
feeling of senselessness	satisfaction	things (sense of life, of the world) are as I have desired them
frustration	joy	desire (unexpectedly) fulfilled
gloat	gratification, moral satisfaction	still more bad people punished
gratification, moral satisfaction	more gratification, moral satisfaction	world morally still better
gratitude	feeling to be recognised / positive self-esteem	the other accepts me for my deeds / I am valuable
guilt	relief	punishment is over or definitely will not happen
happiness	attachment / positive sympathy	we are close to each other / others are well off
hate	gratification	cause destroyed, punished

³ Rich material supporting several of the hypotheses in the third column of this table, i.e. on the cognitive origins of the various emotions, is provided by Solomon [$<1976>$ 1993, 223-308].

hope	joy	desire (= hoped-for state) (unexpectedly) fulfilled
indignation	gratification	responsible entity punished; or morally just situation restored
jealousy	feeling of power / feeling of security	I (can) control the beings I am jealous of and about / safety from losing
joy, happiness	positive sympathy	others are well off
loving affection	positive sympathy	the beloved is very well off
pleasure of functioning	more pleasure of functioning	my doing is functioning smoothly
pride	positive self-esteem / pride	I am valuable, meet high standards
rage	(moral) satisfaction, gratification	villain punished
regret	satisfaction	damage repaired or compensated
relief	feeling of security	safety, no need to worry, protection against everything
respect	feeling of security	safety for the respected object
sadness	joy	desire to regain the lost entity (unexpectedly) fulfilled
satisfaction	further satisfaction	further desire fulfilled
self-esteem, negative	positive self-esteem / gratification (depending on the first emotion's intensity)	I have met the standards adopted by me / I have been punished (for not meeting the standards adopted by me)
self-esteem, positive	further, continuous, higher positive self-esteem	I have met the (higher) standards adopted by me
shame	feeling to be accepted, recognised	others accept me
sympathy, positive and negative	positive sympathy	the other is (still) better off

Such intrinsic desires are emotionally induced; i.e. being in a certain emotional state is the central and necessary cause of such desires. And if the emotion fades the desire fades too. So the dependency on the inducing emotion is responsible for a characteristic instability of such desires over time. This makes actions out of emotionally induced desires problematic and often irrational, because the subject not infrequently will soon regret the action committed. Their instability notwithstanding, emotionally induced desires are full-fledged (intrinsic) motivational desires on a par with other desires – like intrinsic desires with a hedonic content or any other prospect desire which, in the end, can aggregate a multitude of other intrinsic desires. And as motivational desires, emotionally induced desires can enter into the valuation of actions and hence, according to the expectancy-valence model, into the decision about the action to do. So if the emotionally induced desire is strong enough or if it is accompanied by other desires fostering the same action, which taken alone may not be sufficiently strong for choosing this action, then it may cause the choice and hence the execution of the action that is thought to satisfy the emotionally induced desire (table 1, steps 8-9). However, as the many conditions in the last sentences indicate – an action fulfilling the emotionally induced desire is contemplated, the emotionally induced desire in itself is sufficiently strong or accompanied by other desires, which then together are sufficiently strong (which implies that there are no sufficiently strong incompatible desires for other actions or for non-action), a decision is taken –, there is no automatism leading from emotionally induced desires to affective

action. This creates room e.g. for strength of will against affective action, which may take several forms: not considering actions at all, thereby ignoring the emotion-induced desire, bringing to mind incompatible desires, in particular regarding long-term consequences of the affective action, postponing the decision so that the emotion can cool down a bit and thus weaken the emotion-induced desire. The elbow-room opened by the conditions provides opportunities not only for blocking respective actions but also for improving one's actions, i.e. choosing variants of one's options that are more effective and have better collateral consequences. All this is what we experience every day. In other words, the integration of the law of emotion-induced desires into the decision-theoretic model explains the complexities of real life with respect to affective action.

One objection to the law of emotion-induced desires is that there are some emotions that may lead to inactivity instead of inducing motivation, namely depression, despair, feeling of futility, sadness. However, the fact that these emotions reduce our tendencies to act does not make it necessary to reduce the range of that law: the motivation, i.e. the intrinsic desire may be there, but it is part of the respective primary emotion that the subject believes that there are no actions available to fulfil the intrinsic desire. Another objection is that some emotions have only a consumptive function but do not induce new desires because the desires have just been fulfilled; this holds for all emotions of the satisfaction type. However, experience speaks against this objection; humans are too active for this kind of rest: happy people tend to make others happy as well etc. (cf. table 2). In the end, the emotion-induced intrinsic desire may simply be to prolong or intensify this emotion or to cause a different emotion of the same type.

Phase III: satisfying emotion: If the affective action has been executed the intrinsically desired consequence may eventually occur (table 1, step 10). And this, by recognising this consequence and classifying it as before, may lead to the satisfying emotion – in our example: the girl hearing her brother howling with pain is deeply satisfied: 'This is what you deserve' (table 1, steps 11-14). Of course, often things will not go that smoothly: the desired consequence does not occur (the bite was not strong enough, the brother was wearing sufficiently protective clothes ...), the consequence is not classified at all or unlike during the decision (the loud howling frightens the girl), or a corresponding classification is immediately overshadowed by other perceptions (the brother is starting a counter-attack, the mother comes in, guilty conscience comes up ...). However, because of the anticipated classification of the desired consequence with the emotion-triggering concept F_2 , recognising the intended consequence will frequently stimulate exactly this classification and with it the satisfying emotion.

Emotion-induced desires in a certain sense rest on *anticipating* affective valuations. Our girl's (first) emotion e.g. rests on a first affective classification and valuation F_1 that she has been offended by her brother (cf. table 1, step 2); the content of the emotionally induced desire is instead that it is good that the consequence c is F_2 : the offending brother will be hurt / punished (cf. table 1, step 7). This content of the emotionally induced desire is the same as that of the (possible) later *affective* valuation which actually causes satisfaction - apart from a different indexical time index: 'My offending brother *has been* hurt or punished' (cf. table 1, step 12). In this sense the emotionally induced motivational valuation is an *anticipating* affective valuation with motivational

function. One may suspect that this anticipating affective valuation may immediately cause the pertinent emotion, i.e. in our example moral satisfaction, because mere *thoughts* of the specific content are sufficient for arousing emotions. This actually may happen but only if the subject *revels* in thoughts of that specific content, e.g. thoughts of revenge. Then, however, the subject's main concern changes, the first emotion temporarily makes room for the conjoined satisfying emotion, and so the emotionally induced motivation is diminished or even erased. But this is not the case we are considering; in our case there was only one short thought that a certain course of action will damage or hurt the aggressor (table 1, step 6). Under the specific circumstances this is enough for (motivationally) desiring to hurt him (step 7), but it is not enough for causing moral satisfaction. So far we have considered only *emotionally* induced desires. There seems to be a similar phenomenon in bodily feelings, which here I only can touch on. Having a strong positive bodily feeling, at least sometimes people desire the continuation of that feeling more intensely than would be adequate according to the normal anticipatory hedonic desirability function; and having a strong negative bodily feeling, they excessively desire its cessation [cf. e.g. Brandt 1979, 39 f.]. People with high sexual lust might be prepared to pay a much higher price for the continuation of their pleasure and fulfilment of their lust than they would do in advance with a cool head – prostitutes know this –; people with strong pain analogously might be prepared to pay a much higher price for the cessation of their pain than they would do with a cool head – torturers exploit this mechanism. Such overvaluations are also feeling-induced; but they are somewhat less interesting than the emotion-induced desires because their content is still hedonistic: prolongation of pleasant and cessation of unpleasant bodily feelings. But they are not normal hedonic motivational desires because they are desires out of proportion. And this may explain several cases of weakness of will. Finally, there may even be intrinsic desires induced by moods. At least there are some well-known effects which might be interpreted in this way. First, in negative moods people are impatient in the sense that they are less willing to bear any kind of negative feeling: the more depressed they are, the further they postpone unpleasant tasks; they prefer smaller but immediate rewards to greater but later rewards.⁴ And, second, in positive moods people are much more willing to help others [Morris 1989, 100; Dovidio 1984]. But one problem with these findings is that it is not always clear that the effect is due to *moods* and not to emotions. Another problem is that all these findings can be explained in a different way; e.g. the preference for the “smaller” reward may in fact be a preference for a materially smaller reward, which however now has much greater hedonic effects in improving the negative mood than the materially bigger reward would have later on. A third problem is that we are always in a certain mood but there cannot be permanent distortion of normal desires; this is conceptually impossible. So if the mentioned effects are to be explained by mood-induced desires this hypothesis has to be complemented by a threshold condition, according to which only moods of a certain intensity induce desires.

⁴ Morris [1989, 109 f.] gives a list of confirmations for these effects.

5. Theoretical Conclusions

Feeling-induced desires probably are an evolutionary older motivational system than the normal hedonic motivational system because it has less prerequisites and is much more primitive than the latter. First, emotionally induced intrinsic desires lead to aiming at rather immediate changes of the exterior situation. These changes often will be beneficial for the subject; otherwise this motivational system would not have survived evolution. But there is no room for changing these aims if they are not beneficial for the subject or if there are other possibilities of further advancing the (long-term) well-being of the subject. Second, feeling-induced desires are bound to current feelings so that they change rapidly over time. This implies that they are not suitable as a basis for long-term planning and long-term decisions: at the moment of a possible long-term decision, e.g. to hurt one month later a probable aggressor who will have revealed himself as such only that month later, the intrinsic desire simply does not yet exist; and if in rage one plans to hurt the aggressor only one week later when there will be a better opportunity for doing so then that week later, when the moment of action has come, often the emotion and with it the emotionally induced desire will be lacking – with the consequence that the agent will decide otherwise. In this respect feeling-induced desires differ sharply from normal hedonic desires: If someone knows that she might suffer from hunger or anxiety one year later she intrinsically disapproves of such feelings now, one year later or whenever; and the stability of such a valuation is the basis for the fact that she can now plan to avoid such feelings which otherwise will arise only very much later.

A theoretically important question is: where do the contents of the feeling-induced desires come from? Why do these desires have exactly these contents? Of course, an hypothesis of feeling-induced desires is not logically bound to the value closure assumption that the resulting intrinsic desires derive from satisfying feelings, in particular satisfying emotions E_2 , taking up their criterion for affective valuations F_2 and making it a criterion of intrinsic motivational desirability too. First, however, examining the content of emotion-induced intrinsic desires and the content of affective valuations the just stated overlap is simply an empirically striking result. Second, this *prima facie* somewhat complicated mechanism of primary and satisfying emotions has a clear function. Because of their immense practical importance mentally present and fixed intrinsic desirability functions, are not evolutionarily arbitrary and for reasons of parsimony must be selective. Emotions already imply such intrinsic desirability functions – however with an affective function. Why should the emotion-induced motivational desirability functions not take up these affective desirability functions? And what is more: pure emotions (the consequences of affective evaluations) would make little sense evolutionarily – in particular at evolutionary stages before the formation of the hedonic decision system, which aims at certain emotions. If they already express something which is important for survival and for our vital functions and if the emotions are integrated into a motivational system, this system should take up exactly the concerns inherent in the emotions; i.e. it should make the emotionally positively valued and actively realisable states into aims of our actions or – later, having reached the flexibility of the expectancy-valence system of decision – at least to also *motivationally* positively desired states. In short, the contents of

affective desirability functions should reappear in the motivational desirability function. Third, to this fundamental reason one may add a more trivial one: further desirability functions require further contents and brain systems to represent them. By not assuming too many desirability functions, theoretical parsimony reflects evolutionary parsimony and robustness. The discrepancy and tension between hedonic and feeling induced desires is already problematic; introducing further values would increase the problems of the motivational system even more. With the value closure of the emotional-motivational system obtained by making the satisfying emotions' value criteria motivationally effective as well, and, additionally, by taking up these values in a secondary form in the hedonic motivational system – for having our hedonic desires regarding certain emotions fulfilled, the states that are positively valued in these emotions have to be realised first (for making us happy we have to realise the happy making states first) – these tensions are considerably reduced.

Emotion-induced desires are theoretically and in particular philosophically interesting because they successfully challenge strong psychological hedonism so that only weak psychological hedonism may be true. A theory of intrinsic desires that takes feeling-induced desires into account might be acceptable for those with reservations with respect to strong psychological hedonism. On the other hand the instability over time of feeling-induced intrinsic desires makes them unsuitable as a basis for *rational* desirability functions. One aim of rational desirability functions is to permit long-term planning for taking advantage of good opportunities and for cheaper satisfaction of desires in the long run; this is not possible if desirability changes over time [Lumer 1998, 41; 52-55; Lumer <2000> 2009, 340-346; 484-489; 521 f]. From this point of view quickly changing desirabilities seem to be quite irrational. And for this reason, too, we often regard acts committed in the heat of passion as irrational: directly after having reached his aim the agent may already regret his deed; this does not look like rational behaviour. These rational considerations notwithstanding, we may be uneasy about excluding this feeling-induced part of our motivational intrinsic desirability function from our rational desirability function. However, there is no reason to worry much about this: Because of the value closure of the system of emotion-induced desires, all the just dismissed irrational intrinsic desires have their extrinsic counterparts in the – rational – hedonic desirability function where the same object now is extrinsically desirable. If we, unlike the little girl, know that punishment of the aggressor will make us feel gratified we may aim at the punishment also for hedonistic reasons. However, these extrinsic desirabilities are rationally redimensioned as compared to the irrational emotion-induced intrinsic desire.

Taking into account also these theoretical implications, what has been achieved by the theory of emotion-induced desires? First, assuming that emotions induce intrinsic desires, on the one hand and unlike a mere arousal theory, explains the specificity of our emotional decisions, on the other, it leaves considerable room for explaining the flexibility of emotional decisions and their adaptation to the respective circumstances – in contrast to the aim induction hypothesis. Second, the hypothesis of emotion-induced intrinsic desires permits to integrate the model of emotional decisions into the general decision-theoretical model of decisions and to explain the combination of both types of considerations as well as flexible reactions to our emotions – from impulsive action to

reflective exertion of strength of will. And it explains how an older and newer motivational system can cooperate. Third, the closure hypothesis, according to which the induced motivational intrinsic desires take up the concern of specific satisfying emotions, does not only provide a general approach to the specific content of emotion-induced desires it is also theoretically parsimonious and explains the motivational effectiveness of the affective desirability function and hence a big part of the evolutionary function of emotions.⁵

References

- Brandt, Richard B. (1979): *A Theory of the Good and the Right*. Oxford: Clarendon 1979.
- Butler, Joseph (<1726> 1896): *Fifteen Sermons. (1726.)* In: *Idem: The Works. Vol. II: Sermons.* Ed. W. E. Gladstone. Oxford: Clarendon 1896. Vol. 2.
- Davidson, Donald; Patrick Suppes (<1957> 1977): *Decision Making. An Experimental Approach.* In collaboration with Sydney Siegel. Stanford: Stanford University Press 1957. – Reprint: Westport, Connecticut: Greenwood Pr.; Chicago: University of Chicago Press, Midway Reprint Series 1977.
- Dovidio, John F. (1984): *Helping behavior and altruism. An empirical and conceptual overview.* In: Leonhard Berkowitz (ed.): *Advances in experimental social psychology. Vol 17.* New York: Academic Press 1984. Pp. 362-427.
- Frijda, Nico H. (1986): *The Emotions.* Cambridge [etc.]: Cambridge U.P.; Editions de la Maison des Sciences de l'Homme 1986.
- Heckhausen, Heinz (1989): *Motivation und Handeln.* 2nd, completely revised ed. Berlin [etc.]: Springer 1989.
- Izard, Carroll E. (1977): *Human Emotions.* New York; London: Plenum Press 1977.
- Lang, Peter J. (1988): *What are the Data of Emotion?* In: Vernon Hamilton; Gordon H. Bower; Nico H. Frijda (eds.): *Cognitive Perspectives on Emotion and Motivation.* Dordrecht; Boston; London: Kluwer 1988. Pp. 173-191.
- Lumer, Christoph (1997): *The Content of Originally Intrinsic Desires and of Intrinsic Motivation.* In: *Acta analytica* 18 (1997). Pp. 107-121.
- Lumer, Christoph (1998): *Which Preferences Shall Be the Basis of Rational Decision?* In: Christoph Fehige; Ulla Wessels (eds.): *Preferences.* Berlin; New York: de Gruyter 1998. Pp. 33-56.
- Lumer, Christoph (<2000> 2009): *Rationaler Altruismus. Eine prudentielle Theorie der Rationalität und des Altruismus.* 2nd, revised and enlarged ed. Paderborn: mentis 2009.
- Lumer, Christoph (2005): *Intentions Are Optimality Beliefs - but Optimizing what?* In: *Erkenntnis* 62 (2005). Pp. 235-262.
- Moore, G[eorge] E[dward] (<1912> 1966): *Ethics. (1912.)* London [etc.]: Oxford U.P. 21966.

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- Morris, William N. (1989): *Mood. The Frame of the Mind*. In association with Paula P. Schnurr. New York; Berlin; Heidelberg: Springer 1989.
- Plato: *Philebus*. In: *Idem: Complete Works*. Ed. John M. Cooper. Associate editor D. S. Hutchinson. Indianapolis, Indiana: Hackett 1997. Pp. 398-456.
- Rottenstreich, Yuval; Suzanne Shu (2004): *The Connections between Affect and Decision Making. Nine Resulting Phenomena*. In: Derek J. Koehler; Nigel Harvey (ed.): *Blackwell Handbook of Judgment and Decision Making*. Oxford: Blackwell 2004. Pp. 444-463.
- Solomon, Robert C. (<1976> 1993): *The Passions. Emotions and the Meaning of Life*. (1976.) Revised edition. Indianapolis; Cambridge: Hackett 1993.
- Tversky, Amos; Daniel Kahneman (1992): *Advances in Prospect Theory. Cumulative Representation of Uncertainty*. In: *Journal of Risk and Uncertainty* 5 (1992). Pp. 297-323.
- Weber, Elke U.; Patricia Lindemann (2008): *From Intuition to Analysis. Making Decisions with Your Head, Your Heart, or by the Book*. In: Henning Plessner; Cornelia Betsch; Tilmann Betsch (eds.): *Intuition in Judgment and Decision Making*. New York: Lawrence Erlbaum 2008. Pp. 191-207.
- Zeelenberg, Marcel; Rob Nelissen; Rik Pieters (2008): *Emotion, Motivation, and Decision Making. A Feeling-Is-for-Doing Approach*. In: Plessner, Henning; Cornelia Betsch; Tilmann Betsch (ed.): *Intuition in Judgment and Decision Making*. New York: Lawrence Erlbaum 2008. Pp. 173-189.

Table 1: Succession of events belonging to emotion-induced desires

The table lists a complete sequence from the first emotion to the accompanying emotion. This sequence may be interrupted after nearly every step.

I. First emotion e_1 ⁶

1. Thoughts or consideration of a situation
2. Affective valuation of that thought or situation (i.e. classification as being of a certain (positive or negative) type F_1)
3. Emotion e_1 (i. e. emotional feelings)
- (4. Accompanying bodily phenomena)

II. Emotion-induced desire and action

5. Consideration of some action a and of its consequences
6. Classification of one of the consequences c as F_2 (F_2 being the affective value criterion of the satisfying emotion type E_2 belonging to e_1 , qua E_1)
7. Emotion-induced desire, i.e. intrinsic motivational appraisal of the consequence's c being F_2 (as positive according to the criterion of emotion type E_2 , with the absolute value being proportional to the intensity of emotion e_1)
8. Total appraisal of action a as being optimum
9. Action a
10. Occurring of consequence c

III. Satisfying Emotion e_2

11. Perception of c
12. Affective valuation of c as being F_2 (and, therefore, being positive)
13. Emotion e_2
- (14. Accompanying bodily phenomena)

⁶ Capital letters here denote types or qualities, lower case letters denote tokens or individuals.