
The Laws of Emotion

Nico H. Frijda

University of Amsterdam, The Netherlands

ABSTRACT: *It is argued that emotions are lawful phenomena and thus can be described in terms of a set of laws of emotion. These laws result from the operation of emotion mechanisms that are accessible to intentional control to only a limited extent. The law of situational meaning, the law of concern, the law of reality, the laws of change, habituation and comparative feeling, and the law of hedonic asymmetry are proposed to describe emotion elicitation; the law of conservation of emotional momentum formulates emotion persistence; the law of closure expresses the modularity of emotion; and the laws of care for consequence, of lightest load, and of greatest gain pertain to emotion regulation.*

For a long time, emotion was an underprivileged area in psychology. It was not regarded as a major area of scientific psychological endeavor that seemed to deserve concerted research efforts or receive them.

Things have changed over the last 10 or so years. Emotion has become an important domain with a coherent body of theory and data. It has developed to such an extent that its phenomena can be described in terms of a set of laws, the laws of emotion, that I venture to describe here.

Formulating a set of laws of emotion implies not only that the study of emotion has developed sufficiently to do so but also that emotional phenomena are indeed lawful. It implies that emotions emerge, wax, and wane according to rules in strictly determined fashion. To argue this is a secondary objective of this article. Emotions are lawful. When experiencing emotions, people are subject to laws. When filled by emotions, they are manifesting the workings of laws.

There is a place for obvious a priori reservations here. Emotions and feelings are often considered the most idiosyncratic of psychological phenomena, and they suggest human freedom at its clearest. The mysticism of ineffability and freedom that surrounds emotions may be one reason why the psychology of emotion and feeling has advanced so slowly over the last 100 years. This mysticism is largely unfounded, and the freedom of feeling is an illusion. For one thing, the notion of freedom of feeling runs counter to the traditional wisdom that human beings are enslaved by their passions. For another, the laws of emotion may help us to discern that simple, universal, moving forces operate behind the complex, idiosyncratic movements of feeling, in the same way that the erratic path of an ant, to borrow Simon's (1973) well-known parable, manifests the simple structure of a simple animal's mind.

The word *law* may give rise to misunderstanding.

When formulating "laws" in this article, I am discussing what are primarily empirical regularities. These regularities—or putative regularities—are, however, assumed to rest on underlying causal mechanisms that generate them. I am suggesting that the laws of emotion are grounded in mechanisms that are not of a voluntary nature and that are only partially under voluntary control. Not only emotions obey the laws; we obey them. We are subject to our emotions, and we cannot engender emotions at will.

The laws of emotion that I will discuss are not all equally well established. Not all of them originate in solid evidence, nor are all equally supported by it. To a large extent, in fact, to list the laws of emotion is to list a program of research. However, the laws provide a coherent picture of emotional responding, which suggests that such a research program might be worthwhile.

The Law of Situational Meaning

What I mean by laws of emotion is best illustrated by the "Constitution" of emotion, the *law of situational meaning*: *Emotions arise in response to the meaning structures of given situations; different emotions arise in response to different meaning structures.* Emotions are dictated by the meaning structure of events in a precisely determined fashion.

On a global plane, this law refers to fairly obvious and almost trivial regularities. Emotions tend to be elicited by particular types of event. Grief is elicited by personal loss, anger by insults or frustrations, and so forth. This obviousness should not obscure the fact that regularity and mechanism are involved. Emotions, quite generally, arise in response to events that are important to the individual, and which importance he or she appraises in some way. Events that satisfy the individual's goals, or promise to do so, yield positive emotions; events that harm or threaten the individual's concerns lead to negative emotions; and emotions are elicited by novel or unexpected events.

Input some event with its particular kind of meaning; out comes an emotion of a particular kind. That is the law of situational meaning. In goes loss, and out comes grief. In goes a frustration or an offense, and out comes anger. Of course, the law does not apply in this crude manner. It is meanings and the subject's appraisals that count—that is, the relationship between events and the subject's concerns, and not events as such. Thus, in goes a personal loss that is felt as irremediable, and out comes grief, with a high degree of probability. In goes a frustration or an offense for which someone else is to blame and could have avoided, and out comes anger—almost cer-

tainly. The outputs are highly probable, but are not absolutely certain because the inputs can still be perceived in different fashions. One can view serious, irremediable personal loss as unavoidable, as in the nature of things; there will be resignation then instead of grief. Frustration or offense can be seen as caused by someone powerful who may have further offenses in store, and fear then is likely to supplant anger as the emotional response. These subtleties, rather than undermining the law of situational meaning, underscore it. Emotions change when meanings change. Emotions are changed when events are viewed differently. Input is changed, and output changes accordingly.

The substance of this law was advanced by Arnold (1960) and Lazarus (1966). Evidence is accumulating that it is valid and that a number of subsidiary laws—for the elicitation of fear, of anxiety, of joy, and so forth—can be subsumed under it. The evidence is indirect because it consists mainly of correlations between subjects' reports of their emotional states and their conscious appraisals of events, which are not faithful reflections of the cognitive antecedents. Still, the correlations are strong (see, e.g., Frijda, 1987; Smith & Ellsworth, 1987) and suggest mechanisms. In fact, a computer program has been written that takes descriptions of event appraisals as its input and that outputs plausible guesses of the emotion's names. It shows the beginnings of success. When given the descriptions by 30 subjects of affective states corresponding to 32 emotion labels, the computer achieved a hit rate of 31% for the first choice and of 71% for the first five choices (with chance percentages of 3% and 17%, respectively; Frijda & Swagerman, 1987).

The law of situational meaning provides the overarching framework to organize findings on the cognitive variables that account for the various emotions and their intensity (see also Ortony, Clore, & Collins, in press). These cognitive variables pertain not merely to how the individual thinks the events might affect him or her but also to how he or she might handle these events. They include secondary as well as primary appraisals, in Lazarus's (1966) terms. Fear involves uncertainty about one's ability to withstand or handle a given threat; grief involves certainty about the impossibility of reversing what happened. Analyses of self-reports and of the semantics of emotion terms offer converging conclusions on the major variables involved (see Scherer, in press, for a review). Experimental studies corroborate the importance of many of them. Outcome uncertainty affects fear intensity (e.g., Epstein, 1973). Causal attributions have been shown to influence emotions of anger, pride, shame, and gratitude (Weiner, 1985). Unpredictability and uncontrollability contribute to the shaping of emotional response (Mineka & Hendersen, 1985). They may lead to depressive mood

(Abramson, Seligman, & Teasdale, 1978) or reactance (Wortman & Brehm, 1975), depending on one's cognitive set. Erratic behavior in one's friends enrages when one is used to control and saddens when one is used to being controlled.

The workings of the law of situational meaning are not always transparent because they can be overridden by conscious control or by less conscious counterforces that I will discuss later. The law is most evident when resources for control and counterforces fail, such as in illness or exhaustion. Posttraumatic syndromes show that, under these conditions, almost every obstruction is a stimulus for angry irritation, every loss or failure one for sorrow, every uncertainty one for insecurity or anxiety, and almost every kindness one for tears.

Under more normal circumstances, too, the automatic workings of the law of situational meaning are evident. I mention two examples. One is "sentimentality," the almost compulsive emergence of tearful emotions when attachment themes are touched on in films or stories about miracle workers (Efran & Spangler, 1979), brides marrying in white, or little children who, after years of hardship, find a home or are lovingly accepted by their grandfathers. Tears are drawn, it seems, by a precise kind of sequence: Latent attachment concerns are awakened; expectations regarding their nonfulfillment are carefully evoked but held in abeyance; and then one is brusquely confronted with their fulfillment. The sequence is more potent than the observer's intellectual or emotional sophistication, a fact to which probably every reader can testify.

The other example concerns falling in love. Data from questionnaire studies (Rombouts, 1987) suggest that it is also triggered by a specific sequence of events, in which the qualities of the love-object are of minor importance. A person is ready to fall in love because of one of a number of reasons—loneliness, sexual need, dissatisfaction, or need of variety. An object then incites interest, again for one of a number of reasons, such as novelty, attractiveness, or mere proximity. Then give the person a moment of promise, a brief response from the object that suggests interest. It may be a confidence; it may be a single glance, such as a young girl may think she received from a pop star. Then give the person a brief lapse of time—anywhere between half an hour or half a day, the self-reports suggest—during which fantasies can develop. After that sequence, no more than a single confirmation, real or imagined, is needed to precipitate falling in love.

In the emergence of emotions people need not be explicitly aware of these meaning structures. They do their work, whether one knows it or not. One does not have to know that something is familiar in order to like it for that reason (Zajonc, 1980). Distinct awareness comes after the fact, if it comes at all.

Emotions

In the preceding section, I have not specified what I mean by "emotions" nor what it is that the laws of emotion involve. There is no consensus about the definition of

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Correspondence concerning this article should be addressed to Nico H. Frijda, Vakgroep Psychonomie, Universiteit van Amsterdam, Weesperplein 8, 1018 XA Amsterdam, The Netherlands.

emotion; one may quarrel endlessly about the word. The issue can be approached somewhat empirically, however, in bootstrapping fashion, by first assuming that what we loosely call "emotions" are responses to events that are important to the individual, and then by asking of what the responses to such events consist. Those responses are what the laws are about.

First of all, those responses—"emotions"—are subjective experiences. Their core is the experience of pleasure or pain. That core is embedded in the outcome of appraisal, the awareness of situational meaning structure. Emotional experience contains more, however, that emotion psychology seems to have almost forgotten.

Introspections produce a wealth of statements that refer to what I call "awareness of state of action readiness." Subjects report impulses to approach or avoid, desires to shout and sing or move, and the urge to retaliate; or, on occasion, they report an absence of desire to do anything, or a lack of interest, or feelings of loss of control (Davitz, 1969; Frijda, 1986, 1987).

What is interesting about these felt states of action readiness is that the kinds of states reported correspond to the kinds of state of action readiness that are manifest in overt behavior, as for instance, facial expression and organized action. Awareness of state of action readiness is a rough reflection of state of action readiness itself.

State of action readiness is a central notion in emotion. All emotions—all states, that is, that one would want to call "emotions"—involve some change in action readiness: (a) in readiness to go at it or away from it or to shift attention; (b) in sheer excitement, which can be understood as being ready for action but not knowing what action; or (c) in being stopped in one's tracks or in loss of interest. Several emotions can be unambiguously defined in terms of a particular form of action readiness; they can be defined in terms of some form of action tendency or some form of activation or lack thereof. This is the case with the emotions usually considered as primary or basic (Izard, 1977; Plutchik, 1980). Joy, for instance, is a sense of pleasure plus the urge toward exuberance and contact-seeking. Anger is a sense of displeasure plus the urge to do some of the things that remove or harm its agent. Shame is a sense of displeasure plus the compelling desire to disappear from view. Sadness is a sense of displeasure plus the ebbing away of any urge except for the desire for the lost object or opportunity, which is known to be unfulfillable. The identifications of particular emotions with particular forms of action readiness originate in the functional analysis of expressive behavior. Sadness, for example, characteristically is manifest in listlessness and the averted glance, or in the helplessness pattern of weeping. Fear is manifest in mixtures of avoidant, self-protective, and attentive facial patterns. The identifications correspond to self-reports of emotional awareness. For the more "basic" emotions, correspondence between reported states of action readiness and emotion labels is quite specific (Dijker, 1987; Frijda, 1987); discriminant analysis yielded 46.3% correct predictions in a study with 32 emotion labels (Kuipers, 1987).

Emotions other than the "basic" ones are not characterized by a particular form of action readiness; jealousy and guilt feelings are examples. Still, some change in action readiness is involved whenever a response is called an "emotion." Admiration makes one want to emulate, or follow, or sit motionless, or cry, if it is worth its salt as an emotion; the changes are called forth by the object's enthralling or overpowering aspects. The emotion evoked by the feeling of guilt makes one restlessly want to undo the deed or tends to paralyze one's actions and lets one impotently suffer; which form of action readiness ensues follows from what stares one in the face—the deed or one's worthlessness.

The law of situational meaning can now be phrased more precisely. Meaning structures are lawfully connected to forms of action readiness. Events appraised in terms of their meanings are the emotional piano player's finger strokes; available modes of action readiness are the keys that are tapped; changes in action readiness are the tones brought forth.

The keys, the available modes of action readiness, correspond to the behavior systems and general response modes with which humans are endowed. These include the programs for innate behavioral patterns, of which elementary defensive and aggressive behaviors, laughter and crying, and the universal facial expressions (Ekman, 1982) are elements. They further include the general activation or deactivation patterns of exuberance, undirected excitement, and apathetic response, and the pattern of freezing or inhibition. They also include the various autonomic and hormonal response patterns—those of orienting, of active or passive coping, and the like, described by the Laceys (Lacey & Lacey, 1970), Obrist (1981), and Mason (1975), among others. These physiological patterns form, so to speak, the logistic support of the action readiness changes involved. And last, the response modes include the action control changes that are manifest in behavioral interference and that we experience as preoccupation and urgency; sometimes, these are the only aspect of our change in action readiness that we feel or show.

The Law of Concern

The law of situational meaning has a necessary complement in the *law of concern*: *Emotions arise in response to events that are important to the individual's goals, motives, or concerns.* Every emotion hides a concern, that is, a more or less enduring disposition to prefer particular states of the world. A concern is what gives a particular event its emotional meaning. We suffer when ill befalls someone because, and as long as, we love that someone. We glow with pride upon success and are dejected upon failure when and because we strive for achievement, in general or in that particular trade. Emotions point to the presence of some concern. The concern may be different from one occurrence of an emotion to another. We fear the things we fear for many different reasons. Note that the law of concern joins different and even opposite emotions. One suffers when a cherished person is gravely ill;

one feels joy at his or her fortune or recovery; one is angry at those who harm him or her. Emotions arise from the interaction of situational meanings and concerns.

One may question whether a concern can be found behind every single instance of emotion. It would not be meaningful to posit a "concern for the unexpected" behind startle (but, also, it may not be meaningful to regard startle as an emotion; cf. Ekman, Friesen, & Simons, 1985). But by and large, the law of concern holds and is of considerable value in understanding emotions. Why does someone get upset at the news of another person's illness? Because he or she seems to love that person. Why does someone feel such terrible jealousy? Because, perhaps, he or she yearns for continuous possession and symbiotic proximity. Emotions form the prime material in the exploration of an individual's concerns.

The Law of Apparent Reality

According to the law of situational meaning, emotions are dictated by the way a person perceives the situation. One aspect of this perception is particularly important for the elicitation of emotion. I will call it the situation's "apparent reality." Emotions are subject to the *law of apparent reality: Emotions are elicited by events appraised as real, and their intensity corresponds to the degree to which this is the case.*

What is taken to be real elicits emotions. What does not impress one as true and unavoidable elicits no emotion or a weaker one. The law applies to events taken to be real when in fact they are not. It also applies to events that are real but that are not taken seriously. Whatever is present counts; whatever lies merely in the future can be taken lightly or disregarded, however grim the prospects. Mere warnings usually are not heeded. Examples are found in the responses to nuclear energy dangers that tend to evoke emotions only when consequences are felt. Unrest arose when restrictions on milk consumption were imposed after Chernobyl. Symbolic information generally has weak impact, as compared to the impact of pictures and of events actually seen—the "vividness effect" discussed in social psychology (Fiske & Taylor, 1984). A photograph of one distressed child in Vietnam had more effect than reports about thousands killed. Although people have full knowledge of the threat of nuclear war, they tend to remain cool under that threat, except for the emotions rising during a few weeks after the showing of a film such as *The Day After* (Fiske, 1987).

Examples abound from less dramatic contexts. Telling a phobic that spiders are harmless is useless when the phobic sees the crawling animal. Knowing means less than seeing. When someone tells us in a friendly fashion that she or he does not appreciate our attentions, we tend not to heed her or him. Words mean less than tone of voice. When someone steps on our toes, we get angry even when we know that he or she is not to blame. Feeling means more than knowing.

I call this the law of apparent reality and use the word *reality* to characterize the stimulus properties at

hand; Ortony, Clore, and Collins (in press) extensively discuss the issue under the same heading. The preceding anecdotal examples are paralleled by experimental results. Bridger and Mandel (1964) showed that a conditioned fear response, established by the warning that shock would follow a signal light, extinguished at once when shock electrodes were removed. It did not, however, when a single strong shock reinforcement had actually been delivered. Conditioned electrodermal response persisted indefinitely after shock, in the same way that a smell of burning evokes a sense of panic in anyone who has ever been in a conflagration. The powerlessness of verbal reassurance to diminish phobic anxiety contrasts with the abatement of phobia sometimes obtained by "live modeling plus participation," that is, by making the subject actually touch the snake or spider after seeing a model do it (Bandura, 1977). Smaller effects, but still effects, are obtained by having the subject imagine touching the snake or spider, provided that true, vivid imagery is achieved (Lang, 1977).

The law of apparent reality applies to numerous instances of strong emotion in everyday life and explains important phenomena, such as the absence of strong emotions where one might have expected them. Grief dawns only gradually and slowly after personal loss. Emotions often do not arise when being told of loss, and the loss is merely known. They break through when the lost person is truly missed, when the arm reaches out in vain or the desire to communicate finds its target to be absent (Parkes, 1972). The law also accounts for the weakness of reason as opposed to the strength of passion. "Reason" refers to the consideration of satisfactions and pains that are far away and only symbolically mediated. "Passion" refers to the effects of the present, of what is actually here to entice or repel.

What is the source of the law of apparent reality? What do actual stimuli such as shock, fires, live encounters, truly missing someone, and actions such as touching a snake have in common? It is, I think, their "reality." Stimuli appraised as "real" include (a) unconditioned affective stimuli such as pain, startle stimuli, and perceived expressive behaviors (Lanzetta & Orr, 1986; Öhman & Dimberg, 1978); (b) sensory stimuli strongly associated to such stimuli; and (c) events involving the actual ineffectuality of actions, such as not receiving an answer to one's calls. Several guesses can be made as to why these are the emotionally effective stimuli; a plausible one is that the modes of action readiness are biological dispositions that need sensory stimuli as their unconditioned releasers. It is sensory stimulations that have the proper input format for the emotion process. Notice that vivid imagination, too, has the properties of "reality." It is capable of eliciting or abating strong emotions. Imagination, conceivably, serves to transform symbolic knowledge into emotionally effective stimulation. The effects of imaginal stimuli—fantasies, films, songs, pictures, stories—underline the major problem behind the law of apparent reality: to explain why one kind of cognition is not equivalent to another.

The Laws of Change, Habituation, and Comparative Feeling

The nature of events that elicit emotions must be still further specified because emotions obey the *law of change*: *Emotions are elicited not so much by the presence of favorable or unfavorable conditions, but by actual or expected changes in favorable or unfavorable conditions.* It is change that does it—change with respect to current adaptation level. Everyday examples of the importance of change abound. Subjective satisfactions, these days, are not superior to those in, say, 1937, when economic conditions were incomparably inferior. They probably are not superior to subjective satisfactions in any developing country that suffers no outright famine or oppression. Or, take the common observation that spouses who were taken for granted and were even felt to be sources of irritation are gravely missed after they die or leave. “One never stops to wonder, until a person’s gone,” as Dory Previn (1970) put it, “one never stops to wonder, ’til he’s left and carried on.”

The greater the change, the stronger the subsequent emotion. Having overcome uncertainty results in a pleasure of considerably larger magnitude than that produced by the same event without prior challenge or suspense. Basketball fans enjoy the victory of their team most when both teams’ chances of winning are even (Ortony & Clore, 1988). Laughter generally follows what has been called the “suspense-mastery” or “arousal-safety” sequence (Rothbart, 1973): During infants’ rough-and-tumble play, for instance, laughter is evoked only at the stage of development in which the event is just on the verge between being under control and being beyond control (Sroufe & Waters, 1976). A similar sequence accounts for the enjoyment of suspense in crime and adventure tales and perhaps even for that of mountain climbing and stunt riding where, on occasion, it results in peak experience (Piët, 1987).

The law of change can take treacherous forms, because adaptation level is not its only frame of reference. Hopes and perspectives on the future contribute. Goal-gradient phenomena seem to find their root herein. War pilots went on their missions with bravura, which tended to shift to anxiety and depression when possible survival once again became a real option toward the end of their tour of duty (Janis, 1951).

The law of change, to a large extent, is based on the *law of habituation*: *Continued pleasures wear off; continued hardships lose their poignancy.* Habituation is known experimentally mainly from the orienting response. There is more evidence, however, from repeated exposures to phobic objects or electric shocks (e.g., Epstein, 1973). Daily life offers ample illustrations again, partly consoling ones, partly saddening ones. The pains of loss of love abate with time, but love itself gradually loses its magic. Continued exposure to inhumanities blunts both suffering and moral discernment.

The law of change has many variants. One is the law of affective contrast. Loss of satisfaction does not yield

a neutral condition, but positive misery. Loss of misery does not yield a sense of normality, but positive happiness. The law of affective contrast was formulated by Beebe-Center (1932) as resulting from adaptation level shifts and by Solomon (1980) as due to “opponent processes.” Whatever its source, it is a law of considerable practical consequence. It is the basis of the play of take-and-give that proves so effective in, for instance, brainwashing. One takes privileges away and subsequently gives them back in part, and the emotions of gratitude and attachment result.

The law of change itself expresses a more encompassing generality that we can name the *law of comparative feeling*: *The intensity of emotion depends on the relationship between an event and some frame of reference against which the event is evaluated.* The frame of reference is often the prevailing state of affairs, but it can also be an expectation, as it is in the conditions for relief, disappointment, or the enhancement of joy by previous suspense. Or it can be provided by the fate and condition of other people. Ratings of subjective well-being have been shown to vary with prior exposure to descriptions of the past as times of poverty or as times of personal closeness. One tends to feel less well off when others fare better. Envy and *Schadenfreude* are names for emotions rooted in comparisons of this kind.

Generally speaking, the frame of reference that determines what counts as an emotional event consists of that which is deemed possible. This holds with considerable generality. Those who wring their hands in despair still entertain hopes; they have not really abandoned desiring. Those who grieve and mourn have not really taken their leave from the departed person; they still expect him or her at the other end of their arms, bed, or table. Those who feel that they should be able to cope suffer when they cannot cope. The point needs to be stressed and elaborated because internal locus of control, achievement motivation, and being in control are generally held to be factors that contribute to coping with stress. They are and do as long as there exist ways to cope. They bring extra burdens when there are no such ways. Anecdotal evidence from concentration camps and trauma research, as well as experimental studies with animals and humans (Rothbaum, Weisz, & Snyder, 1982; Weiss, 1971; Wortman & Brehm, 1975), support this conclusion.

The Law of Hedonic Asymmetry

The laws of habituation and comparative feeling operate only within certain limits. There exists, it would seem, misery that one does not get used to; there is deprivation to which one does not adapt. This fact has, it appears, no counterpart for positive emotions. Joy, bliss, and fascination invariably tend to fade toward neutrality or some pale contentment. One must, I think, posit a *law of hedonic asymmetry*, the law of asymmetrical adaptation to pleasure or pain: *Pleasure is always contingent upon change and disappears with continuous satisfaction. Pain may persist under persisting adverse conditions.* One gets used to the events that, earlier, delighted and caused joy;

one does not get used to continuous harassment or humiliation. Fear can go on forever; hopes have limited duration. The law predicts a negative balance for the quality of life, unless self-deceit and self-defense intervene, which of course they do. It may not be as bad as that when life is not filled with adverse conditions, but for many people life is filled in that manner. Remember that the joys of freedom, for those who suffered oppression, do not last as long as the sorrows of oppression did. True enough, the situations underlying these examples are not altogether transparent. It is difficult to disentangle the effects of repetition, accumulation, and sheer persistence of a given state of affairs. Oppression makes itself known each day; liberty, as an event, occurs only at the day of liberation. Be that as it may, at a gross level the law appears to hold and to manifest itself in many ways, dramatic as well as commonplace. The grief upon one's partner's being gone is much, much more poignant and enduring than the joy caused by his or her presence a month before or the joy after his or her return one month later.

The law of hedonic asymmetry is a stern and bitter law. It seems almost a necessary one, considering its roots, which, theoretically, are so obvious. Emotions exist for the sake of signaling states of the world that have to be responded to or that no longer need response and action. Once the "no more action needed" signal has sounded, the signaling system can be switched off; there is no further need for it. That the net quality of life, by consequence, tends to be negative is an unfortunate result. It shows the human mind to have been made not for happiness, but for instantiating the blind biological laws of survival.

On the other hand, the law's outcomes are not unavoidable. Adaptation to satisfaction can be counteracted by constantly being aware of how fortunate one's condition is and of how it could have been otherwise, or actually was otherwise before—by rekindling impact through recollection and imagination. Enduring happiness seems possible, and it can be understood theoretically. However, note that it does not come naturally, by itself. It takes effort.

The Law of Conservation of Emotional Momentum

The law of change, or at least the law of habituation, shows a further restriction. One of its consequences seems to be that emotions diminish with time. This supposition, or one of its forms, is expressed in the common adage that time heals all wounds. That adage, however, is untrue. Time heals no wounds. On the contrary, what accounts for habituation is repeated exposure to the emotional event within the bounds of asymmetry of adaptation. It is repetition that does it, when it does, not time. Time does not really soften emotions. We may phrase the *law of conservation of emotional momentum thus: Emotional events retain their power to elicit emotions indefinitely, unless counteracted by repetitive exposures that permit extinction or habituation, to the extent that these are possible.*

The law will be difficult to prove because it asserts resistance against change when nothing happens. Yet, it is of value to propose it, and there is evidence to support it. As regards its value, behavior therapy and trauma theory both appear to hold the silent supposition that enduring trauma effects need explanation in terms of avoidance, denial, secondary gain, or whatever. Yet, traditional extinction theory as well as the interference theory of forgetting make it more reasonable to assume that the emotional impact of traumatic events never really wanes; it can only be overwritten. As regards the evidence, it is ample, although only clinical or anecdotal. Loss of a child never appears to become a neutral event (Lehman, Wortman, & Williams, 1987). The persistence or recurrence of other trauma effects is of course well-known. Emotions surge up when stimuli resembling the original stimuli are encountered or when aroused by "unbidden" images (the term is Horowitz's, 1976) in nightmares or even while awake. The sudden fear—shivering, palpitations, a sense of panic—upon the smell of burning in former fire victims is a more common occurrence. Equally common is the unexpected outburst of tears when, many years later, a letter, a toy, or a piece of clothing belonging to a child who died is stumbled upon, or the blood that rushes to one's face when recalling an embarrassing act committed years ago. The emotional experiences tend to be fresh, as poignant and as articulable as they were at the original occasion, or perhaps even more so. Certain old pains just do not grow old; they only refer to old events.

The Law of Closure

In the preceding sections, I have discussed the lawful determination of emotional reactions, mentioning the determinants of situational meaning, concerns, apparent reality, change, and momentum. Emotional response itself, too, has its lawful properties, which can be subsumed under the *law of closure: Emotions tend to be closed to judgments of relativity of impact and to the requirements of goals other than their own.* They tend to be absolute with regard to such judgments and to have control over the action system.

It may be, according to the law of change, that the causes of emotion are relative ones, relative, that is, to one's frame of reference—emotional response does not know this relativity and does not recognize it. For someone who is truly angry, the thing that happened is felt to be absolutely bad. It is disgraceful. It is not merely a disgraceful act but one that flows from the actor's very nature and disposition. Somebody who has acted so disgracefully *is* disgraceful and thus will always be. The offense and the misery it causes have a character of perpetuity. In strong grief the person feels that life is devoid of meaning, that life cannot go on without the one lost. Each time one falls in love, one feels one never felt like that before. One dies a thousand deaths without the other. Every feature or action of the love object has an untarnishable gloss for as long as the infatuation lasts. In the presence of strong desires—think of trying to lose weight, stop smoking, or get off drugs—one feels as if one will die

when they are not satisfied and that the pain is insupportable, even while one knows that the pang of desire will be over in a minute or two. Verbal expressions of emotions tend to reflect this absoluteness in quality and time: "I could kill him" or "I cannot live without her."

The closure of emotion is manifest not only in the absoluteness of feeling but also in the fact that emotions know no probabilities. They do not weigh likelihoods. What they know, they know for sure. Could it be that your friend is meeting someone else? Your jealousy is certain. Could it be that your partner is an inattentive person? Your anger is certain. Does she love me? Love now is certain that she does, and then is certain that she does not. When jealous, thoughts of scenes of unfaithfulness crop up, and one suffers from images self-created. It is the same for the delights and the anxieties of love. Love is consummated 10 times before it actually is, and, when one is uncertain whether the loved one will be at the rendezvous, one prepares the reproachful speech over the telephone in advance.

The absoluteness of feelings and thinking is mirrored by what people do. They tend to act upon this absoluteness. The primary phenomenon of emotion, one may argue, is what can be called the "control precedence" of action readiness (Frijda, 1986). The action readiness of emotion tends to occupy center stage. It tends to override other concerns, other goals, and other actions. It tends to override considerations of appropriateness or long-term consequence. Control precedence applies to action as well as to nonaction, to fear's impulse to flee as well as to grief or despair's lethargy. It applies to single actions, such as shouting or crying, as well as to the execution of long-term plans, such as when passionate love makes a person neglect his or her obligations. It applies to attentional control (Mandler, 1984). It also applies to the information processing involved in action preparation and execution, where it shows in the effects of emotion on performance—activating under some conditions and interfering under others.

Closure, or control precedence, may well be considered the essential feature of emotion, its distinguishing mark, much more so than autonomic arousal or the occurrence of innate responses such as crying or facial expressions. The notion of control precedence captures in some sense the involuntary nature of emotional impulse or apathy, its characteristic of being an "urge," both in experience and in behavior.

The law of closure expresses what I think is the major, basic, theoretical fact about emotion: its modularity (Fodor, 1981). Emotion can be considered the outflow of a module serving the regulation of activity for safeguarding the satisfaction of the individual's major goals or concerns. Modularity is the conception that best accounts for the central properties of emotional response hinted at in this section (see Frijda & Swagerman, 1987).

The Law of Care for Consequence

Emotion is not always as absolute as just sketched. Emotions do manifest deliberation, calculation, or consider-

ation. Infatuation can be stingy, and anger can be prudent. However, I argue, closure and absoluteness reflect the basic modular shape of emotion. The manifestations of that basic shape may run into opposite tendencies, though, that stem from the *law of care for consequence*: *Every emotional impulse elicits a secondary impulse that tends to modify it in view of its possible consequences*. The major effect is response moderation. Its major mechanism is response inhibition.

Presence of a tendency toward moderation or inhibition of response—that is, presence of emotion control—must be considered a ubiquitous fact of emotion. Its ubiquity, and thus the validity of the law, paradoxically is evident in those rare instances when control power fails, as happens in blind panic or anger, with neurological interferences such as temporal epilepsy (Mark & Ervin, 1970) or experimental decortication (Bard, 1934), and under toxic influences like those of alcohol. Normal fury or passion, however violent, is nonetheless controlled. In anger, one rarely smashes one's truly precious objects. When madly in love, one still waits to get home before consummating. Something snaps when going from there to frenzy, to blind impulse.

The law of care for consequence, too, is a law of emotion. Control, in large measure, is an emotional response. Anxiety—rigid anxiety, freezing—in fact is its most complete expression; the drying up of emotional freedom before critical onlookers is a more moderate version. Like other emotional responses, control is elicited or maintained by stimuli. The stimuli for control are the signals for possible adverse consequences of uninhibited response such as retaliation, reprobation, or miscarriage of plans. The notion that inhibition is triggered by anticipation of adverse response consequences, of course, comes from Gray (1982).

The fact that involuntary emotion control itself is an emotional response implies that the other laws of emotions apply to it, notably the law of apparent reality. One cannot at will shed restraint, as little as one can at will shed anxiety or timidity. Emotional spontaneity is a function of how the environment is perceived to respond. Environmentally induced inhibition is illustrated by audience effects like the one just mentioned, familiar from examinations or auditions and from social facilitation research. Opposite, disinhibitory effects are found in the surprising emotional responsiveness, the increase in susceptibility to weeping and sexual excitement, in groups that are sympathetic toward such impulses. Therapy groups, sensitivity training groups, and meetings in sects like those led by Baghwan Rajneesh illustrate what is meant. The point is of much more relevant consequence because it provides a basis for explaining certain aspects of mass behavior. According to deindividuation theory (e.g., Zimbardo, 1970), mass enthusiasm, mass ecstasy, and mass violence are consequences of decreases in self-monitoring and of focusing attention on a leader and a common objective. These mass phenomena, in other words, result from a decrease in control due to the absence of stimuli that signal adverse response consequences and

to the presence of stimuli that signal approbation of unhampered impulse expression.

The Laws of the Lightest Load and the Greatest Gain

Emotion control is not dictated entirely by external cues, or, more precisely, to the extent that it is dominated by external cues, those cues themselves are, within limits, at the subject's discretion. One can focus now upon this, then upon that, aspect of reality. One can complement reality with imagination or detract from it by not thinking of particular implications. The construction of situational meaning structures, in other words, offers leeway for emotional control that has its origins within the object himself or herself. Situational meaning structures can be chosen in ways that decrease emotional intensity, prevent occurrence of emotion, or make events appear more tolerable or more pleasing. The situational meaning structure that dictates emotion, in accordance with our first law, is in part shaped and transformed by its own expected outcomes and consequences. Transformation follows various principles. One of these can be phrased as the *law of the lightest load*: *Whenever a situation can be viewed in alternative ways, a tendency exists to view it in a way that minimizes negative emotional load*. "Negative emotional load" refers to the degree to which a situation is painful and hard to endure.

Defensive denial is commonplace and has been widely described (see Lazarus & Folkman, 1984). The many ways to minimize emotional load, however, merit emphasis; mechanisms exist to ensure it at different levels of the process by which meaning structures are constructed. Denial, avoidant thinking, and entertaining of illusionary hopes operate at almost the conscious, voluntary level (see Weisman's, 1972, concept of "middle knowledge"). People often claim that they had always known that their illness would be fatal, that the loss they suffered would be permanent, or that the malfunctioning in the nuclear plant was dangerous, their earlier denials notwithstanding. Note that such knowledge does not prevent the denials from being resistant to correction, presumably because the load reduction they effect is so considerable.

Other mechanisms of load lightening operate at a much more elementary level. This applies particularly to the mechanisms that transform one's sense of reality and block the occurrence of hedonic appreciations. What I am referring to are the mechanisms of depersonalization, the occurrence of the sense of unreality, the veil over emotional feeling. Depersonalization occurs under all conditions of shock, severe trauma, severe threat, and severe pain. It has been described contingent upon accidents, serious loss or failure, torture, and sexual abuse (e.g., Cappon & Banks, 1961).

Denial and depersonalization are by no means the only ways in which load minimizing operates. The interplay of emotion and cognition can take many shapes that often are, for the subject, as difficult to recognize as they are difficult to bear. Examples are provided by the oc-

currence of painful emotions that, there are reasons to suppose, replace still more devastating ones. Sometimes, for instance, people entertain a "worst case hypothesis," preferring the apparent certainty of a disastrous prospect over the uncertainty of a future unknown. They convince themselves, for instance, that they are suffering from fatal illness in order to shield themselves from the possible shock of being told unpreparedly. An even more complex interplay is found in the cognitive strategy that leads people to view themselves as responsible when in fact they have been victims of arbitrary maltreatment. The guilt feelings that, paradoxically, are so common in victims of sexual or other child abuse appear to serve to retain the view that adults are dependable and right in what they do. These guilt feelings are the lesser price to pay compared to the utter despair and disorientation that would otherwise follow. They permit the victim to see sense in a fate that contains none (Kroon, 1986).

The law of the lightest load blends into the *law of the greatest gain*: *Whenever a situation can be viewed in alternative ways, a tendency exists to view it in a way that maximizes emotional gain*. Emotions produce gains that differ from one emotion to another. Anger intimidates and instills docility. Fear saves the efforts of trying to overcome risks. Guilt feelings for misdeeds done confer high moral standing. Grief provides excuses, confers the right to be treated with consideration, and gives off calls for help. Often, when crying in distress or anger, one casts half an eye for signs of sympathy or mollification. Anticipation of such consequences, it can be argued, belongs to the factors that generate one particular situational meaning structure rather than another, and thus brings one particular emotion rather than another into existence. The mechanism involved is transparent. One focuses, for instance, on the idea that another is to blame in order to permit emergence of an anger that makes the other refrain from what he or she is doing. The mechanism operates in jealousy, and the coercive effects perpetuate much marital quarreling. Even if the pains of jealousy may not originate in the wish to prevent the partner from being unfaithful, that wish strongly sustains jealousy; it does so particularly when the partner yields and gives up part of his or her freedom of action. Who would wish to make one suffer so? Here, too, certain painful emotions appear to result from something resembling choice—choice of a painful emotion over a still more painful one. That process in fact is rather general. Grief upon loss, for instance, tends to be willfully prolonged, not only because it provides excuses but also because it keeps the lost person nearby, so to speak. When grief is over, true loneliness sets in.

Concluding Remarks

The purpose of this article was to show that the study of emotion has advanced to a point that a coherent account of emotion can be given. The account is one that fits reasonably well into the framework developed for other domains, such as those of cognitive processes and motivation. A further purpose was to show that emotions are

governed by laws. Emotions emerge and manifest themselves the way they do because lawfully operating mechanisms dictate response. We are subjected to these mechanisms and obey the laws.

Clearly, humans are not entirely and blindly subjected to these mechanisms. Not even all of human emotion is dictated by the emotion laws. One can seek occasions for certain emotions and avoid other ones. One can willfully supplant the situational meaning structure of a given event with prospects of the future and with those considerations of long-term gain or loss that represent the voice of reason. One can exert voluntary emotion control and substitute deliberate action for impulsive emotional response. It is not clear, though, how the relationship and difference between the two modes of action control—control by situational meaning structure and impulse, and by deliberate intent—are to be viewed. There is a current distinction between automatic and controlled processing. It is not evident, however, that this distinction illuminates the present context more than did the old distinction between Emotions and the Will (Bain, 1859) because the major problem is their opposition and, on occasion, persisting conflict, as manifest in emotion's control precedence. Perhaps the concept of an emotion module ready to intrude on top-level control, as suggested earlier, comes closer to how the relationship should be conceptualized.

Even if not subjected blindly to the laws of emotion, still we are subjected to them. When falling in love, when suffering grief for a lost dear one, when tortured by jealousy, when blaming others or fate for our misfortunes, when saying "never" when we mean "now," when unable to refrain from making that one remark that will spoil an evening together, one is propelled by the big hand of emotion mechanism. I would like, in conclusion, to return to the issue touched on in the beginning of this article: the opposition one may feel between the lawfulness of emotions and the sense of personal freedom.

Note, first, that there is comfort in the notion of the lawfulness of emotion and in one's participation in the laws of nature that that notion implies. It is the comfort that resides in the recognition of necessity generally. I mentioned previously the law of comparative feeling—emotions are proportional to the difference between what is and what is deemed possible. Recognizing necessity where there is necessity, where nature limits one's control, can considerably decrease emotional load. More important, there is, I think, no true opposition between lawfulness and freedom. Personal freedom, wrote Spinoza (1677/1955) consists in acting according to one's own laws rather than to those imposed by someone else.

Second, as I hinted at earlier in this article, neither is there a fundamental opposition between Emotion and Reason. It may be argued that reason consists of basing choices on the perspectives of emotions at some later time. Reason dictates not giving in to one's impulses because doing so may cause greater suffering later. Reason dictates nuclear disarmament because we expect more sorrow than pleasure from nuclear war, if not for ourselves then

for our children, whose fate fills us with emotion. The only true opposition is that between the dictates of the law of apparent reality, which tend to attach to the here and now, and the anticipations of later emotions, which tend not to be so dictated and thereby lack emotional force.

It is here that the laws of emotion and reason may meet and where both emotion and reason can be extended so as to make them coincide more fully with one's own laws. Following reason does not necessarily imply exertion of the voluntary capacities to suppress emotion. It does not necessarily involve depriving certain aspects of reality of their emotive powers. On the contrary, our voluntary capacities allow us to draw more of reality into the sphere of emotion and its laws. They allow us to turn the law of apparent reality into a law of reality, that is, to let reality—full reality, including long-term consequences—be what determines emotion. They allow one's emotions to be elicited not merely by the proximal, or the perceptual, or that which directly interferes with one's actions, but by that which in fact touches on one's concerns, whether proximal or distal, whether occurring now or in the future, whether interfering with one's own life or that of others. This is accomplished with the help of imagination and deeper processing. These procedures, as I have suggested, can confer emotive power on stimuli that do not by their nature have it. They can extend the driving forces of emotion to the spheres of moral responsibility, for instance. The laws of emotion can extend to the calls of reason as much as to those of immediate interests.

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