POSITIVE EMOTIONS AS INCENTIVES AND "NUTRIENTS"

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1. The adaptive functions of emotions

Human beings are capable of dozens of different emotional states, each with its own precise characteristics and specific name. Some scholars noticed however that these multiplicity can be traced back to a small number of macro-categories or *basic emotions*: four according to some authors – *fear*, *anger*, *sadness* and *joy* while others believe there are five, six or seven, with the addition of – respectively - *shame*, *disgust*, and *surprise*. From these *basic emotions and their combination*, all the other emotions derive, ranging from anxiety to bitterness, from jealousy to euphoria, to name but a few.[1]

Although philosophy, religion and even science have had for centuries a prejudicial attitude towards the emotions, they are nothing but unnecessary or harmful and on the contrary play important adaptive functions.

First, emotion provide informations to consciousness about the positive or negative effect that given external objects, subjects, events or situations produce or may produce on us. For example, *fear* informs us that the situation, animal or human being in front of us represents a danger (need for survival); *anger*, that the person with whom we are interacting is invading our personal space, or is denigrating or even physically attacking us (need for survival or safety); *shame*, that our way of life or behavior is (or could be) considered reprehensible by other people (need to belong and/or need for approval) etc. Not only unpleasant emotions but also pleasant ones have an important informative and adaptive role: for example *joy* signals that a given relationship is beneficial to us; *enthusiasm* tells us that the activity we are engaged in inspires us and makes us feel fulfilled; *cheerfulness* that the situation or conversation in which we find ourselves is amusing and stimulating etc. From this point of view the role of the emotions is similar and complementary to that performed at the corporeal level by the sensations of pleasure and pain and is somehow an extension of them: pleasing emotions indicate to the person the appropriate directions for them and therefore are a signal of *invitation*, while unpleasant emotions signal harmful or dangerous animals, people, events and situations and are therefore a signal of *avoidance*. This cognitive/evaluative "system" functions very simply: that which does good gives pleasure, what is harmful produces suffering and what is neutral leaves us indifferent – i.e. does neither good nor evil – and is therefore useless or in some cases boring.

The feed of information from the emotions is highly important from an adaptive point of view, because without it a person's physical and psychological integrity would be at risk as well as his/her motivation to act and even to live. The etymology of the word "emotion" (from the Latin *moveo* = to move and *ex* = from, thus *moving from*) indicates that its job is to trigger an outward action or reaction. The sound action/reaction is to move towards objects, situations, activities

[1] See among many: Ekman P., 1972 and 1984; Ekman P. & Davidson R. J. , 1994; Plutchik, R., 1980 and 2002.

or people who produce positive emotions and move away from those which produce negative emotions.

Emotions, even unpleasant ones, are nevertheless important signals and we need to take their meaning on board and then translate them into an effective means of resolving the situation by which they were generated (on an intrapsychic and/or intrapersonal level) and ensuring that they do not resurface. Ridding ourselves of an emotion without comprehending its cause and without attempting to sort it out is senseless and counterproductive, like ignoring the red light on a dashboard alerting us to a fault. Nonetheless some unconscious neurotic defense mechanisms (e.g. projection, desensitizing, retroflexion etc.) encourage us to do, as psychoanalysis discovered.

However, we should note that the emotions are only one of the cognitive systems available to us for evaluating our relations with reality and for making decisions, so before acting, we should take into consideration the responses of the other systems and especially neocortical reflection.

Our emotions are a precious source of information, not only for us but for other people too, every time we voluntarily or involuntarily manifest them. Our facial expressions, gestures, posture, tone of voice or its volume and various other non-verbal signals can inform other people about our humor and the state of any interaction/relationship we have with them. The same applies for verbal messages such as: “I am angry”; “you frighten me”; “I am ashamed”; “I am happy” etc. Informing others of our state of mind, we help them to better understand the interaction/relationship between us and we may give them a way to adopt corrective measures. For example, if I express anger, the other person can understand that they have gone too far and apologize, just as if I express joy, he or she can understand that the relationship is proceeding well and continue in the same direction. The opposite also applies, in the sense that we in our turn perceive others' emotions and can thus understand how the interaction/relationship is going and correct or confirm its direction. This second function is undoubtedly important as regards communication and interpersonal relations, but in this article I will focus on the first function, namely the emotions as evaluations of objects, subjects, events and external situations.

It should be noted in this regard that emotional states do not only depend on such objects, subjects, events and external situations, but also – and especially – on the person’s interpretation of them, which depends on both his/her instinctive programs and cultural and self-created beliefs as we will see ahead. Lastly, emotions can be sparked irrespective of the external environment, just by remembering past positive or negative situations or imagining cheerful or sad future scenarios: recalling a positive memory generates joy, for instance, whereas imagining a potentially forecoming danger stokes fear.

2. Positive emotions as incentivizing feedback

As we have seen in para. 2 one of the main functions of the emotions is to convey to consciousness an assessment of the objects, subjects, events or situations we are dealing with and the positive or negative effects that they produce or could produce on us. From such a perspective it seems clear that positive emotions such as joy, enthusiasm and cheerfulness produce positive feedback geared to indicating the actions, relationships and nourishment that are congenial to a person’s wellbeing and their realization, incentivizing them to continue along the same lines. Just as physical pleasure usually tells us that a certain food, object, person or activity is good for our bodies (in the right amounts, obviously), emotional pleasure (i.e. joy and its derivatives) tells us that a certain situation, relationship or activity is good for our

psychological, existential or spiritual wellbeing. Therefore, while unpleasant emotions are red lights that suggest to avoid certain situations, relations or activities, positive emotions are green lights that invite the individual to go (or proceed) in a certain direction, motivating him to stay in touch with the related people, situations or activities (being aware that emotions are just one of the cognitive systems we have in assessing our relationship with the external environment, and before taking action, the responsibilities of other systems, mainly neocortical reflection, should also be considered).

In addition to providing information on objects, activities, people, and relationships, positive emotions are also true goals, namely remuneration or nourishment that the individual intends to achieve through certain activities or relationships. For example, activities such as games, sexuality, conversations with friends, the exchange of tenderness, as well as listening to music or poetry, contemplating paintings or sculptures, watching theatrical or cinematographic works etc. are performed especially for the positive emotional states they produce.

The first scholars who took positive emotions into serious consideration were, in the 1950s, humanistic psychologists Carl Rogers and Abraham Maslow. Rogers highlighted the highly beneficial function of *unconditional positive regard*, which he recommended parents and teachers as the optimal attitude to adopt with the children and posed as the primary therapeutic factor of his psychotherapeutic method.

Maslow, in addition to elaborating a significant theory of needs, clarified the role that positive emotions play in the motivation of the individual and also carried out pioneering research on people with higher than average psychological well-being (see box).

A pioneering research on people mentally healthier than the average

Abraham Maslow (1954) was the first to conduct research on people whose level of psychological well-being was higher than normal. He took into account 49 subjects, some of whom were university students and scholars whom he personally knew (including Gestalt psychologist Max Wertheimer and anthropologist Ruth Benedict) while the other part was made up of historical characters, some living and others deceased including J.W. von Goethe, Pablo Casals, John Keats, Thomas Jefferson, Abraham Lincoln, Baruch Spinoza, Robert Browning, Albert Einstein, Eleanor Roosevelt and Martin Buber.

Maslow obtained the characteristics of the latter from a careful analysis of biographical and autobiographical documents, while for living subjects he used interviews, free associations and projective tests.

The main features that distinguished this group of people from the "normal" ones were in summary: a clearer and more effective perception of reality; greater openness towards the experience; greater spontaneity, expressiveness, creativity, vivacity and ability to love; a sound and authentic personal identity; greater objectiveness and capacity for detachment and transcendence; a democratic structure of character. As Maslow remarked, many of the features identified corresponded in many respects to the ideals of religions: charity towards others, wisdom, honesty and naturalness, overcoming selfish and personal motivations, abandoning "lower" desires and moving towards 'superior' ones etc.

Obviously the heterogeneity of the subjects and the investigative tools used made this research poorly scientific, according to the canons of the time and, in some respects, even according to the current ones, though more open to qualitative methodologies. Therefore, this pioneering attempt to investigate healthy subjects rather than sick ones did not follow and had to wait almost half a century and the birth of positive psychology before considering the question again.

Although important, the contribution of humanistic psychology did not really succeed in changing the trend in the field of mental health, which even after the ’70s remained concentrated on the sphere of pathology. However, at the start of the new

millennium, other dissenting voices were heard and in particular the authoritative M. Seligman and M. Csikszentmihalyi (2000) who, ideally taking up the considerations of Maslow and the other exponents of the humanistic current, re-proposed a change of course in psychology in a more positive direction, that is to say closer to the themes of health, wellbeing and quality of life. The aim of positive psychology is "to start to catalyze a change of focus in psychology, shifting it from only being concerned with repairing things that are wrong in life to building positive qualities."[2]
In line with this aim, positive psychology's three main objects of study and of action are: 1) positive emotions, 2) positive individual traits and 3) positive institutions.

> The field of positive psychology at the subjective level is about valued subjective experiences: well-being, contentment, and satisfaction (in the past); hope and optimism (for the future); and flow and happiness (in the present). At the individual level, it is about positive individual traits: the capacity for love and vocation, courage, interpersonal skill, aesthetic sensibility, perseverance, forgiveness, originality, future mindedness, spirituality, high talent, and wisdom. At the group level, it is about the civic virtues and the institutions that move individuals toward better citizenship: responsibility, nurturance, altruism, civility, moderation, tolerance, and work ethic.[3]

Thanks to the groundwork done by humanistic psychology, as well as to Seligman's position as president of the authoritative APA (American Psychological Association) and a more empirical and qualitative orientation of researchers and scholars, positive psychology has gathered much more consensus than its humanistic forerunner, and although it is still far from full (or at least majority) recognition, in my opinion it may be an important methodologic opportunity for psychology, medicine and mind-body health sciences in general.
As a result of this increased interest in positive emotions and capabilities, over the last two decades abundant and significant research has been carried out.
For example, Dunn & Schweitzer (2005) found that Positive emotions can increase trust in newly-forming relationships, a result indirectly confirmed by the findings of Cohn & Fredrickson (2006) - according to which positive emotions may facilitate the development of various bonds and interdependence opportunities – and of Otake, Waugh, & Fredrickson (2007) according to which individuals experiencing positive emotions display more caring interest toward their friends.
Positive emotions are not only useful in boosting well-being but also in limiting malaise and illness and in facing more serenely and effectively their psychological consequences. As highlighted by Gil et al. (1997) experiencing high levels of positive emotions correlates with less pain and disability relative to chronic health conditions. The ability to resist illness and disease is also improved by the presence of positive emotions, as found by Ong & Allaire, (2005) and Cohen & Pressman, (2006). Some researchers also found an interesting correlation between the frequency of positive emotions and life expectancy (Danner et al., 2001; Levy et al., 2002; Moskowitz, 2003; Ostir et al., 2000).
Particularly interesting for our purposes are some experimental findings of Fredrickson, Mancuso, Branigan & Tugade, (2000, study 1) showing that positive emotions affect body regulation by helping recovering the biochemical stress response after a threat. Immediately after an anxiety-provoking experience intentionally administered by researchers to participants, the latter were exposed to either a sad, neutral or positive emotion film clip while simultaneously measuring their biological stress responses. Subjects exposed to the positive emotion film recovered quicker than those seeing the neutral film, who recovered more quickly

[2] Ibidem.
[3] Seligman M. & Csikszentmihalyi M. 2000, p. 5.

than those viewing the sad one. More specifically, researchers noted that the positive emotional film facilitated body regulation by shortening the duration of cardiovascular response elicited by a stressor (Fredrickson et al., study 2).

It is well known by psychologists that resilient individuals recover from negative events quicker than average people: Tugade & Fredrickson (2004) showed that the way they do so is indeed by creating positive emotions during the recovery process. Whereas such people utilize positive emotions to resiliently recover from stress, others (mainly normals and neurotics) continue to be physiologically activated and inclined to react even after the threat has ceased. McEwen & Seeman, (1999) found that over the long-term, the latter individuals will acquire more physiological hardship possibly culminating in various stress-related illness (see also Kiecolt-Glaser, McGuire, Robles & Glaser, 2002).

Even with regard to mental health, significant correlations have been found between the presence of positive emotions and the ability of patients to effectively deal with their pathologies. Joiner, Petit, Perez & Burns (2001), for example, showed that patients with suicidal tendencies coped better when their disclosure of pain was combined with some sense of positivity. Similar results were found by Bonanno et al., (2002) relative to patients who suffered childhood sexual abuse.

Fredrickson and Joiner (2002) determined that being in a positive emotional state is associated with creative and open-minded coping strategies which, in turn, predicted heightened positive emotions five weeks later (above the baseline level of positive emotion). Pessimism and depression are known to correlate with a self-perpetuating downward spiral while positive emotions are linked to an upward spiral of greater resources, life success and fulfillment.

Barbara Fredrickson (1998; 2001) outlined an interesting theory named “broaden-and-build theory” according to which positive emotions *broaden* an individual’s immediate thought-action options and promote behavior that *builds* long-term resources. More precisely, positive emotions spiral upward and broaden into novel thoughts, actions and relationships that create long-term personal resources (i.e. life and prosocial skills, resilience, social fulfillment and survival capability) resulting in improved physical and psychological health - i.e. the “*build”* component of Fredrickson’s theory.

This theory received numerous experimental demonstrations, among which I would like to mention one by Fredrickson, Cohn, Coffey, Pek & Finkel, (2008) where the experimental group participants daily practiced a meditation specifically designed to produce the positive emotions of compassion and love. After three weeks, participants began experiencing significantly higher daily levels of positive emotions than the members of the wait-list control group and after eight weeks, they showed increased scores in various personal resources, including appreciation of positive experiences, mindfulness, and quality of close relationships, physical wellness and efficacy at goal achievement.

3. Negative emotions as surrogates of unavailable positive emotions

In paragraph 1 we have looked at emotions from the point of view of their informative and adaptive function, observing that positive emotions and negative emotions are equally useful in this regard, albeit in different ways. Emotions, however, also carry out other functions, including that of "nourishing" our affective, social and existential needs. In this respect, positive and negative emotions are far from being equivalent: while positive emotions should be considered appropriate and healthy nutrients, improving our state of wellbeing at the psychological, neuroendocrine and physical level, negative emotions worsen our wellbeing on all these levels, and this should not be surprising to us because, as alarm signals, their purpose is not at all

"nutritious" but rather to help us recognize and avoid inadequate, dangerous or toxic activities, situations, animals or people in the shortest possible time.
It only takes a modicum of common sense to realize that it is healthy to seek and keep pleasant emotional states, while it is not remotely healthy to seek and keep unpleasant ones.
Although common sense would suggest that unpleasant emotions should be avoided, some people are not sufficiently tuned in to it and others even seek out such emotions intentionally. An example of the former is provided by those who, despite being aware that they will not sleep well afterwards, watch violent or horror films because there is nothing better on TV. People who, in spite of themselves, allow themselves to be dragged into discussions and arguments without being able to disentangle themselves are another such example. People who intentionally and habitually seek out the afore-mentioned types of films and derive some sort of nourishment from them (precisely which sort will be examined further on) belong to the latter group, along with those who always choose the wrong sort of partner, who will make them suffer, or even those who continually find themselves in trouble, frequently the same sort of trouble.
There can be many different factors that drive certain people to intentionally seek out negative emotional states, but I believe that there is one that plays a key role: the search for *affective surrogates*. What I mean here are people who, for various reasons, fail to procure positive affective/emotional "nutrients" for themselves, tending to substitute them with negative ones. The reason for this is that, just as disgusting food is better than none, unpleasant emotions, such as anger, fear, contempt, sadness etc., are better than no emotions. As the Swedish poet, Hjalmar Soderberg says:

We want to be loved; failing that, admired;
failing that, feared;
failing that, hated and despised.
At all costs we want to stir up some sort of feeling in others.
Our soul abhors a vacuum.
At all costs it longs for contact.[4]

In my other publications, I have outlined a theory of affective surrogates, clarifying the psychological-relational causes that lead people to seek such surrogates and the interpersonal manipulative strategies they use to procure them.[5] In short, I believe that among these causes the main one is a painful chronic deficiency of positive socio-affective nutrients that almost every child, albeit to a different extent, suffers during childhood and in particular a lack of *unconditional love* and *unconditional acceptance*. In order to survive, children learn to fill the gap with surrogates, which, depending on their personality type and the characteristics of the socio-familiar environment in which they live, might well be *approval* or *power*.
Given a socio-familial environment's inability (or sometimes impossibility) to satisfy the need for unconditional love and acceptance, I believe the search for affective surrogates in this situation to be healthy: it is an inevitable reaction to a sick environment and helps the person not to become more ill (by slipping into psychosis, for example). What is not healthy and is eminently avoidable is for people to continue to seek affective surrogates even in adulthood, when – given their greater freedom and autonomy – they could choose other social environments, less toxic than the family of origin and other people more loving and respectful, with whom to enter into positive affective relationships. Often, however, people unwittingly end up being attracted to social environments that are as toxic as those of their infancy and to friends and partners who are equally incapable of loving unconditionally or of accepting others for what they are. This trend might be explained

[4] Hjalmar Soderberg, *Dr. Glas*, cited by K. Pollak, *Tu e gli altri*, Macroedizioni, 1998, p. 56.
[5] See Cheli E. 2009 & 2017.

in psychoanalitic terms, but I believe the continual search for affective surrogates during infancy and adolescence has a relevant part to play, eventually becoming automatic and etched indelibly into a person's character, bolstered and sustained by a belief along the lines of: "others will never accept me for what I am and therefore I have to *win* their approval and, if this is not possible, I will have to *undermine* their power". This belief, formed during childhood, became ingrained at a time when children had no means of changing their unloving and non-accepting parents and choosing others who were more appealing. However, it is no longer the case once adulthood is reached, and a person is free to choose the people with whom to have affective exchanges. This freedom is merely theoretical, alas, because many people fail to realize – because of either cultural habits and conditioning or individual neurotic distortions – that they are no longer children and that their margins of choice have widened significantly.

We will examine now various interesting biochemical and neurophysiological implications related to using negative emotions as surrogates of positive ones.

The alarm-triggering emotions such as fear and anger prompt the secretion of various hormones at endocrine level, including adrenaline noradrenaline and cortisol; these are tasked with raising the body's ability to react to danger, by flight or fight. The aim of these emotions is to flag up danger to us and to place the body in the optimum conditions for tackling or escaping it. A similar thing happens with positive emotions, but the other way round, in the sense that when they occur, hormones and neurotransmitters are released, but of an altogether different kind: *serotonin* (also known as the 'feel-good hormone') *dopamine, oxytocin, melatonin* and several others, the most important being the *endorphins*, a class of neuropeptide which Candace Pert, a pioneer in this field of research, defined the *bliss-makers*. [6]

[6] See Pert C. 2000.

Endorphins do, in fact, produce extremely pleasant feelings, comparable to those which are generated during a healthy sexual intercourse or artificially brought on by drugs such as morphine or heroin, the difference being that endorphins are naturally produced by our nervous system, do not create addiction and have no undesirable side-effects (the name "endorphin" is actually an abbreviation of *endogenous morphine*, meaning morphine self-produced by the body).[7] The extensive experimental data back up that positive emotions are tasked with showing us which activities, situations, objects or people "nourish" us, i.e. satisfy our needs and stimulate our motivation. The fact that positive emotions stimulate the production of chemical substances such as serotonin, dopamine, oxytocin and endorphins tells us that the concept I describe as "emotional nourishment" is rather more than a simple metaphor. In this regard, it is interesting to note that ancient yogic-tantric texts refer to a substance – called *amrita* in Sanskrit, which means *nectar of the Gods* – said to be at the root of the state of *ananda* (beatitude) which people can access when they activate through meditation the sixth and seventh *chakra*, energy vortexes (or nerve plexuses), both located in the head, amazingly corresponding to the epiphysis and the hypophysis, two endocrine glands that play a crucial role in hormonal modulation and thus in the secretion of endorphins.

Going back to the question of emotional surrogates, I believe, from a neuroendocrine viewpoint, that the authentic nutrients are the substances such as serotonin, dopamine, oxytocin and, particularly, the endorphins, while their surrogates are the hormones linked to states of alarm or aggressivity, adrenalin and testosterone especially. Such hormones do not produce feelings of

[7] Endorphins are not only released in response to external or internal gratifying situations (falling in love, being promoted, feeling appreciated or loved etc.) but also to cope with painful states, a function that does not concern us in this book and for which see Bottaccioli F., 2005.

beatitude, but they do trigger a powerful activation mode which shakes the person to the core and makes them feel, if not happy, at least bright and energetic, which is better than nothing. This also explains the huge fan base of some team sports such as soccer, baseball, American football and so on, as well as the success of certain types of film based on violence and/or fear. Last but not least, it sheds new light on the possibly far too widespread tendency to argue both in the workplace and the couple. All these activities actually generate in actors and spectators huge quantities of adrenalin and testosterone, which, according to my theory, act as surrogates for the need for endorphins and other "bliss-makers".

Furthermore, when the adrenal activation mode is reached, endorphins are also released, since the body uses them not just to generate beatitude when things are going well, but also to tackle distress when things go badly, such as when one is desperately running away from danger or fighting off an attacker. Therefore by activating the adrenalin-filled mode, the person does not simply feel bright and strong, on some level they also feel the beneficial effect of the endorphins. Unfortunately, this convoluted method of acquiring the necessary emotional nutrients requires a high energy cost and has many negative side effects, including *addiction*. In fact, one of the typical characteristics of every surrogate is that its nutritional contribution is much lower than the substance it is replacing, and this also goes for adrenalin and testosterone, whose effect is short-lasting and they need to be taken frequently, thereby generating dependency. By contrast, endorphins, serotonin and other "positive" hormones and neurotransmitters – i.e. the authentic nourishments human beings need - have a much higher "nutritional contribution" and their beneficial effects last considerably longer. Anyone who has practiced any form of meditation (an activity that many studies have shown actually stimulates the production of these substances)[8] knows that the feeling of beatitude it engenders is long-lasting - from a few hours to several days; by contrast, the adrenalin-charged feeling of activation/excitement sparked by an argument or watching a sporting competition or action film lasts a couple of dozen minutes or less, after which there is a marked slump in energy levels, which is not the case following endorphinic states.

Something similar and even more powerful than meditation takes place in the state of falling in love, during which very high quantities of serotonin, oxytocin and endorphins are produced (see box).

Falling in love and the production of molecules of beatitude

Whoever has experienced this state, at least once in their life, knows that (if reciprocated) one feels as though in ecstasy, stronger than usual, more enthusiastic and optimistic towards life. Not only do we see in our beloved all that is most beautiful and desirable, but we are so overflowing with ecstasy that we feel unconditional love also towards the other people we meet, who all seem nicer than usual. Unusual positive feelings surface in our inner world and new, less habitual and more creative behaviors distinguish our actions. Dreamy looks and radiant smiles replace our habitual facial expressions, in short falling in love, true love (not to be confused with mere infatuation) sparks off an authentic psychological and hormonal revolution.

The feeling of beatitude experienced by people in love is not only more intense but also much longer lasting than that felt by people who are simply sexually infatuated with each other. In the latter relationships, power prevails over love and *power is more exciting but not very nourishing*: it can excite sexually or intellectually, but does not give real wellbeing. It produces plenty of smoke, but little fire. Therefore, a couple nourished by power more than by love is forced to make use of continual duals, maneuvering for power, to be able to create the momentary emotional thrill that

[8] See Mohandas E., 2008; Choi K.E. et al. 2011; Harte J.L. et al. 1995; Newberg A.B., Iversen J., 2003; Yu X. et al., 2011.

fulfills now one and now the other, allowing them to survive as a couple. Moreover, this type of couple travels on alternating current because when one feels good, almost certainly the other feels bad and vice versa. This continual tension and lack of harmony generates anxiety and stress in both partners, who however rarely understand the real cause. Thus, the game can go on even for a long time, until the tension reaches critical levels; then a rupture is triggered, often followed by momentary "pacification", generally ending with more intense sexual intercourse than usual, an intensity that does not derive from love but from the release of the high intensity of tension reached. Being suddenly released, this tension produces a pleasure that is in fact the cessation of suffering, not dissimilar to what we feel when we manage to eat something after being forced to fast for a long time or when we take off tight shoes after a painful walk. In short, it is not that the pleasure is really greater than usual, but that added to normal pleasure there is the cessation of pain.

One of the differences between love and power is that love satisfies both, whereas power satisfies one of the two, the winner of that particular "round", and it gratifies them to the detriment of the other. In short, love is a positive sum game where both win, while power is a zero sum game where one wins and the other loses. Not only, but with power even the winner, wins little; firstly, because the partner at the first opportunity will get their own back, one way or another; secondly, and more importantly, every "victory" won on the level of power gives only superficial and short-lived satisfaction, while an exchange of love nourishes in depth and satisfies for a long time. One of the explanations for this phenomenon is that love is associated with hormones such as serotonin, oxytocin, dopamine and endorphins, while power principally activates adrenalin and testosterone.

Basically, therefore, my theory is that human beings need positive, pleasant emotions (love, happiness, enthusiasm etc.) but if they cannot achieve them, they end up plugging the gap with negative emotional feelings (fear, anger, contempt etc.). From a biochemical point of view, many people who for various reasons do not manage to produce sufficient quantities of those substances that Candace Pert calls "molecules of bliss" (serotonin, dopamine, endorphins etc.) "nourish" themselves in a surrogatory manner with adrenalin, testosterone and other hormones linked to states of alarm and/or aggressivity, which are much easier to come by. These people are seeking euphoria, fear or anger, but like any other human being, they really need love, acceptance and joy.

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