

# **The Parallel Worlds of Affective Concepts and Feelings**

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**To appear in:** In J. Munsch & K.C. Klauer (eds). *The Psychology of Evaluation: Affective Processes in Cognition and Emotion* Lawrence Erlbaum, Mahwah, NJ. USA.

Support is acknowledged from NSF Grant SBR 96-01298 and NIMH Grant MH50074.

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(*Note:* this version corrected to match copy edited, published version)

## The Parallel Worlds of Affective Concepts and Feelings

In conversation, what is left unsaid is sometimes more powerful than what is said, because the hearer must supply the meaning. When the hearer does so, the message can be especially compelling. We suggest that this process is evident in certain instances of unconscious affective priming. Specifically, when the source of an activated affective meaning is not apparent, it may be experienced as having an internal source. This, we argue, gives unconscious affective primes their interesting and powerful effects. In the current chapter, we summarize some of our own recent work in this area and suggest some principles for understanding the work of others. In general, we take a skeptical view of some of the claims that have been made about suboptimal priming. Rather than displaying hidden emotional processes (e.g., Bargh, 1997; Murphy & Zajonc, 1993), we assume that subliminal stimulation involves quite ordinary cognitive processes (Clore & Ketelaar, 1997). This is not to say that unconscious priming has ordinary effects. But the intriguing effects that it does produce, we suggest, may be understood by thinking of the process as the activation of semantic meaning without episodic constraints,<sup>i</sup> a message without a messenger, one might say.

We are concerned in this chapter with affective feelings and affective concepts, and with their parallel effects on judgment and processing. Moods are affective states that are temporally extended and that have no salient object or focus. As a result, their possible meanings are relatively unconstrained. We propose that the information from induced mood and from primed concepts can have similarly broad influences, because both are unconstrained by salient knowledge about their sources.

Emotions are also affective states, but, in contrast to moods, they do have salient objects. This feature makes them powerful in ways that moods are not. The experience of emotion provides insistent information that some specific object is good or bad in some specific way. The experience is located in the body, but its meaning is situated in the world. As a result, emotions can both motivate and direct problem-focused coping. In contrast, the diffuse feelings that characterize moods have no clear anchor either in the body or in the world. Thus, emotions can be powerful because they have focus, whereas moods lack both urgency and focus. But this affective myopia makes them powerful in a different way. Moods can have broad and general effects precisely because they lack such constraints (e.g., Schwarz & Clore, 1983). Experiences of good and bad moods convey information that something (possibly everything) relevant to oneself is good or bad in unspecified ways. A decade or two of research on mood by social and cognitive psychologists shows that the unconstrained nature of the information involved allows mood to play a role in judgment and decision-making, as well as in cognitive processing more generally (see Clore, Schwarz, & Conway, 1994, for a review).

This chapter is not primarily about mood and emotion, but about the mood-like effects that sometimes occur when evaluative concepts are unconsciously primed. We propose that moods and primed evaluative concepts have parallel effects, because affective feelings and affective meaning obey the same rules (Clore, Gasper, & Garvin, 2001). Our basic argument rests on two hypotheses, the first of which is: Like affective feelings of mood, unconsciously primed affective meaning can have broad influence, because the value conveyed about potential objects is generally unconstrained by awareness of its source. This hypothesis concerns the observation that both mood-based

feelings and subtly primed concepts can have general effects on evaluative judgments. In addition to explaining the generality of their effects, we also need to explain their compellingness. Hence, the second hypothesis is that: The information from affective mood and the information from affective priming share important phenomenological qualities that make them both especially compelling. We suggest that the feelings and thoughts are persuasive, because in the absence of a salient, external source, they are experienced as internally generated.

### **Explanations of Parallelism**

The phenomenon of interest concerns the parallelism in the results of mood studies and priming studies. Possible explanations for the parallelism are (1) that both are really examples of conceptual priming, (2) that both are really examples of induced feeling, or (3) that both are caused by a third factor shared by affective concepts and affective feelings. The most common approach has been the first of these, explaining the effects of mood on judgment in terms of cognitive priming (Bower, Montiero, & Gilligan, 1978; Isen, Shalke, Clark, & Karp, 1978; Forgas & Bower, 1988). The priming hypothesis holds that mood selectively activates mood-congruent material in memory, which in turn leads to mood-congruent judgments. In contrast, the second approach posits the reverse causal flow, suggesting that subliminal priming works by inducing affect (e.g., Bargh, 1997; Winkielman, Zajonc, & Schwarz, 1997). That approach holds that subliminal exposure to affective concepts allows the affective part (assumed to be fast), but not the cognitive part (assumed to be slow) to be processed. Thus, instead of assuming that induced feelings prime affective concepts, this approach assumes that primed affective concepts induce feelings (or some unconscious version of affect). In contrast to either of

these, we propose the third possibility, which assumes that induced mood and subliminal affective priming have comparable effects because they are alternative forms of the same information, namely, they are alternative representations of value (see Table 1).

Table 1. Comparison of Explanations for Mood Effects and Priming Effects on Judgment

| <b>Phenomenon</b>  | <b>Theory</b>           | <b>Explanation</b>                                      |
|--|-------------------------|---|
| Unconscious affective priming influences evaluative judgment | Zajonc-Bargh-Winkielman | Affective concepts elicit (unconscious) affect          |
|  | Affect-as-Information   | Affective concepts convey evaluative information        |
| Mood Induction influences evaluative judgment                | Bower-Forgas-Isen       | Moods activate affective concepts in declarative memory |
|  | Affect-as-Information   | Affective feelings convey evaluative information        |

According to this view, the influence of the induced feelings and primed concepts flows from the fact that both are unconstrained in their source and hence in their applicability. We turn to this issue next.

## **Constraints and Affect Applicability**

Our proposal is that affective feelings and evaluative concepts are both ways of representing goodness and badness. Positive feelings serve as experiential information that something about the object of one's attention is good in some way. Similarly, positive concepts that come to mind may serve as conceptual information that something is good. Induced mood and subliminal affective priming both convey information about value, and neither typically has an object. We argue that the critical element in both mood studies and unconscious priming studies is this lack of constraint, which allows wide latitude in the situated meaning of affective feelings and affective thoughts. For example, when diverse primes are used in either unconscious or subtle priming studies, evaluative meaning may be the only thing they have in common, so that positivity and negativity become primed with no well-defined source. Being unconstrained as to its source, such primed evaluative meaning may be experienced as a reaction to whatever is currently in focus. Similarly, and for the same reason, the feelings of mood may also be experienced as a reaction to whatever is in mind at the time (Clore et al, 2001a).

A consequence of this lack of constraint is that, depending on one's focus, one may experience affective feelings and thoughts as information about one's current situation, about one's general knowledge, or about one's initial responses on a task, or, if engaged in routine self-monitoring, as information about oneself. Thus, positive mood or activated positive concepts, for example, may be experienced as evidence of the benignness of the situation (Schwarz & Clore, 1996), of the applicability of one's general knowledge (Bless, et al, 1996), of the correctness of one's expectations and initial responses (Clore,

Wyer, Dienes, Gasper, Gohm, & Isbell, 2001; Wyer, Clore, & Isbell, 1999), or perhaps of one's general self-confidence or well-being.

In line with these considerations, various forms of experiential and conceptual information can be differentiated in terms of the presence and absence of constraints or limits on the range of possible objects. Table 2 depicts four affective conditions that differ with respect to whether they have a salient object and whether they refer only to the present.

Table 2. Object specificity and temporal duration as constraints on the meaning of experiential information

**Sources of Felt Affective Information**

|                   | Current         | Chronic            |
|-------------------|-----------------|--------------------|
| Salient Object    | <i>Emotions</i> | <i>Attitudes</i>   |
| No Salient Object | <i>Moods</i>    | <i>Temperament</i> |

This table indicates that *emotions* and *attitudes* differ from *moods* and *affective temperament* in part because the former confer value on specific objects, whereas the latter leave the object of value unspecified. Looking at the table the other way, *emotions* and *moods* both differ from *attitudes* and *affective temperament* in that the value conferred by the former is constrained to be about something in the present (i.e., they are states), whereas the object of value for attitudes and temperaments need not be in the present (i.e., they are dispositions).

The logic about the constraints on the meaning of affective feelings also applies to affective concepts. An analogous table spells out the implications for ideas rather than feelings. According to Table 3, the affective concepts involved in everyday affective *thoughts* and *beliefs* have objects; that is, they are generally about something. In contrast, subtly *primed affective concepts* and those chronically activated in *affective traits* do not have salient objects. As a result, the possible application of their affective meaning is relatively unconstrained. Looking at the table the other way, *thoughts* and *primes* may be immediate and fleeting, whereas *affective beliefs* and *traits* endure and may or may not be activated in a given moment. As a result, the evaluative meanings rooted in affective beliefs and traits are not as temporally constrained as those rooted in perception.

Table 3. Object specificity and temporal duration as constraints on the meaning of information from activated affective concepts

### **Sources of Conceptual Affective Information**

|                   | Current            | Chronic        |
|-------------------|--------------------|----------------|
| Salient Object    | <i>Perceptions</i> | <i>Beliefs</i> |
| No Salient Object | <i>Primes</i>      | <i>Traits</i>  |

We believe that the parallelism of the conditions that differentiate among forms of felt affect and forms of conceptualized affect helps explain the parallelism in the dynamics of induced feelings and primed concepts. Thus, Tables 2 and 3 represent a proposal in which the principles of the affect-as-information approach (Clore, et al, 2001 b) can accommodate affective concepts as well as affective feelings. In both cases, the



information conveyed by affective concepts and feelings depends on attributions about their sources.<sup>ii</sup>

The tables suggest that we have different labels for feelings and accessible concepts depending on whether they are current or chronic and whether they are experienced as being about a particular object or not. Thus, primed elements of meaning should obey the same principles as mood-based affect. This proposal has been formalized (Clore, et al, 2001) as the Episodic Constraint Principle, which says that, *Primed concepts and affective feelings have similar effects when the obscurity of their sources leaves their potential meanings similarly unconstrained.* Several recent studies test whether these principles (from an informational analysis of mood) also provide an informational analysis of subliminal priming. These are described in the final sections.

We have focused in this discussion largely on one kind of constraint, namely, whether or not affective feelings and concepts have objects. This focus is appropriate because it is one of the primary ways in which feelings of mood and the subliminal priming of meaning are similar. But before proceeding, let us note that we assume that the distinctiveness of particular emotional feelings reflects the unique meaning of the situations in which such emotions arise, and this distinctiveness is also an important constraint on their indiscriminant applicability. In a similar way, the evaluative meaning of affective concepts is also constrained in its influence on other evaluations, not only by whether or not it is cognitively bound to a particular object, but also by its descriptive meaning. Thus, the word “intelligent” describes a particular kind of goodness, and “kind” describes another. Saying that someone is intelligent carries little or no implication about their kindness. We will return to this point later, but first we turn to the

second characteristic that induced moods and primed thoughts have in common, namely, that they are credible because they are experienced as one's own.

### **Spontaneity and Convincingness**

William James (1890), referring to his own depression, commented on the "appalling convincingness of feelings." We suggest that the information from feelings is convincing because it is experienced as arising spontaneously from within. We know from research on persuasion (Petty & Cacioppo, 1986) that source credibility is an important factor in persuasiveness, and we presumably find ourselves to be particularly credible sources. More specifically, we find our automatic, unbidden reactions to be convincing. This is true both interpersonally and intra-personally. We find compliments from others more credible when they appear spontaneous than when they seem dictated by other considerations. According to attribution theory (e.g., Jones & Nisbett, 1971), we usually see our own behavior as due to situational factors. However, for subliminally primed ideas and thoughts, there is usually no support in awareness for making a situational attribution, even though a situational attribution would be appropriate. As in the case of feelings, the apparent spontaneity and internal origin of subliminally primed ideas should make them compelling.

A dramatic illustration of the credibility of spontaneous inner experience comes from disorders such as the Capgras syndrome in which individuals become convinced that everyone close to them, including spouses, friends, and family are imposters (Feinberg, 2001). As a result of stroke damage, visual recognition of others can remain intact, even though the connections that allow one to experience affective reactions to them do not.

To cope with the distressing experience of recognition without affection, otherwise sensible individuals find themselves entertaining bizarre hypotheses that their loved ones have become occupied by extra-terrestrials or are clones of themselves. The extreme attempts of suffers to make sense of their feelings suggest that our spontaneous inner experience is the one source of information we rarely question.

We are arguing that the information from induced mood and the information from primed ideas are similarly believable when they are experienced as spontaneous and hence as one's own. Of course, in the case of unconscious priming, this proposition requires elaboration. Is a phenomenological explanation applicable to unconscious stimuli? We believe that it is, because although the unconscious primes are not experienced, the meaning they activate is experienced as an attribute of the next thing to occupy attention. We argue that when feelings and activated meanings are cognitively unconstrained, they may be experienced as attributes of whatever is in mind at the time. We turn to this issue next.

### **Affect-as-information About Objects**

Our perceptual system is dedicated to modeling the world of objects around us. By and large, people do not dwell on sensations by themselves. They serve as a means of knowing about other things, rather than as ends in themselves. In a similar manner, affective feelings and meanings provide information about the objects of one's attention, functioning more like adjectives than like nouns. They represent the goodness or badness *of things*. They are experienced as the goodness or badness of objects, including, of course, of aspects of ourselves and our responses when these are in focus.

We are arguing that in the canonical situation, affective information is experienced as being about some object. In addition, we are suggesting that the object about which affect provides information depends on what is salient at the time. Indeed, emotions would be even more problematic than they are if the information they provided were about something other than our current cognitive content.

Higgins (1996, p. 161) makes a similar point about the informativeness of thoughts that come to mind:

People naturally assume, for example, that a category comes to mind in the presence of a stimulus because the stimulus is a member of the category. This is a reasonable and adaptive assumption. Indeed, a loss of this assumption would create an existential crisis.

### **Affective Montage**

A useful metaphor for thinking about how we form a single reality from individual experiences is that of montage in filmmaking. The montage effect occurs when two images following one another closely in time are grouped together in experience. It is this kind of effect, along with other visual illusions, that fascinated the Gestalt psychologists of the 19th century. They observed that we automatically perceive things as grouped together when they occupy our minds simultaneously as a result of being associated in time and space. In early silent films, this montage effect became an indispensable tool for story telling. They discovered that images of a menacing figure followed by images of a heroine shrinking in fear tended to be experienced as a single event. Indeed, the tendency is so pronounced, that when such a connection was not

desired, filmmakers had to insert a brief delay from one scene to the next to disrupt the effect. Presumably our ability to find coherence in the flow of sounds in speech or in music involves a similar principle.

In subliminal priming too, affective meanings tend to become attached to whatever else is in mind at the time. The meaning that is primed is unconstrained because the brief exposure times used in priming along with backward masking procedures tend to interfere with the transfer of the experience to memory. As a result of this interference, neither the stimulus nor the exposure event can be explicitly recalled (Bornstein, 1992). Some decoding often does take place, however, so that if the stimulus is similar to something that has stored meaning, that stored information may be activated. The information most likely to be activated is a gross categorization of the stimulus as good or bad, a process that Bargh (1997) has dubbed the “automatic evaluation effect.”

Bargh’s terminology implies that one is actively engaged in some kind of bottom-up evaluation process. However, most of what we encounter already has evaluative meaning, so that the “automatic evaluation effect” usually involves reading off evaluative meaning that is already inherent in the meaning of the stimulus. It is not clear, therefore, to what extent there is another active unconscious evaluation process. Moreover, it is not clear whether the effect of such procedures is to cause activation to spread to evaluatively similar stimuli in memory (Greenwald, Draine, & Abrams, 1996), to prepare one to make evaluatively similar responses (Klinger, Burton, & Pitts, 2000), or simply to cause one to make response errors (Franks, Roskos-Ewoldsen, Bilbrey, & Roskos-Ewoldsen, 1999). In this regard, Fiedler (this volume) points out that priming accounts have generally focused only on category activation, and that they need also to consider the explicit or

implicit instructions about what to do with primed material. Under different conditions, the same prime may result in either assimilation or contrast. The correct interpretation presumably depends on the procedure used. In our discussion, we assume that repeated suboptimal presentation of positive or negative stimuli activates evaluative meaning. Being objectless, it may become attached to whatever comes to mind next. When a novel or neutral stimulus is presented next (e.g., Murphy & Zajonc, 1993), the primed evaluation may adhere to it, so that it is rated more positively or negatively than it otherwise would have been.

## **Summary**

In this section, we have argued that: (1) Affective feelings of mood and unconsciously primed affective meanings can both have broad influence because their true sources are not salient; (2) The apparent spontaneity of the feelings of mood and of primed meaning makes the information they convey especially convincing; (3) Because evaluative reactions are ordinarily about something, the information from induced feelings and primed concepts are readily attached to whatever is in mind at the time. These common properties should allow mood and subliminally primed concepts to produce parallel effects, the topic to which we turn next. We discuss first explanations for the effects of mood on judgment and then review issues about priming and judgment.

## **Parallelism in Studies of Judgment**

### **Mood and Judgment**

One of the most reliable effects of mood is the tendency for people to make mood-congruent evaluative judgments. Investigators often use films or music to induce mood

so that individuals experience positive or negative feelings that are independent of whatever cognitive content is also active at the time (e.g., Gouaux, 1971). There are two primary explanations for the resulting mood-congruent judgments, one which proposes that feelings of mood are used directly as information in judgment, and one which assumes that the role of mood is to prime the cognitive content on which judgments are made.

**Affect-as-Information.** The affect-as-information approach (Clore, 1992; Clore, et al, 2001a, 2001b; Schwarz & Clore, 1983, 1988, 1996) assumes that for many evaluative judgments, the process is one in which feelings are used as answers to the implicit question, “How do I feel about that?” Tests of this view often vary the attributions that participants make for their feelings (e.g., Keltner, Locke, & Audrain, 1993). The point of such experiments is to show that mood effects depend on the apparent information conveyed in feelings about people’s reactions to objects of judgment. When, at the moment of judgment, the feelings are experienced as due to something else, mood effects on judgment tend to disappear.

**Critiques.** Because of its emphasis on the role of attributions and on the manipulation of attributions in experiments, the affect-as-information position is sometimes misunderstood to imply that in everyday life, the objects of one’s feelings are arbitrary and hence show great plasticity. On the contrary, we assume that emotional reactions are usually firmly wedded to the objects to which they are responses and are therefore quite resistant to misattribution and change (e.g., Gasper & Clore, 1998). Mood is a useful tool for examining the role of attribution in affective judgments, because the

feelings of mood (as opposed to those of emotions) are not already dedicated to specific objects.

The position is also sometimes misunderstood to imply that mood effects should occur only under conditions in which inquisitive participants would be unable to deduce the true cause of their feelings. The critical variable, however, is not whether the true cause would be obvious to an analytic participant or an uninvolved observer, but whether the individuals actually involved focus on the feelings and their causes at the right moment. In most such experiments, induced moods are sufficiently mild and participants are sufficiently preoccupied that feelings become objects of focus only when evaluative judgments are called for.

It may also be important to clarify what is implied in an informational analysis of affective influence. Because almost anything might be classified as information, does the assertion that affect serves as information say anything? Does it rule out anything? These are fair questions for any scientific claim. One claim of the affect-as-information approach is simply that judgments and decisions are often based directly on feelings, which we view as embodied information. An alternative hypothesis is that judgments are not based on how one *feels*, but on what one *knows* about the object of judgment. In that view, the role of affect is to make affect-congruent beliefs more accessible in memory. In the first view, affective feeling is the embodied information on which judgments are made, and in the second, affect activates in memory the information on which judgments are made. The claim, then, is not that judgments are based on information, which would be empty, but that affect can itself be that information.



**Affect-as-Prime.** An alternative account of mood effects on judgment (e.g., Bower, Montiero, & Gilligan, 1978; Forgas & Bower, 1988; Isen, Shalke, Clark, & Karp, 1978) focuses on the hypothesis that mood influences judgment indirectly by priming mood-congruent concepts and beliefs in memory. It assumes that judgments are made on a biased sample of information from memory, which is automatically activated by mood.

Traditional judgment and decision theory has also assumed that judgments are based on stored beliefs about objects of judgment (e.g., Anderson, 1971; Fishbein & Ajzen, 1975). Social-cognitive accounts too assume that judgments reflect the accessibility of particular concepts (e.g., Higgins, Rholes, & Jones, 1977). Thus, when psychologists turned their attention to mood, it was natural to assume that mood effects also were reflections of the accessibility in memory of mood-congruent concepts and beliefs (Bower, 1981; Isen, 1984).

**Critiques.** The priming view has the advantage of incorporating mood within general cognitive theory (Bower, 1981). Also, it has stimulated a great deal of research. Some evidence, however, seems to conflict with a memory-based approach. For example, little or no relationship is generally found between memory and judgment, leading to the inference that many judgments may not be based on memory (Wyer & Srull, 1989). Also, if mood effects are due to priming, then mood effects (like priming effects) should occur only at encoding (Srull & Wyer, 1979), but mood effects have been shown to occur when mood is introduced at the judgment stage (Clore & Wilkin, 1985; Fiedler & Stroehm, 1986). In addition, if mood congruent effects occur through selective retrieval from memory, they should be found only when both mood-congruent and mood-incongruent material exist in memory, so that one or the other can be selectively activated

(Bower, 1981; Isen et al, 1978). However, some research (Schwarz, Robbins, & Clore, 1985) shows that mood effects may be just as large for affectively homogeneous stimuli as for mixed stimuli, suggesting that a biased selection of material from memory may not be the mediator of mood effects. In addition, a wealth of evidence has emerged from other sources suggesting that affective and “visceral” factors are used directly in judgment (e.g., Clore, et al, 1994; Loewenstein, 1996).

More generally, the basic premise of priming accounts (that affective feelings automatically prime material from declarative memory) is not as well-documented as generally assumed. A review of the evidence (Wyer et al., 1999) shows that studies have often inadvertently confounded primed mood-congruent concepts with induced feelings of mood. Studies that have disentangled feelings from concepts (e.g., Parrott & Sabini, 1990) find that the effects on memory are carried by the concepts and not by the feelings. Thus, although mood-congruent content may play a role as one attempts to understand one's feelings about an object of judgment, such activation of mood-congruent cognitive material is elaborative rather than automatic. For these reasons, we are not inclined to view primed concepts as the primary explanation for the effects of mood on judgment (but see Forgas, 2001, for an alternate view).

It should be noted that Forgas's (2001) current framework includes both affect-as-information and priming explanations in one framework. The affect infusion model classifies mood effects as either "heuristic" or "substantive," and identifies affect-as-information as relevant to heuristic effects. In contrast, mood-congruent priming appears to be relevant to substantive processing. Forgas (2001) reports evidence against a heuristic interpretation by showing that mood effects are more likely to occur when

judgments take longer to make. This evidence is inconsistent with the use of mood as a shortcut or heuristic. However, it also seems inconsistent with the hypothesis that affect influences judgment through automatic priming, since that process should be very rapid. Presumably, the time-consuming part of the mood-based judgments could reflect either the time to formulate thoughts about one's feelings for use as retrieval cues, or the time to integrate embodied and conceptual affective information into one judgment. More important, as Wyer et al., (1999) indicate, affect-as-information processes are not restricted to heuristic processing. Rather, how we feel about something is often the information of choice in judgments. Thus, affect-as-information processes need to be included as substantive processes of judgment.

In this section, we have indicated that there is ample data to show that mood influences evaluative judgments. In addition, we have digressed to compare two of the explanations for such effects. In the next section, we change the topic from mood influences on judgment to affective priming influences on judgment. Specifically, we examine how priming effects that parallel those of mood emerge when suboptimal affective priming activates information about value that is similarly unconstrained in its object, but which is conceptual rather than embodied.

### **Priming and Judgment**

Within social psychology, priming paradigms have been the methodological mainstay of social cognition for more than twenty years (e.g., Higgins, et al., 1977; Higgins 1996). The underlying idea is that concepts vary in their cognitive accessibility, and that such variations in accessibility explain many social judgment phenomena (Wyer & Srull, 1989). In their original study, Higgins, et al. (1977) asked participants to engage

in a color-naming task in which they were exposed to several evaluative terms that served as primes. Afterward, they read an ambiguous passage about a person named Donald, and were asked to give their impression. The passage allowed them to see Donald either positively or negatively. The results showed that as long as the primes were the same words as those used to rate the character, they influenced the ratings. However, no evaluative priming occurred for traits unless they shared descriptive meaning. Thus, there was evidence for descriptive priming, but not for evaluative priming. That is, the applicability of primed evaluative meanings was limited by the salience of the primed descriptive meaning, suggesting that evaluative priming might not occur when respondents have some awareness of the priming stimuli.

Storbeck and Robinson (2001) have shown that when descriptive priming and affective priming are assessed independently, descriptive priming takes precedence over affective priming. In four experiments, they showed that descriptive priming trumps evaluative priming in lexical decisions tasks and object identification tasks regardless of whether the stimuli are words or pictures.

Subsequent research is generally consistent with these findings (see Wyer & Srull, 1989 for a review). There are many demonstrations of descriptive priming in which, for example, exposure to synonyms of a term such as “hostile” on one task elevates ratings of that same attribute (hostility) in subsequent judgments. However, such studies do not show general evaluative priming, because they do not find evidence of similarly negative ratings on other trait dimensions. Of course, if the other trait ratings were collected after having rated someone as “hostile,” then the ratings on hostility might serve as a basis for other negative ratings. However, it is important to distinguish real affective priming

(e.g., the increased accessibility of the concept “hostile” after earlier use of other terms with hostile meaning) from mere evaluative inference (inferring other negative traits from one’s perception of the person as hostile).

By contrast, Krosnick, Betz, Jussim, and Lynn (1992) did show that exposure to evaluative primes resulted in prime-congruent evaluations of liking for a person appearing in a subsequent neutral photograph. The primes were emotional pictures, and they were presented subliminally. The results suggest that true evaluative priming might occur provided that primes are presented subliminally, because participants would remain unaware of the descriptive content that would otherwise constrain the evaluative priming.

In general, we assume that processing a word used as a prime activates all of its various elements of meaning, its semantic associates, and so on. This also apparently happens during ordinary reading. Such diffuse activation does not cause confusion in reading, because previously encountered words place constraints on which of the possible meanings and nuances emerge. Thus constrained, only the contextually relevant aspects of meaning emerge into consciousness. But in unconscious priming (suboptimal exposure) procedures, the meaning that emerges from an exposed word is presumably less finely tuned by context.

With optimal (conscious) exposure times, the descriptive meaning of the primes often dominates the evaluative aspects, resulting in descriptive, but not evaluative priming. However, if the priming terms were evaluatively more extreme, so that descriptive meanings were not dominant, then general evaluative priming might be more likely. Evidence consistent with that possibility has been reported by Stapel and Koomen

(2000), who found that when evaluatively more extreme stimuli are used as primes, the evaluative as well as descriptive implications of the concepts are activated. Extreme primes (“malevolent,” “warm,” etc.) increased the accessibility of the general evaluative concepts of “good” and “bad” that they exemplified. Once activated, these concepts stimulated participants to interpret the target’s behavior along specific trait dimensions in a manner that was evaluatively consistent with them.

It should be noted that Bargh (1997) proposes that extremity of evaluation is not a factor in affective priming. He argues that the same effects occur with mild or extreme evaluative primes. Indeed, he argues for a separate, pre-cognitive stage in which people categorize stimuli into simple good or bad categories. However, the data reviewed by Klauer and Musch (this volume) show that investigators differ with respect to whether they do or do not find effects for evaluative extremity.

Additional questions have arisen concerning whether affective priming occurs on nonevaluative tasks (Fazio, 2001). Bargh, Chaiken, Raymond, and Hymes (1996) reported evaluative congruence effects on latencies for pronouncing target words after exposure to evaluatively similar and dissimilar priming words. However, some others have been unable to find such effects (e.g., Klauer, 1998) or have found the reverse (e.g., Glaser & Banaji, 1999). More important, as investigators have begun to examine affective priming using different tasks, it has become apparent that priming paradigms are not about stimulus meaning alone. Wentura and Rothermund (present volume) suggest that the affect system is concerned with stimulus meaning, not in the abstract, but in the service of behavior. As a result, measures of affective priming are necessarily also measures of the relevance of stimuli to possible responses. Indeed, Wentura (2000)

found that he could produce reversals in affective congruence or incongruence in a lexical decision task simply by reversing the response required to indicate whether a word or nonword had been seen. Thus, although we are focusing on the constraints on affective meaning that are provided by the stimulus context, there appear to be a corresponding set of constraints coming from the response end. Nevertheless, the focus in this chapter is restricted to a discussion of stimulus constraints on evaluative meaning.

For our purposes, a study by Winkielman, et al. (1997) is especially informative. Participants rated how much they liked particular Chinese ideographs after brief, masked exposures to photographs of smiling or frowning faces. The positive and negative affective meaning conveyed in the expressions was found to influence liking and disliking of the Chinese ideographs that appeared immediately afterward. In such procedures, participants are generally unaware of having seen the priming stimuli. Participants may show above chance accuracy in recognizing whether they had seen smiling or frowning faces, but they cannot reliably identify specific faces. In other words, the evaluative, but not the descriptive, meaning gets through. Under the right circumstances, then, we expect that the evaluative rather than the descriptive aspects of the primes will govern priming, a finding that would parallel the results found for mood. Thus, when evaluative meaning is a dominant feature, we expect general evaluative priming (e.g., in experiments using explicit primes that are extreme in evaluative meaning Stapel and Koomen (2000) or with subliminal evaluative primes where only the evaluative meaning is retained.).

We also hypothesize that the similarities between the results for mood and for evaluative priming are due to the affective information conveyed in affective feelings and

thoughts. A test of that hypothesis is whether or not changes in attributions for the occurrence of the feelings and thoughts result in corresponding changes in evaluative ratings, findings to which we turn next.

### **Attributions and Judgment**

We know from extensive research that mood effects can be expected only when the true cause of the mood-based feelings is not salient to participants as they form their judgments. When an extraneous source of the feelings of mood is made salient, mood effects often disappear or even reverse (e.g., Schwarz & Clore, 1983). The same pattern is evident in studies of explicit priming. Martin (1986) studied the effects of priming concepts blatantly rather than subtly, and found contrast effects. After blatant priming with positive concepts, people made negative ratings, and after blatant priming with negative concepts, they made positive ratings. A similar observation was made by Lombardi, Higgins, and Bargh (1987), who divided participants according to whether or not they remembered the priming event. They found priming effects among those who did not recall the primes, and they found contrast effects among those who did recall them.

The critical factor, however, is not actually awareness, but whether participants make correct attributions at the time of judgment. For example, Martin, Seta, and Crelia (1990) used a blatant priming procedure that made the true cause of the concept accessibility obvious. That procedure tended to produce contrast effects, but when the investigators introduced a cognitive load so that participants were kept mentally busy during judgment, they were prevented from making the correct attribution. As a result, priming effects



were still obtained. These studies suggest that successful priming requires that participants do not attend to possible constraints on the applicability of the primed concept. This occurs in instances of suboptimal or unconscious priming, because the constraints are unavailable, and it may occur in blatant priming if attention is occupied by a secondary task.

### **Attribution and Subliminal Priming.**

Murphy and Zajonc (1993) observed that subjects evaluated unknown Chinese ideographs more positively when they were preceded by the subliminal presentation of smiling rather than frowning faces. Consistent with an affect-as-information approach, our interpretation is that participants misattributed whatever affective meaning was activated by the subliminal faces to the ideographs, because their subliminal presentation made a correct attribution unlikely. Said another way, the primed affective meaning attached itself to the experience of the ideographs, because participants could not remember the brief exposure to smiling or scowling faces, which was its true source. Consistent with this explanation, the effect was obtained only when the faces were presented suboptimally, and not when they were presented optimally. Apparently, optimal exposure allowed subjects to identify the actual source of their reactions, rendering them nondiagnostic for evaluating the ideographs.

These results appear consistent with a feelings-as-information account, but as a test, Winkielman et al (1997) conducted an extended replication of the study with an explicit attribution manipulation. They found that the observed effect remained unchanged. Specifically, they either informed subjects that a smiling (or frowning) face would precede each ideograph (Experiment 1), or they exposed subjects to music, which they

said would elicit positive or negative feelings (Experiment 2). Neither misattribution manipulation resulted in augmentation or discounting effects. However, it turns out that subjects did not report having any subjective experience of affect in the experiment. Such faces, although they may convey affective meaning when presented suboptimally, do not necessarily elicit affective feelings.

Since subjects did not report being in a mood or having affective feelings in these studies, it is not surprising that opportunities to misattribute their feelings to an irrelevant source did not eliminate the effect. In addition, the failure to find attribution effects aimed at feelings when there were no feelings suggests that the usual attribution effects in studies of mood do not represent demand artifacts.

Winkielman et al. (1997) interpreted their data as evidence for the role of “unconscious affect” and implied that the active ingredient in mood and judgment studies too might be unconscious affective forces that operate outside of awareness, rather than the information from feelings, as hypothesized in the affect-as-information approach. We are inclined to think, however, that the Winkielman et al. study, as well as many other intriguing and important studies in the Zajonc tradition, may be studies of semantic priming so that they are not uniquely relevant to emotion. Indeed, evidence from Greenwald, et al. (1996), shows that the same effects can be obtained with nonaffective stimuli, including priming a readiness to respond to gender by subliminal exposure to male and female names. We view unconscious priming as a fascinating phenomenon with some especially interesting properties, but perhaps not as a royal road to understanding affect.

A premise of this chapter is that the way in which primed affective concepts influence judgment is not that different from the way feelings of mood do so. However, since the feelings of mood are available to consciousness, one may become aware of them independently of an object. But one becomes aware of primed meaning only when it emerges as an attribute of whatever comes to consciousness next. As shown by Murphy and Zajonc (1993), when the words or faces used to prime affective meaning are made conscious, then attributional processes operate exactly as they do with the feelings of mood, eliminating or reversing affective priming.

**Summary.** Thus far, we have discussed the parallel effects of mood and affective priming on judgment. We have suggested that mood effects may not be primarily due to the mediation of primed, mood-congruent concepts as proposed by Bower (1981), Isen (1984), or Forgas (2001). We have suggested that the reverse hypothesis, that affective priming induces affective feelings (or some unconscious counterpart), may also not be the pivotal process. It seems unlikely that merely being exposed to evaluative words creates emotional moods. Indeed, if it did, reading a dictionary might be a much more exciting experience than it is. In this regard, the chapter by Niedenthal, Rohman and Dalle (this volume) gives a plausible account of the conditions that may be required for isolated words and other stimuli to elicit affect. In addition, we propose that an important feature of both moods and unconscious affective primes is that they convey information about value. Importantly, these representations of value are also unconstrained in their applicability. As a result, it should be the case that the principles that we have found to govern mood effects should also govern affective priming.

### **Applying Informational Principles to Priming**

We have recently formalized several principles to account for phenomena in the mood and cognition literature (Clore, et al, 2001 a,b). For example, the Experience Principle and the Information Principle propose that emotional feelings convey embodied information about one's unconscious appraisals. In addition, the Attribution Principle proposes that when the true source of affective cues is not salient, the affect may be misattributed to other cognitively accessible objects. Since they are about mood, these principles tend to be framed in terms of the experience of affect, but they can be extended to apply to primed affective meaning. We argue that, like the evaluative information from induced feelings, the evaluative information from primed affective meanings can be co-mingled with descriptive information during one's experience of an object. One might reasonably object to this equation on the grounds that unconsciously primed affective meaning cannot be experienced by itself in the same way as affective feelings of mood can be, and hence that primed meaning is not available to be attributed in the same way. We think that it is not a problem, because mood too influences judgment only when one attends to one's feelings in conjunction with the object of judgment. When the feelings of mood are experienced separately as moods, the effects on judgment tend to disappear (e.g., Schwarz & Clore, 1983). In this regard, priming effects are fully parallel. They occur only when primed affective meaning emerges in one's experience as a reaction to the object of judgment. Both mood and primed meaning therefore obey the same attribution principle. Drawing attention to mood and its induction tends to eliminate or reverse its influence on judgment, and altering the priming procedure so that participants are aware of the link between primed concepts and the priming manipulation also tends to eliminate or reverse their influence.

Another key principle is the Immediacy Principle, which says that Affective feelings tend to be experienced as reactions to current mental content (Clore et al, 2001 a,b). We live in a stream of affective and other sensory feedback, each of which conveys potentially important information. For example, feeling sick at one's stomach might be appropriately attributed to whatever one happened to have eaten two hours earlier. Similarly, feeling the symptoms of influenza might be appropriately attributed to whatever ill person one happened to be with two weeks ago. But when one feels an emotion such as fear or anger, it is invariably about whatever happens to be in mind at that moment. The presumed purpose of such affective cues is to indicate the significance of the stimuli to which one is attending. However, when the affective cues come from mood, or when they are triggered by background ideation of which one is only dimly aware, the proper object of attribution is open. Under those conditions, as we have seen, affective cues may influence judgments of liking, provided that one is focusing on an object with a goal of evaluating it. But what happens when one's focus is not on an object to be evaluated, but on a task to be performed or a problem to be solved? Changing one's focus from judgment stimuli to problem-solving responses leads to very different effects, as summarized in the Processing Principle to which we turn next.

### **Mood and Processing**

When one is focused on performance, rather than on judgment, the same affective feelings may be experienced as information about the performance task. As a result, one's processing strategy becomes "tuned" to the processing requirements of the situation (Schwarz & Clore, 1996). Such tuning may occur when positive or negative affective cues are experienced as positive or negative feedback about one's expectations and

inclinations about the task (Clore et al, 2001 b). In general, information processing tasks require both drawing on one's existing knowledge and using new information from the environment. For example, as the eyes of readers skim along a page, what they already know must be interwoven with new information. They must assimilate new information to existing expectations, but also accommodate existing beliefs to new data (Fielder & Bless, 2000). We assume that in any given moment the weighting given to each is guided by one's subjective experience of the task. For example, the breezy experience of reading something one finds easy to understand privileges the knowledge one is bringing to the task, whereas an effortful experience of reading something one finds challenging inhibits reliance on expectations so that one's agenda shifts to picking up new information. If subjective experiences of ease and difficulty do influence shifts in processing strategy, then positive and negative feelings of mood may have similar effects. According to the Processing Principle (Clore, et al, 2001 b; Wyer, et al., 1999), when one is task-focused with a performance goal, affective feelings may be experienced as feedback about performance or about the value of accessible information.

Isbell (e.g., Isbell, 1999; Isbell, Clore, & Wyer, 2000) has conducted research designed to test this hypothesis. She examined the hypothesis in the context of an experiment on the extent to which people relied on stereotypes or on new behavioral evidence. To induce moods, she asked participants to recall and describe in detail a happy or sad event in their recent past. Then they read a story about a day in the life of a woman described either as an introverted librarian or as an extraverted sales person. This initial information was intended to activate stereotypic beliefs about persons in such

roles. However, the story actually contained an equal number of introverted and extraverted actions by the woman.

Participants indicated their impression of the woman by rating her on various extraverted or introverted characteristics. The results showed that individuals made to feel happy focused on their stereotyped beliefs about librarians and salespersons, whereas individuals made to feel sad focused more on the specific actions of the woman as described in the story (Fig. 1).

Moreover, as a further test of the affect-as-information interpretation of the results, Isbell conducted a follow-up study in which she made salient to participants the true cause of their affective feelings. Consistent with an attribution approach, mood no longer showed the same effects. In fact they were now reversed, suggesting that whether greater weight is placed on stereotype-based expectations or on actual behaviors depends on

whether participants experience the affect as feedback about their beliefs or as coming from extraneous sources.

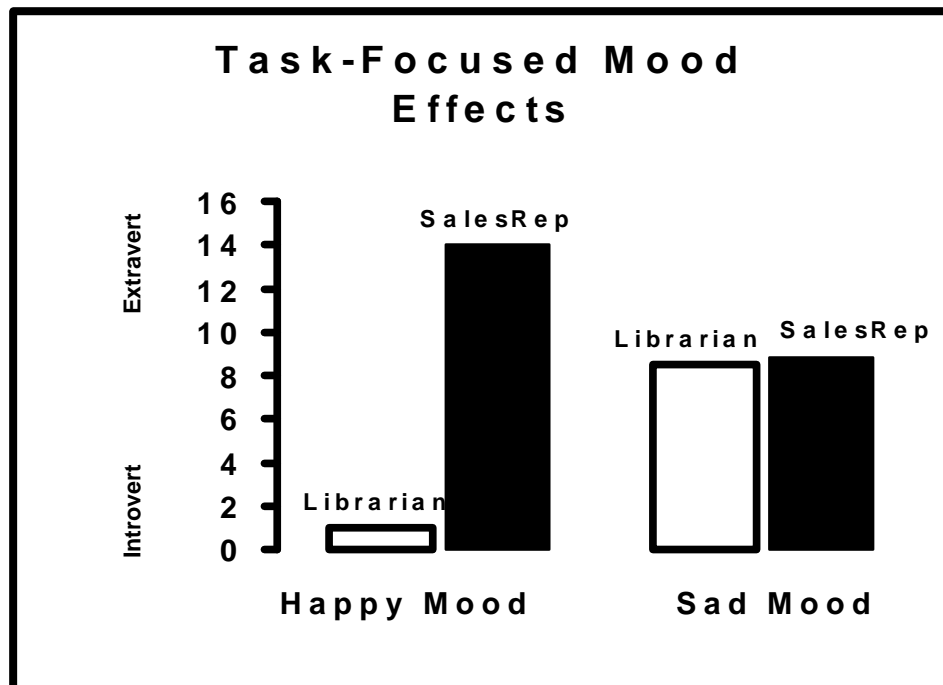


Fig. 1. Happy mood leads to reliance on stereotyped expectations; sad mood leads to reliance on behaviors (Isbell, 1999)

In the section on judgment, we alluded to the fact that induced positive or negative feelings and suboptimally primed positive or negative concepts can both produce positive or negative judgments. We also pointed out that drawing respondents' attention to the true cause of their thoughts or feelings could eliminate both of these effects. Such attributional results show that affective influences on judgment require affective feelings or thoughts to be attributed to (experienced as reactions to) the object of judgment. They are consistent with the hypothesis that the active agent in both cases is the information conveyed by the affective thoughts and feelings, because changing the information value changes the effects. However, with the exception of the study we describe next, no one has previously shown parallel effects for affective priming on processing.

### **Unconscious Priming and Processing**

The experiments by Isbell (Isbell, 1999; Isbell, et al., 2000) showed mood effects on stereotyping. Our interpretation is that these effects occur because participants who are task-focused experience the cues from their mood as feedback about the value of their accessible beliefs (see Clore et al, 2001a,b). Such mood and stereotyping effects have also been shown by Bodenhausen, Sheppard, & Kramer, 1994). Related results have also been obtained for expectations based on scripts for behavior in common situations, such as the essential restaurant script (Bless, Clore, Golisano, Rabe, & Schwarz, 1996).



To assess whether unconscious affective primes might produce similar effects in the absence of changes in mood, Colcombe, Isbell, and Clore (2001) employed the same basic design as that used by Isbell (which was described above), except that an unconscious priming paradigm was used instead of a mood induction paradigm.

For the priming task, four slight variations on a schematic smiley face (☺) and four variations on a schematic frowny face (☹) were constructed. These were shown foveally as part of a task requiring participants to specify which of two colors (red or blue) was most numerous in an array of circles on each of 32 trials. To start each trial, a white fixation dot appeared at the center of the computer screen. After a delay of 100-160 msec., a schematic face appeared centered on the computer screen. The face stimulus remained on the screen for 32 msec., followed by a random pixelated black and white pattern, which served as the backward mask. Then, participants were presented with an array of 7 circles, each of which was colored either red or blue. Participants then hit one of two keys on a computer keyboard to indicate whether the most numerous color was red or blue. The same procedure was used in two separate studies. The first was designed to assess the effect of priming on mood. Immediately after the color-naming task in which the priming occurred, participants rated their moods. Scales included happy, sad, good mood, bad mood, relaxed, and tense, each rated on 11-point scales. In addition, participants rated how they felt “overall” on a -5 to +5 scale anchored at one end by a frowny face and at the other by a smiley face. Although there was some tendency for exposure to smiley faces to report higher mood afterward, the differences were not significant. Thus, we conclude from this experiment that this affective priming procedure does not induce mood.

The second experiment employed the same priming methodology, but immediately after the color naming (priming) task, participants read the story previously used in the studies by Isbell (Isbell, 1999; Isbell, et al., 2000). The story was about a day in the life of a woman named Carol, who was described either as an introverted librarian or as an extraverted sales person. The narrative included mention of an equal number of extraverted and introverted (pre-scaled) behaviors as well as a number of neutral behaviors. After a brief filler task, participants were asked to rate Carol on the same dimensions relating to introversion-extraversion as in the mood studies by Isbell. It was predicted that despite the fact that unconscious priming with the smiley and frowny faces did not affect mood, the unconstrained affective meaning of the primes would produce effects similar to those found for mood.

The results concerned ratings on scales relevant to introversion and extraversion. The predicted interaction was obtained between the valence of the unconsciously exposed faces and the expectations set up by the initial description of Carol as an introverted librarian or an extraverted sales person (see Fig. 2). As in the case of positive mood, subliminal exposure to smiley faces appeared to confer positive value on the expectations and inclinations of respondents. Similarly, as in the case of sad mood, subliminal exposure to frowny faces inhibited reliance on stereotyped expectations and resulted in ratings that were based on the individual behaviors mentioned in the story, behaviors that were equally often introverted and extraverted.

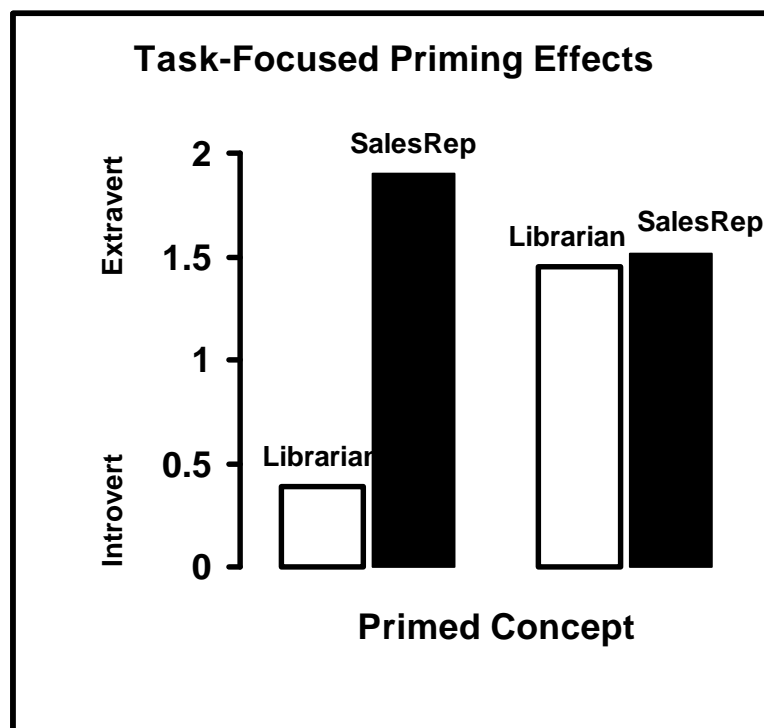


Fig 2. Suboptimally presented images of smiley faces lead to reliance on stereotyped expectations, and frowny faces lead to reliance on behaviors (Colcombe, Isbell, & Clore, 2001)

The results of the unconscious priming study show that the parallelism seen in the effects of mood and unconscious priming on judgment are also evident in their effects on processing. What accounts for this parallelism? Earlier we suggested that the parallelism in the judgment data might still be explained by assuming that mood effects are mediated by priming (as proposed by Bower, et al., 1978; Isen, et al., 1978; and Forgas, 2001). The same ambiguity does not apply to the parallel influences found for mood and priming on processing styles. It is not clear how priming explanations can account for the processing effects of mood. The only directly relevant means by which priming might mediate mood effects on processing is the suggestion that, “Affectively primed thoughts

and associations may take up scarce attentional and memory resources” (Forgas, 2001, p. 122). This attentional capacity explanation has been offered for the processing consequences of negative mood (Ellis & Ashbrook, 1988) as well as of positive mood (Isen, 1984; Mackie & Worth, 1989). However, the adequacy of this approach is undermined by the studies that rule out capacity explanations but still find the same mood effects on processing (Bless, et al, 1996).

It is less easy to rule out the reverse explanation, that unconscious priming effects are mediated by mood. Unconscious priming effects on both judgment (Winkielman, et al, 1997) and processing (Colcombe, Isbell & Clore, 2001) have been reported without corresponding variations in mood. Some studies of unconscious affective priming have reported effects on mood, but it is quite possible that priming positive affective meaning would lead to affirmative answers to such questions regardless of whether mood had actually been induced. Also, of course, if positive affective priming led to better task performance, the performance might induce positive mood. However, in that case, mood would simply be co-active rather than causal with respect to strategy or performance changes.

One way to show that positive and negative information value (rather than mood) is the important variable, is to show that processing effects can be produced with other affective cues that do not involve mood. An example is research showing that slight muscular effort with approach vs. avoidance meaning (arm flexion vs. extension) can influence processing in the same way as positive and negative mood, but without being mediated by mood (Friedman and Forster, 2000). Another example is the effect of posed facial expressions relevant to happiness and anger on judgments of jokes without mood

changes (Strack, Martin, & Stepper, 1988). In addition, similar mood-like processing effects have been shown in persuasion situations simply by having materials printed on red versus blue paper (Soldat & Sinclair, 2001). These tasks appear to involve affectively relevant information, but not necessarily felt affect. In this regard, Martin, Ward, Achee, and Wyer (1993) suggest that positive and negative affective cues may influence processing by serving as answers to implicit questions about processing, such as, “Have I done enough?” It seems likely that any number of positive and negative thoughts, feelings, or other affective cues might serve as affirmative or negative answers to such processing questions.

**Summary.** In an earlier section we showed that mood induction and suboptimal affective priming have parallel effects on evaluative judgments, and we showed that both are subject to the same attributional effects. In the succeeding section, we showed that induced moods and suboptimal affective priming also have parallel effects on strategic information processing. In the final section, we present further evidence of parallelism by testing whether the Immediacy Principle (from the affect-as-information account of mood effects) is applicable to the suboptimal priming situation. The research examines further whether the influence of primed affective information depends on its apparent information value. Specifically, it tests the hypothesis that varying focus of attention during priming governs whether priming affects evaluative judgment or strategic processing. We expected that such processes would be equally applicable to mood and suboptimal priming because the applicability and meaning of both are similarly unconstrained.

### **Varying the Object of Primed Information**

As a final examination of the informational view of mood and priming effects, we conducted two experiments to test the Immediacy Principle (Clore et al, 2001 a,b) in a priming paradigm. According to the Immediacy Principle, affective feelings tend to be experienced as reactions to current mental content. Numerous experiments show that affective influences are mediated by implicit attributions about the source and hence the meaning of the affect. Attributions to objects give feelings their specific information value because such attributions constrain the evaluative message of feelings to be about something in particular. In experiments from the affect-as-information perspective, we intentionally arrange for the misattribution of feelings in order to examine the effects of variations in their information value. Emotional feelings are not easily misattributed in real life, because they are often closely tied to the objects that elicited them. Similarly, affective conceptual meaning is usually linked to particular descriptive content. However, the repeated suboptimal exposure of affective stimuli varying in descriptive content does appear to prime evaluative meaning by itself. Under such conditions, we predict that its impact should depend on the context provided by the attentional focus of the individual at the time.

The first experiment in this series (Colcombe & Clore, 2001) was a conceptual replication and extension of the Colcombe, Isbell, & Clore priming study described previously. In this experiment, we exposed participants suboptimally to primes that were synonyms of the word “happy” (happy, glad, smiley, joyful, gleeful, elated, merry) or of the word “sad” (sad, down, depressed, gloomy, glum, mope, dismal). These were presented in a parafoveal priming paradigm as part of a visual search task similar to those

used elsewhere (e.g., Bargh & Pietromonaco, 1982; Devine, 1989). However, this experiment was conducted in a group setting in a large classroom.

Stimuli were projected on a screen approximately 15 x 10 feet in size. Participants were run in-groups of 17 to 25 and recorded their own responses with pencil and paper. Respondents were asked to look at a fixation dot that abruptly appeared in the middle of the screen, and to identify the color of an ellipse appearing at approximately 6-8 degrees of visual angle from the fixation dot in one of the four quadrants of the screen 200 milliseconds later. The ellipse remained on the screen for 1.5 seconds and there was a 1.5 second inter-trial interval. There were 48 trials. Again, the nominal task of the subject was simply to record the color of the disk as quickly and accurately as possible. However, on two-thirds of the trials, 125 milliseconds before the colored disk appeared, one of the happy or sad priming words appeared. These brief, masked presentations of positive or negative affective words should have activated positive and negative semantic meaning. Participants then read a story about a character named Paul, who relates events from his childhood to a psychotherapist. The story was adapted from one used by Bower, Gilligan, and Montiero (1981). The memories were equally divided into happy (e.g., getting his first bicycle) and sad memories (e.g., his grandmother dying). To vary participants' expectations or accessible ideas about Paul, the materials that they read included notes from Paul's previous counselor. The notes indicated, among other things, that the counselor considered Paul to be basically a happy person or basically a sad person.

We expected that during the color-naming task, participants' attention would be focused on their own responses. Hence, any activated evaluative meaning should be

experienced as task fluency (or disfluency), or as a belief that they were doing satisfactorily (or not). We assumed that positive performance feedback would lead participants to follow their current expectations and inclinations, and that negative feedback would inhibit reliance on such expectations in favor of attending to new information from the environment. If so, then we should expect task-focused participants with positive primes to rely more on their expectations (that Paul was a happy or a sad person).

The results can be seen in Fig. 3, which depicts a significant interaction between the expectation and the prime variables. As predicted, variation in whether participants expected the character to be happy or sad influenced judgments after positive primes, but not after negative primes. The results suggest that when task-focused, individuals use primed affective information as feedback about the value of their expectations, happy concepts leading them to rely on their expectations and sad concepts leading them to ignore their expectations and rely on their memory for specific events.

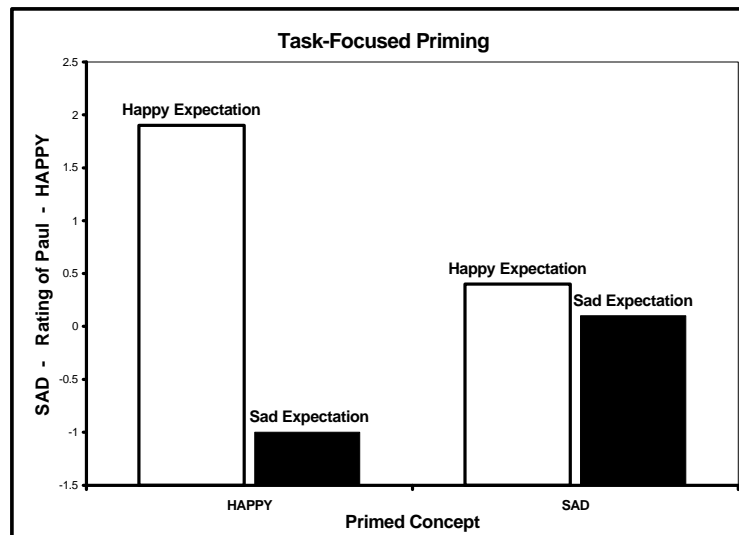


Fig. 3. When task-focused, suboptimally presented words denoting happiness or sadness produce the same effects as mood on processing, but without changes in mood



The results of this experiment show again that priming affective concepts unconsciously can influence processing styles in the same way as inducing affective feelings can. Moreover, they show that the effects are robust. They replicated the effects of affective priming on processing found by Colcombe, Isbell, and Clore (2001), but using a different story and different rating scales. In addition, the experiment was conducted in groups as opposed to individually. But the main function of this experiment was to serve as a comparison for a second experiment using the same judgments and the same story, but varying the attentional focus of participants.

The second experiment used the same materials, but it was conducted at individual computers, and the primes were presented as the story appeared on the computer screens. Presenting the primes during the story ensured that participants' attention during priming would be on Paul, the central character, rather than on themselves and their task performance. Participants pressed the space bar to progress through the story, which appeared one line at a time. Just before each line appeared, a synonym of the words "happy" or "sad" appeared in the same spatial location as Paul's name (or a personal pronoun that referred to him) was about to appear. The words were presented for 50 milliseconds, then masked with Paul's name or a pronoun referring to him. As before, an expectation was first established by having them read a note from his prior counselor indicating his opinion that Paul was basically either a happy person or a sad person.

By using Paul's name as the mask for the unconscious primes, we expected that the primed evaluative information would become attached to Paul as an object. If so, priming should influence judgment rather than processing styles, as in the previous

experiment. That is, rather than governing whether or not respondents rely on expectations (a prime by expectation interaction), we expected the primes in this procedure to influence impressions of Paul directly (a prime main effect).

The results can be seen in Fig. 4, which shows the obtained main effect for the valence of the primes. As expected, the interaction with expectation seen in the previous experiment (when participants focused on their color-naming performance) did not occur. Instead, the change in the focus of the respondents also changed the situated meaning of the primed concepts. By shifting their primary point of focus, we were able to shift the primed meaning from being information about the value of respondents' expectations about the character to being an attribute of the character himself. As a result, the same priming stimuli that had produced processing effects in the first experiment, now produced judgment effects. Since priming did not influence respondents' self-reports of mood, the effects do not appear to be due to mood, but to the information conveyed by primed affective meaning. The results indicate that the Immediacy Principle is as applicable to unconsciously primed concepts as it is to affective feelings from induced moods.

The results validate the hypothesis that affect-as-information principles (e.g., Bless, 2001; Clore, et al , 2001a; Martin, 2001, Schwarz, 2001; Wyer, et al, 1999) also apply to affective thoughts. Affect concerns value, and affective feelings and affective concepts are simply two ways of representing value. When affective feelings arise from moods and affective concepts are

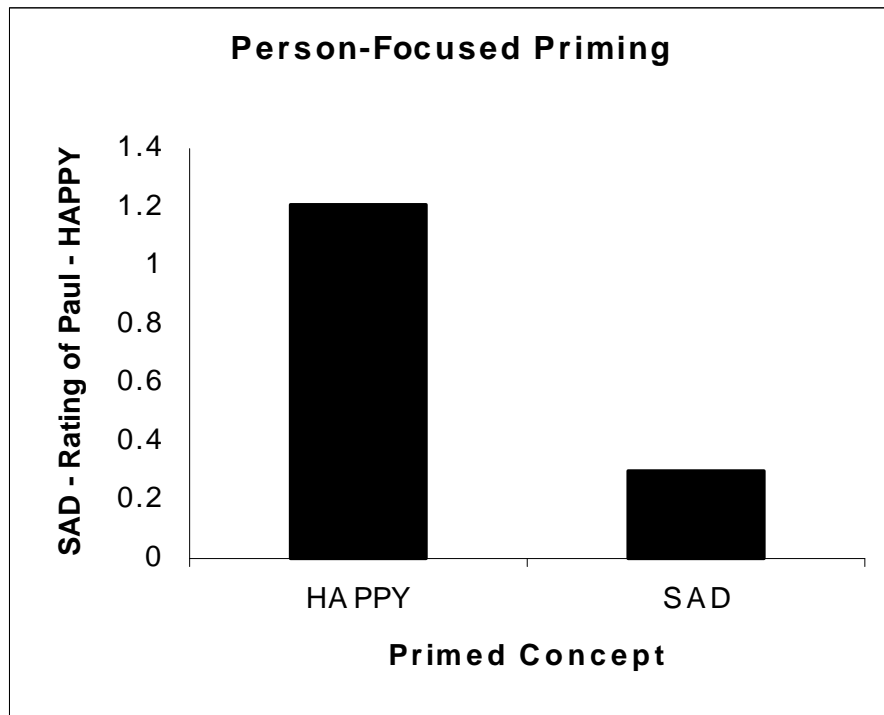


Fig. 4. When person-focused, suboptimally presented words denoting happiness or sadness produce judgment effects comparable to those found for mood, but without changes in mood.

primed outside of awareness, the objects of value are unconstrained and unspecified until they are experienced in conjunction with an object. The process is rather like that described in Shakespeare's Midsummer Night's Dream. Much of the play hinges on a love potion, which, when applied to the eyes of a sleeping person, makes them fall in love with whomever their eyes fall on as the person awakes. In a similar way, the primed positive meanings and induced positive feelings in our experiments conferred positive value on whatever happened to occupy the attention of participants at the time. The same thing happened for both unconscious primes and induced moods and in both judgment and processing situations. The surprising extent of this parallelism leads us to conclude that the observed effects are due neither to feelings nor to primes as such, but to the

affective information they convey when experienced as attributes of whatever objects are currently in mind.

### **Constraints on Meaning**

We have proposed that when evaluative information is activated without a focus on its form, object, or source, it becomes a loose cannon, likely to have an impact on any object it bumps into. We have focused on the idea that affective feelings from mood and affective concepts from priming can have similarly broad effects, because their meaning is similarly unconstrained. This idea, that meaning is constrained by the cognitive and perceptual context in which it is activated, is a thoroughly general one, as discussed below.

Freud too believed that the vicissitudes of affect are dependent on their mental context. In Freud's (1915) early theory, conscious thought required both a qualitative idea and quantitative energy. Repression was a form of thought control achieved by cutting off affective energy from an idea. Once the repressed affect lost its object, however, it was free to become attached (or attributed) to other substitute ideas. The affect could then emerge into consciousness as part of a new idea. Affect that failed to find a substitute object might leak into consciousness as objectless anxiety, or it might take a bodily part as an object and create hysterical symptoms. Alternatively, affect might find expression in artistic creativity by attaching itself to objects symbolically related to repressed urges.

Of course, some objects are more problematic than others. The talking therapy was intended to help patients reconnect their misattributed affect to its original source.

The goal was to restrict runaway affect to a single specific meaning, a meaning usually found by exploring the patient's past. What was important, of course, was not that the therapist made the correct attribution, but that the patient did. Freud concluded that it was not sufficient to take shortcuts, as he attempted to do in the early use of hypnosis. To really change the information value of affective reactions required a time-consuming process of re-plumbing the whole network of supporting connections so that appropriate constraints on the flow of affective significance could be instituted. Our point in taking this brief detour into Freud is to show some precedence for our concern with the importance of the episodic constraints on the semantic meaning of affect. A secondary point is to note the similarity between the affect-as-information approach and Freud's approach in the importance given to attributions in establishing informational value. He explained illness in terms of misattributions and saw psychotherapy as a process of reestablishing correct attributions to constrain the flow of affective meaning.

In a larger context, any form of communication, whether through direct conversation or indirect priming, involves both activating some aspect of meaning and inhibiting its application. The process of reading, for example, provides a useful model. Apparently all of the meanings of all of the words encountered on a page get activated while reading. It is then up to the context provided by neighboring words and sentences to constrain the activated meaning, so that only the most contextually appropriate reading wins out. In some forms of text, such as instructions for assembling toys or furniture, the goal is to be as specific as possible. Instructions should avoid any ambiguity so that one can execute actions in the correct order, using the correct parts. In contrast, poetry and metaphor may require retaining some ambiguity. For example, the analogy "Love is like

a rose” is poetically satisfying because it is sufficiently concrete to evoke specific images, but sufficiently multifaceted to leave unspecified the specific ways in which Love and Roses might be alike. An analogy that constrained the similarity further should be rated less profound and satisfying (e.g., “Love is like a rose, because both are beautiful”). Presumably, poems must be sufficiently concrete to evoke strong feelings and images, but sufficiently spare to allow the particulars to echo into the general. In these ways, poetry, and other art forms, involve the management of subjective experience to create meaning that is only partially constrained.

This tension between generality and constraint in establishing the information value of affect has been a central theme in attribution theory. Most relevant, is the literature on attributions for success and failure and their role in depression (Abramson, Metalsky, & Alloy, 1989) and optimism (Seligman, 1990). Attribution theorists agree that the meaning that one finds in the affective experience of failure creates problems when it is attributed to causes that are internal to the individual, general in nature, and uncontrollable. But if attributions for failure constrain the information to be about specific, controllable responses, rather than general, uncontrollable abilities, failure can even be energizing and motivating (Dweck and Leggett, 1988).

A related theme can be found in various Eastern religions. A Buddhist approach to coping with pain is to focus directly on the source of the pain. Rather than trying to avoid the pain by diverting one’s attention, distress is more effectively diminished by attending directly to the pain. If its meaning is left unconstrained, the negative affect from the pain may generate greater distress. By focusing directly on the site of the pain, the negative affective reaction is experienced as being about the injury and nothing more.

Taking the same logic even further, trying to experience the constituent sensations involved in the pain, rather than the pain as a whole, may further localize and constrain the experience and its meaning and significance.

A similar argument can be given for the beneficial effects of social interaction and psychotherapy for individuals suffering trauma, loss, or shame. Attempts to suppress unpleasant memories and concerns are often unsuccessful (Wegner, 1989) and when practiced over long periods can lead to psychological dysfunction. But focusing directly on the distressing events in spoken or written communications can have dramatic benefits (Pennebaker, 1990). The benefit presumably occurs when one's communication about the distressing event becomes specific. As it becomes situated in time and place through communication, its affective meaning becomes more appropriately constrained. Such localization may have no effect on the problem itself, of course, but it may circumscribe the otherwise widening circle of affective meaning, constraining it to be about its true source and therefore not about other things.

Finally, although cognitively constraining negative affect by focusing on the particular has important psychological consequences, the yoga teachings in Hindu culture advise seeking to transcend the particular. A spiritual goal is to be able to divorce oneself from the world, believing that caring about particulars is an impediment to caring about essences. In meditation, one might focus on a leaf, a pool of rainwater, or some other physical object, but the goal is to transcend those physical constraints to experience the unfettered oneness of beauty and truth. Writers in that tradition speak of detaching themselves from the particular, from sense impressions and from the content of one's

thoughts and feelings. They seek to let go of perceptions of the outer world and let timeless truth expand within (Anantananda, 1996).

Speaking from outside that tradition, psychologists might also imagine that, whereas a focus on particulars can be useful for coping with negative affect, such a focus might not be useful in positive states. Wilson and Kraft (1993) have shown, for example, that feelings of love for one's mate are diminished by listing the particular reasons for loving, presumably because love requires a sense of innumerable and yet-to-be-experienced ways in which the relationship and the partner are good. An embodied experience of positive affect can be experienced as love, loyalty, or trust only if the experience remains partially unexplained, so that it serves as evidence of a some well-spring of good within the other, the full implications of which are yet to be experienced.

## **Conclusions**

Induced moods and unconscious affective primes have parallel effects on judgment and processing. Rather than explaining mood effects on the basis of implicit priming or explaining priming effects on the basis of mood, we offer an affect-as-information account for both. Both affective feelings and affective concepts convey information about goodness and badness. However, because the sources of moods and primed concepts are generally unclear or inaccessible, the situated meaning of the evaluative information they carry is unconstrained. As a result, it may be experienced as information about whatever is in mind at the time. In conscious priming paradigms, the constraints provided by the descriptive meanings of the primes prevent general evaluative



priming from occurring. But studies suggest that evaluative priming may occur either when exposure to the prime is unconscious or when the dominant meaning of the stimulus is evaluative. Evidence that the critical factor is the evaluative information conveyed in moods and primes comes from studies showing that their effects occur only when people are unable to attend to the true sources of the evaluative information.

In this chapter, we extend these observations by adding new parallels in the domain of affective processing to the known parallels in the domain of affective judgment. We used stereotyping as the target phenomenon and showed that affective primes can have the same effects on styles of information processing as induced moods, but without the mediation of mood. A final experiment shows that the factor determining whether unconscious primes produce evaluative judgment effects or strategic processing effects is the participants' focus at the time of priming. That focus, in turn, governs the object about which primed affective meaning is experienced as informative.

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<sup>i</sup> This conception arose initially in conversation with Leonard Martin in the Spring of 1984.

<sup>ii</sup> Appealing to causal attributions does not implicate active, explicit cognitive operations. Attributions are often implicit, existing simply as an implication of whatever world knowledge a situation elicits or whatever perceptual grouping arises on the basis of proximity in time and space, as outlined by gestalt psychologists (e.g., Heider, 1958).