# Control Processes and Defense Mechanisms

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*Defense-mechanism theory and control-process theory are related psychodynamic approaches to explaining and classifying how people ward off emotional upsets. Although both theories explain defensive maneuvers in the same motivational terms, each defines categories differently. Classic categories define defense mechanisms at a relatively macroscopic level, whereas control-process theory aims at relatively microgenetic analysis of how cognitive maneuvers—involving what is thought, how it is thought, and how it is organized—may generate defensive states. The theories are not contradictory, but they are focused on different levels of observation; it is useful to compare how these classifications are applied to specific case material.*

Patients in psychotherapy often ward off expression of key concerns to avoid emotional upset. Clinicians observe such defensive maneuvers and facilitate safe confrontations with what is being avoided. An understanding of how control processes accomplish defensive aims can help clinicians make precise interventions. This article presents a clinical example with microanalysis of control processes and habitual defense mechanisms. The goal is to clarify and advance theory in this area, integrating cognitive and psychodynamic points of view.

## BACKGROUND

Freud initially referred to defense and repression as one and the same[1-3] and later described additional unconscious, self-regulatory stratagems.[4] The term *defense mechanisms* and a classification of these mechanisms was then offered by Anna Freud.[5] Additional defenses were defined and empirically verified.[6-11] Meanwhile, Kroeber[12] and

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Haan[13,14] developed cognitive theory, in which various types of control processes were defined and categorized according to behavioral results. Horowitz[15,16] modified that approach, defining levels of control processes in terms of regulations of attention to mental contents, forms of representation or expression, and schemas of self and others as organizations of different states in which a topic might be contemplated or acted upon. In microanalyses of repression,[17,18] undoing,[19] devaluation,[20] role-reversal,[21] and splitting,[22] Horowitz indicated how the classic psychoanalytic mechanisms of defense resulted from the convergence of several simultaneous cognitive control processes.

To continue to relate cognitive control-process theory to psychodynamic defense-mechanisms theory, we chose to study a single case in a microanalytic way. We began by reviewing classifications of defense mechanisms and control processes. Then some of us (J.C.P., G.V., M.B., S.C.) located defensive episodes from an hour of a video-recorded psychotherapy. Each episode was then judged in relation to a defense-mechanisms classification (J.C.P., G.V., M.B., S.C.) and a control-process classification (M.H., B.F.).

We define the terms of each type of classification and then present microanalyzed examples.

## Definition of Terms: Defense Mechanisms

Many defense mechanisms have been described. We will focus on the four that were most frequently observed in moments of heightened defensiveness in our case illustration. The defenses were passive aggression, displacement, devaluation, and projection, each defined by Perry and Cooper[8] in a content analysis manual as follows:

*Passive Aggression:* The individual deals with emotional conflicts or internal or external stressors by indirectly, unassertively, and often self-detrimentally expressing aggression toward others. A façade of overt compliance masks covert resistance toward others.

*Displacement:* The individual deals with emotional conflicts or internal or external stressors by generalizing or redirecting a feeling about or a response to an object onto another, usually less threatening, object. The person using displacement may or may not be aware that the affect or impulse expressed toward the displaced object was really meant for someone else.

*Devaluation:* The individual deals with emotional conflicts or internal or external stressors by attributing exaggeratedly negative qualities to self or others. Unlike reaction formation, devaluation may conceal admiration or positive feelings toward others.

*Projection:* The individual deals with emotional conflicts or internal or external stressors by falsely attributing his or her own unacknowledged feelings, impulses, or thoughts to others. The subject disavows feelings, intentions, or experience by means of attributing them to others, usually others by whom the subject feels threatened and with whom the subject feels some affinity.

## Definition of Terms: Control Processes

During the communicative process of psychotherapy the patient is asked to disclose all contents of consciousness. By observing the effort to do so, the clinician can observe expressions, resistances, and changes microgenetically. Mental content disclosed in one moment may be obscured, distorted, or retracted in the next. Generations of psychodynamic clinicians have observed these short-order shifts in expression but have found them difficult to locate within the classic categories of defense mechanisms. The definitions that follow describe these shifts in terms of more specific cognitive operations. The categories are listed in Table 1.

Control processes will be defined in three sectors of cognitive operations. The first sector is control of content, that is, selection of the content that will be expressed as actions, ideas, and feelings. The second sector is control of form, the formal properties of representing and sequencing these actions, ideas, and feelings. The third sector is control of repertoires of schematization; it classifies maneuvers that shift organized structures of knowledge in the domain of internalized object relations. These moves include various maneuvers to shift self-image and alter inner models of relationships, as well as changes of enduring but contradictory attitudes within repertoires. A detailed case illustration of control-process analysis follows the definitions.

**TABLE 1. Cognitive operations in the control process**

**Control of Content**

1. *Focus of attention:*
   The setpoint for attentional focus determines in part the probabilities for the next topics for conscious representation.
2. *Concepts:*
   Shifts in settings at this level may facilitate or inhibit different types of concepts relative to one another. The settings will affect how a chain of concepts on the topic of attention is formed and represented.
3. *Appraisal of importance of a chain of concepts:*
   Chains of concepts are weighed for their relative importance in terms of their implications for the motives or intentions of self and others. By shifting the appraisal and valuation of a chain of concepts, a person can alter the emotional consequences of ideas, memories, fantasies, or plans that are involved.
4. *Threshold for decision or interruption:*
   One may change the setting of the threshold for shifting attention to a new topic, allowing a point of decision or interruption.

**Control of Form**

1. *Modes of representation:*
   These settings determine the ratio of words, quasi-sensory images, and enactions in the sphere of conscious representation.
2. *Time span:*
   The setting of time span establishes a focus for considering a topic in terms of past, present or future as well as a temporal range from very short to very long periods.
3. *Quality of logical contemplation:*
   The setting for type of logic and organization determines in part the forms that will be used for the simultaneous and sequential organization of concepts. The forms used may vary from the logic of rational problem solving to reverie-like rules.
4. *Action planning:*
   Settings for level of action planning may vary from using thought as non-action, to thought as trial action, to rehearsals of action, to reflexive actions.
5. *Arousal or vigilance level:*
   The setting of arousal level involves thresholds for excitation or dampening of how various systems react to input from other systems.

**Control of Repertoires of Schematization**

1. *Self schemas:*
   In any state of mind one of several potential self schemas tends to be dominant. Shifting which schema is primed may change the state of mind.
2. *Other person schemas:*
   Shifting which schema is primed will affect how the behaviors, intentions, and motives of the other person are interpreted.
3. *Role-relationship models:*
   By shifting which role-relationship model is used for interpreting an interpersonal situation a person may change mood, states, plans, and actions, and may alter how a topic is contemplated.
4. *Value schemas (critic roles):*
   The appraisal of a topic, chain of concepts, or remembered action sequence includes judgments in relation to values. The judgments can range from harsh to accepting views. Judgments can be experienced in thought as if they were made by critics. By shifting schemas and values a person may vary the degree of praise and blame.
5. *Executive-agency schemas:*
   A person may view the body and mind as that of an individual (I, me) or as that belonging to another person or larger group (we). Shifts in how topics are viewed may occur with changes in which executive schemas are currently primed.

*Control of Content:* Control processes that can alter content include four levels of regulation. These can control 1) shifts in the focus of attention, 2) shifts in concepts within and frames around that focus, 3) shifts in the relative weighing of the importance of concepts to the self, and 4) decisions to shift the focus of attention to another topic. These levels of control of content are defined as follows:

1. Shifting the Focus of Attention: Attention can be disengaged from one focus and reengaged on another. The assumption is that topics of importance are contained in a storage of intentions and that they may be selectively inhibited or facilitated relative to one another. The selected topic for representation will affect the direction of perception, thought, and action.
2. Shifting Concepts: Concepts are elements of meaning within an overall topic. These elements may be derived from external perception, internal sensation, and stored internal knowledge. Control processes may facilitate or inhibit different types of concepts relative to one another, and that will affect how a sequence of concepts is expressed. The frame of attention may range from wide to narrow, amplifying, diminishing, or even excluding concepts associated with a given topic. This can affect how one topic is linked to or segregated from another topic.
3. Shifting the Appraisal of Importance of a Chain of Concepts: Chains of concepts are weighed for their relative importance to the safety, status, pleasure, or displeasure motives of the self and others. By shifting the appraisal and valuation of a chain of concepts, a person can alter the emotional consequences of the ideas, memories, fantasies, or plans that are involved. The significance to the self and others of a given chain of concepts can be exaggerated or minimized relative to alternative chains of concepts. The relative weighting for importance of alternative chains of concepts will determine, in part, the course of information processing and whether or not changes in internalized knowledge structure will occur after new life events.
4. Shifting the Threshold for Decision on a Focus of Attention: One may change the threshold for shifting attention to a new topic, allowing an interruption. Such shifts may occur on completion of processing a topic or to avoid accelerating emotional tension when a topic is conflictual.

*Control of Form:* Control processes that can alter the form of thought and expression include five levels of regulation. These can control shifts in 1) the modes of representation, 2) the time span under contemplation, 3) the logic for contemplation, 4) the level of access to action, and 5) vigilance.

1. Shifting Modes of Representation: The setting of modes of representation determines the ratio of words, quasi-sensory images, and inactions in the sphere of conscious representation. Controls may emphasize verbal or nonverbal modes as well as the degree of translation or nontranslation across modes.
2. Shifting Time Span: The setting of time span establishes a focus for considering a topic in terms of past, present, or future as well as a temporal range from very short to very long periods. A short span primes for the here and now; a long span primes for reconstructing past memories and reconsidering future implications.
3. Shifting Logic Level: The setting for type of logic determines in part the forms that will be used for the simultaneous and sequential organization of concepts. The forms may vary from the logic of rational problem solving to the

rules for magical and primary-process reasoning.

4. Shifting Level of Action Planning: Settings for level of action planning may vary from using thought as non-action, to thought as trial action, to rehearsals of action, to direct action.
5. Shifting Vigilance: The setting of vigilance level involves thresholds for excitation or dampening of various systems of mental activity, especially those for external perception.

*Control of Repertoires of Schematization:* Each individual has repertoires of schemas of both self and others that may be called *person schemas.*[23–26] Schemas within a repertoire may be primed or dampened. Control processes can alter the primacy of certain 1) self schemas, 2) schemas of others, 3) role-relationship models, 4) value schemas, and 5) schemas of executive agency.

1. Shifting Self Schemas: We assume each individual has a repertoire of multiple schematizations of self. In any state of mind one of several potential self schemas tends to be dominant. Altering which schema is primed may change the state of mind, how topics are thought about, and how actions are planned and carried out.
2. Shifting Other-Person Schemas: We assume that each person can view another person in terms of a variety of roles, characteristics, and attributes. Altering which schema (e.g., nurturing parent versus neglectful caretaker) is primed from this repertoire will affect how the behaviors, intentions, and motives of the other person are viewed. By altering the schemas selected for interpreting the other person, a subject may alter emotional responses during interpersonal situations.
3. Shifting Role-Relationship Models: Schemas of self and other and scripts for interaction may be combined into interpersonal schematizations called role-relationship models. These include expected sequences of action and reaction (e.g., "If I am trusting, the other person will exploit me"). By altering which role-relationship model is used for interpreting an interpersonal situation, a person may change mood, state, plans, and actions and may alter how a topic is contemplated.
4. Shifting Value Schemas (Critic Roles): The appraisal of a topic, chain of concepts, or remembered action sequence includes judgments in relation to values. This critical appraisal can lead to pride or shame, esteem or guilt. The judgments can range from harsh to accepting views. Judgments can be experienced in thought as if they were made by critics (self as self-critic and/or others). A person may have, as schematic structures, introjects of people, spirits, or ideological groups. By altering which schemas and which sets of values are currently amplified, a person may vary the degree of praise and blame.
5. Shifting Executive-Agency Schemas: A person may view the body and mind as belonging to an individual (I, me) or as belonging to another person or larger group (we). For example, a person may prime as his or her current executive agency an "I" or a "we" (marital unit, family, group, ideology, tribe, nation) that transcends the framework of his or her individuality. Shifts in emotionality and in how topics are viewed may occur with changes in the executive schemas that are currently primed.

## CASE ILLUSTRATION

### Subject

The patient was a young married woman with children, who had suffered from social phobia for several years. She responded to an advertisement for subjects with such condi-

tions who would be seen in a research context involving videotaped psychotherapy. The time-unlimited psychodynamic psychotherapy was conducted by an experienced clinician twice a week for 50-minute sessions. The few minutes of dialogue to be reported came from an hour during the third month of this treatment. A larger-scale review makes it possible to summarize briefly what topics and feelings were defensively warded off during these few minutes from the beginning of the session and what the patient's purposes were in warding them off.

The patient was warding off entry into a state characterized by feelings of intense shame and ideas that she had performed or acted so badly that she would be humiliated before scornful others. She had a recurrent maladaptive interpersonal pattern of seeking the interest of mentor figures such as teachers and older friends. When she saw signs of gaining their interest, she would become afraid of entering a state of undercontrolled, enthralled excitement. She expected that she would act badly, leading to unbearable humiliation. She tended to enact this pattern again as a transference reaction with her older male therapist.

To avoid a dreaded state of shame (organized by a worthless, degraded, weak self schema) she protected herself with states of surly sarcasm (organized by a stronger self schema as a critical observer of others), irritable whining (self schema as a disappointed but needy person), or withdrawal (schema of self as an eccentric loner). Each of these states was experienced as less dangerous than the desired state of excitement and its obligatory linkage to the threatening consequences of humiliation.

There was also an alternate cycle of excitement leading to humiliation. Once she was enthralled, the other might abuse and abandon her. Included in the scenario being warded off by control processes was a path on which she would behave as an enticing and talented adolescent before mentors, be mistaken for a sexually interested woman, receive excessive attention, and then be sexually abused and abandoned when she became enthralled and excited.

She expected that becoming enthralled and excited would lead to dreaded consequences. She would be abused, then become enraged at the person who victimized her, then feel shame and fear at undercontrol of rage, along with guilt about experiencing or expressing this rage. An aspect of shame would be humiliation that she had let the sequence of events happen. Eventually, after the period of interest and then exploitation, she expected dejection and depression at being abandoned as worthless. One way to ward off such scenarios was to retreat to a withdrawn, suspiciously guarded state of mind in which, if approached, she would respond querulously with challenges or sarcasm to fend off the other person's interest.

In the hour before the one we microanalyzed, the patient conveyed to her therapist recognition of some aspects of these recurrent patterns as she experienced them in her transference reactions. She was able to speak about ideas and feelings that she did not ordinarily express. Between that hour and the present one, she observed herself entering an angry and petulant mood. She felt she had exposed herself too much.

## Rating Scales

The patient filled out rating scales after every therapy session as a part of the research. She rated the session on which we focus here as "pretty good" but indicated that she had "considered not coming" to the session. She checked off that she felt "well understood" by the therapist. The most useful thing the therapist did, she wrote, was to be "not judgmental about what I was talking to him about." The affect that she rated as occurring to a "major extent" during the hour was anger. On ratings of the therapeutic alliance[27] for the hour, the patient indicated that she felt "quite a bit" pressured by the therapist to make changes before she was ready but also

felt that the therapist accepted and respected her "quite a bit."

### Process Note

In his process note, the therapist reported that he found the patient more angry and complaining and less seductive than in previous hours. He believed she had become angry and petulant after the previous therapy hour because she may have felt that she had revealed too much and then felt "toyed with or trivialized" by him. He felt that "angry petulance" itself was being used to ward off the otherwise increasingly "intense positive transference" that was frightening to her because of its intensity.

### Defense Mechanisms

Four defense mechanisms were rated as the most repetitive ones within the total 62 instances of defensive responses located in this 50-minute therapy session. These were 1) passive aggression (12 instances), 2) displacement (9 instances), 3) devaluation (11 instances), and 4) projection (7 instances). The first instance of each defense mechanism was selected for microanalytic exposition in this article.

*Passive Aggression:* The opening remark of the session was made by the patient: "I am more jumpy than usual." The therapist responded: "Is it because of what we have been talking about?" The patient replied, "I don't think it matters what we talk about," and then paused at length.

Breaking the silence, she said, "I went to bed mad and when I woke up I was still mad." The therapist said, "Do you know what about?" She replied, "Ostensibly it was about. . . . " and then related an argument she had had with her husband, which within a minute she said was a symbol of something else. The transcript, and a parenthetical paraphrase of what was meant, are shown at the left in Figure 1.

The key feature in identifying this as passive aggression was her statement, "I don't think it matters what we talk about" in response to the therapist's question about why she might feel jumpy. She stated this response in a manner that seemed meant to frustrate. The silence, followed by her saying she was and perhaps is still mad, pointed to the "aggression" component in the passive stance of walling off the therapist.

In the control-process analysis of the same episode, the first step was to infer the purpose of shifting levels of control. The epi-

**FIGURE 1. Modeling the episode of passive aggression.**

| Speaker | Statement (Paraphrase) | Change Points of Controls | | |
|---|---|---|---|---|
| | | **Focus of Attention** | **Concepts** | **Role-Relationship Models** |
| Patient: | I'm more jumpy than usual. | Her jumpy mood | More jumpy | Self: interesting trusting vulnerable patient — wants attention; reports → Other: interested trustworthy therapist; helps ← |
| Therapist: | Is it because of what we've been talking about (anxious aspects of our relationship discussed in last hour)? | | Linkage to relationship | |
| | | **Change** | **Change** | **Change** |
| Patient: | I don't think it matters what we talk about. (I and what I say do not matter enough to you, so I say you are not talking to me in a way that matters to me.) | Frustration with therapy | To whom does this dialogue matter | Self: inferior vulnerable patient — wants attention; → Other: self-centered superior therapist; indifference ←; provocation (hostility) → |

sode in question pivoted on the statement, "I don't think it matters what we talk about," made in a withdrawn, guarded, querulous state. It meant both "It's not your fault" and, on a more covert level, "I'm suffering and you're making it worse." We inferred from the entirety of the hour that the patient was angry at the therapist for observing her as a patient rather than being more personally interested in her as a pupil or as an attractive, intellectual woman. Her purpose was to ward off expressing her anger because to experience it seemed irrational and therefore humiliating.

By saying, "I don't think it matters what we talk about," she signaled both some irritation and an emotional-relational concept that might be paraphrased as "I don't think I matter enough to you." Her remark was a compromise: it warded off the direct emotionality of "I don't matter to you," yet it contained some elements of what was warded off ("it doesn't matter to us").

The control processes that regulated the contents of her communication included changing the focus of attention. The patient first introduced a topic that might be called "How and why am I jumpy?". The therapist maintained this topic as he asked whether "jumpy" related to a topic of the last hour (anxiety about humiliating exposure of herself). His comment could maintain the focus of attention on her and link "jumpy" to her anticipations about their relationship. She did not, however, maintain the topic of "How and why am I jumpy?", shifting instead to a new topic that might be called, "Who cares?". We paraphrase the communication in this way: "I don't think I can afford to believe that what I say might matter to you, so I blur the topic and challenge you to show your interest or admit your disinterest. Both frighten me, so the topic of our joint attention must remain diffuse."

The control-process analysis team also inferred that the patient altered role-relationship models during this episode. This brought about a change in how she organized her inner working model of the dialogue between herself and the therapist. We inferred that when she presented the "Why am I jumpy?" topic, she viewed herself as a trusting, vulnerable patient and the therapist as a trustworthy expert, both aiming at helpful transactions of give-and-take on "Why am I jumpy?". Then, with the shift in frame of attention to the "Who cares?" topic, there was a concomitant shift to a role-relationship model in which she, an inferior, vulnerable patient, was also a remote critic taking potshots at a neglectful, self-centered, and too-superior therapist.

Now we compare defense-mechanism and control-processes analyses of this episode. The defense-mechanism analysis "passive aggression" says *what* she does, which is to be aggressive toward the therapist indirectly by being passive, partly as a way to thwart him. The control-process analysis says *how* she does it: she shifts topics and she shifts role-relationship models. The defense-mechanism term says more about the quality of relationship (passive) and the emotions (aggression) than do the terms for control processes. The term "passive aggression" itself implies the aim of being hostile or hurting, the threat of being actively hostile, and the turning to passive provocation to be annoyingly resistant to the other. The term also conveys a general purpose: the wish to be hostile but to avoid, by passivity, fear of the consequences of direct hostility. The control-process level of analysis requires the addition of explicit and specific contents: What was the shift in attention? What was the shift in role-relationship models? The control-process analysis is thus open to more detail about the relationship pattern and emotionality of a specific instance because it does not imply them by its terminology but rather can name them using any language.

*Displacement:* Unlike the term *passive aggression* and more like control-process language, *displacement* does not say what intention or affect is displaced: that can be identified in a

case-specific way. The first instance of displacement occurred shortly after the example of passive aggression. The patient again shifted the topic, describing an argument with her husband. She said she was still mad that he, by neglect, had harmed one of her creative products. The therapist repeated a phrase the patient had just uttered with a questioning tone. She responded, "Yes, and it turned into more of a symbol of something else." She did not clarify what that something else was, but it seemed to be her anger at her husband for using and then neglecting her (just as she anticipated the therapist would use and then neglect her). Instead, she stayed on the topic of the neglect of the product. She said, "I accused him of not thinking of (the product) as very significant; it was so trivial to him and I had worked really hard on it." She continued by telling the therapist some details about the product, then turned to feeling resentment targeted at a friend of her husband who, she felt, had neglected her.

Our defense-mechanisms team scored this episode as displacement because the patient displaced the annoyance about her husband not caring for her to her husband not caring for a product of her creation. Because the particular item could be taken as trivial, she could dismiss the episode—and so her anger—as unimportant, thus reducing the danger of excessive rage, humiliation for being enraged, or rejection and abandonment because she got angry. She also displaced anger from being directed at her husband to being directed at his friend.

Our control-processes team related this episode to shifting concepts, shifting the appraisal of importance of a chain of concepts, and shifting schemas of the other person. The topic was now her husband's attitude toward her and her things. Of the array of concepts on this topic, she facilitated expression of a relatively minor one (his neglect of a thing) and inhibited a major one (his neglect of her).

She even underplayed the importance to herself of her creative product. The evidence was in the videotape of this episode that showed a discord between the higher intensity of anger in her voice prosodics and the lower intensity of the mild language she used verbally.

She shifted from a self schema to an object-symbol-of-self schema. As already mentioned, her husband neglecting "it" is less anxiety-provoking than her husband neglecting herself (see Figure 2). In a later moment she focused on a friend of her husband's rather than on the husband or the therapist as the target object. This change is shifting the schemas of other persons in the role-relationship model of being neglected by the other and then reacting resentfully. The other is shifted from "husband" to "his friend."

*Devaluation:* The first episode rated as devaluation began at the seventh minute of the therapy hour. The patient began to talk more directly about her husband, complaining that he had neglected her on a holiday. She then recounted a memory of how her mother tried to pay attention to her on such a holiday but had done so in such a "stupid" way that the attention was worse than nothing. She devalued her mother's image, dismissing her with insulting terms.

Devaluation was combined with displacement and role reversal. The patient felt devalued by her husband and wanted to reduce her pain by devaluing him. She then devalued her mother and returned within a minute to reporting how she had "fought dirty" with her husband. ("Dirty" fighting was belittling him by recounting lapses in his conduct of business, reminding him of failed attempts to succeed, and implying that his vision was too short-sighted).

A control-process analysis of this episode includes shifting concepts. Those concepts most central to the emotional core of her humiliation and self-blame were inhibited as she moved instead to concepts at the periphery of this topic. These more peripheral topics had to do with memories of the past, when

her mother was so unempathic as to provide only "stupid attention," rather than with the more intensely emotional topic of what was going on currently with her husband. This maneuver involved shifting the time span under consideration, from the present time span of her relationship with her husband to a more temporally remote span.

She also shifted person schemas. She had been using as a working model a relationship schema in which she was in the role of a critic, trying to evoke an equivalent role in the therapist. Jointly they would appraise the patient as the victim of trivialization by a husband who was too selfish to be empathic to her needs. The critics would direct shame toward him, thereby reducing her vulnerability to humiliation.

Within this model of herself and the therapist jointly criticizing her husband for devaluing her, she changed the object to be blamed from her husband to her mother. By directing shame at her husband, she would reduce his importance as a person and then not care as much that he would find her unworthy and direct shame at her. She anticipated, however, that the therapist, as a critic, might side with her husband and might devalue her. So she shifted to the clearer episode where her blatantly unempathic mother was more likely to be blamed.

The several control processes of content, form, and schemas were convergent. Moving to the periphery of a set of concepts (contents), changing the time to the past (form), and shifting the other-person schema in her working model combined to allow her to feel more secure as the one who was devaluing another and to move away from the danger of a state in which she would be the humiliated target of devaluation.

Observing such maladaptive regulatory operations, the therapist could encourage more adaptive use of the patient's control

**FIGURE 2. Modeling the episode of displacement.**

| Speaker | Statement (Paraphrase) | Change Points of Controls | |
|---|---|---|---|
| | | **Concepts** | **Role-Relationship Models** |
| Patient | (My husband neglected my minor creative product.) | (Therapist neglects her)<br>\|<br>\|<br>Husband neglects her<br>\|<br>\|<br>\| | Self → desires attention → Therapist<br>Change<br>Husband → neglects → Self<br>Self → resents → Husband |
| Therapist | (He neglected ____________?) | | |
| | | **Change** | **Change** |
| Patient | "Yeah, and it turned into a symbol of something else ... I accused him of not thinking of (the product) as very significant; it was so trivial to him and I had worked really hard on it." (Continues, with details on the product.) | Husband neglects a small thing<br>\|<br>\|<br>\|<br>She resents it<br>\|<br>\|<br>\| | Husband → neglects → It |
| | | **Change** | **Change** |
| | ...(later)...<br>(She resents neglect by a friend of her husband.) | She resents neglect by a friend of her husband | Friend of Husband → neglects → Self |

processes. He could suggest a change in the set point for time, from the past to the present. He could suggest a change in the set point for the relationship under consideration, from that between her and her mother to that between her and her husband or that between her and himself. With the latter choice, they could clarify options in the here and now of their dialogue. He could focus on her self-criticism as well, in relationship to others or to himself.

*Projection:* The first episode of projection occurred when the patient, 14 minutes into the hour, reported a dream. In this dream, a strange man was putting his arms around her as they stood by the edge of a cliff. He suggested that they both jump off. As part of her associations to the dream, she said, "I don't know, it seemed like, you know, he was going to have an affair with me or something."

Our defense-mechanisms team inferred from this and the surrounding material that the patient's dream contained wishes for sexual excitement with a strange man, probably the therapist. The wishes, the initiative, and the fantasied actions were all projected onto the man.

The control-process analysis of this episode begins with shifting concepts. At first the patient indicated meanings clearly, by using the words "going to have an affair," and by describing an image of danger—standing at the edge of a cliff. Then she shifted to concepts that obscured these meanings by saying "or something," a vagueness we infer was meant to obscure the danger of "an affair."

At the level of regulation of form, the control process shifted from present waking ideas to dream imagery in order to partially disown immediate ideas and feelings of excitement toward the therapist by forming these in a dream space. She did not acknowledge herself as the dreamer who forms the dream. This warding off involved a shift in time span from the here and now to the then-in-my-dream. There was also a shift in logic level from wakeful thinking to dream-state thinking.

More important to the formation of a defensive state was an inferred shift in self schemas from active to passive roles. At the level of altering role-relationship models, there was a role reversal, from self as the source of a sexual wish toward the other (the therapist) who is a bystander, to the other as urging an affair upon her. This role reversal related to the "obligatory script" already mentioned, the one in which she began an interactive sequence by solicitation of interest, then found the situation too out-of-control, enthralling, and sexualized, and finally feared the disasters of being abused or abandoned. She was interesting to the other but, being the cool passive bystander, she remained less threatened: she did not suggest anything, she did not jump off the cliff, and she had nothing to feel guilty about.

## DISCUSSION

Defense-mechanisms language usually labels *what* was done over time.[28–31] Control-process language tells more precisely *how* immediate defensive alteration of mental activities is achieved. Defense-mechanisms language is useful for describing habitual compromises, as in longitudinal assessment of personality.[32,33] The addition of control-process language allows description of several combined mental activities in a current state of mind.

This microanalytic focus may be useful to therapists as they think about how to phrase an intervention aimed at reducing an automatic (unconscious) defensiveness of the patient by encouraging a change in conscious efforts. For example, a therapist may make very brief interventions, such as, "You seem vague," or, "You want to take that idea back." The patient can act on that information by striving to be clear or by reexamining the recently disavowed idea.

Much of psychodynamic technique works from this point of view without being explicit about control processes. For exam-

ple, the type of intervention emphasized by Gray[34] begins with a focus of the patient's attention upon his or her own shifts in affect or topic. These narrow-focus interventions are used as a preliminary technique for subsequent interpretations of what is warded off and of why the ideas and feelings are so threatening. This sequence fosters development of a self-observing capacity before repressed memories or regressive schemas are clarified, reconstructed, or interpreted.

Schafer,[35] in discussing the interpretation of projection, pointed out how often the therapeutic effort falters if it is made without particular reference to the many processes that converge in constructing the projection. For example, he suggested that if the patient is projecting a particular affect onto the therapist and if this is pointed out initially it may appear "false" to the patient. It may be more productive to remark that the patient is emphasizing or observing something that he or she believes to be so and that the reasons for this are potentially productive to explore.

As mentioned earlier, the classification of types of control processes as offered in this article is an effort at systematic assessment of what clinicians often observe in the moment-to-moment discourse of psychotherapy. Focusing at this microgenetic level allows for empirical studies. These can proceed through clinical ratings by a classification system using blind judgments of excerpted case material and by development of content-analysis manuals that can be applied to segments of transcripts or videotape. The former studies are under way. The latter studies have indicated reliable results.

For example, the four types of control processes listed under "control of content" have been developed into a measure called "dyselaboration" that can be applied to transcripts of discourse. In this related research, the reliabilities of different categories of dyselaboration applied to the text from diverse patients are satisfactorily high, with agreement levels over the 0.80 level and Cohen's kappa values over the 0.60 level; they are cited in a paper submitted by Horowitz, Milbrath, and Reidbord. With the sound off so that only nonverbal communication is rated, signs of non–warding off, which relate to the interpersonal expressive aspects of control of form, have also been rated with satisfactory reliability. These results appear in submitted papers by Horowitz, Stinson, Curtis et al. and Horowitz, Milbrath, Jordan, et al., 1992).

Thus, control-process theory may have utility in research on the processes of psychotherapy and the processes of adapting to stressful life events, where periods of high warding-off operations may indicate continuing nonintegration of the meanings of changed circumstances. Such empirical demonstrations may help cognitive scientists to include in their theories the concept of defensiveness in dealing with meanings that would otherwise have strong tendencies to activate intense emotional states of mind.

## SUMMARY

Control-process theory is derived from studies of how patients under stress modify their cognition, affect, and organized knowledge structures about self and others. Control-process theory can be integrated with defense-mechanism theory from psychoanalysis. By microanalysis of defensive episodes, a clinician may gain more insight into how to help the patient make small but incremental changes in habitual styles of excessive inhibition and/or distortion. Control-process theory may also provide a language for increasing communications between psychodynamic and cognitive domains of psychological science.

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## REFERENCES


1. Freud S: The Interpretation of Dreams (1900), in The Standard Edition of Complete Psychological Works of Sigmund Freud, vol 4–5, edited by Strachey J. London, Hogarth Press, 1958, pp 1–751
2. Freud S: The neuro-psychoses of defense (1894), in The Standard Edition of Complete Psychological Works of Sigmund Freud, vol 3, edited by Strachey J. London, Hogarth Press, 1962, pp 43–68
3. Freud S: Repression (1915), in The Standard Edition of Complete Works of Sigmund Freud, vol 14, edited by Strachey J. London, Hogarth Press, 1957, pp 141–158
4. Freud S: Inhibition, symptoms and anxiety (1926), in The Standard Edition of Complete Works of Sigmund Freud, vol 20, edited by Strachey J. London, Hogarth Press, 1959, pp 87–175
5. Freud A: The Ego and the Mechanisms of Defense. New York, International Universities Press, 1936
6. Vaillant GE: Theoretical hierarchy of adaptive ego mechanisms: a 30-year follow-up of 30 men selected for psychological health. Arch Gen Psychiatry 1971; 24:107–118
7. Bond M, Gardner ST, Christian J, et al: Empirical study of self-rated styles. Arch Gen Psychiatry 1983; 40:333–338
8. Perry JC, Cooper SH: An empirical study of defense mechanisms, I: clinical interview and life vignette ratings. Arch Gen Psychiatry 1989; 46:444–452
9. Erdelyi MH: A new look at the new look: perceptual defense and vigilance. Psychol Rev 1974; 81:1–25
10. Erdelyi MH, Goldberg B: Let's not sweep repression under the rug: toward a cognitive psychology of repression, in Functional Disorders of Memory, edited by Kihlstrom JF, Evans FJ. Hillsdale, NJ, Lawrence Erlbaum, 1979, pp 355–402
11. Erdelyi MH: Repression, reconstruction, and defense: history and integration of the psychoanalytic and experimental frameworks, in Repression and Dissociation: Implications for Personality Theory, Psychopathology, and Health, edited by Singer JL. Chicago, University of Chicago Press, 1990, pp 1–32
12. Kroeber TC: The coping function of the ego mechanisms, in The Study of Lives, edited by White R. New York, Atherton, 1963, pp 178–198
13. Haan N: Coping and Defending. New York, Academic, 1977
14. Haan N: An investigation of the relationship of Rorschach scores, patterns, and behavior to coping and defense mechanisms. Journal of Projective Techniques 1964; 28:239–441
15. Horowitz MJ: Psychological response to serious life events, in Human Stress and Cognition: An Information Processing Approach, edited by Hamilton V, Warburton D. New York, Wiley, 1980
16. Horowitz MJ: The mechanisms of defense, in Introduction to Psychodynamics. New York, Basic Books, 1988, pp 187–210
17. Horowitz MJ: Image Formation and Psychotherapy. Northvale, NJ, Aronson, 1983
18. Horowitz MJ: Structure and the processes of change, in Hysterical Personality, edited by Horowitz MJ. Northvale, NJ, Aronson, 1977, pp 193–261
19. Horowitz MJ: Stress Response Syndromes, 2nd edition. Northvale, NJ, Aronson, 1986
20. Horowitz MJ: Sliding meaning: a defense against threat in narcissistic personalities. Int J Psychoanal Psychother 1975; 4:167–180
21. Horowitz MJ: Psychodynamic phenomena and their explanation, in Psychodynamics and Cognition, edited by Horowitz MJ. Chicago, University of Chicago Press, 1988, pp 3–20
22. Horowitz MJ: Cognitive and interactive aspects of splitting. Am J Psychiatry 1977; 134:549–553
23. Horowitz MJ: Person schemas, in Person Schemas and Maladaptive Interpersonal Patterns, edited by Horowitz MJ. Chicago, University of Chicago Press, 1991, pp 13–31
24. Horowitz MJ, Merluzzi TV, Ewert M, et al: Role-relationship models configuration (RRMC), in Person Schemas and Maladaptive Interpersonal Patterns, edited by Horowitz MJ. Chicago, University of Chicago Press, 1991, pp 115–154
25. Horowitz MJ: Emotionality and schematic control processes, in Person Schemas and Maladaptive Interpersonal Patterns, edited by Horowitz MJ. Chicago, University of Chicago Press, 1991, pp 413–423
26. Singer JL, Salovey P: Organized knowledge structures and personality, in Person Schemas and Maladaptive Interpersonal Patterns, edited by Horowitz MJ. Chicago, University of Chicago Press, 1991, pp 33–79
27. Marmar CR, Weiss DS, Gaston L: Toward the validation of the California Therapeutic Alliance Rating System. Psychological Assessment 1989; 1:146–152
28. Brenner C: The Mind in Conflict. New York, International Universities Press, 1982
29. Cooper SC: Recent contributions to the theory of defense mechanisms: a comparative view. J Am Psychoanal Assoc 1989; 37:865–891
30. Modell AH: Psychoanalysis in a New Context. New York, International Universities Press, 1984
31. Kohut H: How Does Analysis Cure? Chicago, University of Chicago Press, 1984
32. Vaillant GE: Adaptation to Life. Boston, Little, Brown, 1977
33. Perry JC, Cooper SH: What do cross-sectional measures of defense mechanisms predict? in Empirical Studies of Ego Mechanisms of Defense, edited by Vaillant GE. Washington, DC, American Psychiatric Press, 1986, pp 32–46
34. Gray P: "Developmental lag" in the evolution of analytic technique. J Am Psychoanal Assoc 1982; 30:621–639
35. Schafer R: Mechanisms of defense. Int J Psychoanal 1968; 49:4–62