Affect control theory proposes that people cast themselves and others into situational identities and then construct events to validate sentiments evoked by the identities while maintaining the integrity of behaviors and the spirit of settings as well. The normative coherence of social action arises from cultural and institutional shaping of identities, behaviors, and settings. Diversity and innovation in social action arise as different sentiments get evoked in situations and as past events reverberate affectively.

Event construction can occur not only by engaging in behavior but also cognitively by redefining interactants so that their identities fit their actions—the kinds of construction emphasized in sociological labeling theory and psychological trait-inference theory. In affect control theory reidentification processes are comprehended within the same social psychological system that governs action.

Affect control theory regards emotion as the experience of identity validation or invalidation and as a capacity for sensing the social structuring of relationships. Displays of emotion broadcast to others information about what identities one is trying to maintain and how those commitments are faring and thereby provide a nonverbal mechanism for attaining intersubjectivity in definitions of situations.

Having briefly sketched the gist of the theory, we now proceed to our main concerns in this essay. In the next section we describe affect control theory through a systematic statement of the theory’s key premises and propositions. Then we turn to describing the development of the theory and a related sociological object—the research program in which the theory developed.*

*This essay, which combines MacKinnon’s propositional formulation of affect control theory that he prepared for a book (MacKinnon, forthcoming) and Heise's work on his-
The Theory

This presentation displays the shape of affect control theory at the end of 1990, freely incorporating results of past research. In order to provide an unobstructed overview, we restrict our use of three hallmarks of prior presentations—mathematical equations, citations to the literature, and simulations of social interaction based on a computer implementation of the theory. The interested reader can find equations, citations, and simulation results in abundance by consulting the sources listed in our references. Overviews of affect control theory written by nonparticipants in the research program are available in Stryker and Statham (1985) and Thoits (1989).

We state twenty-four propositions blocked into seven groups. The first group, relating to symbols and affective meaning, sketches the general perspectives and methods involved in affect control theory—the metatheory. The second group, focusing on cognitive operations, outlines an auxiliary theory that is essential in order to apply affect control theory. The third group of propositions presents basic principles of affective response and control. The fourth and fifth groups of propositions relate to event assessment and event production. The sixth group of propositions presents affect control theory’s approach to emotion, and the last group of propositions concerns cognitive revision through reidentification of interactants.

Symbols and Affective Meaning

Proposition 1. Social interaction is conducted in terms of social cognitions of the interactants.

The most basic premise of affect control theory is that social interactions is symbolic interaction. People manage their interpersonal behavior by cognizing (or recognizing) themselves, others, and objects, including encompassing settings, and by invoking classifications of action to interpret what is happening. Cognitive definitions involved in social interaction are partially determined by the material settings in which people find themselves, but qualitative definitions of situations may differ from one individual to another because different actors have different agendas and

The research also has benefited from NIMH Grant 1-R01-MH29978-01-SSR to Heise and NSF Grant SES 8122089 to Lynn Smith-Lovin.
different histories. Affect control theory makes no claim to predicting individuals’ initial definitions of a situation, and indeed those definitions must be available as input data in order to make accurate predictions about social behavior.

Social interaction is influenced by factors other than the social cognitions of actors. Material constraints (physical distance, walls, etc.) limit who assembles with whom, and distributions of material resources (like medical supplies or religious artifacts) limit actions that can be constructed at a given place and time. Thus we keenly appreciate studies in social ecology because they help illuminate constraints on symbolic interaction. Furthermore, opportunities for events change dynamically as action proceeds, resulting in contingencies among events that modify human cognition and motivation, as behaviorists have demonstrated. Thus, we appreciate studies of event contingencies and of their psychological effects in that such studies deepen understanding of processes involved in symbolic interaction.

*Proposition 2.* Language is the primary symbolic system through which cognitions are represented, accessed, processed, and communicated.

Affect control theory focuses on concepts—cognitions symbolically represented in a language—and uses words to represent social scenes and happenings and to conduct research on interpersonal processes. Moreover, affect control theory’s representation of cognitive process is more influenced by linguistic theory than by psychology—for example, events are structured in terms of case grammar, and other grammars are invoked to explain within-event and between-event cognitive constraints. The emphasis on linguistically mediated symbolic interaction reflects the way people talk about their situations and actions, and the approach accords with George Herbert Mead’s classic view of the mind as an internal linguistic process of control in which language moderates between sensation and reflective thought. However, we accept that occasionally cognitions can be accessed in a manner unmediated by language, and we suppose (until convince otherwise) that the principles of affect control theory apply whether constructs are linguistically mediated or not.

*Proposition 3.* All social cognitions evoke affective associations.

Cognitions have affective connotations that vary in intensity and quality. For example, an attitude—an association along a good-bad continuum—is attached to virtually every cognition. Affective aspects of meaning engage a kind of psychological processing that integrates social cognitions of different types and that is general across individuals.
While situation definitions and other cognitive processes are the framework for social interaction, social dynamics are largely governed by an affective system relating to values, motives, emotions, etc. Classifications of places, people, objects, and behaviors get transformed into a domain of feelings, where things lose their qualitative uniqueness, become comparable to one another, and begin obeying quantitative principles. This is analogous to observing that Sun, Earth, Mars, Saturn, etc., are identifiable by their unique characteristics, but the dynamics of the solar system are governed by the distances, masses, and velocities of these bodies and the operation of physical laws. (Heise 1987: 6)

Proposition 4. Affective associations can be indexed to a large degree on universal dimensions of response.

Affect control theory capitalizes on extensive cross-cultural research with the “semantic differential” which demonstrates that judgments of evaluation (goodness), potency, and activity (EPA) are universal dimensions of response to both linguistic and nonlinguistic stimuli. Despite the unfortunate naming of the instrument, measurements made with semantic differentials are affective rather than semantic in nature, as recognized by the inventor of the instrument throughout his later research (Osgood 1962).

Research on affect control theory has employed a single set of scales to measure all kinds of concepts including social identities, interpersonal acts, person modifiers (traits, status characteristics, and labels for emotional states), and social settings. The evaluation dimension has been measured on a semantic differential scale employing “good-bad” and “nice-awful” as polar adjectives; the potency dimension, “big-little” and “powerful-powerless”; and the activity dimension, “fast-slow,” “young-old,” and “noisy-quiet.” For all three dimensions, scale values range from $-4.0$ (infinitely) through 0 (neutral) to $+4.0$ (infinitely), where a $-1$ ($+1$) represents “slightly,” a $-2$ ($+2$) “quite,” a $-3$ ($+3$) “extremely.” The “assumed” metric has been refined for each dimension using the method of successive intervals to obtain an approximately interval metric. More recent work (e.g., Heise and Thomas 1989; Britt and Heise 1992) implements the scales on computers as graphic rating scales with metric corresponding to visual distances.

An EPA profile is an ordered triplet of numbers reporting the evaluation, potency, and activity ratings of some concept within some population. For example, the EPA profile for the social identity “professor” is $1.5, 1.4, -0.6$ for Canadian male university students in northern Ontario, and that for “student” is $1.2, 0.2, 1.9$. Thus, a “professor” is rated on average in this population as a little above slightly good, slightly powerful, and edging toward slightly slow, old, and quiet. In contrast, a “stu-
dent" is rated on average as slightly good, neither powerless nor powerful, and quite active. As an example of a behavioral stimulus, "to assault someone" is rated by the students as extremely bad, slightly powerful, and quite active, corresponding to the EPA profile: -3.0, 1.2, 2.0.

While evaluation, potency, and activity can be considered cross-cultural dimensions of affective meaning, the EPA measurements for particular stimuli are expected, of course, to vary across cultures.

Cognitive Constraints

**Proposition 5.** Events are constructed in the framework of a definition of the situation that establishes the identities of participants.

Before interaction can meaningfully proceed from one event to another in social situations, a plausible interpretation of what is going on has to be settled upon in the mind of each participant. Both cognitive and affective processes operate, but affective processes operate within a cognitive framework.

Central aspects of the cognitive processes develop from defining the situation. Using a linguistic metaphor, we might say that the definition of the situation is a cognitive process that assembles a working "lexicon" of actors who can enter into events: "A definition of the situation identifies the setting and the relevant persons and objects that are present, so it presents the actors and objects that can be combined into recognition of events in that situation" (Heise 1979: 9). Defining a situation involves complex perceptual processing in which various conceptual schemes are raised and entertained, and people's identities are selected so as to be institutionally compatible with each other. The definition of the situation also may utilize knowledge of ritual or scripted behavior, and may involve negotiation with other observers present at the scene.

Although early work in affect control theory treated each person at a scene as the carrier of one relevant identity, current work allows that the lexicon of potential social participants at a scene might be complicated by the existence of identity hierarchies for each individual.

**Proposition 6.** Grammatical structures of various kinds constrain event construction.

Affect control theory considers social events to be organized in terms of case grammar. An *ABO event* consists of an actor (A) performing a behavior (B) on some object-person (O). Smith-Lovin (1979, 1987) extended the case grammar analysis of events to *ABOS events*: an actor performing a behavior on an object-person with the social setting (S) foregrounded, as in the sentence "The priest blessed the soldiers at the
battlefront." Averett (Averett and Heise 1987) extended the case grammar idea to incorporate modifiers (adjectives) into identity specifications, as in "The angry mother scolded the naughty child."

Two of the case slots in an event (A and O) get filled from the available social identities at the scene. Selection of a construct to fill the behavior slot is limited by selection of actor and object if we adopt the notion of projection rules (a grammatical principle in semantic theory) and suppose that social identities generally have characteristic acts associated with them. Doctors, for example, are expected to counsel and medicate; patients, listen and obey. Thus, the problem of determining what is happening is constrained by knowledge of who is acting.

The construction of events also is structured by situationally specific grammars of action (which are discussed in the second half of this essay). An action grammar implies that possible event constructions at any moment are limited by logical and causal thinking about what has happened previously and what is supposed to happen in the future.

**Affective Response and Control**

*Proposition 7. The Affective-Reaction Principle.* People react affectively to every social event.

This can be considered the first postulate of affect control theory proper. While the idea follows in an elementary way from Propositions 1 and 3, affect control theory expands the idea with the research-based understanding that events generate new affective meanings regarding the actor, the recipient of action, the behavior, and the setting.

According to affect control theory, the affective associations that were attached to cognitions before an event are transformed by the event into new feelings that may differ from prior feelings in direction and/or intensity. Different events produce different effects. For example, "a mother scolding a child" generates feelings that are somewhat negative for both mother and child; but "a mother hugging a child" produces feelings that are positive. The affective responses generated by events are called transient in affect control theory, because subsequent events may undo them.

*Impression formation equations* model the process by which prior feelings about social identities and interpersonal acts combine during event cognition and generate new transient feelings. We will not present impression formation equations here because they are complex with many multiplicative interaction terms, and there is an extensive literature on them that is readily available (see the affect control theory citations in our reference list). However, examining a few predictions from these equa-
tions illustrates the processes that the equations represent. Among female
Canadian college students “mother” has the EPA profile 2.7, 1.6, 1.0,
indicating that in general mothers are considered to be extremely good,
quite powerful, and slightly active. The transient feelings for mother af-
after the event “mother scolds child,” as generated by the impression for-
mination equations, is -1.4, 0.9, 1.0. Thus, the prediction is that a mother
who is seen to be scolding her child (without known justification) be-
comes somewhat negatively evaluated and viewed as somewhat reduced
in potency while the impression of her transient activity level remains
unchanged.

Affective meaning for the object-person also undergoes revision as a
consequence of the event. The general EPA profile for “child” is 1.7,
-1.1, 2.5, indicating that a child is considered quite good, slightly pow-
erless, and extremely active. The impression formation equations predict
that the event “mother scolds child” transforms these feelings into the
transient impression -0.4, -0.5, -0.6, indicating that the child drops
in evaluation or goodness by virtue of being scolded, becomes less pow-
erless, and turns dramatically less active.

Behaviors also get affectively colored by the context of the event. For
example, according to impression formation equations, the act of scold-
ing (EPA profile of -0.4, 1.7, 0.7) drops further in evaluation when
performed on a good object-person like a child, declines slightly in po-
tency, but remains essentially constant in terms of activity level.

Finally, the affective meaning of a setting is influenced by events when
the setting is foregrounded and perceived as a component of the event.
“Thus places are viewed as more pleasant when they have been the scene
of conciliatory, inquisitive acts like Appease, Consult, Contemplate, Josh
and Serve. Conversely, settings which have been defiled by violent, ag-
gressive interactions are viewed retrospectively as unpleasant places or
gatherings” (Smith-Lovin, 1987: 91).

Proposition 8. The Affect Control Principle. People try to experience
events that confirm fundamental sentiments.

Affect control theory proposes that, apart from transient feelings pro-
duced in particular circumstances, every concept carries a fixed affective
meaning. This is the affective association of a concept on its own, apart
from combinations with other concepts. Called a fundamental sentiment
in affect control theory, this affective association is operationalized as the
average EPA profile for a concept outside of any event context as rated
by a culturally homogeneous group of respondents. Fundamental senti-
ments are highly stable and are cultural in the sense that virtually the
same EPA profile for a concept can be obtained by repeated sampling
from the same population, although sampling from a different population often yields quite a different result.

One use of fundamental sentiments in affect control theory is to set affective transients in a situation before any events have occurred. However, it is their other function that is theoretically crucial. Fundamental sentiments serve as reference points throughout a social interaction, and transient feelings constantly are assessed in comparison with fundamental sentiments. According to affect control theory, events are constructed in order to control transient feelings and to make transient feelings consistent with fundamental sentiments.

The discrepancy between transients and fundamentals is so important in affect control theory that it is identified by a specific concept. The deflection produced by an event is the sum of squared differences between transient feelings and fundamental sentiments, computed across all dimensions of affective response (EPA) and across all components of an event (ABO, or ABOS).

The basic motivational principle in affect control theory is that people construct or reconstruct events so as to maintain consistency between transient feelings and sentiments. The principle is viewed as pervasive in social life. It constrains the interpretation of others’ behavior, it guides conduct as one tries to validate identities or to restore meanings after disruptive events, it structures the reinterpretation of others’ identities through labeling processes or trait inferences. In all these cases, the theoretical supposition is that individuals are operating in such a way as to generate consistency between transient feelings and sentiments.

The affective-reaction premise pertains to the effect of past events on present affective states. The affect control premise pertains to the return effect that affect has on events via interpretive and constructive work. The two principles conjoined yield a cybernetic model that accounts for affective responses to events and that also predicts cognitive and behavioral constructions.

Just as the affective-reaction premise is operationalized in impression formation equations, the affect control premise is operationalized in impression management equations. The impression management equations are derived mathematically from the impression formation equations using the calculus to implement the assumption that a constructed event minimizes discrepancies between transient impressions and fundamental sentiments. We do not present the equations here because they are extremely complex, and ample discussions of the derivations and of the equations are available elsewhere.

*Proposition 9. The Reconstruction Principle.* Implacable large deflections instigate changes in the sentiments which are being used to appraise
the meaning of events such that the new sentiments are confirmed optimally by recent events.

In cybernetic terms, higher-order feedback kicks in to reduce deflections when lower-order feedback fails to maintain consistency between transient impressions and sentiments. In ordinary language, if people cannot confirm fundamental sentiments through action, then they change the sentiments that they are trying to confirm.

An unsolved problem is ascertaining when people will resort to change of sentiments rather than trying to attain confirmation through action. Psychological literature suggests that unexpected events lead to trait inferences about actors, and in affect control theory that would mean that high-deflection events instigate reconstructions. However, some sociological literature and numerous unpublished analyses of personal incidents by college students indicate that people stick to definitions of situations for prolonged periods, even when events fail to confirm sentiments.

At this point, our best guess is that reconstructions get invoked when an event occurs that disconfirms sentiments and later events reveal that the interactants are not engaging in reparative actions. Our formal proposition, however, forgoes such a specification and refers simply to “implacable large deflections.”

Later propositions apply the reconstruction principle to cognitive changes—that is, to change in sentiments obtained by reconceptualizing people. We suspect that the reconstruction principle also pertains to how sentiments get attached to cognitions in the first place, though we are not prepared yet to state a proposition on sentiment formation and change.

**Event Assessment**

*Proposition 10.* Events are recognized within the framework of a defined situation.

*Proposition 11.* Grammatical structures constrain event recognition.

These two propositions simply apply earlier propositions to deal with the specific problem of event recognition.

*Proposition 12.* The likelihoods of event interpretations are inversely related to the affective disturbances they produce.

This proposition is a theoretical derivation. According to the affect control principle, people seek to experience low-deflection events, and therefore given the opportunity to cognize an event in either a low-
deflection or a high-deflection way, they will choose the low-deflection interpretation. Thus low-deflection events should be observed more often than high-deflection events.

This proposition provides a basis for understanding how affective dynamics influence event recognition. To illustrate, mean acts would be judged by most people as uncharacteristic of mothers, particularly if directed toward good and vulnerable object-persons like children. If a mother is perceived possibly to be tormenting her child, an alternative act might be selected as a more likely interpretation—perhaps the mother is only teasing, playing with, or bluffing the child. The event, “mother torments child,” is avoided, not because it is incompatible with perceptions in this example, but because it is disconfirming of the sentiments for mother and child, and alternative interpretations provide less disturbing experiences for the observer.

**Proposition 13.** The perceived likelihoods of events are inversely related to the affective disturbances they produce.

This proposition can be viewed as a theoretical derivation obtainable with some auxiliary assumptions. By the affect control principle, people try to experience events that minimize deflection. Therefore, if people have the freedom to exercise their preferences, events that create large affective deflections should be rare. And if people are cognizant of this rarity, they should judge such events as unlikely.

Findings reported by Heise and MacKinnon (1987) reveal that the perceived likelihood of events does indeed vary inversely with the amount of deflection produced by the events, and events that produce massive deflections always are perceived as unlikely. Yet, affective deflections account for only about one third of the variance in ratings of event likelihood because many events that produce little affective deflection are viewed as unlikely anyhow. This result was found in the Heise and MacKinnon analysis of United States data and was replicated in MacKinnon’s (1985) Canadian study.

When analyses are restricted to events involving actors with standard institutional identities (e.g., family roles, legal roles, and so on), unlikely low-deflection events are eliminated and high levels of predictability are obtained. When analyses are restricted to events with actors having institutionally vague identities (e.g., child, hero, as well as mildly deviant identities such as smart-aleck, loafer), especially low levels of predictability are obtained. Therefore, Heise and MacKinnon reasoned that institutionally clear identities provide a definite cognitive context and automatically instigate affective processes that govern likelihood assessment. However, identities that are vague call for so much extra cognitive work
in order to make sense of an event description that an event may seem far-fetched apart from affective dynamics.

Originally it was believed there would be a tight connection between deflection, perceived likelihood, and the actual probability of an event occurring, but research indicates that the linkage is a loose one. Events that produce little deflection may turn out to be rare because they have no institutional support. Events that produce a great deal of deflection for ego may occur because they are institutionally required, or all that is possible in some circumstances, or because others define the situation differently, or others have different sentiments than ego does. Thus we prefer to interpret the property of events which deflection predicts not as their objective probability but as their singularity. High-deflection events seem singular, unique, extraordinary, and when such events occur, they are experienced as exceptional, out-of-the-ordinary happenings.

Event Production

Proposition 14. A person develops actions by employing situational identities of self and other as actor and object.

Proposition 15. Actions are produced within the constraints of relevant grammars.

Producing an interpersonal event implies filling in the slots of an ABO structure. For the one who is constructing an event, the choice of actor is settled—it is the self (in the guise of a situational identity); in a dyad the choice for object also is obvious—simply the other in his or her situational identity. Of course, the possibility of each individual taking on multiple identities in a situation complicates matters, and in groups larger than a dyad choice of a recipient becomes increasingly problematic. We assume that selections are restricted by the operation of cognitive grammars and minimize affective disturbance.

Selection of a behavior is constrained to the legitimate repertoire of actions assigned to one's identity; this is the projection-rule idea applied to event production rather than to event recognition. Additionally the feasible actions at the moment are limited by what has happened previously—the causal and logical constraints implied by a situational grammar of action. The action grammar also may give salience to some particular behavior that is essential in order to reach a goal event.

Proposition 16. The likelihood that a person will engage in one feasible behavior rather than another is inversely related to the affective disturbances that the behaviors produce.
Affect Control Theory

According to affect control theory, cognitive factors typically limit the choice of behavior to a set of "free variates" (to use another linguistic metaphor), and at that point affective processes narrow the choice to a single option. In particular, a person will enact the behavior that minimizes deflection of outcome impressions from fundamental sentiments. This proposition follows directly from the principle of affect control: people seek to experience events that confirm fundamental sentiments, and therefore, when responsible for the production of a new event, a person will choose a behavior in such a way as to create an event that minimizes deflections.

At one time it seemed plausible that behavioral responses to past events are selected in terms of how much they reduce deflection, but an analysis by Wiggins and Heise (1987: 156) indicated that large current deflections do not increase the likelihood of a restorative event. The construction of events is governed simply by how much deflection they produce, not by how much improvement they offer. Of course, current deflections do influence the character of a subsequent event: if someone has been mortified then events will be built to regain a sense of status and power, whereas an unpretentious response should occur if flattery has made feelings about self too positive. These predictions about the character of responses were supported in a behavioral experiment conducted by Wiggins (Wiggins and Heise 1987).

Affect control theory's proposal that an individual behaves so as to minimize deflections for the self does not mean that events are constructed to confirm the actor optimally but rather to confirm optimally the actor's overall meaning system—the self-identity, the other's identity, and the meaning of the behavior that is chosen. Heise's (1985) studies of differential weighting for these different components of an event led to the general conclusion that confirmation of each component is about equally important.

An act that is confirming for the self may be disconfirming for others if they have different sentiments or a different definition of the situation. Thus social predicaments may arise in which interactants counter each other's efforts to maintain meanings, perhaps even generating unstable increases in deflection that make a sequence of happenings seem more and more singular and incredible to the participants. Such scenes may result in reconstructions of identity, as discussed later.

Proposition 17. In the course of validating social identities people engage in role appropriate acts.

Social identities can be treated as culturally defined social roles subjectively viewed. Thus, in the process of conducting themselves so as to
confirm social identities, people theoretically should be enacting social roles.

One of the major research findings arising from affect control theory is that identity-confirming acts do indeed include the functional activities assigned to social roles—for example, “medicating” is an identity-confirming act for a doctor with a patient, “sentencing” is an identity-confirming act for a judge with a thief. Moreover, identity confirmation in the context of disruptive prior events yields sanctioning activities, either positive or negative depending on the circumstances.

The affective system impels people to perform the same role actions that are functional at the institutional level. Moreover, the affective system allows people to improvise creatively in order to perform roles appropriately even when circumstances are so special that no institutionalized response is known.

Social roles typically are defined in terms of social structural position as well as functional conduct. Research in affect control theory adopts a direct translation of an identity's Evaluation and Potency into corresponding role status (prestige) and power, following Kemper and Collins (1990). For example, male Ontario undergraduates provide the following EPA profiles for father, mother, son, and daughter, respectively: 2.5, 2.6, −0.6; 2.5, 1.0, −0.1; 1.1, 0.4, 1.2; 2.0, −0.2, 1.3. These figures are interpreted to mean that in a typical Ontario middle-class family mother and father have equal and high status, and thereby they garner considerable voluntary compliance in family situations; a daughter also has high status while a son has considerably less than other family members. Meanwhile, the power ranking allows father to have his way regardless of other's wishes, with mother being a powerful subordinate of father and the children being relatively powerless in family situations—daughter even more so than son.

Emotions

Proposition 18. The Emotion Principle. An interactant's emotion following an event reflects the outcome of the event and also the identity that the person is maintaining. Specifically, the emotion is a function of (a) the transient impression of the interactant that was created by the event; and (b) the discrepancy between this transient impression and the fundamental sentiment associated with the interactant's situational identity.

In affect control theory, emotion is modeled as a dynamically varying attribute of self that transforms self-identity into the social impression
which has been created by events. The model, developed mathematically from equations defining how modifiers combine with identities, implies that emotion is a function of two factors.

The first factor corresponds to commonsense ideas about emotion. Events that leave us in a positively evaluated state produce positive emotions, events that move us to negatively evaluated states result in negative emotions, events that produce transient feelings of liveliness produce emotional activation, and so on.

The second factor represents a relativistic aspect of emotional response. One's overall emotional state depends not only on how one is doing absolutely but also on how one is doing relative to what is to be expected on the basis of one's identity. For example, events may leave a person in a positively evaluated state, but the person may not be happy if that transient state is less positive on evaluation than expected by virtue of the person's current identity.

The emotion model is a relatively recent addition to affect control theory, and its predictions still have to be tested systematically. However, the model does plausibly specify emotions that might accompany social events. For example, according to predictions from the model (we continue a prior example with Canadian data), a mother who scolds her child should feel irate or mad, and the child being scolded should feel uneasy or remorseful.


*Proposition 19.* People tend to maintain emotions that are characteristic of their salient identities.

This proposition follows from prior ones with an auxiliary assumption and the understanding that a salient identity is one that gets invoked in many situations. The affect control principle implies that people try to maintain impressions of themselves that match the sentiments attached to their salient identities. Assume that they typically succeed. Then the discrepancy factor in emotion is eliminated, and the emotions they feel as a result of their conduct are a function simply of the impressions produced by that conduct. But because they are successful in confirming their salient identities, these outcome impressions match the sentiments for their identities, so the emotions they feel have profiles matching their identities. Thus, the maintenance of positive identities would lead to the experience of positive emotions, the maintenance of negative identities to negative emotions.

With this proposition affect control theory interprets chronic affective disorders like depression as problems based on the maintenance of negatively evaluated selves.
Proposition 20. Emotion displays facilitate intersubjective sharing of definitions of situations and of the operative social structures that are implied by definitions of the situation.

According to affect control theory, emotion is the experience of one’s identity in the context of recent events. Consequently an overt display of emotion by ego shows others how ego is experiencing his or her identity and, given some agreement about events that have occurred, allows others to infer what sentiments ego must be trying to maintain. That is, others can deduce some of ego’s definitions—even if they do not initially share them—by observing ego’s emotion displays as events occur. “[E]motions arise as events do and do not confirm conventional levels of status, power, and expressivity—the EPA profile—for each person’s situational identity. The emotions function as subjective and interpersonal signals concerning how the process of social confirmation is going” (Averett and Heise 1987: 123).

Inferences can be made from emotion displays about how another views the operative social structure in the situation. The point correlates with ideas in the sociology of emotion: emotions reflect social structure, so much so that unauthentic expressions of emotion (emotion work) may be coerced in order to lend powerful interactants an aura of status that they desire.

Cognitive Revisions

Proposition 21. Social labelings render past events more credible by assigning interactants new identities that are confirmed by the past events.

Social labeling processes, a topic studied mainly by sociologists, assign people new social identities in place of old ones. Affect control theory’s formulation regarding labeling derives from the reconstruction principle and is as follows.

Suppose that the actor in a recent event is to be reidentified. Then the behavior and the object in the event serve as givens, and the objective is to render the recent event more plausible by redefining the actor in a way that minimizes affective disturbance, in essence asking, “What kind of person would perform such a behavior on that object-person?” Alternatively the actor and the behavior can serve as knowns, and the object-person can be redefined, asking, “What kind of person warrants or seeks that behavior from that actor?” In either case, the given part of the event implies an appropriate sentiment for the person being labeled, and that sentiment can be predicted by employing a variation of the impression
management equations. The resulting sentiment guides selection of an explanatory social identity that is situationally appropriate and that fits the event grammatically.

If a stigmatized behavior is involved, then the new identity is likely to be stigmatized as well. For example, given the event “The youth cheats the clerk,” affective deflection could be reduced and the event rendered more credible by assigning such labels as “pusher,” “mugger,” or “evil-doer” to the perpetrator (according to analyses based on the Canadian study). Alternatively a label could be applied to the object-person—e.g., a Canadian youth accused of cheating a clerk might define the clerk as a “grouch,” “miser,” or “stuffed shirt” according to affect control theory analyses.

Traditional sociological labeling theory focused on acquisition of negative identities, but from the perspective of affect control theory the labeling process is the same regardless of whether the new social identities are stigmatized or respected. For example, a man who uplifts another man might be assigned the label of “pal” (analytic result using the Canadian data). Thus, affect control theory suggests that labeling processes are involved in achieving social regard as well as in receiving social stigma.

Proposition 22. Dispositional inferences render past events more credible by assigning interactants modified identities that are maximally confirmed by the past events.

Dispositional inferences, a topic studied mainly by psychologists, assign an explanatory trait to a person in order to make the person's actions more accountable. Affect control theory’s modeling of this kind of re-identification starts off the same as for labeling—a sentiment about the focal person is derived so as to minimize affective disturbance in the key event. However, in the case of a dispositional inference the inferred sentiment does not serve as the template for a new identity but rather defines a result that has to be achieved by modifying the person’s current identity.

Affect control theory’s empirically derived amalgamation equations are employed to model this process. The amalgamation equations define the outcome impression that is produced when a person modifier is combined with a social identity, as in “the wise child.” When the equations are applied to dispositional inference, the outcome corresponds to the inferred sentiment that would minimize affective deflection in the key event, the identity is the one which the focal person already has, and the equations are solved to define the EPA profile for an appropriate modifier.

Selection of different kinds of modifiers reflects different social psychological processes. If a personality disposition is selected, then we have the usual kind of trait inference considered by psychologists. If an emo-
tion term is selected for amalgamation with an identity, then we are dealing with attribution of a mood. If a status characteristic is selected (e.g., rich, Hispanic, old), then we have attribution of social faculty. If a character descriptor is selected (e.g., evil, noble), then the judgment becomes a moral attribution.

The amalgamation equations also are used in affect control theory to specify emotions, but then modifiers are being sought to describe the relation between an identity and a transient impression rather than seeking a modifier to specify how a person's particular characteristics convert the sentiment attached to an identity into a different fundamental sentiment that the person confirms through action.

Proposition 23. Dispositional inferences are a more likely form of reidentification than assignment of new identities through labeling processes.

Reidentifying people through the attribution of traits, moods, status characteristics, or moral character, instead of assigning entirely new identities, has the cognitive advantage of keeping the original definition of the situation intact. Thus situations promoted by social institutions can be maintained and individuals' deviant conduct understood simultaneously. For example, it is easier for a family to deal with a "withdrawn daughter" than with a "schizophrenic" and perhaps easier to deal with a "brutal father" than with an "alcoholic." As labeling theorists have argued, casting a person into a new identity may require complex confrontations, negotiations, and involvements with authorities, and once accomplished the labeling may have unwanted ramifications for one's own identity. Attributions, unlike role identities, do not have to be validated institutionally, thus the attributions are more easily applied and even can be employed tacitly to understand others.

Why, then, are labeling processes ever invoked? One reason is that reidentification through modifiers can extend only so far. No modifier can be attached to "friend" to account for a betrayal; only labeling with an identity like "traitor" yields an event in which the actor is properly confirmed through betraying others.

Proposition 24. Observers forego reassessments of an actor's character after disconfirming events if the person's emotion displays are appropriate to the person's conduct.

Suppose a person in an honorable situational identity engages in an awful act, thereby generating a very negative impression of himself. By the emotion principle, his action should generate a negative emotion such as humiliation, remorse, fear, or rage (whichever is most appropriate). If he does display an appropriate negative emotion, then there is no reason to suppose that he is maintaining an identity different from the one originally supposed. Thus the incident cannot be understood better by assigning him a new identity, and observers have to deal with the affective disruption in some other way—by implementing their own sanctioning events or by reidentifying another interactant in the event.

Similarly, if a person with a menial role performs heroically, then he should feel pride and elation, and if he displays such emotions then there is no reason to suppose that he is other than what he is supposed to be. It would be a display of calm humility that would suggest he had been misidentified and might be cast as a "hero," because only a fundamentally very good and very potent person could be calm and modest after heroism.

Displays of emotion during deviant episodes (or when such episodes are relived in discourse) reveal what identities the interactants are trying to maintain, and thereby observers can deduce whether their identifications of the interactants require revision or not. Moreover, through such displays of emotion each of us can gain some control over how others will view us. "[W]e display negative emotion when revealing our shortcomings to others. Such emotions often are played to and for an audience to authenticate identities and to mitigate the effects of negative information that is revealed through circumstance or self-disclosure" (Smith-Lovin 1990: 250).

Development of the Theory

This is a fitting stopping point for our presentation of affect control theory because the last proposition epitomizes the theory. Social identity, social conduct, and affect intertwine in symbolic representations of social interaction, and together they constitute a control system that impinges on many issues of sociological significance. Now we turn to some factors that were involved in development of this theory. First we try to fathom some of the scientific currents that have fed coherent conceptual growth of affect control theory. Then we describe and analyze the collaborative production system that was the medium for research regarding the theory.

Conceptual Expansion

Affect control theory originated in studies of the affective-reaction principle, which describes how people respond to events. Then the affect
control principle was added to explain how people create events. Then the reconstruction principle was brought in to define how people reinterpret past events. Next, the conceptualization of events was expanded to incorporate settings and to deal with participants who are characterized by modified identities. Then the emotion principle was added, suggesting how affect control processes are experienced and helping to account for intersubjectivity among interactants. Later, the emotion principle and reconstruction principle together led to the idea of emotion displays influencing labeling processes. Each development in this progression of elaborations was integrally related to prior developments, and equations representing the various principles synchronize neatly together.

**Elaborations.** The coherence of the theory arises partly because empirical research on impression formation applied the same tools repeatedly. Measurements always were made with the semantic differential, prediction equations always were obtained by predicting contextualized meanings from meanings assessed in isolation, and contextual structure always was manipulated in terms of a linguistic case frame. In fact, some theoretical expansions resulted from straightforward case-frame elaborations: this is the way the model was expanded beyond simple actor-behavior-object events to events within specified settings, and it is the way that the theory was expanded so that actors and object-persons can be characterized in terms of identities alone or in terms of modifier-identity combinations. The tools for obtaining empirically grounded impression formation equations continue to be productive. For example, at the time of writing this essay, equations were being obtained to predict impressions produced by self-directed actions using the frame actor-behavior-self (Britt and Heise 1992); and research on cross-cultural comparability of equations was under way in Canada and Japan.

The theory’s coherence also arises because some system equations were derived mathematically. For example, the impression management equations were derived from the empirical impression formation equations, in conjunction with the theoretical idea that people try to confirm fundamental sentiments; and attribution and emotion equations were derived from the empirical amalgamation equations for predicting how impressions arise from combinations of a modifier and an identity. Mathematical elaborations of this sort sometimes were an integral step in searching for an affect control theory interpretation of previously reported results regarding some compelling social psychological issue. Thus, the derivation of the construction equations from reaction equations was driven by a desire to account for normative actions associated with institutional roles; and the integration of emotion and impression management equations (Heise 1989a) that underlies Proposition 24 was stimulated by a study showing that people appreciate people who emote negatively over their own deviant behavior.

Expansions through derivations also arose as researchers explored equations mathematically. For example, equations for reconstructing events by selecting a new actor or object identity were obtained as a mathematical variant of the equations for constructing events by selecting a behavior. Equations to predict attributions and emotions became evident when the amalgamation equations were manipulated algebraically so that modifiers were turned into a predicted quantity rather than being one of the predictors.

Mathematical analyses must be tied to substantive concerns in order to constitute theoretical advance. For example, the reconstruction equations became remarkable only when they were interpreted in terms of labeling theory and articulated with research on deviance. Similarly, the amalgamation equations were solved for modifiers soon after being obtained, but a rich interpretation of the results required a decade of work to connect the equations with psychological attribution theory and with the growing body of work on the sociology of emotions. Meanwhile, other derivations led nowhere fruitful. For example, mathematical derivations specified how an event could be reconstructed by refining the setting, and simulations using the solution yielded results such as: a child punished by his parents might reinterpret his home as a prison. While people do say things as “This place is like a prison,” the prediction of metaphor does not seem connected in any useful way with current sociological concerns. In general, a mathematical derivation assures a high level of conceptual coherence, but it acquires utility only when translated into contemporary theoretical constructs and articulated with prominent issues in the discipline.

**Syntheses.** Affect control theory addresses a broad range of phenomena, and consequently it competes with a large number of other theories dealing with those same phenomena. For example, in psychology there are alternative formulations of impression formation, of identity maintenance, and of the mind as a control system. In sociology there are alternative formulations regarding identity, role behavior and the social basis of emotions. In some cases the competing theories make virtually the same claims as does affect control theory (e.g., Swann and Hill’s [1982] theory of identity maintenance), so the competing theories, and the work they induce, are cited as lending support to affect control theory. In other cases (e.g., Anderson’s [1981] approach to impression formation) the competing theory calls for certain refinements that affect
control theory does not provide, and in this case we continue working at our chosen level of precision, accepting that ultimately our models might be superseded by more precise ones. In still other cases the competing theory is incorporated as an auxiliary to affect control theory—e.g., Fararo and Skvoretz's (1984) approach to role analysis is adopted more or less intact within our statement of cognitive constraints; and Stryker's (1980) theory of self and identity has been incorporated into some of affect control theory's formulations regarding situational definitions. Wagner and Berger's (1985: 709) contention that "proponents of each theory claim the other is wrong" may be correct sometimes, but researchers sometimes synthesize alternative conceptions with their own.

We can surmise some conditions that contribute to synthesis. First, there must be a discordance within the home theory that cannot be fixed from within. Here are three examples from affect and control theory.

1. Computer simulations revealed that affect control theory is able to predict normative behaviors for particular role relationships, but the predictions sometimes are marred by foolish outcomes like "The doctor baptized the patient." This prediction cannot be fixed from within because it is expressively correct; the problem is that baptizing is not a legitimate expansion of the doctor role. We incorporated projection grammar from semantics into the cognitive component of affect control theory in order to justify a principled elimination of such predictions from results.

2. Affect control theory generates plausible sanctioning sequences in response to deviance, but otherwise simulated sequences of interaction based on affect control theory lack instrumental directionality. That is, while an analyst generally can construct an instrumental sequence from the predicted behaviors that are presented during a simulation, the expressive component of action itself does not organize events so that, say, interactants first greet each other, then work together, then part. It is for this reason that the Fararo-Skvoretz production system approach to roles is incorporated into the cognitive component of affect control theory: a production system model offers a principled basis for selecting among the expressively equivalent actions that are possible at each stage of an interaction in order to produce a functional sequence of action.

3. Affect control theory proposes that people conduct themselves so as to protect sentiments, and this homeostatic approach powerfully explains normative action while also explaining variations in normative behavior by allowing that cultures and subcultures inculcate varying sentiments. However, affect control theory does not address the issue of how sentiments form and get changed and diverge in different groups, and for this task the homeostatic formulation actually is obstructive, since homeostasis focuses on confluence rather than divergence. Thus it appears that an adequate socialization theory will have to be adopted from outside and synthesized with affect control theory.

In our efforts to expand affect control theory through syntheses with other work on social interaction, we favored external theories that (1) describe phenomena in a succinct and compelling manner and (2) share certain abstract understandings with affect control theory. Theoretical power is the reason we have turned so often to linguistics, a social science that is far advanced over other social sciences in effectively modeling qualitative aspects of human action. Theoretical power also led us to prefer production system models over the script approach to explaining instrumental episodes of social interaction: a production system model is generative and can account for numerous social episodes, whereas a script is static and can account only for sequences that have been stored in a database. Similarly, classic theory on attitude formation and change seems to us less powerful than operant theory's generalizations about how event contingencies influence dispositions, and so our current inclination is to employ operant theory in order to develop a socialization component for affect control theory.

All of the mentioned theories additionally share a key focus with affect control theory in that they emphasize the event as the basic unit of social analysis. Thus it is relatively easy to move back and forth between affect control theory and the alternate theories and see where predictions are the same or different or complementary. Additionally our interest is kindled by theories that interpret structure as a combinatoric ordering of entities in which association modifies properties of the entities while the combination itself operates as a new entity in other combinations. Such parallelism with affect control theory in the meaning of structure inspires efforts to translate dynamic processes in the other theory into the dynamic processes of affect control theory for purposes of comparison and linking.

Syntheses with other theories expanded affect control theory in a different way than mathematical elaborations did. Whereas interpreted mathematical elaborations expanded the scope of the theory, synthesis with other theories set constraints on theoretical principles by acknowledging boundaries between alternative modes of explanation. In general, if a synthesis is successful, the boundaries become seamless in the sense that both theories operate together, one taking over where the other leaves off and each theory permeating the other. We can cite the union of affect control theory with production system theory as an example of this, even though the synthesis is far from complete: production system models pick up where the affect control model falters and show how
functionality arises in social interaction; meanwhile, the affect control model picks up where the population system model falters and shows that choices are made among optional actions in order to maintain cultural meanings and social relationships.

The Research Program

We now suspend focusing on the substantive concerns of affect control theory in order to analyze the development of social theory as the outcome of a collaborative production system. In this exercise our focus is on the professional and scientific events that were the medium for developing affect control theory, and the analytic product is an event structure model that accounts for those events.

Event structure analysis (Heise 1989b) adapts production system technology (Newell and Simon 1972; Fararo and Skvoretz, this volume) to the problem of documenting the underlying logic of event sequences through qualitative models that can be viewed as grammars of action. The method's application to ethnographic data is discussed by Corsaro and Heise (1990); its use for content analysis of written texts is illustrated by Heise (1988) and Heise and Lewis (1988); and its use in studying careers is exemplified in Heise (1990).

The data for the analysis were assembled as follows. An initial set of time-ordered events relating to the affect control theory (ACT) research program was obtained from vitae, from reports and publications, and from files. This produced a sequence of career events (degrees, employments, publications, external fundings, editorships) for the key researchers that was supplemented by adding events that seemed to be critical parts of the research process. For example, between funding events and publication events various research events were included—like collecting data, collating data, analyzing data, estimating equations, and so on—and positioned in sequence by searching files when possible, by reminiscing otherwise. Within-university fundings, publication rejections, and grant denials also were added. After the initial list had been compiled by Heise, Lynn Smith-Lovin and Neil MacKinnon examined the listing and provided corrections and expansions related to their own participation in the research program. This procedure resulted in 42 distinct types of events that repeated at different times and with 16 different researchers to yield a time-ordered list of 298 events related to the development of affect control theory from the year 1961 through 1988.

We forgo further discussion of methods and procedures involved in the event structure analysis of the ACT research program since that aspect of the work has been covered in detail elsewhere (Heise 1991).

Table 1 specifies the model verbally. The token in the left column is used as a marker in the logical diagram (Figure 1); bracketed tokens represent publication events and correspond to shaded labels in the diagram. Entries in the second column of Table 1 define the 42 events that occurred in the ACT research program. A terse phrasing in boldface is included for making textual references, and full explanations follow in roman type. The right column of Table 1 identifies direct relations of each event with other events. Events characterized as "required" are the prerequisites of the focal event. The focal event itself is a prerequisite for the events it "may lead to." Appearance of a boldface and means that all of a focal event's prerequisites must occur before the focal event can occur; a boldface or indicates that occurrence of any one prerequisite is adequate. Event sequences are constrained by the logical dependencies implied in the notion of prerequisite and also by dynamic depletions of the conditions that are generated by prerequisite events. Event consequences do not deplete the focal event unless the word depletes in boldface follows the name of the consequence. The focal event has to be depleted by a consequence before the focal event can repeat unless the word repeats appears in boldface, in which case an intervening depletion is not required. A focal event does not act as a prerequisite for any of its own prerequisites unless the word commutes appears in boldface, in which case the focal event is a prerequisite for one of its prerequisites after an initial priming cycle.

The diagram in Figure 1 presents a graphic representation of the overall logical structure that is implicit in Table 1. The topmost entry, ACT-research, names the model, and below that each event is represented by a token, as assigned in Table 1. Italicized tokens are events that have disjunctive rather than conjunctive prerequisites. Shaded tokens are publication events.

The events in the tier immediately below the topmost entry have no prerequisites specified in the model. The events in lower tiers do have prerequisites that can be identified by tracing lines upward. In general, a prerequisite of an event can be located by following the event's ascending line straight upward to another event, or by following the ascender until it meets a horizontal line and then finding the line that goes straight up from the horizontal line to an event. For example, Fund, Simulat, [Overv], [Meth], [Theory], and Math-method all have Read as a prerequisite; the prerequisite of Expert is Local-funding; and Analyze has two prerequisites, Collate and Utilize.

Indirect implications can be traced using the diagram. For example, [Simulator] (published simulator results) implies Simulat (performed simulation) which implies Read, so publishing simulator results implies
<table>
<thead>
<tr>
<th>Token</th>
<th>Character of event</th>
<th>Relations to other events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyze</td>
<td>analyzed database. A researcher extracted new information from a database through transformations of measurements or by focusing on a subset of cases.</td>
<td>Requires collated data or utilized existing database. May lead to published database study (deletes) or to write research report. Can repeat without depletion.</td>
</tr>
<tr>
<td>Certified</td>
<td>certified in profession. A researcher obtained a doctorate or other professional credential while not involved in the research program.</td>
<td>No requirements within the model. May lead to contracted with publisher, joined faculty, or requested funding.</td>
</tr>
<tr>
<td>Collate</td>
<td>collated data. A researcher organized the stimuli used to obtain measurements from respondents, organized and verified the measurements themselves, and then perhaps computed descriptive statistics (e.g., means) that could be the basis for further analyses.</td>
<td>No requirements within the model. May lead to analyzed database or estimated equations. Can repeat without depletion.</td>
</tr>
<tr>
<td>Fund</td>
<td>contributed funding. A researcher employed personal funds to foster research activities.</td>
<td>Requires read. May lead to gathered database measurements (deletes) or measured responses (deletes). Can repeat without depletion.</td>
</tr>
<tr>
<td>Pact</td>
<td>contracted with publisher. A researcher obtained a written contract assuring that a publisher would accept a book manuscript for publication.</td>
<td>Requires certified in profession or received doctorate. May lead to published edited book (deletes) or to solicited paper.</td>
</tr>
<tr>
<td>Denied</td>
<td>denied funding. A researcher received a letter from an external funding agency in which the agency declined the opportunity to support proposed research activities.</td>
<td>Requires requested funding. Can repeat without depletion.</td>
</tr>
<tr>
<td>Refused</td>
<td>denied monograph publication. A researcher received a letter from a publisher in which the publisher declined the opportunity to publish a book manuscript reporting research activities.</td>
<td>Requires received doctorate. May lead to published edited book (i.e., a special issue of a journal may be published subsequently as an edited book.) Can repeat without depletion.</td>
</tr>
<tr>
<td>Commutes</td>
<td>commutes with submitted research monograph—its only requirement. (An initial submission permits a denial of publication; if denial of publication occurs, it deletes the submission permitting another submission; another submission deletes the last denial of publication, so that denial of publication may happen again.)</td>
<td>Requires performed simulation and programmed simulation system. Can repeat without depletion.</td>
</tr>
<tr>
<td>Edit</td>
<td>edited journal issue. A researcher negotiated with the official editor of a journal and thereby gained editorial control over one issue of the journal for the purpose of promoting a topic or a research program.</td>
<td>Requires performed simulation and programmed simulation system. Can repeat without depletion.</td>
</tr>
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**Table 1 (continued)**

<table>
<thead>
<tr>
<th>Token</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Estimate</td>
<td>estimated equations. A researcher concretized algebraic portrayals of relations between various measurements by estimating equation parameters as numerical values through statistical analyses of a sample of measurements. Some collation of data is presumed to be part of equation estimation.</td>
<td>Requires collated data, measured responses, or utilized existing database. May lead to formalized formula, programmed simulation system, published equation estimations, or write research report. Can repeat without depletion.</td>
</tr>
<tr>
<td>Local-funding</td>
<td>funded locally. A researcher received funds administered within a university to free a researcher from remunerative activities like teaching or to buy research materials and services.</td>
<td>No requirements within the model (because researchers have an official affiliation with a university). May lead to gathered database measurements (deletes), measured responses (deletes), or ran experiment (deletes).</td>
</tr>
<tr>
<td>Funded</td>
<td>funded externally. A researcher received funds from a source beyond the researcher's own university to free one or more researchers from remunerative activities like teaching or to buy research materials and services.</td>
<td>Requires requested funding. May lead to gathered database measurements. Can repeat without depletion.</td>
</tr>
<tr>
<td>Database</td>
<td>gathered database measurements. A researcher measured people's subjective responses to verbal stimuli in order to create a database. (This phrasing applies to survey research as used in ACT research.)</td>
<td>Requires contributed funding, funded externally, or funded locally. Can repeat without depletion.</td>
</tr>
<tr>
<td>Talk</td>
<td>gave invited talk. A researcher was invited to speak at a conference or a colloquium outside of the researcher's own university, and the talk led to a publication about the research program by the researcher or by someone in the audience.</td>
<td>Requires received doctorate. Can repeat without depletion.</td>
</tr>
<tr>
<td>Improve</td>
<td>improved simulation system. A researcher made the output of a simulation system more realistic by refining the computer program, by incorporating more refined equations and rules, or by refining use of a database.</td>
<td>Requires performed simulation and programmed simulation system. Can repeat without depletion.</td>
</tr>
<tr>
<td>Issue</td>
<td>issued simulation system. A researcher found a way of distributing a simulation program, with databases and instructions, so that people could operate the system on accessible computers.</td>
<td>Requires performed simulation and programmed simulation system. Can repeat without depletion.</td>
</tr>
<tr>
<td>Token</td>
<td>Character of event</td>
<td>Relations to other events</td>
</tr>
<tr>
<td>-------</td>
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</tr>
<tr>
<td>Join</td>
<td>joined faculty. A researcher obtained a professorship permitting pursuit of intellectual interests.</td>
<td>Requires received doctoral or certified in profession. (The disjunction here is merely to deal with scholars or researchers whose doctoral work was irrelevant because it occurred before their association with the research program.) May lead to visited other faculty during sabbaticals. Can repeat without depletion.</td>
</tr>
<tr>
<td>Math-theory</td>
<td>mathematized formulation. A researcher constructed a mathematical derivation that transformed assumptions about reality along with empirically based equations describing a process into additional equations describing another process.</td>
<td>Requires estimated equations. (In the ACT research program, this kind of empirically grounded mathematical work has been conducted only by a researcher whose prior experience in estimating such equations provided incentive for working with the empirical equations.) May lead to published math derivations or wrote research report. Can repeat without depletion.</td>
</tr>
<tr>
<td>Math-method</td>
<td>mathematized methodology. A researcher constructed a mathematical derivation that resulted in the definition of a complex methodological procedure.</td>
<td>Requires read (i.e., some familiarity with both mathematical and substantive literature). May lead to published math derivations (deletes).</td>
</tr>
<tr>
<td>Measure</td>
<td>measured responses. A researcher obtained measurements of people's responses to a number of verbal stimuli presented in a questionnaire or by a computer in order to conduct a specific analysis. (In an experiment the responses of people also are measured in order to conduct a specific analysis, but the stimuli for these responses are real social situations rather than printed presentations. In a database study, the sample of people or the sample of stimuli is sufficiently comprehensive that the data may be broken into different categories for various kinds of analyses.)</td>
<td>Requires contributed funding or funded locally. May lead to tested theory (deletes), estimated equations (deletes), or wrote research report. The depletions occur because the measurements are tailored to a specific function and are of no further value after the study is done.</td>
</tr>
<tr>
<td>Simul</td>
<td>performed simulation. A researcher employed a simulation system to enter information about social situations and obtain a computer report about theoretical predictions.</td>
<td>Requires read. May lead to improved simulation system (deletes—because then old simulations become obsolete), issued simulation system, or published simulator results. Can repeat without depletion.</td>
</tr>
</tbody>
</table>

**Table 1 (continued)**

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<tr>
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</thead>
<tbody>
<tr>
<td>Program</td>
<td>programmed simulation system. A researcher programmed a computer in order to implement an empirically grounded mathematical model (plus additional rules) while making use of a database such that a variety of problems can be set up easily and theoretical predictions examined readily.</td>
<td>Requires estimated equations. May lead to improved simulation system or issued simulation system. Can repeat without depletion.</td>
</tr>
<tr>
<td>Database</td>
<td>published database study. A researcher published a description of methods and the results of processing a database in order to address some issue.</td>
<td>Requires analyzed database. Can repeat without depletion.</td>
</tr>
<tr>
<td>Equations</td>
<td>published equation estimations. A researcher published an article describing how some process can be given an algebraic formulation and how numbers were found to make the equations concrete and descriptive of reality.</td>
<td>Requires estimated equations or wrote research report. Can repeat without depletion.</td>
</tr>
<tr>
<td>Math</td>
<td>published math derivations. A researcher published a report describing how a mathematical derivation was obtained and how the results are to be interpreted.</td>
<td>Requires mathematized methodology or mathematized formulation. Can repeat without depletion.</td>
</tr>
<tr>
<td>Methodology</td>
<td>published methodology. A researcher published a report describing a generalized research procedure and discussing its benefits and limitations.</td>
<td>Requires read (i.e., familiarity with literature related to the procedure). Can repeat without depletion.</td>
</tr>
<tr>
<td>Monograph</td>
<td>published research monograph. A researcher published a lengthy systematic exposition describing activities and outcomes in a research program.</td>
<td>Requires submitted research monograph. Can repeat without depletion.</td>
</tr>
<tr>
<td>Overview</td>
<td>published research overview. A researcher published an exposition outlining the claims, activities, and products of a research program.</td>
<td>Requires read (i.e., familiarity with key publications from a research program). Can repeat without depletion.</td>
</tr>
<tr>
<td>Reader</td>
<td>Published edited book. A researcher published a collection of writings by various authors on a particular topic or research program.</td>
<td>Requires contracted with publisher (for a book of solicited papers) or edited journal issue (for reprinting of a special issue of a journal). Can repeat without depletion.</td>
</tr>
<tr>
<td>Simulator</td>
<td>published simulator results. A researcher published illustrative simulation results in order to communicate a theory's capacity for portraying reality.</td>
<td>Requires performed simulation. Can repeat without depletion.</td>
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Table 1 (continued)

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<tr>
<td>[Test]</td>
<td>published test of theory. A researcher published a report defining a theoretical assumption or prediction, how the claim was examined empirically, what the results were, and how the results favor or undermine the focal theoretical formulation as well as other theoretical formulations.</td>
<td>Requires tested theory or wrote research report. Can repeat without depletion.</td>
</tr>
<tr>
<td>Experi</td>
<td>ran experiment. A researcher constructed real social situations representing distinctive circumstances and assessed some aspects of people's responses to the different circumstances.</td>
<td>Requires funded locally. May lead to tested theory (depletes).</td>
</tr>
<tr>
<td>Read</td>
<td>read. A researcher consumed reports and publications regarding theory, research, or research methods from within the researcher's own research program or from other research programs.</td>
<td>No requirements within the model. May lead to published methodology, published theory formulation, published research overview, mathematized methodology, performed simulation, or contributed funding. Can repeat without depletion.</td>
</tr>
<tr>
<td>Reana</td>
<td>reanalyzed prior study. A researcher performed new analyses on measurements that were collected previously for a specific study.</td>
<td>No requirements within the model. May lead to tested theory (depletes—because analyses for a specific test have no utility beyond that test) or wrote research report.</td>
</tr>
<tr>
<td>PhD</td>
<td>received doctorate. A researcher was awarded a doctoral degree certifying the person as a competent researcher.</td>
<td>Requires wrote research report. May lead to contracted with publisher, edited journal, gave invited talk, joined faculty, or requested funding.</td>
</tr>
<tr>
<td>Request</td>
<td>requested funding. A researcher sought external funding from a government agency or from a foundation or from an outside research institution through submission of a proposal outlining a research plan and a budget for specific research activities.</td>
<td>Requires certified in profession or received doctorate. May lead to denied funding (depletes) or funded externally (depletes). Can repeat without depletion.</td>
</tr>
</tbody>
</table>

Affect Control Theory

Table 1 (continued)

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Solicit</td>
<td>solicited paper. A researcher requested preparation of a report by another scholar or researcher, with assurance that the report would be published in an edited book.</td>
<td>Requires contracted with publisher (in order to obtain credibility). Can repeat without depletion.</td>
</tr>
<tr>
<td>Submit</td>
<td>submitted research monograph. A researcher sent a book-length manuscript reporting theory and research to a publisher for possible publication.</td>
<td>Requires wrote research report. May lead to denied monograph publication (depletes) or published research monograph (depletes).</td>
</tr>
<tr>
<td>Test</td>
<td>tested theory. A researcher used empirical data to examine the accuracy of a theoretical assumption or prediction. Some collation and analysis of data are presumed to be part of testing a theory.</td>
<td>Requires measured responses, ran experiment, reanalyzed prior study, or utilized existing database. May lead to published test of theory. Can repeat without depletion.</td>
</tr>
<tr>
<td>Utilize</td>
<td>utilized existing database. A researcher made use of a collated database in order to conduct some kind of research.</td>
<td>No requirements within the model. May lead to analyzed database, estimated equations, or tested theory.</td>
</tr>
<tr>
<td>Visit</td>
<td>visited other faculty. A researcher visited another faculty during a sabbatical leave from his or her own faculty.</td>
<td>Requires joined faculty.</td>
</tr>
<tr>
<td>Write</td>
<td>wrote research report. A researcher prepared a report interpreting literature, describing how an experiment was conducted or how measurements were made, how statistical or other kinds of analyses were done, or how mathematical solutions were derived.</td>
<td>Requires analyzed database, estimated equations, measured responses, mathematized formulation, or reanalyzed prior study. May lead to received doctorate, published equation estimates, published test of theory, or submitted research monograph.</td>
</tr>
</tbody>
</table>

having read something. Program (programmed simulation system) implies Estimate (estimated equations) which in turn implies either Collate (collated data) or Utilize (utilized existing database), so in ACT research programming a simulation system implies that at an earlier point an existing database was utilized or that raw data were collated.

Professional activities. Figure 1 partitions into a part dealing with research and publication events and another part in the lower left corner mainly consisting of professional activities that depend upon receiving a doctoral degree or equivalent certification. One has to traverse a path
through research activities in order to acquire a doctorate, and the doctorate opens opportunities for obtaining resources to sustain a research program. Aside from these institutionalized linkages, though, research activities and professional activities are essentially independent. A doctorate is not a prerequisite for any research activity, and continuous repetition of research activities is not essential to conduct professional activities.

The professional events' relation to resources of one kind or another is especially obvious in the case of Requested funding, Funded externally, and Denied funding. Activities related to control of publications—Edited journal issue, Contracted with publisher, Solicited paper, Published edited book—provide publication resources for one's own research program or for exchange with other programs. The academic events, Joined faculty, Visited other faculty, Gave invited talk, distribute researchers' labor and skills to different locales and give researchers access to other colleagues and local resources like university computers.

Data collection activities. Three events relate to data gathering: Gathered database measurements, Measured responses, and Ran experiment. The latter two lead to a series of other research events, as the researcher who gathered the data also analyzes the data and writes a report. In contrast, Gathered database measurements is presented as an end product rather than as a step toward other ends. Of course, a database generally is collated and used, but in the ACT research program the collator and the gatherer frequently were not the same researcher, and occasionally the collation occurred long after the data were gathered. This corresponds to Latour's (1987) description of other sciences in which one set of people collect materials at centers of calculation, and there the materials may sit until other people organize them.

The data-gathering activities are elementary in the sense that their only real prerequisite is some sort of funding. This is true even for Gathered database measurements, which appears in a lower tier of Figure 1 and therefore appears to be contingent on many other activities; in fact it is dependent only on obtaining a large amount of funding, which requires professional certification of someone, which is the reason the activity appears in a lower tier. (A new technology for obtaining semantic differential ratings with microcomputers reduced the costs of gathering ACT databases so much that Andreas Schneider, a graduate student at the University of Mannheim, assembled a large German database in late 1989 with only local funding.)

Since data-gathering operations do not require mastery of a whole series of ancillary skills, these activities often are handed over to the novices in a research program (or even to complete outsiders in some kinds
of social research). A possible disadvantage of letting novices provide the informational inputs is that each data collector may focus on something different. If the flow of information into the program is too diverse and complex to organize, then there may be a lack of progress, as in the case of traditional symbolic interactionism where a plethora of unique field studies defies synthesis. More “scientific” research programs provide standard instruments to data collectors so that the flow of information entering the system is comprehensible and subject to analysis with familiar concepts and methodologies. Thus, data collection in the ACT research program uses the semantic differential (and—as another example—much of the experimentation in the expectation states research program involves application of the program’s standard experiment).

The disadvantage of using standardized data collection procedures—the narrowing of vision to what can be perceived through the instruments—seems worrisome in the social sciences, though it rarely is considered a problem in the physical sciences. Perhaps this is because the physical world is simpler than the social world. Or perhaps it is because social scientists have not yet elaborated the reality perceivable through their instruments to the point where that reality seems more compelling than the social realities provided by journalists, politicians, sages, etc.

**Descriptive research.** Some key activities following data collection—Collated data, Utilized existing database, Analyzed database—serve to refine the information provided by the measuring instrument. These activities eliminate noise from data statistically, organize facts so they are accessible, and identify curiosities for special consideration. In the ACT research program some of the facts obtained through these analyses warranted publication on their own. For example, it was found that virtually no emotions are neutral in goodness, according to college students in the United States (Morgan and Heise 1988) and in Canada (MacKinnon and Keating 1989); that gay Christians judge their homosexual identities and activities as good, potent, and lively—contrary to the opinions of other liberal Christians (Smith-Lovin and Douglas 1992); that state policemen have a more positive view of themselves and also of criminals than college students do (Heise 1979).

**Perfomed simulation** (which is comparable to hypothesis derivation in other research programs) served a related descriptive function in the ACT research program: simulations allowed the reality defined by instruments and by theoretical principles to be accessed and scanned easily.

A program’s descriptive research demonstrates the program’s utility to novices and outsiders. Another purpose, especially for advanced researchers, is to identify non-intuitive phenomena, or phenomena that are contrary to competing theoretical realities, whereupon new data can be collected to show that the hypothetical phenomena do exist. Described this way, such work has rhetorical functions, as constructivists like Latour (1987) and Gergen (1985) have argued, in that it justifies commitment of time and other resources to the program by researchers and by outsiders. However, it is to be emphasized that information entering the system through the instruments is not controlled by the researchers (aside from their focusing on a narrow slice of the perceivable world), so research as rhetoric does not present a merely arbitrary world. Moreover, the descriptive work in a research program provides the materials for developing abstractions and rules, and scientists are at least as interested in these intellectual challenges as they are in influencing others.

**Theory construction activities.** Theory construction is reflected in several different events:

*Estimated equations* is a form of theory elaboration in that it leads to formulations that are “more comprehensive, more precise, more rigorous, or [with] greater empirical support” (Wagner and Berger 1985: 707).

*Tested theory and Reanalyzed prior study* function essentially the same way. These forms of theory construction, dealing with middle-level abstractions, are so data-driven that they hardly seem like theory construction at all. However, that is because certain abstraction and organizing processes have been routinized in the form of statistical methodologies. The theoretical nature of the methodologies becomes evident when they themselves are derived, as in the ACT event *Mathematized methodology*.

*Mathematized formulation,* another form of theory elaboration, better fits the usual notion of theory construction: abstract variables and functional relations are defined so as to maintain (or predict) empirically demonstrable mappings between sets of measurements. (As Abell [1987] observed, this corresponds to the invention of homomorphisms.) In the ACT research program this event always developed from estimation of equations that in turn required contact with some sort of data, and therefore this kind of theorizing implied deep involvement in the research program. It is not the mathematical work that required deep involvement (e.g., *Mathematized methodology requires nothing more than reading*) but rather understanding the substantive phenomena that were to be formally represented.

*Programmed simulation system* and *Improved simulation system* are additional kinds of theoretical work. Just as statistical methodologies routinize some inductive procedures, simulation systems are intended to simplify and routinize some deductive procedures. For example, program INTERACT (Heise and Lewis 1988) in the ACT research program allows an analyst to specify social interaction input variables in verbal terms, whereupon the program applies equations and then employs da-
tabases in order to report results in verbal terms; thus the simulation system is a means of deducing implications of the theory in specific circumstances (Heise 1986). Creating and improving the simulation system required very deep involvement in the ACT research program because it depended on estimating equations and on familiarity with ACT data.

No event in the ACT history specifically accounts for the formation of theoretical statements like those presented in the first part of this essay because such statements evolve rather than emerge suddenly. For example, the affect control principle was first stated as a speculation in a 1969 publication, the idea guided mathematical derivations in the early 1970’s, affect control became a key expositional device in the mid-1970s, implications of the idea were tested in various ways in the late 1970’s and early 1980’s, and in this essay the notion finally is claimed to be a "principle." In general, the evolutionary process depends on finding that an abstract formulation can tie various ideas together, on affirming that empirical reality can be construed as proposed by the formulation, and then—with confidence born of these successes—on advancing the proposition as a fact in discourse with other scientists.

Publication events. ACT research activities generally culminated in publication events of various kinds—e.g., Published database study, Published equation estimation, Published methodology, etc. It is notable that most of the publications have no further direct consequences within the model. Publications are final research products, and they have to be utilized by outsiders in order to have impact, as Latour (1987) emphasized. The outsiders may be scientists in other research programs or graduate students who become attracted to participating as a researcher in the program after reading program publications.

Wrote research report is treated as distinct from publication events to allow for the cases where a researcher reported results specifically for internal consumption (as in a thesis, a dissertation, or a technical report). Such documents often had professional consequences for the researcher, and sometimes they were reworked by colleagues for joint publication.

Submitted research monograph can lead to Published research monograph or to Denied monograph publication, either of which is a possible final outcome of research activities. The potential for being denied publication means that a researcher’s work can be invisible to outsiders for lack of access to distribution channels, and being tied to values and gatekeepers in a distribution system may be as important for researchers as it is for the artists that Becker (1982) studied. On the other hand, submission and rejection of a manuscript commute—a rejection primes another submission, and submissions often continue until finally publication is achieved—so the issue may be more a matter of gaining access to a particular audience than of not being able to report at all. (The subsystem relating submission, rejection, and publication of a monograph manuscript applies in principle for publication events involving journals as well as monographs, though the ACT history did not call often for the extra details and so they are not represented in the model for the sake of simplicity.)

Development of a simulation system—a project that received substantial investments of time in the ACT research program—has no standard publication outlet, and therefore such work remains largely invisible to the broader social science community. The quasi-publication event, Issued simulation system, arose only in the late 1980’s when institutionalized mechanisms for distributing computer simulation systems first began to develop.

Priorities

Figure 1 reveals that research activities are logically structured but also that a researcher usually has options at any point in time. For example, a beginning researcher—say, a graduate student—has the options of reading, collating a database, reanalyzing a dataset, working with an existing database, or obtaining local funding. (Obtaining professional certification also is shown in Table 1, but that is merely a convenience construct used to deal with researchers who entered the ACT project after acquiring professional credentials.) Examining which possible events were implemented promptly and which were deferred provides insights into the values and other facilitators of action that guided activities.

Events from the ACT research program were analyzed, observing which event occurred and which events were possible at each time point and tallying how often an event took precedence over other events that were possible at the same time. The events were ranked in terms of precedence, and Figure 2 shows the results.

Received doctorate appears at the top of the chart, and this means that among ACT researchers virtually no research events intervened from the time a dissertation was completed to the time the Ph.D. was received. This is partly because of short institutional delay times, but it is a matter of personal priorities as well. For example, nearly a year passed from the time that Heise completed his dissertation until he received his doctorate, but he attempted no research while he was completing his language requirement and supporting himself as an instructor.

Published database study is another very high-priority event. In the ACT history, a database analysis was a frequent response to an editorial call for papers, and thus database analyses often were followed by publication of
<table>
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<tr>
<th>Event Description</th>
<th>Priority</th>
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<tbody>
<tr>
<td>received doctorate; published database study</td>
<td>1</td>
</tr>
<tr>
<td>published simulator results; submitted research monograph; denied monograph publication; gathered database measurements; tested theory</td>
<td>2</td>
</tr>
<tr>
<td>funded externally; published math derivations; estimated equations; requested funding; issued simulation system; published equation estimations; improved simulation system</td>
<td>3</td>
</tr>
<tr>
<td>programmed simulation system; performed simulation; denied funding; measured responses; read; collated data; wrote research report; published edited book; funded locally; published theory formulation; joined faculty; published research overview</td>
<td>4</td>
</tr>
<tr>
<td>contributed funding; mathematized formulation; analyzed database; gave invited talk</td>
<td>5</td>
</tr>
<tr>
<td>published test of theory; solicited paper; published methodology; edited journal issue; utilized existing database</td>
<td>6</td>
</tr>
<tr>
<td>contracted with publisher</td>
<td>7</td>
</tr>
<tr>
<td>certified in profession</td>
<td>8</td>
</tr>
<tr>
<td>run experiment; published research monograph; reanalyzed prior study; mathematized methodology; visited other faculty</td>
<td>9</td>
</tr>
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Fig. 2. ACT research events plotted on a priority range from zero (bottom of scale) to ten (top of scale).

results with little delay. *(Published simulator results also has fairly high priority, and the reason is the same.)*

Submitted research monograph is a high-priority event. Once the manuscript for a monograph exists (or once it has been rejected by one publisher), little else is done until the manuscript is sent on to a publisher. This is a matter of researcher motivation: a large investment of work offers no benefits until the monograph manuscript is published, so the researcher becomes single-minded about getting the manuscript into the mail. Being denied a monograph publication also is high priority—that is, not much happens between the times of submission and rejection, a fact that mainly reflects rapid response times from editors.

Gathered database measurements is high priority: once appropriate funding is available, researchers move rapidly into the field to implement plans. The precedence of this research activity over other activities reflects the value placed on new data and also the need to spend money while it is administratively available.

Tested theory also is high priority, which is to say that few things interrupt analyses once data for a possible test are ready. This is partly because at that point the test is a fairly easy matter of statistical analyses, and also because scientific culture imbues tests with so much allure that they take precedence over other activities.

(We skip over the large set of events with moderate to moderately high priorities, since these constitute the reference base for judging high and low.)

Published test of theory has somewhat low priority. That probably is an accident of ACT history, since reporting of tests was targeted for a monograph publication that got delayed for years. The relatively low priority of published methodology has the same explanation.

Utilized existing database has somewhat low priority because it always was possible though people chose to do other things. The priority would be even lower except that this event was crucial in representing cooperative research projects where one researcher collated a database and another researcher utilized it. The low priority reflects a value among ACT researchers to do many other things rather than mine old data, and also it reflects the fact that funding agencies promote the creation of databases while only rarely supporting the analysis of existing data.

Several editorial activities—solicited paper, edited journal issue, contracted with publisher—have somewhat low priorities. In the period studied, ACT researchers focused more on research than on such editorial matters, reflecting their personal values to some degree, but also reflecting the early career development of many ACT researchers. Research programs with more senior researchers (including the ACT program as it
The model envisions research as a developmental process in which occurrence of an event may establish necessary conditions for some later events, but no event is sufficient to generate a cascade of later events. Thus, research might start off with a researcher reading and stop there; or it may involve reading and investigating a database and nothing more; analyses might be done and then the research stopped; or perhaps publication is achieved and then the pursuit is abandoned. Past events create opportunities for further events but do not guarantee them.

It therefore is quite remarkable that social theories arise and cumulate over long periods of time. It seems that research programs transform scientific research from an indeterminate developmental process into something more like a causal system. Program funding is a factor, as it increases the rate of research events (an effect that was evident in a conventional time series analysis of the data on ACT), and thereby makes less likely the languishing of a later-stage activity because a required early-stage activity has not been completed. More generally, research programs routinize meetings of research collaborators, assure the availability of facilities which are required for research activities, guarantee that researchers are provisioned with depletions resources (like data), and generate intermediate products that are used by other researchers within the program. Socialization into research roles provides researchers with the skills to perform their duties and with ideologies to sustain their motivation, and imbues scientific standards that keep research products acceptable in the larger scientific community. Thus research programs in the context of academic socialization and institutionalized support operate as productive social organizations that transform empirical observations, scientific literature, and funding into new formulations of reality.