Close Relationships

HAROLD H. KELLEY, ELLEN BERSCHEID,
ANDREW CHRISTENSEN, JOHN H. HARVEY,
TED L. HUSTON, GEORGE LEVINGER,
EVIE McCLINTOCK, LETITIA ANNE PEPLAU,
and DONALD R. PETERSON

W. H. FREEMAN AND COMPANY 1983
New York *San Francisco*

CHAPTER 2

Analyzing Close Relationships

HAROLD H. KELLEY, ELLEN BERSCHEID,
ANDREW CHRISTENSEN, JOHN H. HARVEY,
TED L. HUSTON, GEORGE LEVINGER, EVIE McCLINTOCK,
LETITIA ANNE PEPLAU, and DONALD R. PETERSON

Any layperson or scientist comes to interpersonal relationships with a large set of preexisting ideas, concepts, labels, implicit and explicit theories, beliefs about causes of important phenomena, and expectations about consequences of various states or events. The complexity of existing scientific information bearing on interpersonal relationships can be seen by examining a recent propositional inventory of research on the family (Goode, Hopkins, & McClure, 1971). Some 3,000 propositions are listed that bear on the interpersonal relations found within and around the family (dating, husband–wife, parent–child, siblings, and so on). Each of these propositions is of the form "X leads to Y," or "X is associated with Y." For example, "the less the husband and wife depend on each other, the greater are their chances of splitting up"; "maternal possessiveness is negatively correlated with education of the mother"; "status differentials in the type of labor will frequently be a source of conflict between siblings." The 3,000 two-variable propositions in this format could be generated by a combination of as few as 78 variables (X's and Y's) or by as many as 6,000 variables (if each X and Y in each proposition were unique to it). A rough estimate suggests that the actual total of X and Y variables in Goode et al.'s inventory approximates 700. Thus, in this one encyclopedic source (whose 2,000-item bibliography is hardly complete), the student of interpersonal relationships is confronted with some 700 variables (terms, concepts, factors) and their possible interrelations. A dozen examples will suggest their variety: favoritism, aggression, ordinal

position, schizophrenia, discipline, economic security, father absence, privacy, affinal relations, achievement, marital adjustment, and social change.

Faced with such a profusion of variables and propositions in the literature on relationships, we have found it necessary to go back to basics. We have adopted the approach of a visitor from outer space, attempting to specify what it is that such an alien, not having the extensive experience with human interpersonal relationships that all earthlings have, would see and hear, and what such an alien would do in the way of analysis, interpretation, and inference in order to make sense of these data.

Using this approach, we try to characterize the essentials of what the scientist does in the study of interpersonal relations. We especially focus on demarcating as clearly as possible the line between *description and data,* on the one hand, and *interpretation and theory,* on the other. This demarcation is both essential and difficult in any science, but it is particularly troublesome in interpersonal relations. As lifelong participants in these relations and as a daily audience for the extensive lore about them, earthbound scientists have their heads full of labels, theories, and so on, in which data and concepts are inextricably intertangled. Our common experience and common ideas inevitably afford materials for scientific insights and hypotheses. Some of our a priori ideas are undoubtedly useful leads to the truth, but others are wrong and take us down blind alleys. When we might choose to rely on them for economy's sake (they reduce the necessity for preliminary observation, piloting, and pretesting), we have few means of distinguishing the more useful from the less useful preconceptions. In fact, we cannot choose *not* to be influenced by them; they inevitably affect our work.

We present, then, a general approach to the study of interpersonal relationships. This is *not* a "theory" of interpersonal relations, but rather an outline of what one sees and hears, and thereby has available as data about interpersonal relations, and what one does with those data in the way of inference, interpretation, and theory building and testing. We have found it impossible to write about *what* we look at, and the terms in which we analyze and interpret our data, without at the same time implying *how* we do it—that is, the general methodology of research. In Chapter 11, "Research Methods," we discuss specific methodological issues in research on close relationships; but here, as we outline the logical nature of the data pertaining to these relations and the logic of their interpretation, we characterize the basic operations involved in such research.

STUDYING RELATIONSHIPS

The approach to be developed in this chapter can be illustrated by following an imaginary visitor from outer space who happens to become interested in the inner spaces of close relationships. The visitor, Dyas, is a descendant of Aphrodite, goddess of love, and Hermes, god of science.

Why would Dyas identify relationships, as between pairs of people, as something to study? Relationships do not have the clear identity and boundedness of physical objects (persons, rocks, flowers, animals). However, they *are* observable. Dyas would see two persons often being physically close, moving together, orienting toward each other, touching and talking to each other, and so on. Once such pairing had been detected and several or many instances of such pairings had been observed, Dyas could readily form the concept of "relationship," become interested in these entities as objects of study, and bring them under investigation in much the same ways as Dyas' scientific colleagues do for other entities.

Description

What might Dyas' research on relationships consist of? As in all science, it would certainly begin with *description*. Dyas' descriptive efforts would undoubtedly center on gaining information about the phenomena characterizing and associated with relationships. These would be the phenomena that caught Dyas' eye in the first place—the phenomena of interaction. In this book, we consider the elementary phenomena of interaction to be interpersonal patterns of events. An *event* is any change in a person, for example, in actions, speech, facial expressions, that an investigator of relationships may consider important. When the events for two persons are seen to occur in an interpersonal pattern, with each person's events being associated in some patterned way with the other's events, an observer has evidence of interaction between the two. Examples of such patterning include the look of one person toward the other and the resulting mutual eye contact, one talking and the other listening, one touching and the latter moving closer or pulling away, the exchange of tender or angry feelings, and the joint moving of furniture. Dyas might choose to study patterns of small (brief, simple) events or patterns of large (long, complex) ones. At the small extreme, Dyas might examine words, head movements, smiles, and so on. At the large extreme, Dyas might examine instances of being together; a task one undertakes and completes on behalf of the other; a joint activity, such as tennis or sexual intercourse; an explanation one gives the other; and so on. Dyas' initial choice of size of "unit" would be quite arbitrary, but later it might be guided by an analysis of recurrent patterns of the events Dyas initially chose to identify. For example, as the statistical structure of language became evident, Dyas might move from the events constituted by phonemes or words to those constituted by sentences or remarks. Similarly, Dyas' description of the activity associated with tennis might move from a stroke-by-stroke description to a description of games or sets, perhaps with special notation of more significant elements within these larger units. In these decisions and analyses, Dyas would be faced with the problems discussed in Chapter 3 ("Interaction") and might discover some of the solutions described there.

After listing the events and patterns for a given pair, Dyas would very likely try to summarize the list. Dyas would aggregate the data in some manner, as by counting frequencies of particular events and patterns of events, and calculating percentages, averages, and so on. The aggregation process would then permit Dyas to describe the relationship in terms of its properties. A *property* is any summary description of interaction that an investigator may choose to devise. This description may summarize the frequency, rate, duration, and so on of various events or of various patterns of events. Examples include the average length of time spent together each day, the frequency of use of "we," the percentage of time devoted to instrumental tasks versus socioemotional activities, the amount of eye contact and touching, or the patterning of behavior during sexual intercourse. Then, once a number of relationships had been characterized as to their properties, Dyas would be able to compare them, classify them into types, study the interrelations among different properties, and so on. At this point, Dyas might distinguish some relationships from others, and, if we looked at Dyas' criteria for doing so, we would call some relationships "close" and some not.

So far we have been rather vague about the sources of our visitor's information about the events in relationships under study. Dyas can, of course, observe the pair directly or have a third party make observations. Those observations can include the full range of events illustrated above, not only the overt actions of the participants, but their verbalizations as well. Dyas would soon realize that the latter include reports of the participants' observations of events and patterns of events in their own interaction, as when they express inner events (feelings, thoughts), recall past patterns (some of which Dyas may not have observed), or remark upon current ones. Among these reports would be some that resemble the products of Dyas' aggregation operation, these being statements that reflect the participants' own impressions of regularities and trends in the relationship ("You always . . ."; "We never . . ."; "You've been more . . . lately"; "We're spending too much time . . ."; "Overall, I'm quite pleased with the way we have . . ."; and so on). Finally, our visitor would soon learn that many participants in relationships are willing to make these reports directly and even to answer many of Dyas' questions about the properties of the relationship. Participants may not be able to provide assessments of all the properties Dyas might have identified (e.g., percent of time with eye contact or with intimate touch), but they will usually make valiant attempts to answer Dyas' questions, they will often have available the words with which to express their global assessments, and these will often be tantalizingly similar in meaning to the properties Dyas has observed (e.g., "I'd say we're more intimate than most couples I know"). Dyas will be faced with a set of complex issues about participants' reports about their relationships—about their meaning, correspondence with third persons' observations, and the scientific use to be made of them.

Causal Analysis

Dyas' study of relationships may end with description in terms of properties. However, if Dyas shares the curiosity of earthling scientists and their interest in understanding and forecasting, Dyas is likely to move on to *causal analysis.* The operations involved in causal analysis are quite complex, so our characterization must be even more sketchy than that for the descriptive operations. Causation can be identified at many different levels, but for simplicity we will emphasize only two: (1) *causal connections* between different events within interaction and (2) *causal links* between various conditions outside the interaction and the properties of the interaction. In both cases, the main impetus to causal analysis is provided by evidence of *covariation.* In causal connections, certain events regularly occur with others; in causal links, certain properties vary with changes in external conditions. Causation is never observed directly; it is always inferred. When evidence of covariation can be supplemented with certain other necessary evidence (temporal precedence of the causal factor, observations that preclude alternative causal explanations), Dyas can infer the existence of a cause-and-effect relation.

In observations of the patterns of events within interaction, Dyas might find that one person's harsh words usually precede the onset of the other's weeping, or that episodes of tender interaction usually precede sexual activity. Those observed patterns would permit the visitor to infer in each case that the first event plays some causal role in the occurrence of the second. We will use the term *causal connection* to refer to causal relations between different events in the relationship. A prominent feature of a "relationship" is that events associated with one person are causally connected to those associated with the other person. Indeed, this is a *necessary feature* of "relationship" as we define it. We (or Dyas) would probably never consider a "relationship" as an entity for analysis unless the pattern of events observed at the outset led us to suspect that causal connections existed between two persons, the two thereby constituting part of a dynamic whole. Later in this chapter, we will analyze closely the nature of these connections and the properties of the relationship that, in the aggregate, they comprise.

Dyas may also make a causal analysis of the relations between properties of the interaction and various conditions outside the interaction. For example, Dyas may observe that the use of "we" decreases each time the mother of one of the participants comes to stay in their home; or that the husband's influence on buying decisions declines when the husband is not gainfully employed. From regular changes in properties and associated prior changes in the mother's presence or the husband's employment, Dyas may infer that the latter play a causal role in relation to the former. We will use the term *causal condition* to refer to factors, such as "mother's presence" or "husband's employment," that are postulated or shown to produce changes in the

properties of interaction. In contrast to events, which have brief causal effects *within* the interaction, causal conditions are more stable causal factors, produce longer-lasting changes, and can be viewed as impinging on the interaction from *outside* it. Causal conditions may affect the properties of interaction, but they can also be understood as affecting the event-to-event causal connections (which are inferred from certain event patterns, as described above) and, in some cases, as directly affecting other causal conditions. These different possibilities will be explained later. Here, it is important to note that we use the term *causal link* for all the various causal relations a causal condition may have, thus distinguishing those relations from the *causal connections* between events.

Causal conditions are brought under scrutiny when there are changes in relationship properties, as in the examples above, but they also operate during periods of stability. Thus, one person's harsh words may always be followed by the other's weeping throughout the course of Dyas' observations. This regularity and the inferred causal connections between the two types of events is potentially explainable in terms of a causal condition that gives rise to the recurrent pattern of events (e.g., the second person's emotional vulnerability to the first person's anger) and that happens to remain constant throughout the particular period of observation.

The identification of operative causal conditions will pose many problems for Dyas, just as it does for us. The criterion of covariant precedence is rarely as clear as our examples suggest. Multiple causation is the rule rather than the exception. A contributing cause may long antedate the observed change, requiring a second cause to trigger the actual change. These problems can be somewhat attenuated if Dyas has control over causal conditions and can introduce or remove them at will. However, the limits of Dyas' probable control are obvious. With changes occurring at various levels (in events, in properties) and in great numbers, Dyas may be confused about which ones to attempt to explain. In this matter, as in the descriptive stage, Dyas can get advice from the participants. They have their own ideas about what is worth trying to explain. They already have their own explanations for many things and may not consider these phenomena deserving of scientific analysis. For the causal questions Dyas chooses to put to them, they will often have ready answers—theories about what factors are responsible for common changes, explanations for shifts in their own and others' behavior, and so on. Dyas, like ourselves, can get much advice from the participants about the causal analysis, but, just as we do, Dyas will face many difficult questions about what use to make of it.

At the end of these efforts, Dyas will know much about interpersonal relationships: their common properties, their varieties, their internal dynamics, and the factors that produce major changes in them. Dyas will be

able to some degree to predict their course and, in certain respects, to modify conditions to change them. In short, Dyas will to some degree achieve the scientist's goals of understanding, prediction, and control.

Elementary Concepts

This thought exercise with our imaginary visitor has served to introduce the elementary concepts that we regard as the minimal essentials in the study of interpersonal relationships. We will develop these concepts further in the remainder of this chapter and will use them throughout this book.

1. *Events.* Interpersonal patterns of events constitute the basic data of interaction. Events consist of any change in a person that is considered important by a particular investigator. Thus, events include such phenomena as actions, reactions, emotions, and thoughts. Events constitute the elements in the dynamics of interaction because they are changes that are causally connected with other changes. The changes in one person are caused by other changes, in that person, in the partner, in the environment, and so on. The changes in one person also cause further changes, in that person, in the partner, in the environment, and so on. All the information we obtain about a relationship, whether it depends on observation or report, ultimately refers to these events.
2. *Properties.* By the operations of aggregation, numerous observations or reports of single events or event-patterns are assembled and summarized to provide descriptions of cumulative properties of relationships. These properties describe such features of the relationship as its emotional tone, the frequency and intensity of interaction, the extent to which the two persons think about each other, and their relative influence on the course of their interaction.
3. *Causal connections.* By the operations of causal analysis, in which the temporal patterning of events within the interaction is observed and/or controlled, we infer certain events to be causally connected with other events. The unity of a pair relationship, its existence as an "entity," derives from the fact that many events associated with each person are causally connected to events associated with the other person.
4. *Causal conditions.* The operations of causal analysis also enable us to infer the existence of certain more or less stable and enduring causal conditions. These conditions are identified through observing that certain attributes of the persons (e.g., employment, abilities, attitudes) or of their social or physical environments (e.g., in-laws, number of friends, housing facilities) are causally linked to properties of the interaction. Causal conditions are responsible both for the stability of the relationship (insofar as the conditions are stable) and for changes in the relationship (insofar as the conditions eventually change).
5. *Causal links.* By the operations of causal analysis, certain properties of the interaction are inferred to be caused by certain causal conditions. And, as we will see below, the interaction is often inferred to cause changes in certain causal conditions. The causal relations so inferred are described as causal "links" in contradistinction to interevent causal "connections."

We now explain these concepts further, and show how they provide a useful perspective for understanding and organizing current research and theory about close relationships. We will not confine ourselves to any particular theory or to a particular level of analysis. Our only commitment is to a description of relationships in terms of the interaction between their members and an explanation of that interaction in terms of causal conditions that, relative to the flux of events in the interaction, are stable. Given this orientation we seek a general view of the close relationship that will enable current theory and data to be placed in relation to one another and that will highlight the gaps in the current work—the unasked questions, the needed ideas, and the unsolved methodological problems.

Our analysis in this chapter will focus on the close *pair* relationship. This focus is dictated by practical considerations. Although very complicated, the conceptual analysis of the dyad is manageable. Added persons greatly increase the complexities and diminish precision. The importance of relationships of more than two persons goes without saying. Here we will take account of such larger collections by considering how other persons and groups impinge upon the pair and affect their interaction and how, in turn, the pair selects and shapes its social environment.

DESCRIPTION OF RELATIONSHIPS

The Basic Data of Dyadic Relationships

The relationship between two persons, P and O, can be described in many different ways and conceptualized in many different terms. However, *all the various descriptions and conceptualizations will explicitly or implicitly refer to two chains of events, one for P and another for O, that are causally interconnected.* Thus, the basic data of a dyadic relationship can be described schematically, as in Figure 2.1, by two chains of events that are located along a time line and

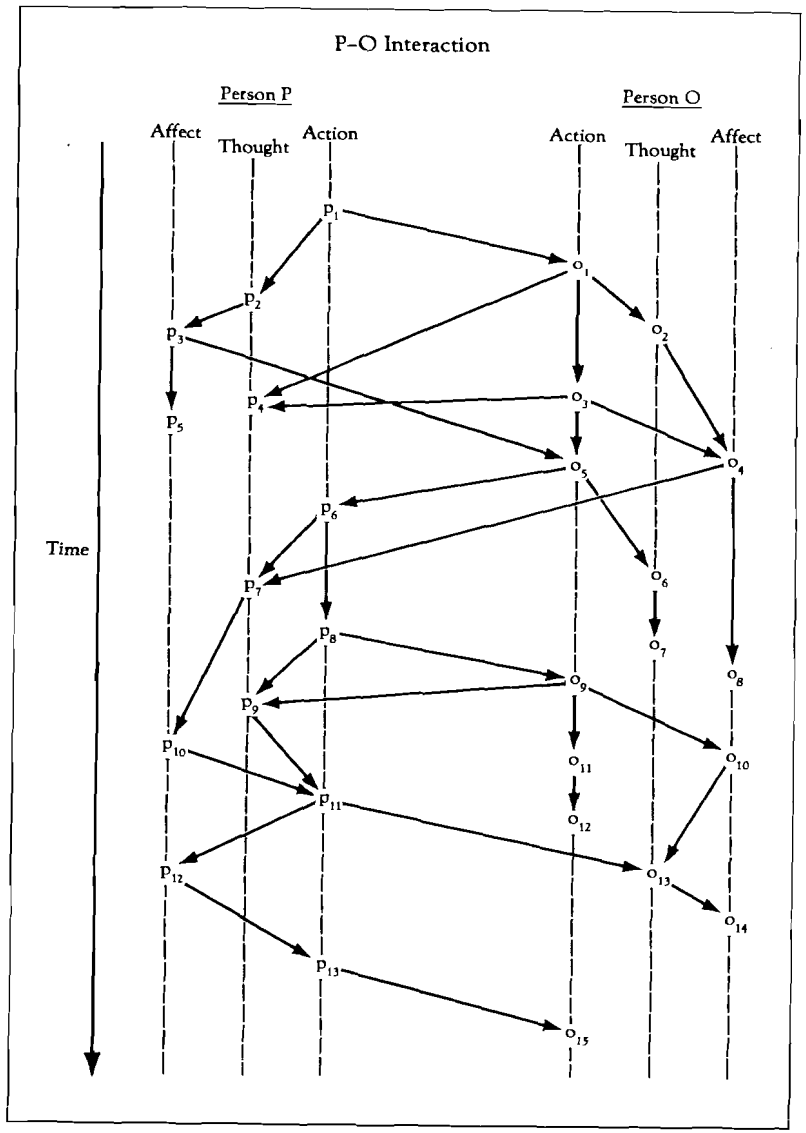

FIGURE 2.1
The basic data of a dyadic relationship. Each person has a chain of events, each chain including affect, thought, and action. The events are causally connected within each chain (shown by arrows from one p to another or from one o to another) and the two chains are causally interconnected (shown by arrows from a p to an o or from an o to a p). The interchain connections constitute the essential feature of interpersonal relationships.

are related by arrows indicating causal connections. The events in person P's chain are indicated by p_1, p_2, and so on, and the events in person O's chain by o_1, o_2, and so on. Our diagram shows that (1) each person's chain of events consists of multiple strands (several things go on simultaneously for each person, such as acting, thinking, and feeling); (2) events are causally connected within each person's chain; and (3) events are causally connected between the two persons' chains, this last being the basic feature of interpersonal relationships.

Figure 2.1 suggests, though perhaps inadequately, the complexity of P–O interaction. A simpler example, cast in terms of specific events, is shown in Figure 2.2. (Any particular illustration of our general description necessarily has special properties and, therefore, may be somewhat misleading. However, we take this risk in the interests of concreteness and intelligibility.) In Figure 2.2, we see one possible description of an interaction between a young woman (P) and a young man (O). The interaction begins with the first event in the young woman's chain—a verbal act consisting of a compliment to O about his appearance. Her event p_1 causes event o_1, his visible autonomic response—blushing. Meanwhile, P thinks about her remark and wonders whether it was appropriate. Shortly thereafter, P perceives that O has blushed and interprets it to mean that he likes what she said. Simultaneously, O becomes aware of his own emotional response to the compliment. When P subsequently smiles (following her interpretation of his blush), the smile, along with his awareness of his own reaction, causes him to think that P noticed his reaction, and this in turn produces an increased blushing as well as a smile. P notices the smile and feels good. And so forth.

This example shows some of the kinds of events that might be used to describe an interaction. We use "event" as a neutral and general term to refer to any change in P and O that may be regarded as important by a particular investigator or theorist. Thus, as in our illustration, an "event" may be a voluntary action, a conditioned response, an affective reaction, a perception, or a thought.

The causal connections *within* each chain reflect how earlier events in a person produce or affect later events in that person. In Figure 2.2, P's compliment at p_1 leads to her thought at p_2. O's realization at o_3 that P noticed his reaction leads to further blushing (o_4) and a smile (o_5). Each person's chain of events usually has some degree of temporal organization and structure produced by such intrachain causal connections. Thus, needing something and knowing it can be obtained lead to appropriate action. The well-learned skills involved in driving a car or playing tennis are reflected in causal chaining that produces organized sequences of motor activity. The regular phonemic structure of the words and the regular grammatical structure of the sentences produced by an experienced speaker similarly reflect intraperson chaining.

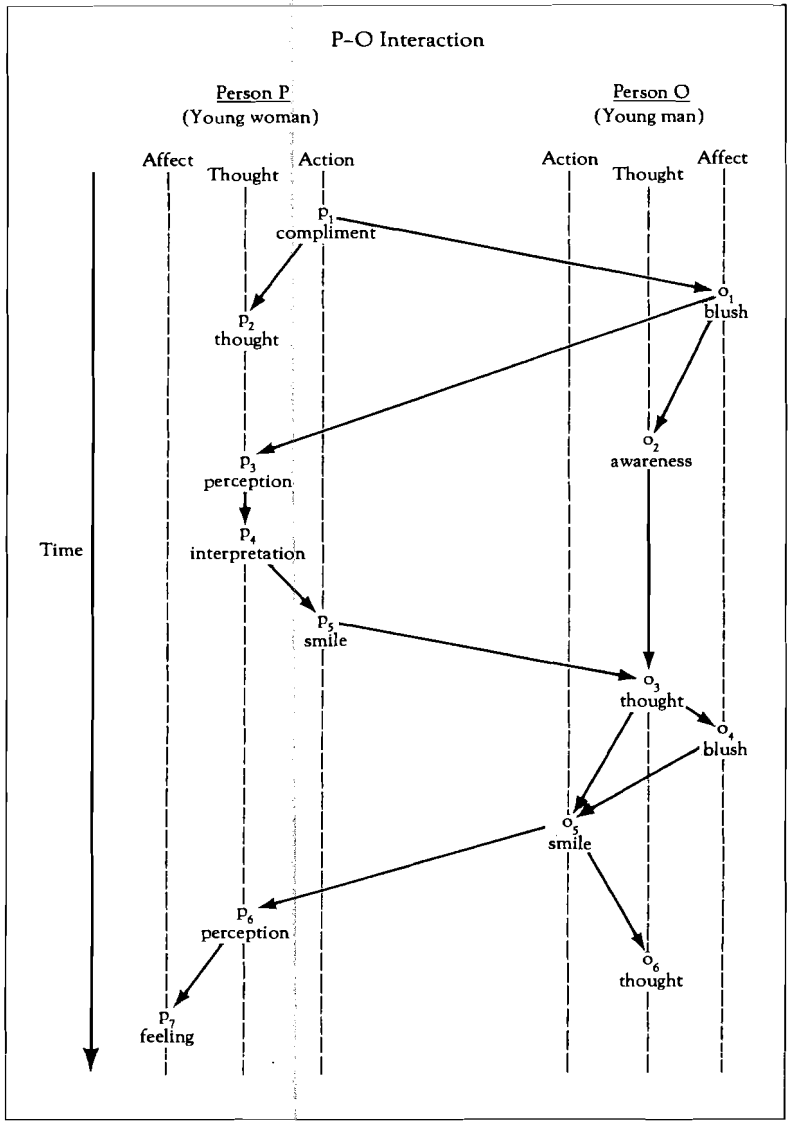

FIGURE 2.2
Brief portion of interaction between a young woman and man. The events in each person's chain of affect, thought, and action tend to produce further effects within that chain (shown by the p-to-p and o-to-o causal connections) and effects in the other person's chain (shown by the p-to-o and o-to-p causal connections).

Most important for our understanding of relationships are the causal connections *between* the two persons' chains. We can speak of there being a "relationship" between P and O only when we detect that their two chains of events are, to some degree and in some manner, causally interconnected. In general terms, this means that the events in P's chain play some causal role in relation to the events in O's chain *and* that events in O's chain also play some causal role in relation to the events in P's chain. Interchain causal connections are implied by the term "interaction," which broadly characterizes interpersonal process. As a defining characteristic of interpersonal relationships, the interchain causal connectedness is well summarized by the term "interdependence," which refers to causal connections in both directions between P's and O's chains.

Prominent instances of causal interconnections are communication and interpersonal perception. For example, Figure 2.2 includes instances of both verbal and nonverbal communication. Other instances would be physical effects, as when a mother gives candy to a child or moves the child from one place to another. In all cases, the connections between the two chains are overt (via sight, sound, touch, and so on) and therefore, in principle, are accessible to a sentient observer of the interaction. However, because important effects are often covert and because unimportant visible effects often occur in both chains, it is usually difficult for an observer to provide an accurate and detailed description of the interconnecting process.

The sample of interaction described in Figure 2.2 is only a fragment of an episode involving this young woman and young man. There may have been earlier such episodes, and there may be further episodes in the future. At the level of detail used in Figure 2.2, even rather simple relationships may involve thousands or tens of thousands of events and causal connections over a short time span. Few investigations have dealt with interaction at this level of specificity. It is customary to deal selectively with events (as by limiting one's description to verbal events) or to refer to events in more molar terms (e.g., in terms of an exchange of positive evaluations or in terms of getting acquainted), or both. One continuing issue in research concerns the units of analysis—their type and size—that are most appropriate for describing interaction. It must also be noted that investigators often obtain aggregate summaries of interactions, such as the total amount of eye contact or the total number of positive comments exchanged between two persons over some period of time.

The Properties of Interdependence

Given the foregoing view of relationships, as summarized schematically in Figure 2.1, the task of analyzing and describing a relationship becomes that of assessing and characterizing its interdependence. All investigations of dyadic

interpersonal relationships deal with *data* that derive in some way from the two causally interconnected chains. All theories and hypotheses about such relationships involve *conceptual terms* that refer in some way to the interdependence between the two chains. Therefore, through a logical analysis of the properties of the interconnections, it is possible to outline the types of data and concepts that may be involved in the study of relationships. This analysis also permits us to specify what we mean by a close relationship.

The reader will understand that the two chains of events and their interconnections lend themselves to a great variety of descriptions, analyses, and hypotheses. However, the following eight categories seem to constitute the most important properties with respect to which interdependence can be analyzed:

Kinds of events

Analyses of the two chains may differ greatly in the kinds of events that they identify. To give a few examples, events may be conceptualized in terms of actions, affects, and thoughts; kinds of resources provided, as in Foa and Foa's (1974) distinctions among goods, services, money, information, status, and love; the nature of the contribution to a discussion, as in Bales' (1950) interaction process analysis, with its distinctions between asking for information, giving orientation, showing tension, and so on; or signals that govern turn-taking in conversation, as in Duncan and Fiske's (1977) distinctions between back-channel signals, speaker continuation signals, and within-turn signals. French and Raven (1959) implicitly provide a taxonomy of "influence" events and hypotheses about their differential consequences (see Chapter 5, "Power"). Among the many analyses, there are great variations in the size and complexity of the events that are identified, ranging from the molecular extreme (e.g., the shift in direction of gaze) to the molar (e.g., the strategy of influence). Closely associated with distinctions among kinds of events are distinctions among kinds of causal connections between the two chains of events. Distinctions can be made between such phenomena as verbal communication, influence by visual cues (as in nonverbal communications and imitation of a model's behavior), touching and stroking, and physical force.

Patterns of interconnections

Causal interconnections can also be distinguished as to pattern. A few of the many logical possibilities are shown in Figure 2.1. An event in one person's chain (for example, P's) may be caused by one or several other events in the same chain (e.g., p_3 versus p_{11}); by one or several events in the other person's chain (e.g., p_6 versus p_5); or by various combinations of events in both persons' chains (e.g., p_9). An event in one person's chain may have no

further effect (e.g., p_5); further effects only within that chain (e.g., p_7); further effects only in the other person's chain (e.g., p_{13}); or further effects in both persons' chains (e.g., p_{11}). The further effects within a given chain may be simple (e.g., p_{11} leads to o_{13}, which leads only to o_{14}) or complex (e.g., p_8 leads to o_9, which generates two separate intrachain sequences of further events).

The two chains and their interconnections are constituted of numerous such patterns. A particular relationship may be characterized by a preponderance of certain patterns. For example, in some pairs, P's effect on O may usually be simple (e.g., P's effects on o_1, o_9, and o_{15} in Figure 2.1), but, in other pairs, P's effect on O may usually depend on concurrent events in O's chain (as illustrated by o_{13}). This distinction corresponds to what Thibaut and Kelley (1959) describe as "fate control" versus "behavior control." Similarly, in some pairs, the effects of interchain connections may be few and simple (e.g., o_{15}), but, in other cases, they may ramify within chains and reverberate between chains (e.g., P's effects on o_1 or o_9). The reader will readily imagine an interchange characterized by cross-connections that have limited and isolated effects (e.g., a casual, routinized conversation about the weather) as compared with one in which each cross-connection tends to have extensive remote effects (e.g., a "significant" exchange of self-disclosures, accompanied by much thought and monitoring of self and partner).

Strength of interconnections

Interconnections vary in intensity or strength. Various aspects of strength may be distinguished: The change produced in O may be great, involving single responses of large amplitude, numerous responses, or long chains of responses. Strength is also indicated when the change is produced with short latency or with high dependability. It is also possible to define properties related to the efficiency with which P produces changes in O, these taking account not only of the magnitude of change(s) in O but of the associated changes in P (e.g., units of change in O per unit of change on P's part; rewards P gives O relative to the costs P incurs or to the rewards P foregoes).

Aggregating all the interconnections that characterize a relationship, we may distinguish relationships in which the interconnections are generally strong from those in which they are generally weak. This distinction would correspond to such concepts as cohesiveness (Cartwright and Zander, 1968) and degree of interdependence (Thibaut and Kelley, 1959). At an aggregate level, it is also possible to compare the strength of the intrachain connections with the strength of the interchain connections. Thus, the events in one person's chain may be mainly determined by intrachain causal connections, whereas those in another person's chain may be mainly determined by interchain connections. The first person might be characterized as relatively

independent of the partner and the second person as relatively dependent. Kelley and Thibaut (1978) suggest a related concept, the degree of dependence, defined in terms of the proportion of the variance in a person's outcomes that is controlled by the partner and the proportion that is controlled by the two acting jointly.

Frequency of interconnections

Over any given time span, the number of interconnections between the two chains may be few, many, or intermediate in magnitude. At an aggregate level, we may distinguish relationships in terms of *rate*, that is, the number of interconnections per unit of time. Those with low rates would be of several different types—for example, two people who interact only intermittently, two who have few ways of affecting each other, or two persons who interact at a leisurely pace.

Diversity of interconnections

Dyads may be distinguished in terms of the number of different kinds of events that are interconnected. The two persons may affect each other in a number of diverse ways (sexual activity, recreational activities, joint work, intellectual discussions, and so on) or in only one or two different ways. The distinction here is between broad, richly textured interaction and single-theme, unidimensional interaction. Hinde (1979) refers to the former as "multiplex" and the latter as "uniplex."

Interchain facilitation versus interference

A particular portion of P's chain can often be characterized as "movement toward a goal" or, in the terms of Chapter 4 ("Emotion"), as an "organized action sequence." In this common case, the causal connections coming from O to P's chain may *facilitate* the directed movement or sequential organization or may *interfere* with it. Or, of course, the O-to-P connections may have no effect on this portion of P's chain. Facilitation versus interference refers to the relation between interchain causal connections and the organization or sequencing of intrachain connections. In facilitation, interchain causal connections promote the organization of intrachain connections; in interference, the former hinder or disrupt the latter.

Interchain facilitation and interference can be conceptualized in a number of ways; different theoretical perspectives will point to different sorts of interchain effects. Some examples of interference include (1) O's action changes P's state or location so that P can no longer as easily reach P's goals; (2) O's behavior does not "mesh" with P's in the sense that it is not directed in accordance with P's ongoing goals (Hinde, 1979); (3) O's action disrupts the usual internal organization of P's chain of events (e.g., incompatibility of moods; Thibaut and Kelley's, 1959, conception of interference versus facilitation); (4) O says things that confuse P, unsettling P's beliefs, creating attributional uncertainty, maligning P's self-image, or inducing cognitive dissonance; (5) O's activities interrupt some ongoing plan or activity of P's, thereby causing emotion.

It should be emphasized that facilitation or interference need not be symmetrical between the two persons. The interchain effects may be facilitative for P but interfering for O. For example, P's helping O to change a flat tire on her car may be facilitative of P's self-image as a protective and competent male but may be interfering with O's desire to be self-sufficient in mechanical matters. It should also be noted that mutual facilitation does not always promote positive interaction. Sometimes facilitative interchain connections lead to positive effects for P and O, as when the partners wind up their tennis match feeling happy and relaxed. But sometimes facilitative interchain events lead to negative interaction, as when a political discussion becomes an escalating argument in which each person's expression of views stimulates the partner in reeling off well-learned counterarguments. A "conflict-adapted" couple may display great interchain facilitation by the effective manner in which the fighting tactics of each support the similar tactics of the other.

Symmetry–asymmetry of interconnections

In regard to any of the preceding properties, the interconnections from P to O may be similar to those from O to P (symmetry) or different (asymmetry). In one type of asymmetry, the kinds of events that are affected by the partner are different for the two persons. For example, Blau (1955) describes a P who gives technical advice to O and, in return, receives approval and deference from O. There may also be differences between the two directions in the strength, frequency, and diversity of the connections. The qualitative differences between P and O in the kinds of effects each has on the partner find their parallel in differences between the two in the type of social influence they exercise (French and Raven, 1959) and in their enacted roles. Quantitative differences between the P-to-O and O-to-P connections in their strength and frequency relate to differences between P and O in degree of dependence, amount of influence, and so on.

Duration of interaction and relationship

The duration of any particular interaction episode and the duration of the relationship as a whole can be measured by the length of time during which various indices (e.g., frequency or strength of interconnections) are above some threshold level. Thus, a relationship may be said to "begin" when the two persons first affect each other to some specified degree and to "end" when they no longer do so.

A number of conceptual and operational problems arise in connection with determining the duration of a relationship. One concerns the definition of "relationship" in cases of extreme asymmetry. If the causal connections mainly go from P to O, we may not wish to consider there to be a P–O relationship at all. This would be the case for an O who admires a P from a distance, closely following P's activities and career and being affected by P's actions without P having any knowledge of the effects. Following our earlier statement that there exists a relationship between P and O only when their two chains of events are *inter*connected, the duration of the relationship will depend on when the causal connections in both directions surpass some criterial levels of strength and frequency.

A second problem has to do with distinguishing between (1) temporary breaks or "time-out" in the interaction and (2) disruptions of the relationship that are followed by its renewal. In few, if any, relationships is there continuous interaction. Often there are long periods of noninteraction, due to vacations, work responsibilities, hospitalization, and so on. The problem, then, is to distinguish the temporary discontinuities from the "permanent" ones that happen to be followed by the relationship's beginning anew. This distinction will very likely require evidence about the temporal course of external causal conditions that affect the propinquity of the pair and about the shared understandings and expectations that provide the basis for psychological continuity despite physical separation.

Properties of Interdependence: Subsequent Discussion

The preceding eight categories of properties delineate what appear to be the major features of interdependence. We present this list as a useful itemization of distinguishable properties, without any illusion that ours will be the final word on the matter. In the subsequent chapters of this book, these properties are considered at greater length as they become important to various topics in close relationships.

Chapter 3, "Interaction," analyzes the interaction process at the level of events and organized sequences of events. It deals with both the objective description of overt interaction and its subjective interpretation by participants and observers. The chapter also illustrates the major factors responsible for different interaction patterns.

Chapter 4, "Emotion," focuses on the particular interaction sequences that, through interchain interference, generate emotional experiences. Importantly, this chapter analyzes the features of interdependence that create the potential for the development of emotional exchanges.

Chapter 5, "Power," analyzes the specific portions of interaction that constitute the intentional use of interchain connections by one person to influence the other. This chapter also examines the overall features of relationships, described in terms of dominance, in which there is asymmetry between the P-to-O and the O-to-P connections over a broad diversity of events.

Chapter 6, "Roles and Gender," deals with the recurrent intrachain sequences that are important for the life of the relationship. The chapter gives particular attention to the asymmetries in heterosexual relationships that are related to gender-linked roles and to the causal factors underlying these asymmetries.

The phenomena of love and commitment, outlined in Chapter 7, "Love and Commitment," raise broad questions about the strength, frequency, diversity, and duration of the bonds between P and O. Of particular interest are the causal conditions that differentially affect the stability versus the strength of the interchain connections.

In the present chapter, we will briefly indicate how the eight properties may be used to distinguish types of relationship and, more specifically, to define what we mean by a "close" relationship. We will also briefly suggest how stages in the development of relationships can be distinguished in terms of their characteristic properties of interaction. This topic is considered at length in Chapter 8, "Development and Change," which describes the different features of interaction typical of beginnings, middles, and endings of close relationships and the changing causal conditions involved in their developmental progression.

Chapter 9, "Conflict," and Chapter 10, "Intervention," return to the phenomenon, initially considered in Chapter 4, of interaction sequences characterized by interference. Chapter 9 emphasizes conflictual interactions, their successive stages, and their various consequences. Chapter 10 examines interaction patterns associated with relationship dysfunction and describes several treatment approaches to altering these patterns.

Chapter 11, "Research Methods," delves further into the methodological problems encountered in describing the properties of relationships and identifying their causal antecedents. In making a case for the value of a science of relationships for psychological and social science, Chapter 12, the epilogue, illustrates how the careful study of interaction processes is necessary if the role of these relationships in relation to individuals and society is to be fully understood.

Types and Stages of Relationships

Relationships can be distinguished and classified in terms of the properties outlined above. For example, from Wish, Deutsch, and Kaplan's (1976) data, we might infer that the relationships of close friends and of husbands and wives are characterized by high strength, frequency, and diversity; symmetry; and high mutual facilitation. These relationships are to be contrasted with the relationships of business rivals and personal enemies, which have medium strength (probably along with low frequency and diversity);

symmetry; and high mutual interference. The relationships between parent and child and between master and servant are both characterized by high asymmetry, but the former are usually stronger, more frequent, and more diverse, and involve different kinds of events (more socioemotional content and less task-oriented activity).

Stages in the course and development of a relationship can also be distinguished and classified in terms of the above properties. The "career" of a P–O relationship can be described in terms of the succession of different "types of relationship" through which P and O move from the beginning to the termination of their relationship. When a relationship changes markedly in any property, it is reasonable to say that it has moved to a new stage or level.

In line with this view, Wish et al. (1976) obtained descriptions in the same terms of different relationships and of different "stages" of the same relationship. "Stages" were childhood relations versus current adult ones. The typical person's relationship with her or his mother (or teacher/professor) shifts from asymmetry to midway beween asymmetry and symmetry ("unequal" versus "equal" in the terms used by Wish et al.). Relationships with siblings move from midway between interfering (competitive) and facilitative (cooperative) toward the facilitative pole.

To suggest that relationships and stages of relationships be described in the same terms, using the eight types of property, is not to imply that moving from one relationship to another involves the same dynamics as moving from one stage to another. However, the use of common terms probably has considerable heuristic value through enabling direct comparisons of (1) between-relationship variations and (2) within-relationship changes.

Defining "Close" Relationships

Our focus is on a particular class of relationship referred to as "close" relationships. By a close relationship, we mean one of considerable duration (measured in months or years rather than hours or days) in which the causal interconnections between P's and O's chains are strong, frequent, and diverse. That is to say, *the close relationship is one of strong, frequent, and diverse interdependence that lasts over a considerable period of time.* Examples of such relationships are friendships, serious love affairs, marriages, and parent–child relations.

All the relationships we regard as "close" will, by definition, be characterized by the four properties of strength, frequency, diversity, and duration. It must be remembered, however, that they may be distinguished in terms of other properties of interdependence as well, such as facilitation or interference. They also may go through stages defined by, say, shifts in degree and kind of asymmetry, while all the time remaining "close."

We have given much thought to our choice of the term *close* to characterize the relationships of special interest here. On the one hand, it has some connotations of intimacy and positive emotion that are not entirely appropriate to the full range of relationships we wish to include. Relationships need not involve the exchange of intimate information or produce regular intense positive feelings in order to be tightly interconnected in the ways we would regard as defining closeness. For example, close co-workers may never share intimate details of their personal lives; spouses may feel great hostility for each other but continue to have strong effects on each other. On the other hand, in two of its other connotations, "closely connected" and "physically close," *close* seems to be exactly the right term for our meaning. We are interested exclusively in relationships in which the lives of the two persons (as represented by the two chains of events described earlier) are closely intertwined. The two are tightly bound together by virtue of many strong causal connections between them. Physical closeness figures prominently in contributing to this close causal connectedness, not as a necessary condition but as a factor that greatly promotes extensive interconnections.

Level of positive affect is often proposed as a criterion for the "closeness" of a relationship. Close relationships are commonly believed to be characterized by strong positive emotion and high affective involvement. As noted above, close relationships as we have defined them do not necessarily involve positive feelings. Moreover, as we will see in Chapter 4, "Emotion," close relationships have high *potential* for affect, but at any point in time may not manifest much affect. This point relates to the property of facilitation versus interference. Being characterized by many strong interchain connections, a close relationship always has potential for interruption of one or both persons' intrachain organization of behavior. In that limited sense, our view is that close relationships are characterized by high affective "involvement." However, many such relationships go for long periods of time without the occurrence of serious interruptions and, hence, with little actual affect. This matter is considered in some detail in Chapter 4.

We recognize the possibility of defining closeness in terms other than those stated above. Huston and Burgess (1979) summarize many of the features that have been suggested to characterize close or intimate relationships. Beyond the kinds of properties specified in our definition (frequency, duration, diversity, intensity), their list refers to a number of factors that, in the next section, we will identify as "causal conditions." These factors include shared norms (about communication, responsibilities); attitudes (liking, love, trust); beliefs about the relationship (its uniqueness, importance); and relations with other persons. The first three of these refer to characteristics of P and O that, on the one hand, presumably emerge from P–O interaction and, on the other, play a role in structuring it. For example, love is sometimes conceptualized as an attitude of P toward O that accounts for the occurrence

of particular patterns of P and O events, but it may also be an attitude that results from P and O's interaction with one another. The same point can be made regarding the fourth factor, P's and O's relations with others, as an indicator of the closeness of the P–O relationship. P and O's exclusive association with each other usually identifies them as a close pair. However, we see their relations with others not as a defining property of closeness but as a causal condition that both affects and is affected by the closeness.

While others have defined closeness in terms of psychological (e.g., attitudinal) or extradyadic (e.g., social) causal conditions, we believe there are good reasons to begin with the details of interaction, including both its observable and subjective features. Relationships having the properties of closeness as we have defined them will typically be characterized by certain attitudes, understandings, and social conditions. It will be these factors that promote, enable, and require the frequent, intense, and varied interchain connections and patterns of subjective reactions. On the other hand, independent of the initial reasons for their existence, relationships that are close, as we have defined it, will tend to develop or enhance the causal conditions constituted by particular attitudes, understandings, social connections, and so on. We are less certain of the exact nature of these causal conditions than of the properties of frequency, intensity, diversity, and duration. Indeed, it seems obvious that the causal conditions (e.g., attributes of P and O, relationships with others) are likely to be quite varied for a number of different relationships (e.g., young lovers, swinging couples, traditional spouses, roommates, co-workers), all of which we would wish to term "close." Thus, we elect to anchor our definition of closeness in the interconnections between P and O events rather than in any particular configuration of attitudes, understandings, and so on, on the part of P or O or of their social environment.

The External Causal Connections of the Relationship

Figures 2.1 and 2.2 show how the events in each person's chain cause other events in that chain and events in the other person's chain. The events in each chain are also partly controlled by events external to the two persons and their interaction, that is, by events in the social and physical environments. These events are many in number and heterogeneous in their nature and effects. They include such diverse events as noises that produce startled responses in one or both persons or that interfere with one's hearing what the other has to say; provocation to anger or sexual arousal provided by other persons; instigations to thoughts about one's own inadequacy provided by others' possessions or skillful behavior; and safe and secluded conditions that facilitate P and O's tête-à-tête. These events might be described in "stimulus" or "objective" terms, but, as the above examples illustrate, it is usually more convenient to describe them in terms that refer to their effect on P or O. This

description in terms of their effect also tends to limit our attention to the most relevant subset of the many events, namely those that have consequences for P's and O's chains and interconnections.

It is also apparent to an observer of interaction (and to the participants themselves) that events in P's and O's chains have effects external to those chains, that is, in their physical or social environments. P and O make noise, break furniture, turn lights on and off, compliment or criticize other persons, pet dogs, cuddle children, and so on. Once again, these activities are more conveniently described in terms of their external effects than in terms of the specific p or o event that has the effect.

When we take account of these external events, we must draw a more complete diagram of the P–O interaction than that represented by Figures 2.1 and 2.2. Figure 2.3 provides an example of the causal connections between the P–O interaction and its social and physical environment. The symbols e_{soc} and e_{phys} are used, respectively, to refer to events in the social

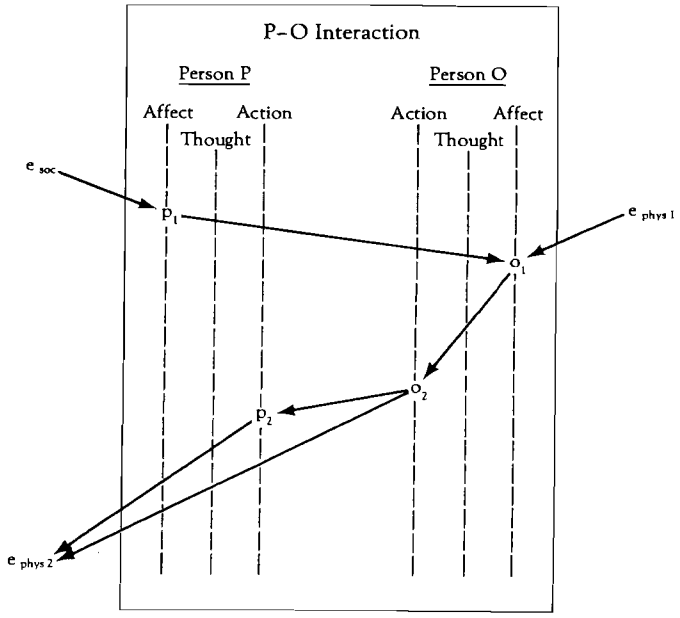

FIGURE 2.3
Illustration of external causal connections of the P–O interaction. An event in the social environment (e_{soc}) causes an affective event in P's chain (p_1). The latter event, together with an event in the physical environment ($e_{phys\,1}$), produces affect (o_1) in O that leads O to action, o_2. O's action stimulates P also to act (p_2), and their actions jointly serve to cause a change in the physical environment ($e_{phys\,2}$).

and physical environments. The example shows that e_{soc} (perhaps the remark of a third person in the hallway) causes some event in P's chain (a nervous reaction) that, along with $e_{phys\,1}$ (perhaps a scene from a television show O is watching), causes an event in O's chain (a sharp experience of anxiety). This event (o_1) leads O to do something (o_2) that both stimulates P to action and, jointly with p_2, affects the physical environment, $e_{phys\,2}$ (they join together in closing and locking the doors and windows).

As these examples show, external events and their causal connections vary in the same way as do internal ones—in type, pattern, facilitation, strength, and asymmetry. This similarity is obvious in the case of the connections between P's chain and that of a third person, Q. The P–Q relationship can be described in the same terms as the P–O relationship. The same is true for the connections between P's chain and any distinguishable portion of the physical environment.

More generally, the relationship between P (or O) and any part of the social or physical environment can be described in terms of properties similar to those used to describe the P–O relationship. The relation between P and E may be symmetric or asymmetric in terms of frequency and strength of causal connections. If asymmetric, we may observe that P exercises a good deal of control over E or that E tends to control P. Both social and physical environments may be facilitative or interfering in the way they impinge on P's chain of events. It should also be noted that the P–O relationship is sometimes described and evaluated relative to other relations, for example, P–Q and O–R relations. Thus, it is possible to speak of P's relative dependence on persons O and Q or the relative diversity of the interconnections.

The Importance of Event-Level Analysis

We can now see why the P and O chains of events and their causal interconnections must be, explicitly or implicitly, the focus of any analysis of the close relationship. The first point is that these chains and their interconnections constitute the interface between P and O. All the mutual and unilateral influence occurs as a result of events in the two chains that are causally connected. The events and their connections comprise the reality of the relationship, for without them there is no relationship. The quality and type of the relationship is constituted by them. Events and their connections are no less real for the participants in relationships than for our scientific analysis. As a self-conscious observer of oneself in a relationship, one is aware of actions, thoughts, and feelings in one's own chain. As an observer of the partner, one is aware of the actions and other overt responses in the partner's chain. As an observer of the interplay itself, one is aware of the interconnections—that one acts and the partner reacts, that the partner

initiates and that one resists or follows, and that what each says affects the other and, often, results in visible response. As scientific observers, we record these events and interconnections and aggregate them to provide descriptions of a relationship's properties. As informal observers of our own or others' relationships, we form and report summary impressions of them (e.g., of closeness, equality, conflict) that in some way reflect these events and connections. In short, all the descriptions we obtain of relationships are based in one way or another on information about interaction as defined at the event level.

The second point is suggested by Figure 2.3. Various factors, such as attributes of P and O, other people, and their physical environment, affect the relationship *only* as they affect the events in or connected with the two chains and the interchain connections. Similarly, the relationship affects other factors (the participants, other people, its environment) *only* by events in or connected with the chain that (1) are in some manner affected by interchain connections and (2) have effects on the other factors. We now turn to a consideration of these latter factors—the causal conditions that, on the one hand, affect and shape the relationship and, on the other hand, are affected and shaped by it.

ANALYSIS OF CAUSAL CONDITIONS

In the preceding section we used general terms to describe one striking aspect of dyadic relationships, namely the interaction—the "give and take"—between two persons. We used the term *event* to refer to the various discrete occurrences that we, both as participants in and observers of relationships, recognize to happen in them. We indicated the causal connections that exist among those events, these connections also being a salient part of our knowledge of interaction—that "one thing leads to another," that each person affects, stimulates, and influences the other.

In the present section we pursue the implications of a second salient aspect of interaction, namely, its *regularities*. The observer of any sizeable portion of the interaction between two persons soon detects regularities and recurrent patterns in the "give and take." The participants themselves are aware of many of these regularities, particularly those that involve following explicit interpersonal plans and schedules. To both participants and observers, regularity is especially salient (1) when it changes, that is, when there is a shift from one level or type of uniformity to another, or (2) when the regularity in a particular relationship or type of relationship contrasts with that observed in other relationships or types.

An account of these regularities requires that we posit certain relatively stable causal factors that act on a relationship. An account of changes in

observed regularities requires that we look for changes in such causal factors. An account of differences between relationships in their respective regularities requires that we identify differences in the causal factors that impinge on them. These causal factors are to be distinguished from the causes referred to as "events" and, indeed, they play an important part in determining the events and their interconnections. We will refer to these more stable (though occasionally changing) causal factors as *causal conditions.*

The remainder of this chapter is devoted to an analysis of causal conditions. It will serve to identify the broad causal context within which the dyadic relationship exists. An understanding of this context is necessary if we are to answer questions about the origins of relationships, the differences among them, the dynamic interplay between them and their environments, and the changes and trends in relationships that occur during their course.

The Inference and Identification of Causal Conditions

Each dyad is characterized by recurrent events that often distinguish it from other dyads. Thus, a given pair may be characterized by one person's frequent remarks on certain topics, certain joint leisure-time activities, one person's work on certain tasks, and one or both members' actions directed toward certain third persons. Also notable in any relationship are the recurrent connections between the two persons' event chains, that is, regularities in what leads to what. These include one person's frequently having a certain effect on the other (e.g., remarks that make the other feel guilty) and sequences of P-to-O and O-to-P connections (e.g., P regularly criticizes O's appearance, and O regularly responds with weeping, which never fails to make P angry).

The properties discussed in the preceding sections describe some aspects of these regularities. An interaction pattern may be said to be strong, asymmetrical, or facilitative only if most of its interchain connections are strong, asymmetrical, or facilitative. Of course, more specific descriptions are possible. We can describe in detail a particular pattern of asymmetry by observing that P regularly cooks the meals while O washes the dishes.

While it is possible to stay at the descriptive level and simply note the regularities in events and event-to-event sequences, most conceptualizations of relationships (and indeed of all behavior) assume that regularity implies the existence of *causal conditions.* These causal conditions will be defined more completely below, but here we note that they are relatively stable attributes or states that are presumed to determine what events and event-to-event connections are likely to occur. The events and connections may be any of the kinds shown in Figure 2.3. The variety of causal conditions can be illustrated by (1) P's habits, (2) emotional support for P that exists in the social environment, and (3) sources of noise in P's physical environment. P's habits would be reflected in P's regular response to certain e or o events; emotional support in the social environment, by regular e_{soc} events that produce feelings of security and confidence in P; and noise, by regular e_{phys} events that create disruptions of certain otherwise dependable interchain connections (e.g., failures of communication). In these three examples, a condition of P, of the social environment, and of the physical environment account, respectively, for the three regularities in event-to-event connections.

The dangers in naming and explaining

Observation of regular patterns of interaction both leads to *descriptions* of the regularities and motivates *inferences* about the causal conditions that account for them. Some causal conditions are easily distinguished from the regularities for which they are presumed to account, as is the case when some external factor, such as age, noise, or outside friends, is found to have some particular effect on the interaction pattern. However, description and explanation are often easily confused. It is to avoid this confusion that we have adopted the term *properties* for description and *causal conditions* for the inferred causal factors. The two are to be carefully distinguished. The danger is in going directly and simply from a single observed property of a relationship to an inference of a causal condition. The risks here are subtle. Consider a case in which we observe the property of asymmetry in a particular respect, e.g., that P gives instructions and O follows them more often than the other way around. The first type of risk occurs when, as often happens, the property is given a seemingly innocent label, such as "P's dominance." A label of this sort is tempting because it is familiar, easy to remember and explain to others, and it seems to describe adequately what has been regularly observed. The problem is that most labels of this sort have causal connotations. In their use, we slide unwittingly from naming to explaining. In doing so, we create for ourselves all the possible difficulties entailed in explicitly using the label as an explanation, but with little likelihood that we (or our readers) will be aware of them.

A second type of risk occurs when, as is also common, we conclude that the observed pattern of asymmetry between P and O is caused by P's dominance. That is to say, we explicitly infer "P's dominance" to be the causal condition underlying the observed property. That is perfectly appropriate as a *hypothesis* about the true causal condition, but, in the absence of further information bearing on the inference, it must be treated *only* as a hypothesis. Causal conditions are not merely explanatory constructs; they are simplifying and organizing conceptual tools, serving to impose order on complex sets of observations. To invoke a causal concept, such as "P's dominance," is to imply many different regularities that form a certain

pattern. In this particular case, the term implies a causal property of P that will be manifest not only in the particular observed asymmetry in relation to O, but also in other facets of their relationships. To invoke "P's dominance" (in any more than a hypothetical manner) in the absence of further knowledge about P and O or about other relationships is to engage in circular reasoning ("P influences O a great deal because P is dominant, and P is dominant because P influences O a great deal") and, worse, to risk incorrect identification of the true causal condition(s) underlying the observed regularity. For example, if we know only the one fact, there is no basis for ruling out alternative exlanations, such as that the asymmetry in influence reflects a norm governing the P–O relationship or a special vulnerability of O (rather than power of P).

The general point is that the inference of causal conditions and the identification of the true ones is a very complex and often tedious process. To a great extent, it is what science is all about. We find these difficulties easy to accept when we imagine studying some esoteric subject (such as molecular paleontology), but the complexities and problems of causal analysis are easy to forget when we deal with the all too familiar domain of interpersonal relations. Labels and explanations readily leap to mind for almost everything we observe. Naming and explaining are blurred together because the common terms used to describe the interpersonal phenomena evoke vivid causal metaphors. Only by sustained consciousness of the risks in this process and close self-criticism at every step of the route from description to causal inference can we break out of the limitations of lay language and conceptions and establish an objective science of interpersonal relations.

Evidence regarding change

An important data pattern, other than observed regularity, that suggests an inference about causal conditions is evidence about *change* in event-to-event regularities. A simple example is provided by the evidence we would use as a basis for inferring the existence of an acquired habit as a causal condition located in P, as when P learns to respond aggressively to O's passivity. Not only is P observed to respond dependably with a certain subset of p's to certain stimuli provided by O (the two subsets being determined by response-and-stimulus generalization), but, at an earlier time, prior to conditioning or reinforcement, P did not do so. Furthermore, during acquisition of this response, there was to be observed a certain recurrent sequence of events (e.g., the application of the unconditioned stimulus or reinforcement by O) that could plausibly be interpreted as the cause for the development of P's regular responding. Evidence of the weakening of an acquired habit would come from evidence of a decline in the regularity of a particular type of o-to-p pattern, and especially so if this were accompanied by evidence of appropriate

causal conditions for "extinction," such as nonreinforcement by O. The point here is that the imputation of a causal condition is often based on a complex pattern of recurrence and regularity, with shifts in this pattern following variation in factors (reinforcement and extinction conditions) that may be inferred to instate or terminate the focal causal condition.

An analogous example is provided by a "pair norm," such as an agreement between P and O that controls their performance of household chores. The data pattern pointing to a norm's existence as a causal condition of the relationship includes the following: (1) There is observed to be uniformity between the two persons in their behavior, including their comments about what one "ought" to do and their application of sanctions for conforming and nonconforming behavior. (2) This uniformity contrasts (a) with the event patterns in the same pair of people at some earlier time and (b) with that in other pairs who are similar in other respects. (3) The uniformity in (1) can be accounted for by other causal conditions existing for the particular pair (e.g., proximity, intercommunication, and attraction) that may be inferred to promote norm development.

The paragraphs above emphasize how causal conditions are inferred from regularities in the events and sequences relating to the dyad. It is important to point out that causal conditions are also inferred on other grounds. When there is known to be a change in some feature of the pair's environment (e.g., change in employment) or in some attribute of one or both members (disability, aging), it is often reasonable for the investigator to believe that some causal conditions have changed. The reasonableness of this belief is based on the investigator's prior knowledge about the particular dyad or similar ones. Ideally, it is possible for the investigator to document the belief by obtaining evidence about changes in regularities relating to the dyad and by showing those changes to be plausibly explained by the alleged condition changes. Another strategy for the study of causal conditions involves comparing samples of dyads for which certain conditions are believed to be different but which are highly similar in other respects. Again, in the ideal case, it is possible to document that the only systematic difference between comparison samples is in regularities related to the alleged causal condition differences.

Sometimes, the investigator is able, directly or indirectly, to control the changes in conditions for a given dyad. This control enables the nature and extent of the changes to be more precisely defined and the time of the changes to be known in advance and accurately located on the time scale. The latter makes possible before-and-after assessments of the regularities believed to be controlled by the conditions. Sometimes investigators can directly manipulate conditions, but more often they will work with the dyad in enabling and directing them to modify their own conditions. Intervention in relationships constitutes attempts of this sort to promote the two persons'

modification of their shared physical and social environent, the interpersonal sequential habits of each one, their interpersonal routines, and their relationship's norms.

Proximal versus distal causes

Jessor and Jessor (1973) suggest that the environments that determine interaction should be ordered along a proximal–distal dimension. At the proximal end are such factors as other persons' expectations or evaluations of the relationship and at the distal extreme, such factors as climate, social structure, and culture. This distinction is important in the causal analysis of close relationships. Consider an example: through careful observations, an investigator may infer that a husband's unemployment creates conflict within a marriage. That is, unemployment constitutes a causal condition that affects the level of conflict between husband and wife. It does not detract from that level of explanation to ask about the more proximal conditions, themselves determined at least in part by unemployment, that produce the manifestations of conflict. There are numerous possibilities. For instance, the resources that the husband controls may be reduced, with the consequence that his wife no longer defers to his wishes and conflicts of interest more often result in open disputes. In this case, the proximal causal condition is the husband's resources. Alternatively, unemployment may cause the husband to become depressed, and that personal causal condition leads him to be more sensitive to criticism and more likely to respond aggressively to his wife's remarks, which are no different than they have always been. Or, as a third example, unemployment may simply throw the two together for a large portion of the day, with the consequence that they have greater difficulty in coordinating their various activities. Thus, a particular distal condition may affect quite different proximal conditions, and these, in turn, are likely to differ in their specific impact on the relationship. Our understanding of the causal dynamics becomes complete only when the operative proximal condition or conditions are identified.

The causal analysis is also incomplete if an investigator focuses on proximal causes to the exclusion of more distal causes. For example, a therapist may observe that a couple is having sexual difficulties based on the wife's extreme anxiety about sexual intercourse. Rather than ending the causal analysis with the proximal cause of "anxiety," it might prove useful to examine less immediate causal factors. For example, the wife's anxiety might be traced to fear of pregnancy based on a set of factors, such as health problems preventing her from using reliable contraceptives, the unavailability of abortion facilities in her community, her husband's recent loss of his job, and the existence of four other children in the family. Alternatively, it might be discovered that the woman's anxiety is unique to her sexual encounters with this particular partner and result from her lack of trust

in him or his habitual clumsiness in love making, or both. The point to be made by such illustrations is that both proximal and distal causes need to be taken into account in order to develop a complete understanding of close relationships.

Contemporaneous versus historical explanation

The proximal–distal distinction has a parallel in the difference between contemporaneous and historical explanation. The explanation of current interaction in terms of the past experiences of the two persons, separately or together, is one valid mode of causal understanding. However, a more complete understanding requires identifying the contemporaneously existing residues of the experiences (the present attitudes, motives, shared understandings) and determining their effects on the interaction (Lewin, 1943). The latter requires identifying the events and interevent connections to which they give rise, whether events in P's or O's chains or environmental e_{soc} or e_{phys} events.

The Concept of Causal Condition

It is appropriate now to explain in more detail what we mean by "causal condition." The term *condition* was selected to refer to a kind of causal factor that is distinguishable from the class of "events." We use *condition* to refer to a broad class of such causal factors, without commitment to any particular kind, such as trait, state, propensity, or disposition, within that class. As the earlier examples of habit, social support, and noise illustrate, a term is needed that applies equally well to P, O, their social environment, and their physical environment.

Almost all aspects of the dictionary definition of *condition* are appropriate for the present usage. Condition refers to a particular state or form of being, including a particular state in regard to circumstances, position, or social rank and a particular form of being or nature. A condition is something that must exist if something else is to be or to take place, an affecting influence, something that limits or modifies the existence or character of something else.

From this definition, the reader will understand the purposes that causal conditions serve in the understanding of interpersonal relationships. On the one hand, they are relatively stable causal factors that exist over relatively long time periods (relative, in both cases, to the brief causal elements we call "events"). Causal conditions affect or influence the occurrence of events and sequences of events, and, because of their relative stability, causal conditions account for the *recurrence* of events and sequences. On the other hand, when they change, causal conditions produce noticeable shifts in the properties of the relationship. Insofar as a particular causal condition influences a number

of events and sequences and does so over a period of time, its change has ramifying effects, both over a variety of occasions and over a broad class of events and event-to-event connections.

The stability of causal conditions is only a matter of degree. They are stable relative to the short time span of the type of causal entity we have labeled "event." Some conditions exist over a period of years, others over periods measured in days, and others over periods measured in minutes. There is a continuum of length of existence (duration) along which various causes may be located. For example, emotion may be brief (an acute experience of fear), or several hours long, or a chronic state of anxiety (susceptibility to feelings of fear). By the term *event*, we capture the briefest of these phenomena—the kind that occurs in the course of interaction, for example, as responses to other brief stimuli and as stimuli themselves to subsequent brief responses. The term *condition* is particularly applicable to the long-term states that are responsible, during their existence, for the occurrence of certain brief events and event-to-event sequences. Thus, a personal condition of susceptibility to anxiety is evident in the fact that certain cues provided by the partner or environment regularly result in brief experiences of fear.

The preceding examples illustrate how causal conditions affect events and sequences. However, causal conditions are also often affected by these events and sequences. P's habits of responding to O are acquired by virtue of the occurrence of certain sequences of events in their interaction. The support provided to O by the social environment is promoted by what O does and how these actions affect other persons. The noise in P and O's physical environment may sometimes be of their own making, a product of certain events in their chains that cause e_{phys} events of "noise," as when they buy a noisy washing machine.

Because they may be affected by events and sequences as well as affect them, causal conditions account for observed long time delays in the causal connections between earlier and later events and sequences. For example, O does something to P that has an immediate effect (e.g., O's insulting remark followed by P's anger). Several days later, P reacts to some minor action on O's part in a way that reflects the earlier sequence (e.g., P become inappropriately angry at some innocent comment by O). The assumption that the initial o-to-p sequence resulted in some change in a causal condition in P (e.g., P's memory, attitude, belief) provides the necessary causal account of the delayed effect.

Kinds of Causal Condition

Some causal conditions can be located *in* the environment or *in* one or the other person. Other causal conditions can be more accurately characterized as existing in the relation *between* environments and persons or in the relation *between* the two persons.

Determining the "location" of a cause can be a difficult matter. At one level, all causes are relational. If P causes an effect in O, a comprehensive analysis must examine both the "potency" of P and the "vulnerability" of O. However, in much of our thinking, we give differential attention to the qualities of either P or O. Consider three examples of an arrow wound resulting in the death of a man. If an arrow wound killed a healthy man, we would focus more attention on the arrow (its sharpness) than on the qualities of the man (that he, like all human beings, shares a susceptibility to sharp objects). If, however, an arrow wound killed a hemophiliac man, a causal analysis might focus more attention on the qualities of the man (hemophilia) that make him and other people with that attribute uniquely susceptible to all wounds. Finally, if an arrow wound killed Achilles, a causal analysis might focus equal attention on the well-shot arrow and the unique susceptibility of Achilles. In each example, the death required both an arrow and a vulnerable man. But the focus of our causal analysis varied, contingent on our knowledge about the response of all people to certain events, about the differential response of people with particular qualities to certain classes of events, and about what constitutes a unique response.

We did not take the examples above from interpersonal interaction for obvious reasons. Such clear-cut data patterns about common and unique responses are not so easily identified in interpersonal interactions. Most causal conditions account for only part of the total interactional variance, and complex combinations of multiple causal conditions are necessary for a complete account of interaction. Furthermore, causal conditions both influence and are influenced by other causal conditions. This mutual influence, in which the causal links go in both directions, further complicates any attempts to locate the causal conditions that account for event-to-event regularities.

In the sections below, we discuss and illustrate causal conditions that are often located *in* environments or persons and causal conditions that are often located in relations *between* environments and persons. The determination of location is somewhat arbitrary. The reader should remember that all causal effects are ultimately relational, based on the relation between "potency" in one location and "vulnerability" in another. However, one can conceptually analyze each set of attributes separately.

Environmental and personal conditions

Causal conditions of the physical environment (identified by the symbol E_{phys}) generate regularities in the e_{phys} events that impinge on the relationship. For example, weather conditions provide recurrent rain or thunder, and working conditions provide recurrent noise, poor lighting, and regular availability of certain tools. The conditions of the social environment (identified as E_{soc}) produce regularities in the e_{soc} events that affect P's and O's chains of

events. For example, the social conditions at P's working place determine that P is regularly exposed to directive instructions from a supervisor and distractions from co-workers. The economic conditions of the pair are responsible for both the weekly paychecks and the monthly bills. The availability of alternative partners as a condition of P's social environment may be responsible for P's receiving regular personal compliments, eye contact with smiles, and invitations to private interaction. "Support" as a condition of the social environment is responsible for such regular events as provision of advice, help with tasks, and offers of loans of money. "Social norms" constitute causal conditions that result in the regular presence of behavioral models who exhibit uniformity and provide consistent exhortation to conforming behavior.

For all practical purposes, environmental conditions are also responsible for the p and o events that are closely connected to the e events in the e-to-p or e-to-o sequences. In Figure 2.4, the environmental events $e_{phys\,1}$ and $e_{soc\,1}$ might, in certain circumstances, be considered responsible, respectively, for p_1 and o_2. Thus, a p event that is dependably (consistently for each person), generally (for all persons), and uniquely caused by a certain e event may be considered part of the consequences of the environmental condition (E_{phys} or E_{soc}) responsible for the e event. In these cases, the description of the environmental condition often includes references to the p events. For example, we might say that the environment of the workers in a certain manufacturing plant is "stressful," this term being a characterization of their working conditions. The term refers to the fact that the e_{phys} events that regularly affect the workers in that plant (e.g., noise, fumes, pace of work) dependably produce symptoms of stress (e.g., heightened blood pressure).

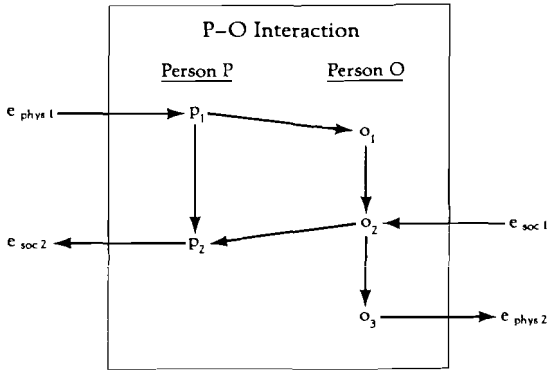

FIGURE 2.4
Physical and social environmental events that affect or are affected by the P–O interaction. All arrows represent causal connections.

Similarly, we often describe conditions of the social environment in terms of dependable p effects, as when we speak of a "supportive" or "distracting" social environment. However, we must not overlook the necessity ultimately to identify the specific e events that any particular environmental condition produces. Just as the public health researcher must identify specific "stressors," our causal analysis will be incomplete—and wholly "psychological"—unless we identify the e event in even the highly dependable e-to-p sequence.

Environmental conditions are also responsible for certain of the events that occur as a result of p or o events, for example, the p_2-to-$e_{soc\,2}$ and o_3-to-$e_{phys\,2}$ sequences of Figure 2.4. It is the environmental condition of task ease or task difficulty that causes all persons to do well or poorly in physical or social tasks. In general, it is some condition of the environment that causes some particular e to occur consistently (for each person), generally (for all persons), and indiscriminately (for a large class of p events). Thus, a social environment characterized by ethnic prejudice will be responsible for the fact that for many persons and for many p's, the resulting consistent social environment event will be rejection and hostility.

Causal conditions associated with the person (referred to as P or O conditions) are responsible for the events and sequences of events that regularly appear in the P or O chain. P's habits of conversational interaction determine how P responds, both verbally and nonverbally, to the other person's questions and comments. O's hearing impairment reduces O's appreciation of musical performances and limits O's participation in conversations under noisy circumstances. P's state of anxiety may be responsible for recurrent fear responses both to events in the physical and social environment and to events internal to the person (e.g., thoughts of phobic objects). As the last example illustrates, some personal conditions are responsible for regularities in the p-to-p sequences in a person's chain. These include such causal conditions as "thought habits" (resulting in regularity in the way one thought leads to another); "writing style" (generating the regular organization of written verbal output); and "motor skills" (producing sequential patterns of motor behavior, as in typing or ice-skating). Similarly, labeling and attribution tendencies cause regularities in e-to-p-to-p sequences, as when a stimulus leads to a certain percept, which leads to a certain verbal label or explanatory response.

Just as environmental conditions are responsible, in a practical sense, for the p events dependably caused by certain e events, so personal conditions may be considered responsible for the e events dependably linked to relevant p events. The personal conditions of skill and strength generate recurrent p-to-e_{phys} sequences that are characteristic of P. Conditions associated with appearance (beauty, disfigurement, obesity) may produce certain p-to-e_{soc} sequences, the e_{soc} occurring for most observers in the social environment, consistently so (for each observer), and uniquely so (not for other p events). Analogous to the cases in which environmental conditions are identified in

terms of their dependably associated psychological consequences, certain personal conditions are identified in terms of their dependable effects on the environment. The conditions of being "lovable," "attractive," or "repulsive" refer to kinds of e_{soc} events that are dependably linked to the specific p events caused by the conditions. As before, a complete analysis of the causal links requires identifying the relevant p events in these recurrent p-to-e_{soc} sequences.

Psychological traits, such as aggressiveness, dominance, and introversion, have classically been regarded as P causal conditions. They were assumed to govern a person's behavior in a wide variety of settings and relationships. The more recent "situationist" view of traits reflects the growing evidence that the regularities are more situation-specific than had earlier been assumed (Bowers, 1973). Issues of this sort can be decided only by the details of research results, and, unfortunately, the facts are not always simple. For example, recent work by D. J. Bem and Allen (1974) suggests that some people possess traits to a greater degree than do others, inasmuch as they show greater cross-situational consistency in their behavioral tendencies. The evidence showing the situational specificity of behavior relating to such traits as honesty and shyness directs our attention to causal conditions defined by the relation between E and P. We next consider the general class of such conditions.

Relational conditions

We emphasized above that all causal effects are ultimately relational. Yet, it has been convenient, and appropriate under certain specified conditions, to identify certain conditions as "environmental" and others as "personal." However, there are certain conditions that can be understood to exist only in the *relation between* environment and person or in the *relation between* two persons. Whereas the symbols E_{phys}, E_{soc}, P, and O have been used for simple causal conditions, which can reasonably be said to exist in the environment or the person, we will use the symbols E × P and P × O for these relational or "joint" causal conditions. Relational conditions are constituted by pairings of E and P (or of P and O) and produce effects that are not predictable from either factor alone.

Consider, for example, the P × O conditions of propinquity, speaking the same language, attitude similarity, and personality complementarity. Each of these conditions is responsible for recurrent p-to-o and o-to-p sequences: Propinquity is a basic condition that governs the number and types of such sequences that can occur; common language is responsible for sequences entailing successful communication; attitude similarity, for sequences in which opinion expression leads to expression of agreement; and personality complementarity, for sequences in which one person acts in a manner that

fulfills the other's needs. In none of these cases can the causal condition be located in either person. Each condition is defined by the conjunction of attributes of the two persons—their respective spatial locations, language skills, attitudes, and personality dispositions. Similar relational conditions can be identified for combinations of E and P, as when we consider the fit between P's training and the requirements of P's job, or between P's social skills and the expectations of P's social group.

Some relational conditions exist for a specific E and a particular P and generate sequences that are more or less unique to that pair. For example, the condition of possessing a special allergy causes a recurrent e-to-p sequence that is consistent for the person but rare for other persons. There is some particular potency of the environment (the allergen) that exists only with respect to the particular vulnerability of the person, and, similarly, the vulnerability of the person exists only in relation to this particular potency of the environment. A parallel to the special environment–person interaction caused by a rare sensibility is that caused by a special talent. Consider the idiot savant who is able to rapidly multiply mentally pairs of seven-digit numbers: This ability exists only in relation to a specific kind of task, and the task has this special tractability only in relation to this unique ability. Analogous relational conditions specific to a particular P and O are responsible for ways in which they uniquely influence and respond to each other. It is to these P × O conditions that we refer when we say that P and O "strike it off unusually well" or "have a special chemistry for each other" or when outsiders don't understand what P and O "see in each other." P × O conditions are also seen in the unique ways in which P and O manage to aggravate each other.

Some relational conditions, as in most of the examples given above, are present at the outset of the relationship. These relational conditions are based on preexisting properties of P and O and on the way those properties dovetail or fit together. Other relational conditions are *emergent*, arising from the interaction between P and O. Thus, a pair may develop special interpersonal habits, one or both persons learning specific behavior that is uniquely elicited by the other person's events. These habits will cause recurrent chains of p-to-o and o-to-p sequences, as in greeting, love-making, conversation, and fighting routines. For example, P and O may exhibit a regular pattern in which P criticizes O, O cries, and P feels guilty. This reflects an emergent P × O condition (perhaps P's ambivalent attitude toward O) if the pattern is unique to the P–O relationship, for example, if P feels badly about O's response in a way that differs from P's feelings about others persons' similar reactions to P's criticism.

Norms, agreements, and shared understandings are sometimes emergent P × O conditions, existing between P and O and having no existence independent of the relationship. Such conditions generate recurrent sequences, for example, of giving and receiving, leading and following, and

coordinating activities. The overt behavior in these sequences is usually accompanied by special (intrachain) private events, such as P's expectations of O's behavior, P's awareness of O's similar expectations of P's behavior, and P's knowledge that O knows of P's expectations and of P's awareness of O's expectations. Shared perception of attitude similarity, another emergent P × O condition, also entails not only knowledge of the similarity but awareness of the partner's similar knowledge. These expectations and perceptions make very salient to P and O that the understanding or similarity exists as a condition "between" them. Thus, these expectations and perceptions become important aspects of the "subjective" meaning of the close relationship.

Changes in Causal Conditions

We have analyzed the causal processes of interpersonal relationships at two levels—at the level of the fleeting causal phenomena described as *events* and interevent connections, and at the level of relatively stable causal phenomena described as *causal conditions*. Figure 2.5 shows in schematic form the relations between and within each of these levels. The interevent *causal connections* shown at the lower level are to be contrasted with the *causal links* that connect the two levels and that provide direct causal relations between various causal conditions. (In this and subsequent similar diagrams, for simplicity we omit representation of the specific connections between environmental events and events in the two persons' chains. The causal links going to and from the interaction are, of course, joined to it by specific connections, such as e-to-o or p-to-e connections.) We may use the diagram in Figure 2.5 to analyze how changes in the various causal conditions may occur. This topic relates to later chapters (Chapter 8, "Development and Change," and Chapter 10, "Intervention"), so the discussion here will be brief.

It is obvious that many of the conditions affecting the dyad change for reasons that have nothing to do with the dyad itself. The environmental conditions, and even many of the personal conditions, are themselves embedded in causal systems outside the dyad and are subject to change as those systems change. Wars, social movements, economic recessions, drought, and exhaustion of natural resources are but a few of the broad conditions that affect E_{phys} and E_{soc} and, often, P and O themselves. One aspect of this broad picture is that changes in some of the conditions affecting the dyad often produce changes in other relevant conditions. A change in economic conditions that affects the resources P brings to the relationship may also cause changes in the social environment of P and O, as when friends move away to seek new jobs or when a member of the extended family loses a job and becomes dependent on P and O. In the upper portion of Figure 2.5,

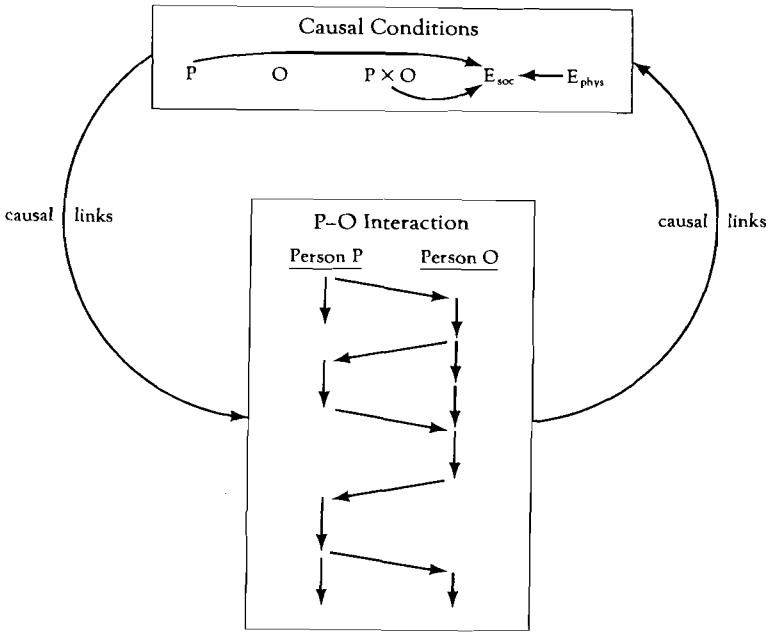

FIGURE 2.5
The causal context of dyadic interaction. The arrows within the interaction represent interevent causal connections within and between P's and O's chains. Causal conditions affect the interaction (through the downward causal links), and the interaction affects the causal conditions (through the upward causal links). Causal conditions are also often linked directly to each other, as in the upper part of the diagram.

we have illustrated such intercondition causal links by arrows that connect one causal condition with another.

However, some of the causal conditions are affected by the dyad. The members of a dyad take actions that modify its physical and social environments. They move their residence, construct and modify their living quarters, drop old friends and make new ones, change their membership in social groups, make regular deposits in savings accounts, and so on. Through the interaction within the dyad and with the external environments, the P and O conditions become modified, as when the persons acquire new individual skills, habits of thought, and needs. And through interaction, the pair can modify the P × O conditions, as in learning new interpersonal routines, agreeing to follow different rules as to division of labor, and adopting new schedules of joint and individual activity.

Direct and indirect interdependence

The causal conditions impinging on a dyad may be affected by their interaction, as in the examples above, but also by one or both persons' individual actions. Thus, the husband may gamble away the joint savings with disastrous consequences for the couple, or the wife may maintain good relations with neighbors, who then make possible the pair's occasional use of a ski lodge. In their respective effects on such causal conditions, the two persons may be said to be *indirectly* interdependent. This can be contrasted with the *direct* interdependence constituted by the causal connections between their two chains of events during interaction. According to our earlier definition, we would not consider a relationship characterized only by indirect interdependence to be "close." This is the way in which we are interdependent with many people with whom we never interact and of whose individual identities we have no knowledge, as, for example, with the prior occupants of a forest campsite at which we find it necessary to stop. Observations that the world is getting smaller and that everyone is becoming interdependent with everyone else refer to increases in such indirect interdependence. For present purposes, it is necessary to note that many relationships that are close by our definition (i.e., that have high direct interdependence) also involve considerable indirect interdependence. This distinction is further explained and discussed in Chapter 6 ("Roles and Gender") as it pertains to gender-linked roles.

Causal loops

Inasmuch as the dyad is both affected by its causal conditions and able to modify them, there exist causal loops in which certain conditions affect the internal process in ways that then affect the initial or other conditions.

Causal loops may be illustrated by examining the contribution of two initial P × O conditions (propinquity and objective attitude similarity) to the formation of a dyad and indirectly, through their effects on its process, to the development of further conditions that promote its continuation. Let us imagine that two people are thrown together for a brief period of time, for example, while traveling, at work, in a classroom, or at a party. They begin to interact, extend the period of being together, and arrange to get together later on. At a gross level, we see in this example the causal loop shown in Figure 2.6. Environmental conditions change the P × O condition (propinquity), which then, through the downward causal link, affects certain aspects of their interaction. In general, being in physical proximity serves to make possible certain causal interconnections between the two persons. These causal interconnections have effects on the relationship (via processes *within* it, as described below) such that, through the upward causal link, the interaction acts on the condition to maintain it or even to change it further in the direction of its initial shift. Having been moved together by some

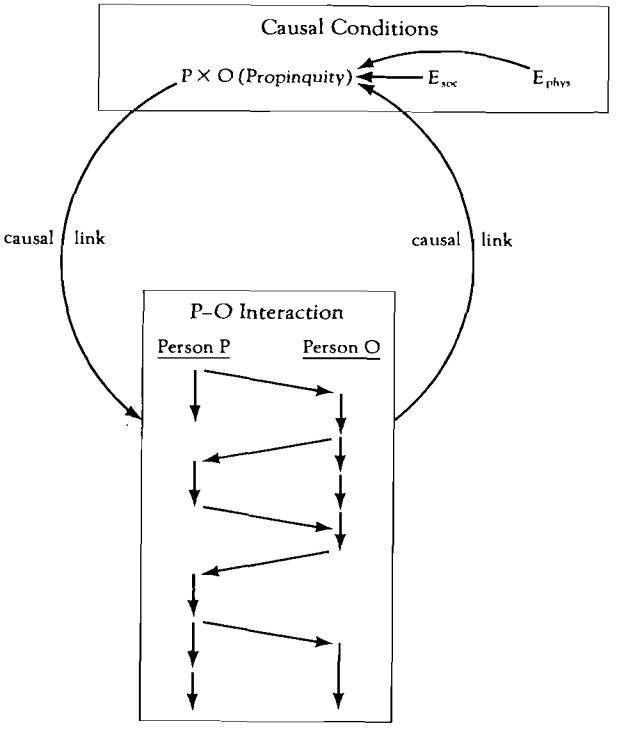

FIGURE 2.6
Illustration of a causal loop. The P × O causal condition of propinquity, initially caused by the social or physical environment, has effects on the P–O interaction (through the downward causal link) which, in turn, acts (through the upward causal link) to maintain or increase the degree of propinquity.

external event, the pair continues to move closer together and to maintain and regularize the proximity.

This example illustrates positive feedback. An initial change produces further changes in the same direction. We can easily imagine a contrasting scenario in which the opposite occurs. Upon being thrown together, the two find each other to be disagreeable and take action to move apart again. This sequence constitutes a causal loop with negative feedback. The dyad acts to restore the original condition of separateness.

A full understanding of a causal loop, such as that pictured in Figure 2.6, requires determining the dynamic processes *within* the intraction that, so to speak, *close the loop.* This determination is an important aspect of the proximal–distal problem of causal analysis described earlier. In the present

case, any account of the internal process that relates to the pair's increasing or maintaining their own proximity must identify:

1. Events in P's and O's strings that move them together (or that are incompatible with movement apart, keeping them together once they become so)
2. Causal connections between P and O that lead to such events and that are made possible by their initial being together

The exact type of events and connections specified for a given problem depend on the investigator's *theory* about the events and causal connections within the interaction. One possible elaboration of these processes for our propinquity problem is shown in Figure 2.7. This elaboration is developed along the lines of Altman and Taylor's (1973) theory of social penetration. Alternative elaborations could be developed according to other theoretical orientations, such as a strict reinforcement view, in which approach behavior is reinforced during the interaction, or an "imprinting" model, in which events in the initial interaction serve as cues to elicit behavioral patterns that each person acquired early in life. However, the example in Figure 2.7 will serve for our present purpose, which is to illustrate the role of *interaction dynamics* in the causal loop shown in Figure 2.6.

In Figure 2.7, the two interconnected chains of events are shown in the center box. For convenience, the input from causal conditions is shown at the left, and the output to them, on the right. However, as our arrows show, the conditions are causally linked with both persons' chains of events. Two causal conditions, propinquity and objective attitude similarity, are shown to exist initially on the input side. These factors exist throughout this interaction and make possible the interconnections shown. (It goes without saying that the events and causal connections listed in the interaction process in Figure 2.7 are but a truncated version of what would ordinarily be involved in an interchange of this sort.)

As Figure 2.7 shows, while being together, when some unspecified external or internal factor stimulates P to express an opinion on some matter, O hears it. O finds that it agrees with O's own views, then feels good and expresses agreement. P notices O's positive affect, notes that O shares and supports P's opinions, and, in turn, feels good about it. (Perhaps the "feeling good" reactions reflect P and O conditions relating to their respective needs for opinion validation.) P's reactions are noticed by O, who infers that P is aware of the agreement and is pleased by it. This set of p and o events provides a first impetus to the development of a new condition, namely a shared perception that the two hold similar attitudes. Meanwhile, the prior events in P's chain cause P symbolically to "approach" by making smiling eye

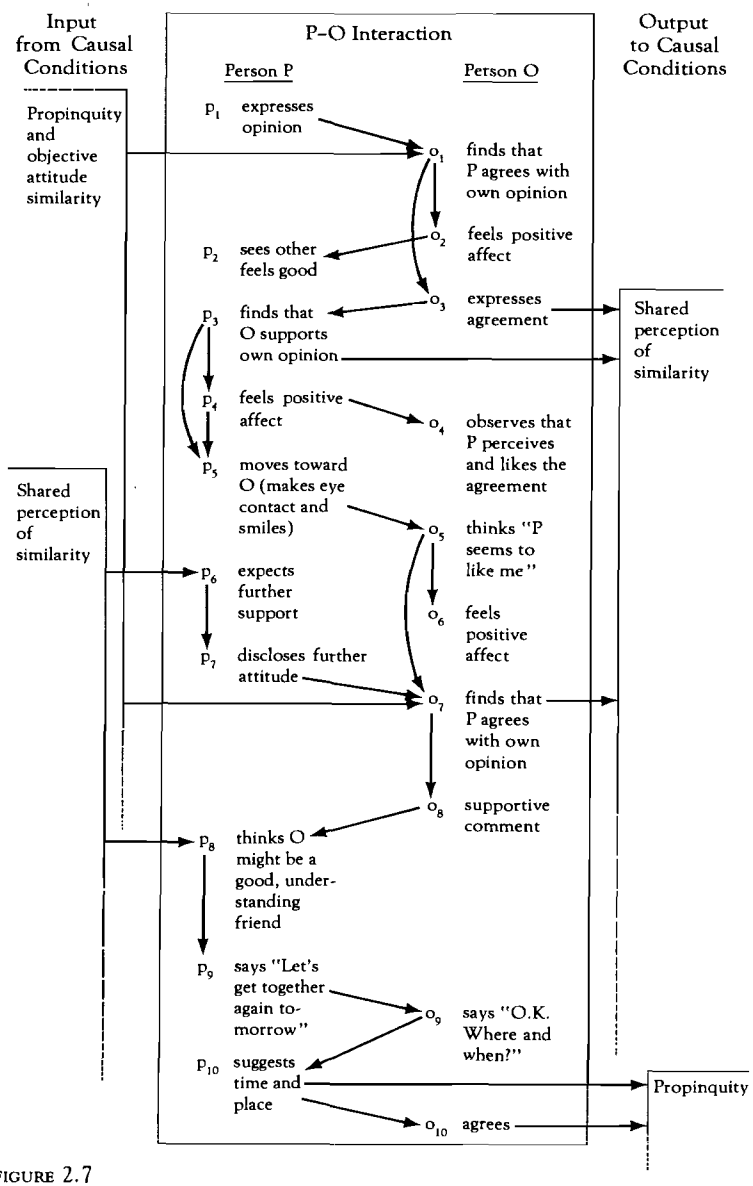

FIGURE 2.7
Illustration of an interaction process that closes the causal loop by which initial causal conditions (propinquity and objective attitude similarity) are sustained or strengthened and lead to a new causal condition (shared perception of similarity). The interconnected chains of events for the two persons are shown in the center. Input from the causal conditions to the interaction is shown by arrows entering from the left, and output from the interaction to the causal conditions by arrows leaving to the right. Interaction closes the causal loop by including direct or indirect connections between those events affected by the input and those events responsible for the output.

contact. Observing this approach, O thinks that P seems to like O, and so on. When P is led by a perception of similarity to expect further agreement and support and, therefore, to state a further opinion (one related to the domain of perceived agreement), the statement strengthens O's awareness of their attitudinal similarity. Accordingly, O responds to P's latest disclosure with a warm, supportive comment. This response, together with P's increasing certainty that the two hold attitudes and values in common, leads P to think that O might be a good friend. Accordingly, P suggests a later meeting. Similarly encouraged by a developing perception of the relationship, O agrees. It is, of course, the latter effects occurring within the interaction that have an effect on the initial condition of propinquity, serving to reinstate it at a later time. It is now a condition partially under P and O's control.

This hypothetical elaboration of the interaction processes occurring during this first meeting between P and O illustrates how these processes might close the causal loop linking propinquity to interaction to propinquity. The two necessary conditions described earlier are fulfilled: (1) Certain events that promote further propinquity finally occur in the interaction, and (2) these events are connected causally to earlier events caused (at least, in part) by the initial propinquity.

Our particular example shows only one such possible means whereby the loop may be closed. In this case, the closure of the propinquity loop is facilitated by loops involving another P × O condition, namely, the shared perception of attitude similarity. Figure 2.7 does not show it, but, in the course of this relationship, there might also be a closure of a loop involving the condition of *objective* attitude similarity. In the course of their interaction, P and O may influence one another's attitudes in areas of initial difference. Thus, their initial attitude similarity may contribute causally to interaction that is then causally linked to a further increase of attitude similarity.

Several general points are to be emphasized by reference to the preceding example: (1) The dyad may be involved in causal loops through which certain conditions having an effect on the dyad are, in turn, affected by it; (2) the loops may make it possible for certain conditions *indirectly* to affect other conditions, by way of processes within the dyad; and (3) the example shows the possibility of identifying the interaction processes by which the causal loops are completed. Full investigation of these mediating processes is necessary if our understanding of relationship development and change is to be complete.

Research examples

Existing research on interpersonal relationships provides a few examples of the type of investigation implied here. Snyder and his colleagues report two studies, each dealing with a P condition (one person's preinteraction attitudes or beliefs about the other) and the positive feedback causal loops in which it is involved. In the first, by M. Snyder, Tanke, and Berscheid (1977), male subjects interacted, via an intercommunication system, with a woman who, they were led to believe, was physically attractive or unattractive. As compared with those in the "unattractive condition," the men who believed the partner to be attractive talked with her in a way that independent raters judged to be more sociable, bold, and attractive. Apparently as a consequence, the woman responded in a way that was (again, according to independent raters) more sociable, poised, and socially adept. In short, the man was led by his expectations of the partner to act toward her in a way that confirmed those expectations. The entire causal loop is not documented; the investigators present no evidence on whether the man's expectations about the partner were changed by the interaction. However, it is likely in such cases that the man's initial positive expectations would create a positive feedback loop with the confirming evidence strengthening his positive orientation toward the partner and that, in turn, heightening her own positive response to him.

In contrast, M. Snyder and Swann (1978) demonstrate some of the elements of a positive feedback loop involving initial *negative* attitudes. Person P's expectations of being treated hostilely by an opponent in a competitive game led P to act in a more hostile manner toward the opponent than otherwise. P's manner led the opponent also to behave aggressively, resulting in P's strong belief that the opponent was a hostile person. Thus, the hostility between P and O set in motion by P's initial beliefs may easily escalate, with each person becoming convinced of the other's negative attitude.

In contrast to these positive-feedback-loop scenarios, in which the initial direction of interaction becomes accentuated by its effects on causal conditions, one can also find examples of a negative feedback loop. Thus, one person's initial hostile feelings toward the other may lead to events that cause the person to withdraw from interaction and thereby permit the hostility to subside. Negative feedback loops of this sort probably occur as reponses to the equitableness of allocation of costs and rewards between persons in stable relationships. As evidence from Walster, Walster, and Traupmann (1978) suggests, in most heterosexual couples, there is a rough balance between the two persons in what they get out of the relationship relative to what they put into it. Theories about the equity "process" (e.g., Walster, Walster, and Berscheid, 1978) describe the dynamics of an equity-restoring process that is set in motion by perceived departures from the balance point. Both the overbenefited and underbenefited person feel discomfort if perceived inequity is too great and act so as to restore it.

Causal conditions and stages

As long as the causal conditions remain unchanged, the relationship is likely to be stable—on a "plateau" or in a "groove." However, when one or more of the important conditions change, the relationship will tend to move to a new "stage." That is, it will change in many respects, taking on new properties (e.g., of strength, diversity, asymmetry), and exhibiting them for some considerable period of time. For example, in the early period of a love affair, two persons may come to trust each other, reach an understanding about one another's feelings, and make commitments; this change in P × O conditions will have a stable and ramifying effect on their relationship. They will have moved to a new stage of their relationship, in terms of degree and extent of interdependence, reflected in changes in many of the ways their two chains of events are interconnected. Similarly, if P undergoes a change in a personal causal condition, as in somehow becoming physically disabled, the P–O relationship will enter a new stage as, to marked degrees and for some considerable time period, the properties of their interdependence are changed. Similarly, a relationship may enter a new stage if, through change in environmental conditions (employment and location of residence), there are general and semipermanent changes in the interdependence.

The Causal Context of Dyadic Interaction

As Figure 2.5 and our various examples suggest, the internal causal structure of the dyad and its context of causal conditions are very complex. No investigator studies the entire framework in all its complexity. Nor does any existing theory attempt to analyze it in a manner that is both comprehensive in scope and detailed in level. However, all investigators, all hypotheses, and all theories relating to dyadic interaction refer in one way or another to this broad framework or to its components.

To appreciate the variety of types of questions that may be asked within this framework, let us consider specific issues relating to the formation and development of relationships. Many hypotheses and studies of interpersonal attraction deal only with the "downward" causal linkage in Figure 2.5. For example, Byrne (1971) and his colleagues have investigated how the P × O condition of attitude similarity affects the initial attraction between P and O. This type of research has been criticized for dealing only with "first impressions" and not considering interaction between P and O (i.e., the causal processes within the dyad).

A contrast is provided by studies that investigate relationship development over a long time span. As described in Chapter 8, "Development and Change," many of the hypotheses about long-term development and change consider how shifts in causal conditions may be responsible for modifications

in interaction properties. This kind of question is posed, for example, by theories that relate age and occupational changes to the internal dynamics of the dyad (e.g., increase in the wife's power as related to increasing age of the couple, Kelley, 1981). Other hypotheses concern the direct causal links between various causal conditions, as when changes in available friends (changes in E_{soc} conditions) are thought to produce shifts in the needs that P brings to the P–O relationship (a personal condition).

Studies of the "upward" causal linkage in Figure 2.5 are those that focus on how, in the course of its development, the dyad changes its various causal conditions. Examples are provided by investigations of the changes in love (a P or P × O condition) as a person interacts with, gets new information about, and thinks about the loved one (Bentler and Huba, 1979; Tesser and Paulhus, 1976); of the internalization of their fathers' values by sons who experience rewarding interaction with them (Payne and Mussen, 1956); and of reduction in outside opposite-sex contacts as a heterosexual pair moves to commitment (Leik and Leik, 1977).

Newcomb's study (1961) of the process of getting acquainted is an admirable example of research that analyzes the causal loops that link the dyad to its causal conditions. Newcomb finds that initial perceived similarity leads to attraction and interaction. However, the initial perceptions are often incorrect. With further interaction, the P × O condition of perceived similarity changes. Attitudes become perceived with increasing accuracy so that, finally, perceived similarity corresponds closely to actual similarity and interaction is most frequent between persons who initially held objectively similar attitudes. Newcomb did not obtain much direct evidence about the interaction processes within the dyad. However, from his evidence on the increasing convergence between objective and perceived similarity, we can infer that the crucial events and interchain connections involved the disclosure of important attitudes but little change in these attitudes.

CONCLUSION AND ISSUES

This chapter has attempted to show that any study of the dyadic relationship and any theory about it will deal, explicitly or implicitly, with some portion of the conceptual framework we have outlined. This framework includes *events* in the interaction, *properties* of the interaction, *interchain causal connections* (internal causal dynamics), *causal conditions*, and various *causal links* among the conditions and between them and the events. We present our framework as one within which investigators can locate their particular problems. We believe it is important for the investigators to have this broad framework in mind in order to identify wisely the boundaries of their special interests and to remain aware of the ways in which those interests may border

on the work of other researchers. It is important to know the larger context of particular projects and, especially, the "neighborhood" of related studies and ideas in which they are located.

Our analysis highlights conceptual and methodological issues that are common in research on interpersonal relationships. The first issue is the existence of *causal loops*. Even though much work on relationships will continue to be linear in its causal analysis ("A causes B"), much can be gained by considering each linear link as a possible portion of a larger feedback process ("A causes B, which causes A, etc."). In this way, otherwise discrete parts of knowledge become interrelated. For example, the finding that "similarity leads to attraction" becomes seen as related to research showing that "attraction leads to similarity." Most important, the identification of causal loops will increase understanding of the dynamics of relationship change and resistance to change, inasmuch as these loops characterize the ways in which interaction is both a product of its causal conditions and a possible mechanism for the modification of those conditions.

Second, we would emphasize the importance of detailed investigation of *causal processes within the dyadic interaction*. It is possible to measure input to and output from the dyad and to fill in the intervening processes by speculation. There has been a tendency to treat the dyad as a "black box," with much theorizing about its contents but little effort to determine them. Unfortunately, this tendency leaves us with many gaps and flaws in our understanding. For reasons of inaccessibility and the complexities mentioned earlier, the analysis of internal processes is difficult. However, it should not be avoided.

Related to the black-box problem is a third issue raised by our framework, concerning *distal versus proximal analysis* of causation. One form of the problem is how to translate causal conditions into their effects within the relationship, where they become the proximal causes for events in the interaction. For example, our analysis suggests the importance of maintaining a sharp distinction between propinquity as a distal causal condition and the proximal internal events that it affects (see Figure 2.7). As we have emphasized, causal conditions affect the events and causal connections (both interchain and intrachain) within the relationship. Causal conditions should not then be equated with those internal events or connections. Attitude similarity as a causal condition affects the causal link between disclosure and agreement, and it is by those internal events that attitude similarity has its effects on the relationship. Similarly, when the respective genders of P and O are observed to affect their interaction, we must not use gender as a direct explanation for the effect. Rather, we must ask what specific internal events and connections are modified by the condition of gender.

Finally, a fourth issue highlighted by our analysis concerns the relative importance to the course of the relationship of the "downward" and "upward"

causal links in Figure 2.5. The dyad is located in a set of causal loops that interlink it with the "external" causal context constituted by P, O, P × O, E_{phys}, and E_{soc}. In part, the dyad is a creature of the external factors that condition and shape its internal processes. However, insofar as it acts to select and modify the conditions, the dyad is also partly a creator of its own causal environment. An important continuing issue for every dyad (as, indeed, for every individual) is the question of the degree to which it is to be master of its conditions rather than a victim of them. How manageable are the causal conditions and how much can they be modified by the dyad itself? This question takes on special importance in relation to the P × O conditions, such as norms, interaction habits, and understandings, which to an important degree are products of the interaction itself. These conditions can play an important part in controlling and eliminating conflict between P and O, and it is in this feature of the relationship that the question of modifiability of causal conditions becomes most significant. In almost every interpersonal conflict, the central causal question is whether the process is accounted for by immalleable conditions (e.g., incompatible backgrounds, stable personality traits, impossible economic circumstances) or by malleable conditions (e.g., poor communication conditions, inadequate interpersonal skills, changeable occupational roles). This important type of causal question can be answered only when the causal loops of the dyad and the effect of internal interaction processes on external conditions are well understood.