
A Framework for the Study of Individual Differences in Personality Formations

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Years ago, B. F. Skinner (1956/1968, p. 29) wrote, "... control your conditions and you will see order," a command that echoed with each orderly prediction he made. How does a personality psychologist control conditions so as to improve prediction? Skinner would encourage us to control external influences. An alternative approach, but of potentially equal promise, is to control internal conditions: personality. Controlling internal conditions is plainly not what Skinner had in mind. To Skinner, observable behavior was all important and most things mental, and hence unobservable, were part of a black box to be ignored. Aside from Skinner's objections, controlling the internal conditions of personality may seem impractical simply because personality parts exist that cannot be readily manipulated by the experimentalist: life history, intelligence, models of the future, and so forth.

Although direct manipulation of personality's internal conditions is often impossible, other means of control can be exercised. Given that personalities naturally vary, those variations can be identified and controlled either quasi-experimentally or statistically. Individual differences researchers study such variation. Quasi-experimental research involves assigning people to groups based on their similar internal conditions, and then comparing the groups regarding other internal or external characteristics. Statistical control involves measuring a naturally varying internal condition and then using it to predict internal or external outcomes. In either case, understanding the person's internal conditions yields better

prediction than knowing nothing. Personality psychologists thus rewrote Skinner's command as, "Know your internal personalities and you will see order."

Knowing internal personalities is plainly a broad agenda for the field, and it is difficult to carry out because of the fractured nature of personality psychology today. The field of personality is balkanized both into various theories, such as Freud's, Jung's, and Bandura's, and also into various research areas such as repression, traits, and person perception (Mayer, 1998). Research about individual differences is balkanized along with the rest of the field. For example, many individual differences concern variations in traits such as intelligence, extroversion, and the like, which are studied by trait researchers. Individual differences exist in many other parts of personality as well, including in fantasies, consciousness, and unconsciousness (J. L. Singer, 1975, 1984, 1990; J. L. Singer & Bonanno, 1990). These latter differences are often studied by psychodynamically oriented experimental psychologists. Creating a unified framework for studying individual differences—traits, dynamics, and others—could improve how we know internal personalities.

This chapter presents a framework for organizing and classifying types of individual differences. The framework first identifies formations (or forms) in personality. I use the term *formation* (or *form*) to refer to any component, organization, or development inside the personality that accounts for an individual difference. The term *formative type*, is also used to refer to any personality possessing the given formation. The formative type describes only that limited and defined aspect of personality that accounts for a given individual difference; it is different from a *personality type*, which attempts to characterize the whole person.¹

The framework developed is part of a systems approach to organizing the discipline of personality. The specific systems framework from which it draws is one of several new approaches proposed to better organize personality psychology (e.g., Mayer, 1995a, 1998; McAdams, 1996; J. A. Singer, 1995). The systems framework divides personality studies into four central topics: (a) *identification*, which defines and locates personality, (b) *personality components*, which studies its parts, (c) the *organization* of those components, and (d) *development*, how personality changes over time. Table 6.1 provides a summary of this systems framework. There, the four system topics are arranged across the top of the table. Underneath

TABLE 6.1
Introductory Overview of the System-Topics Framework

| Coverage of the Topic | The Four System-Topics | | | |
|-----------------------|---|---|---|--|
| | I. Identification | II. Components | III. Organization | IV. Development |
| Coverage of the Topic | The system is identified amidst its neighboring systems such as biology and the family. In so doing, personality is defined. | The personality system is divided into its component parts and the concept of a component is defined. Next, the major classes of personality components are discussed. | The major components within personality and systems external to personality are organized together. | The manner in which the personality components and their organization develop over time is examined. |
| Purpose of Coverage | The identification of personality locates the system, and by so doing, begins to define the importance of the subject, and establishes a foundation for the remaining topics. | From the beginning of the century, much confusion has centered around the proper units of study in personality psychology. This topic's purpose is to identify the major parts of personality and to classify, systematize, and regularize them as much as is possible. | Once personality's components are identified, the exposition turns to how they are organized together, both structurally (already covered, to some extent, in locating personality) and dynamically (i.e., how one component influences another). | When personality's components, structures, and dynamics are first established in infancy they begin to develop toward adulthood and maturity. The developmental topic describes the progression of these changes in the personality. |

¹The whole person is unlikely to be readily categorized because it is so complex. Rather, as Allport (1937) has noted, "... a [personality] typology is always a device for exalting its author's special interest. ... Every typology is based on the abstraction of some segment from the total personality, and the forcing of this segment to unnatural prominence" (p. 196).

each topic is a brief description of parts of the field it organizes, and the central purpose for which the topic is included in the field.

After this introduction, the chapter's second section, A Relational System for Personality Formations, examines several different types of formations. These formative types run parallel to the last three of four categories of the systems framework (components, organization, development). That is, the classification system orders formations according to their complexity from single-component formations, to organizational forms, to developmental forms. The chapter's third, and final section describes advances in prediction that may be obtained by recognizing distinct classes of formations. It also addresses the question of which formations are the most important to study.

A RELATIONAL FRAMEWORK FOR PERSONALITY FORMATIONS

Component Formations

The simplest formations correspond to single parts of personality. Thus, an extroversion formation might correspond to a high level of extroversion, or a sex-drive formation might correspond to a high level of sexual drive. A brief survey of personality components, therefore, can help illustrate these formations. If formations all corresponded to individual components, there would be no value to a language of formations. The formation becomes of value when examining more complex combinations of components. The present discussion of formations lays the basis for a discussion of those more powerful, complex formations also to be described in this chapter.

Single-Component Formations and the Commonly Used Units in Personality

Roughly 400 parts of personality are commonly discussed in personality textbooks today; such units can be divided into 4 main types and 21 subtypes that are employed across all theoretical perspectives within personality psychology (Mayer, 1995a). The four broader classes of components are enablers, establishments, themes, and agencies. Underlying these psychological components are networks of neurons, cells specialized in information processing and computation. A molecular-molar continuum is often used to discriminate smaller (molecular) from larger (molar) objects of study in the sciences. At the molecular level, near personality, neurons communicate with one another in part through electrochemical signals, termed action potentials, that are transmitted

along thin, tubal extensions of the cell body, termed axons (Eccles, 1973). These action potentials terminate at the cell synapses, where they release chemical packets that travel to the receptor areas of neighboring neurons (Bloom, Lazerson, & Hofstadter, 1988). The electrochemical conductivity of a given neuron and its neighboring neurons constitute an important aspect of biological brain activity.

Enablers and Enabler Based-Formations. If we switch the level of analysis from the neuron's biological activity to the more molar level of information it conveys, then we are speaking psychologically. It is at this psychological level of description that we can best understand the smallest mechanisms of personality, the enablers. Collectively, the enablers form the underlying building blocks of personality, closest to the biological level relative to other personality units, and carrying out the basic functions that enable the personality system to operate (see Mayer, Chabot, & Carlsmith, 1997, for a more detailed exposition). Enablers can be divided into four subtypes. The first, *conative subtype*, translate bodily requirements into basic motivations such as hunger pangs or sexual yearnings. The second, *affective enablers*, construct basic, unlearned emotional responses such as delight or distress in response to bodily or basic social events. The third, *cognitive enablers*, make possible the acquisition, retention, and abstraction of knowledge. These cognitive enablers are independent of the acquired knowledge itself. That is, long-term memory is the enabler; knowledge structures stored within long-term memory, however, are defined as more complex structures, called *establishments* (see next section). The fourth, *consciousness enablers*, permit awareness and its perturbations, and include such elements as the stream of consciousness.

Because enablers are mechanisms close to the neurological level, and relatively molecular in relation to the rest of personality, they are incorporated quickly within the higher parts of personality. This creates a challenge to disentangle their operation from more complex mental structures. To accomplish this, enablers typically are studied comparatively in animal species with limited learning capacity, or they are studied developmentally in human infants and children before a great deal of brain maturation and learning has taken place.

In theory, there exist as many different enabler-based formations as there are enablers. Examples would include high sex-drive formations (conative enablers), depressive formations (affective enablers), and high-capacity short-term memory formations (cognitive enablers).

Enablers, the Molecular-Molar Continuum, and Establishments. The transition from the neurological to the enabler level involved moving along the molecular-molar continuum from biological signals to psycho-

logical processes. The enablers can be seen relative to their biological underpinnings in Fig. 6.1. Figure 6.1 is arranged so that the vertical dimension represents the molecular-molar dimension, running from the biological-molecular beneath, to the sociological-molar above. Internal personality is represented as a box in the center of the diagram. On the floor of the personality cube the four types of enablers are arranged. Each enabler is surrounded by a different visual pattern representing its unique mode of processing. Enablers represent the most molecular of the units commonly discussed within personality psychology.

The figure's second dimension runs horizontally so as to separate that which is internal to personality, including the enablers, from that which is external to personality, such as its behavioral interactions with a given situation. The depth of the figure is provided by a third dimension, an organismic-constructed dimension, that separates components that are most enmeshed within the organism (front portion of figure), such as conative enablers (e.g., hunger urges), from those components, such as cognitive enablers (e.g., reasoning; back portion of figure), that are able to operate more flexibly beyond the realm of the individual organism, that is, that operate to acquire and reason with socially and culturally relevant information. Three more molar classes of personality components exist relative to enablers: establishments, themes, and agencies. If we move another step along the continuum we arrive at the level of personality establishments.

Establishments. *Establishments* are mental contents that are so named because they are established by the individual through learning. Establishments are content focused and typically model some portion of the self, the world, or the self-in-the-world. Models of the self include states and traits. Models of the world include knowledge of such subjects as arithmetic, dancing, and dinosaurs. Models of the self-in-the-world include models of interactions with others, such as the forms of attachment that work best for oneself. Along the molecular-molar continuum, larger units of analysis typically incorporate smaller units in their function. The establishments incorporate the lower level enablers in their function. For instance, the self-concept establishment incorporates motivational urges, emotional reactions, and cognitive processing of the self.

Diagrammatically, the establishments exist above the enablers on the molecular-molar continuum, as is shown in Fig. 6.2. There, the three subtypes of self, world, and self-in-world establishments extend from the front to the rear of the figure. Models of the self are to the left because they are more internal; models of the world are to the right because they are more external. Each establishment class has arranged, around its sides, all four visual patterns associated with the four lower level enablers

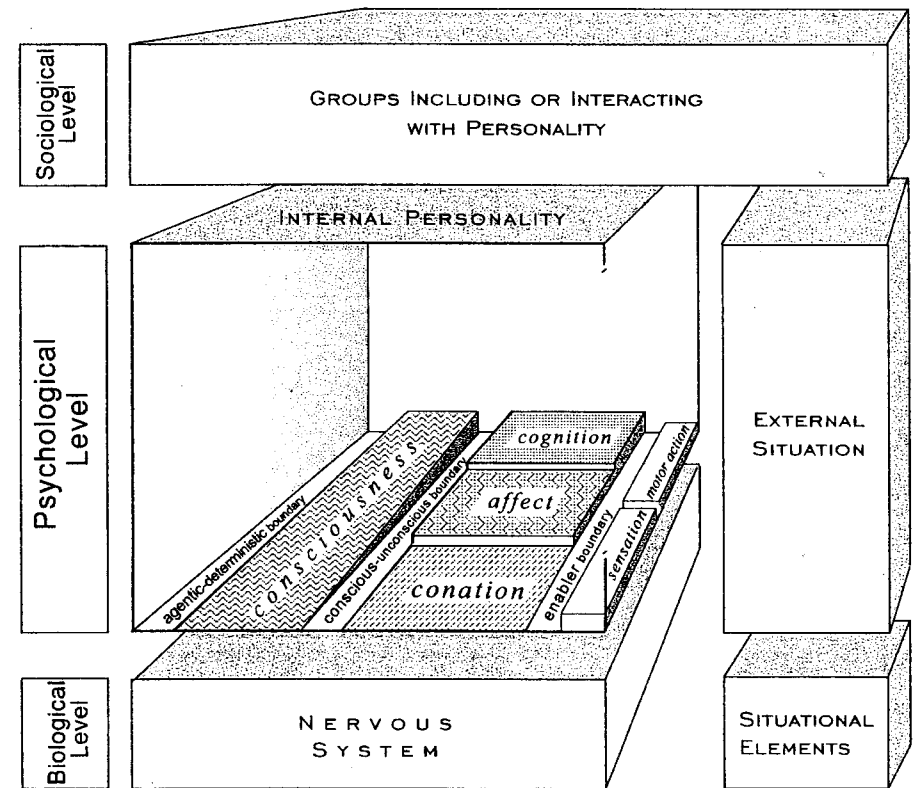


FIG. 6.1. The personality system is represented in three dimensions. The vertical, molecular-molar dimension, separates personality (middle) from the more molecular nervous system (below) and from the more molar groups (above). The horizontal, internal-external dimension separates those systems internal to personality (left) from those external in the situation (right). The third dimension, depth, separates those components of personality most enmeshed with the organism (in front) from those most independent (in back). The floor of the cube marked personality has arranged upon it the four classes of enablers, as well as the sensory and motor systems that regulate communication between the interior and exterior of personality.

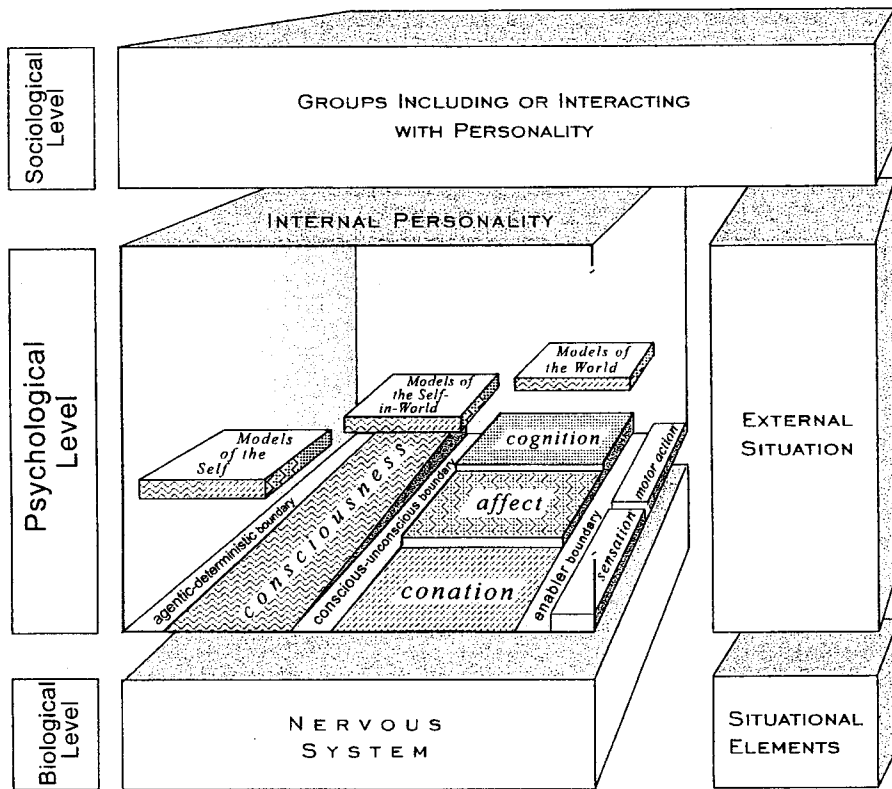


FIG. 6.2. The same as Figure 1 except that the three classes of establishments are added, above the enabler level.

functions, because the establishments incorporate the enabler's function in their construction. All parts of personality are viewed as potentially connected, and dynamic causality potentially occurs in all directions.

Considerable research has been devoted to the relatively midlevel establishments. For example, models of significant other people are frequently examined experimentally according to how they are learned, remembered, and according to their accuracy (Andersen & Cole, 1990; Mayer, Rapp, & Williams, 1993; J. A. Singer & Salovey, 1993; J. L. Singer & Salovey, 1991). Dynamics among such components are also studied. For example, a discrepancy between one's actual and ideal selves may lead to humility or to depression (Dewey, 1887/1967, p. 254; Freud, 1923/1960, p. 27; Higgins, 1987, p. 322). Formations based on establishments include formed perceptions (models) of others as all caring or all dangerous, as well as to formed interests in dancing or in dinosaurs.

Themes. Another step along the molecular-molar continuum yields the third sort of personality component—the *theme*. This component involves features of enablers and establishments that are interwoven to form a coherent program of action. For example, the theme of extroversion combines both an enabler-level need for stimulation, with an establishment-level knowledge of how to throw a party and how to tell stories. Thus, extroversion is motivated sociability arising from features of both enabler needs and establishment models (as well as from other features). Themes are particularly useful for study because they can translate into important behavior patterns external to the person. As another example, intelligence employs cognitive enablers that carry out rapid, complex mental transformations. These cognitive enablers establish, and then interact with, highly accurate and sophisticated world models. Classes of themes are represented on a still-higher plane of the model, as illustrated by Fig. 6.3.

Themes are perhaps the most researched units in contemporary psychology (themes are used here interchangeably with traits).² Large numbers of studies examine the themes of intelligence, self-consciousness, authoritarianism, ego strength, Machiavellianism, and many more. In addition, considerable effort has been expended to identify important groups of themes such as the Big Five (e.g., Goldberg, 1993), which include extroversion-introversion, emotionality-stability, agreeableness-disagreeableness, conscientiousness-carelessness, and openness-closedness. Other groups of themes include the Big Seven (e.g., Almagor, Tellegen, & Waller, 1995), and the Big Two (Eysenck, 1990; Eysenck & Eysenck, 1968). Formations denote particular levels of traits, such as a high degree of extroversion or a small amount of disagreeableness.

Agencies. The fourth and final type of personality component is the *agency*, which is a composite of enablers, establishments, and themes. The agency incorporates large portions of personality function, but without the complex integration of the whole personality. For example, Freud's id agency combines enabler-based sexual and aggressive drives with established sexual and aggressive fantasies; and with narcissistic, self-centered themes. The id, in other words, lacks the integrated sophistication of the whole. It lacks the capacity for rational thought, effective behavior, or moral reflection. For these, it requires interaction with other agencies such as the ego and the superego. A single example of an agency, James' (1925/1892, pp. 195-196) "self-as-knower" agency, is shown amidst the rest of personality in Fig. 6.3 (top left). The *self-as-knower* agency is the part of the self that thinks about the rest of personality—an identity consciousness. It is similar

²More technically, themes are defined as the internal manifestations of traits (Mayer, 1995b).

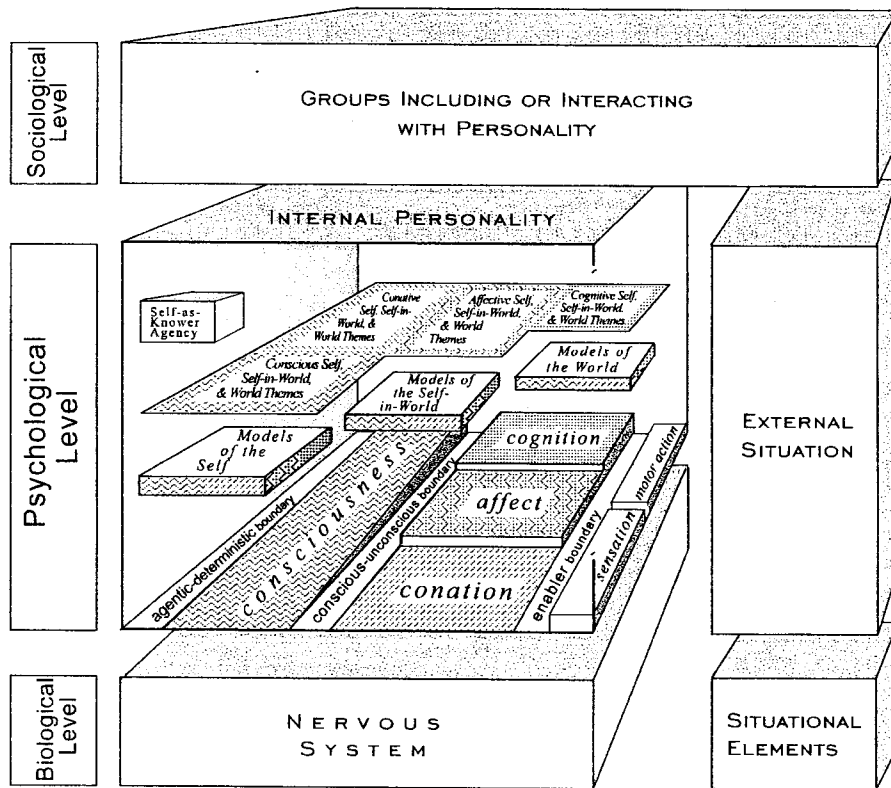


FIG. 6.3. The complete personality system is represented in three dimensions. The vertical, molecular-molar dimension, separates the more molecular enablers (floor of personality cube) from the establishments (second level), themes (third level), and one example of an agency (fourth level). The horizontal, internal-external dimension separates those systems most internal to personality such as consciousness, the self, conscious themes, and the self-as-knower dimension (left) from those components more external in orientation such as conation, affect, and cognition, models of the world, and cognitive themes (right). The third dimension, depth, separates those components of personality most enmeshed with the organism such as conation (in front) from those most independent such as cognition (in back). The three dimensions also position the systems surrounding personality, such as the nervous system, external situation, and larger groups.

to Freud's ego, though narrower in scope (closer perhaps to Jung's conscious ego).

Agencies are often so large and poorly defined that they are difficult to research, but exceptions exist. For example, Loewinger (1976) studies the ego according to its life-span development, charting its growth across levels of ego development (for a different but related approach, see Block, 1981). Thus, a formation involving the ego might be *ego strength*, that is, the ego's general capacity to engage effectively with the inner and outer worlds.

Personality as a Single Unit. Actually, one can proceed along the molecular-molar continuum again to a still more molar, fifth type of unit: the whole personality. For example, von Bertalanffy, the founder of General Systems Theory, approached personality as a single unit. He described how personality (and other systems) might be considered according to its "wholeness" (von Bertalanffy, 1967, p. 64). This search for the whole unit, though, seemed to ignore important articulations within the system. In one instance, von Bertalanffy stated that personality possessed "... no sharp borderline between bodily function, unconscious and the conscious mind. In the last resort, they may be the very same thing" (p. 100). To gloss over such distinctions makes the further analysis of personality almost impossible: The mixing together of, say, the bodily function with the unconscious, seems to lose the personality amidst the organism.

Perhaps it is unrealistic to expect a biologist such as von Bertalanffy to understand exactly what is needed within the discipline of personality psychology. Even Andras Angyal, a systems theorist schooled in personality, was often plagued by abstraction and generality. Like Bertalanffy, Angyal deliberately blurred the distinction between the organism and its environment (Angyal, 1941, Chapter IV). Hall and Lindzey (1957) regard Angyal as sometimes becoming "lost in the whole universe" (p. 333; this line was deleted in their 1978 edition). Perhaps Allport (1937) can claim the final word on treating the whole personality as a unit. Such holistic conceptions, he wrote:

... do little more than assert personality to be an "Indivisible Whole," "a total integrated pattern of behavior," ... Personality ... is like a symphony. Granted; but does not the comprehension of symphonic unity come only through an understanding of the articulate weaving of motifs, movements, bridge-passages, modulations, contrasts, and codas? Nothing but empty and vague adjectives can be used to characterize the work as a whole. If a totality is not articulated, it is likely to be an incomprehensible blur; it can then be extolled, but not understood." (p. 343)

From Single- to Multiple-Component Formations. Formations of single components account for the simplest types of individual differences. Formations that combine components yield more sophisticated and interesting

differences, and those will be discussed. Before proceeding, however, it is worth noting that Allport (1937) was once hopeful that certain single components could be used to describe a personality's important features. He proposed the existence of a *radix* (Latin for root) to designate fundamental units from which he believed others grew—even components that existed in apparent opposition to one another. He illustrated the concept with the case of D:

This man, a teacher, seemed one moment meticulous in his behavior, the next, careless and even slovenly . . . But by looking further into the case . . . it appears that D is always orderly in respect to his personal possessions, and always disorderly in respect to other people's. . . Pursuing the case still further, even these opposites are reconciled through their relation to a single essential quality of self-centeredness peculiar to D. This root quality "explains" the inconsistency in his expressive traits. (p. 357)

Allport recognized, however, that only unusual cases of personality could be reduced so conveniently. At least five or six components seemed necessary to him to adequately describe the individual. Sets of interorganized, multiple components, account for the more important formations. We turn to those multicomponent formations next.

Multicomponent Formations

Table 6.2 describes several types of multicomponent formations. The simplest multicomponent formation (column 2) is a *list formation*: it lists components that are most pronounced in an individual, drawn from those components commonly present to some degree in all people (Allport, 1937). A list formations' components are often independent of or uncorrelated with one another. A good example of such a list formation would be one based on an individual's subscale profile on Cattell's 16PF (Cattell, Cattell, & Cattell, 1993). The 16PF is a personality test that measures 16 independent personality factors with the factors lettered from A forward. The 16 scales are derived from factor analysis. For example, the first three scales include: (a) affectothymia versus sizothymia, (b) intelligence, and (c) ego strength versus emotionality. A person could be high on all the scales, high on some, or high on none. A list formation, in this case, simply lists the individual's characteristics, as indicated by the scale profile. Thus, a person high on scale A, or low on B and high on C, would be high on affectothymia, that is, "good-natured, easy-going . . . [and] attentive to people . . .," low on intelligence, and high on ego strength (Cattell, 1965, p. 66). Predictions from a given formation are made by adding together its units in a weighted combination; the statistical emphasis, like the

TABLE 6.2
Common Features Underlying Component, Organizational, and Developmental Sets

| Nature of Comparison | Component Form | Organizational Form (Structural) | Organizational Form (Dynamic) | Developmental Form |
|----------------------------|---|--|---|--|
| Purpose of component set | To efficiently describe the nature of a person's components by measuring multiple units at once. | To describe personality structure; that is to describe the static arrangement of personality components relative to one another. | To describe important features of personality dynamics. | To describe something of a person's development in a particular area of personality. |
| Type of component employed | <i>Common components:</i> Components that are shared in common by all members of the population. | <i>Common or arranged components:</i> Common components chosen because they can be arranged in a meaningful pattern. | <i>Selected or idiographic components:</i> A subset of common components that are particularly relevant to a single individual, or a subclass of individuals. | <i>Selected or time-elapsed units:</i> A subset of common components or a single component's development is charted according to multiple examples of that unit over time (e.g., ego at age 5, at age 10, etc.). |
| Relation among components | <i>Independence among components:</i> Selection of components treats them individually and separately from one another. | <i>Structurally interrelated:</i> Components are arranged according to their structural (e.g., correlational-empirical or conceptual) relationships. | <i>Mutually, substantively, interconnected:</i> Components are related to one another according to the influence they exert over one another, and the outcomes of their interactions. | <i>Causal, sequenced development:</i> The components develop from one to the other, or the components represent the potential changes in a single component over time. |

(Continued)

TABLE 6.2
(Continued)

| Nature of Comparison | Component Form | Organizational Form (Structural) | Organizational Form (Dynamic) | Developmental Form |
|---------------------------------|---|---|--|---|
| Customary statistical treatment | Independent or additive treatment: Components may be examined individually, or in some cases added together. | Weighted or clustered additive treatments: Components within a given structure (e.g., a factor or dimension) are weighted and added, or just added. | Synergistic, taxonic: New compound components may be formed from the presence of critical combinations of individual units; alternatively, samples may be divided according to the presence of absence of a given component combination. | Cumulative achievement: The individual is described according to the most developmentally advanced version of the component that can be found; presence of a developmentally advanced component typically assumes presence of the components that have come before. |
| Level of description | Simple description or profile: The individual is profiled across the components studied. | Simple description or profile: Same as under "Component Form," but the components are placed in relation to one another. | Dynamics or types: The individual is described as possessing certain configurations, forms, or dynamics, or as belonging to a particular class, type, or taxon. | Developmental attainment or type: The individual is described according to the degree of development he or she has undergone, or the developmental type he or she is. |
| Subtypes and examples | MMPI; Cattell's 16PF (when scales are interpreted individually, that is, excluding profile interpretations); Q-Sorts. | Big Five and their subcomponents; Eysenck's Big Two and their subcomponents. | Allport's idiographic types; Weinberger et al.'s repressive coping. | Freud's anal personality; Loewinger's ego development. |

conceptual one, is on the components' independent contributions rather than on their interactions. This perspective is illustrated by Cattell's (1965) description of how to predict tennis playing from the 16PF's first three traits:

Obviously, general intelligence, *B*, will enter into success because intelligent planning is necessary in match tennis. Possibly also trait *A* will produce effects because the easy-going affectothymes will not follow up with the tenacity and precision of the sizothymes. Finally, ego strength, *C*, will also play a part because a low *C* person, who loses his temper easily or easily becomes discouraged, will not use his abilities to best advantage.

Presumably, by adding each person's scores on these three traits (*A* and *C* negatively) we should obtain a first approximation to the relative goodness of each. . . . (p. 78)

Cattell's discussion captures the elemental aspects of the list formation very well.

List formations with slightly higher levels of coherence also occur. For example, the MMPI includes nine clinical scales, each reflecting one of Kraepelin's influential diagnostic categories of mental illness: hypochondria, depression, hysteria, paranoia, and so on through manic depression (Hathaway & McKinley, 1943). Although the test's subscales cohere in the sense that they represent a diagnostic system, the individual scales were developed absent from any theory of personality organization or development. The scale's original approach, consequently, represented a component list, but specifically of pathology-related characteristics.

When a person is assessed according to most component sets, it is in relation to other people. So, if a person is labelled high on Cattell's dimension of sizothymia or on the MMPI's scale of hysteria, it means he or she scored higher than most other individuals. This is an interpersonal comparison. An alternative list formation exists in which common traits are ranked according to their prominence within the individual—an intrapersonal comparison (sometimes termed *ipsative*). For example, in Block's (1978) Q-sort approach, the person (or a rater) arranges 100 defining statements (e.g., "likes to be alone") according to its applicability in relation to the person. The components are sorted into 10 categories according to their applicability to an individual or a type of personality. Average Q sorts are then sometimes calculated for a group. For example, a group of young men low in both masculinity and socialization (as measured by the California Personality Inventory) is described in terms such as "tends to feel guilty," "seeks reassurance from others," and "is self pitying," because those are high relative to other characteristics within the same individual (Block & Ozer, 1982, p. 1175).

Organizational Forms

Whereas the list formations discussed contain components that operate independently of one another, organizational forms contain components that interrelate with one another. Table 6.2 divides organizational forms into two types: structural formations and dynamic formations.

Structural Forms. The term *structural* refers to a static arrangement of parts within the system-topics framework. One structural relation in particular is the relation between a so-called supercomponent to its subordinate parts. A *supercomponent* (or superfactor) is a superordinate variable that can be divided into smaller, highly intercorrelated variables. For example, the supercomponent extroversion can be divided into three highly correlated but distinct components of impulsivity, sociability, and sensation seeking. *Structural formations* are basically list formations of supercomponents. These structural formations are of specific interest because each larger variable is divisible into many subvariables, and this makes structural forms efficient descriptions of many different parts of personality. For example, a formation consisting of high extroversion and high emotional stability—two superfactors studied by Eysenck—describes many subvariables as well. On the one hand, the extroversion indicates impulsivity, sociability, and sensation seeking; on the other hand, the emotional stability indicates positive mood, stable mood, and nonreactive emotionality. Thus, the advantage of structural forms to list forms is that they convey information about the individual more efficiently. Comparing formations of Eysenck's two superfactors to Cattell's 16PF suggests that Eysenck's formations quickly summarize many of Cattell's measures. Emotional stability indicates the presence of Cattell's affectothymia (i.e., good-naturedness) as well as Cattellian surgency (i.e., cheerfulness).

Dynamic Formations. In the system-topics framework, the term *dynamics* refers to causes, and *dynamic forms* involve units that are mutually causal—that is, that exert influences on one another to bring about something unique within the personality.

Idiographic Dynamic Sets. Recall Allport's concept of the radix—a root component that explains many of the further components of an individual's personality. In Allport's aforementioned case of D., selfishness was the root characteristic that brought about both D.'s care for his own possessions, and his careless disregard for others' possessions. From a dynamic perspective, the selfishness maximized D's care of his own belongings while minimizing his care for the belongings of others.

Such dynamic forms are not necessarily present in other personalities; they may be of little relevance in describing most personalities (see Winter, 1996, pp. 409–422, for a review; and Baumeister & Tice, 1988; Bem & Allen, 1974, for research treatments). Dynamic forms share in common:

1. that some units will be important only within some individuals (this contrasts with the common or universal units of the component and structural sets),
2. that certain forms are particularly interesting because they involve important causal interactions among the parts (this contrasts to the relative independence of components in component formations, or their hierarchical relations in structural forms), and
3. that personalities possessing a given form may be radically different from those that don't possess it. Allport sometimes argued that certain dynamics would be unique to a single person, and argued that idiographic research should be focused on individuals. Today, however, dynamics are generally studied as the property of small groups of people, so that what is learned within one individual can be generalized to others in the group.

A good example of a dynamic formation studied today is repressive coping style (Weinberger, 1990; Weinberger, Schwartz, & Davidson, 1979). *Repressive coping* involves the competition between social approval seeking, on the one hand, and emotional awareness, on the other. The people around us generally encourage us to be happy, merry, and joyful; to please those others, most of us will cover up negative feelings from time to time. Repressive copers deny any negative feelings so consistently that they lose track of them all together. For example, studies indicate that repressive copers react to threat at a physiological level (e.g., with EEG and heart rate alterations) but verbally deny any negative feelings.

Dynamic formations often incorporate aspects of structural formations. For example, the supercomponent negative affectivity includes anxiety as a subcomponent. When Weinberger et al. (1979) introduced the concept of repressive coping, it pertained only to the denial of anxiety. Soon after, however, Weinberger substituted negative affect for anxiety, which broadened the dynamic formation.

As already noted, a given dynamic is meaningful only in some personality structures—that is, the dynamic is not common to everyone. In contrast, traits such as extroversion or emotional stability are often viewed as nearly common to everyone (but see Baumeister & Tice, 1988). Because dynamics are present in only some people, they encourage a switch to a typological perspective more so than do component or structural forms. For example, although repressive coping can be considered a dynamic

form within the person, a person also may be referred to as a repressive copier. The presence of the repressive formation renders the person different, in some sense, from others. In fact, the dynamic-focused researcher frequently shifts back and forth between describing a person as possessing a dynamic pattern, and describing the person as being a type.³ Empirically, a person is assigned to the type through the use of cutpoints on the relevant measured dimensions. Weinberger and Schwartz (1990) note:

Investigating how intersections of dimensions jointly influence individuals' personality structures requires a shift from a variable-centered perspective to a person-centered, typological one . . . The focus moves from correlations between isolated dimensions to patterns of characteristics of types of people. Across the sciences, categorical representations tend to be more efficacious than dimensional ones when one is interested in entities that differ on a large number of attributes. . . . (p. 384)

Finally, it is worth noting that there exists a mathematically strong form of typologies in which there is a discontinuity in measurement between a given type and other types. Meehl (1992, p. 121) describes this as a mathematical discontinuity between taxons (i.e., categories), and likens cutting categories at that discontinuity as akin to Plato's admonition to "carve nature at its joints" (cited in Meehl, 1992, p. 121). Meehl's MAXCOV procedure and similar alternatives may be used for hypothesis testing in this area.

Developmental Formations

The final group of forms are the developmental ones. *Developmental forms* are composed of components that emerge together at a single point in time. Developmental forms may represent the remnant of a phase of development, or represent the individual's current overall maturational level.

Developmental Forms as Remnants or Residues of Important Developmental Change

Developmental forms sometimes arise as a consequence of a particularly powerful or influential developmental event. According to Freud, exces-

³Or, as Allport (1937, p. 295) put it, "A man can be said to have a trait; but he cannot be said to have a type. Rather he fits a type." Thus, the trait is something inside the individual, whereas the person is something inside a typological category. This may be less of a difference than it seems because, after all, it is the trait (or other component) inside that determines the typological category into which the person may fit. Thus, although it is convenient to say that a person is a genius, it is almost as easy to say that the person possesses genius-level intelligence or genius-level attributes. The shift to discussing types, therefore, often may be a matter of convenience.

sively tolerant or severe bowel training in the second to third year of life gives rise to the obsessive (or anal) developmental form. During the period of bowel training, the child struggles with the parents over control of his or her bowel movements (see Sears, 1951, pp. 24–25, on anal eroticism). This struggle for control, involving a contest of wills between the child and caretaker(s), becomes a model of the individual's need for control; as such, it generalizes to other lifespheres potentially including the control of time, money, promptness, and conscientiousness. Sometimes, specific developmental subtypes may arise (Pollak, 1979). For example, the anal retentive form involves orderliness, parsimony, and obstinance:

. . . orderliness refers to both exceptional bodily cleanliness and a high degree of reliability and conscientiousness in the performance of all actions, however inconsequential. Parsimony involves frugality and, in the extreme, stinginess and avarice, whereas obstinacy involves strong tendencies to be negativistic, defiant, and even hostile in relation to authority figures. (p. 226)

Individuals possessing such developmental forms are described as dogged, persistent, stubborn, and potentially defiant. They are demanding, prefer to do things their own ways, and resent interference. They feel harassed, in part because they are perfectionistic, and for that reason they are always busy but are never finished. They live by routine and are easily upset when the routine is changed; they are meticulous organizers, indexers, and planners. Finally, they hate to waste money or time (e.g., Shapiro, 1965). Note that such developmental formations touch on recognizable human characteristics with a greater depth than even the dynamic formation just encountered.

Hierarchical Sets

A developmental form often indicates an individual's level of current developmental functioning in one sphere or another. The obsessive formation just described can be thought of as indicating a person's developmental level in regard to control (although Freud viewed it as concerning psychosexual development). Most developmental formations also represent a position along a specific developmental sequence. The anal personality is part of a psychological sequence that includes the oral, phallic, and genital personalities. Similarly, Loevinger (1976) has developed a hierarchy of ego states. People progress through 10 stages of ego development from the presocial to the integrated. Empirically, these levels are measured according to a judge's evaluations of sentence completion responses (on the Washington University Sentence Completion Test for Ego Development, or WUSCTED).

A sense of Loevinger's hierarchy can be gained by considering its last four stages, which describe, first, a conscientious ego characterized by the use of self-evaluated standards and self-criticism. When confronted with "If I can't get what I want," a conscientious-level person might say, "I try to forget about it." As the ego enters the next, individualistic stage, it distinguishes between its own style of conscientiousness and the potentially alternative but equally conscientious styles of others. In the next, autonomous stage, the ego develops a heightened awareness of its own conflicting inner needs, and copes with those conflicts. Finally, the integrated ego not only recognizes and copes with conflicts, but is able to reconcile inner conflicts and to renounce the unattainable (Loevinger, 1976, pp. 24-25). When confronted with "If I can't get what I want," the integrated-ego person might say, "I realize that, for much of my life, I have gotten the most important things I have hoped for; although I have had disappointments, they have often made me more appreciative of what I have . . ." (pp. 237-240). A person's score is at the highest level he or she manifests.

Summary

This concludes the review of several classes of personality formations. As can be seen, they range from least to most theoretically integrated, where component forms involve the least theory, and dynamic and developmental forms involve the most.

The Concept of Internal Formations Generalized to External Formations

The chapter has focused exclusively on internal formations. Personality was modeled earlier in terms of its molecular-molar, internal-external, and organismic-constructed dimensions (for example, see Fig. 6.4). In this model, the internal personality system (middle left) is surrounded by various external environments: below personality is a molecular, biological environment; to the right is an external, situational environment; and above personality is an incorporative environment. Just as internal formations arise from internal components, external formations arise from external components. The same is true of organizational and developmental forms. That is, the classes of internal personality formations correspond to classes of external formations across the external environments.

The correspondences among internal and external classes of formations are illustrated in Table 6.3. For example, internal component formations include sensation seeking and Machiavellianism (Table 6.3, row 1, column 1). These correspond to a class of biological formations that includes

TABLE 6.3

Internal and External Formations Compared

| Class of Formation | Personality Formations and (Un)correlated Examples of Parallel Formations in Neighboring Systems* | | |
|--------------------|---|---|--|
| | Internal Personality | Biology | Situational |
| Component | Sensation seeker, Machiavellian. | Good heart, red hair. | Member of the PTA, Book-of-the-month club. |
| Structural | Extrovert, emotional. | Good cardiovascular system, relatively weak skeletal-muscular system. | New Rochelle school system resident, received BS., MS. in education. |
| Dynamic | Represses negative affect, balances masculine and feminine qualities. | Exercises regularly to alleviate back trouble. | Balances family of origin with in-laws. |
| Developmental | Parental, generative stage of growth; issues around esteem needs. | Physical development consonant with middle adulthood. | Now taking leadership in family matters. In the cohort group of those born in the 1960s. Various successions of memberships (e.g., from high school clubs to present organizations). |

*No implication is intended that the specific internal or external formations in a given row are correlated or predictive of one another; all that is intended is to highlight formations with similar scope in neighboring systems.

strong hearts and red hair (column 2). Note that this correspondence between internal and external classes of formations is based on the fact that components can be identified in each; there is no implication of correlation between them. The same class of component formations can be found in the situational environment, which includes social-conversational forms and book-reading forms (column 3). In the incorporative environment are component forms that include PTA and Democratic Party membership. Similarly, recall that the class of internal dynamic formations (row 2) includes repressive coping. That class of internal dynamic formations is parallel to the class of biological dynamics that includes clogged arteries placing more strain on the heart, as well as to the class of situational dynamics that includes driving while eating, and to the class of incorporative formations that includes balancing one's family-of-origin membership and one's family-by-marriage membership. Similar parallels can be found for developmental formations (row 3).

External formations are of crucial importance because a central aim of personality psychology is to predict from the internal personality to the external environment. Moreover, it is possible that such prediction can be enhanced if one knows the type of formations one is predicting between.

DISCUSSION

What does all this discussion of forms—both internal and external—achieve? Why are personality psychologists constantly drawn to this problem? At the beginning of this chapter, I suggested that one motto for personality psychologists is, "Know your internal personalities and you will see order." To know internal personalities requires an understanding of the broad range of formations that may be found in such personalities. One purpose of the present framework was to provide an overview and organization of those formations. A second purpose is to improve personality prediction by illustrating that different personality forms may require different types of prediction. A third and final purpose of the framework is to facilitate the choice of which formations are most important to investigate.

Improving Categorization

The present system is the first comprehensive classification system for individual differences that has been recently proposed. Before the present system, the most common approach to differential psychology was to proceed from individual differences, to typologies, to group differences.

To the extent that such approaches distinguished among individual differences at all, they typically involved a crude dichotomy between abilities and personality variables (e.g., Anastasi & Foley, 1949). Outside of a differential psychology framework, personality differences were primarily associated with trait psychology, either as a theory (e.g., Allport, 1937; Cattell, 1965), or as a research area (Cattell, 1965; Eysenck, 1990; Goldberg, 1993). This identification of individual differences with traits meant that nontrait individual differences were dealt with separately. For example, dynamic formations such as repressive coping were typically split off from trait treatments, and if they were covered at all, were covered in research about unconsciousness (e.g., J. L. Singer, 1990). Developmental formations, similarly, were handled in theory books covered by Freud and Erikson, or were not covered at all.

The organizing principle of the present classification system is to show how simpler formations, based solely on one or two components, can be compared with progressively more complex formations based both on dynamics and on development. Recognition of this continuum makes it possible to bring together individual differences in themes and other components, along with individual differences in dynamics and in development. This creates a single coherent perspective about the various structures potentially arising within personality rather than isolating them by theory or by research area. These individual-differences concepts are integrated with one another, and are best examined together.

Another advantage of the present work is its close linkage to the systems framework. The systems framework is a natural outgrowth of many integrating movements in personality since the beginning of the century (Mayer, 1998). Its inclusive and impartial nature, and its independence from any specific research program or theoretical agenda, make it of general utility to the field. Perhaps most importantly, the systems framework is now by far the most carefully developed new framework for personality psychology, with organized classification systems for components, dynamics, organization, data, and now, for individual differences (Mayer, 1993–94, 1995a, 1995b, 1998; Mayer, Chabot, & Carlsmith, 1997).

A system that can convincingly and coherently express the contents of a discipline can strengthen that discipline. A framework is an outline, really, of all the contents of the field. If the outline is good, then the contents of the field can be more powerfully expressed, thereby attracting better students, better justifying and explaining the field's purpose to other scientists, and better explaining it to others who are interested in the field's findings. Of course, such a clear presentation should also provide insights as to how scientific work in the area can be enhanced. Some meaningful scientific advances may be gleaned from the present classification system.

Improving Predictions

A classification's categories keep its members in orderly interposition and distinguish among members, which are different in important ways. The more distinct the categories are, the more powerful the classification system is (other things being equal). In the present system, component, organizational, and developmental forms are recognizably distinct from one another. This continuum from component to developmental form can be characterized in several ways: from simple to complex, from molecular to molar, from isolated to grouped, and in possession of independent versus coordinated elements. The different formative classes are not only descriptively distinct, but may also be distinct in the predictions they make about personality.

Consider the atomistic, independent end of this continuum, characterized by component forms. The component forms are composed of elements (if more than one) that are largely independent of each other. For example, the component form of sensation-seeking has little influence on anything else in personality. It exists atomistically, independently, and by itself (or at least its relations to the rest of personality are left unspecified). The very atomistic, isolated nature of the component form means that only rather simple predictions can be made from it. Because no interacting elements are specified, it never turns on or off, it is never contingent (cf. Mischel, 1990). Its influence (i.e., the need for stimulation) affects the individual consistently throughout the day, week, and year.

Now consider the molar, grouped, coordinated end of the continuum characterized by the developmental form. In these forms, elements work together at a high level of interdependence, combining memories of personal history, cognitive and affective integration, and converging and diverging thematic courses of action. The influence of the developmental form is strategic, capable of responding and of withholding responses planfully. As a consequence, such forms manifest themselves flexibly and in an overall sophisticated fashion.

Component and developmental forms represent two quite different influences on the systematic functioning of personality. Component forms exert a relatively simple, consistent influence on the personality system. Developmental forms exert a highly flexible, intermittent, planful influence on the personality system. Moreover, at any time, these two types of forms (and forms intermediate on the continuum) coexist in personality. For example, component forms may operate independently, but also in parallel with more sophisticated forms: Thus, the sensation-seeking form might coexist with a high ego-integration level. The search for novel experiences would not necessarily interfere with the operation of a highly integrated ego that manifested considerable wisdom. Alternatively, the integrated ego might allow for sensation seeking, indulging it in all but

the most dangerous contexts, and exercising any damage control necessary so that the sensation-seeking can be satisfied in a rewarding fashion. Of course, the integrated ego might also operate in conflict with the sensation seeking, attempting unsuccessfully to prevent its expression. That sensation-seeking form, however, might be so uncontrollable that its manifestations simply cannot be prevented; on the other hand, it cannot overturn the more sophisticated ego formation.

The different classes of forms also yield different predictions regarding personality. For example, because component functions are relatively simple, consistent, elemental variables, they are likely to have small but consistent influences on a large number of external component formations. Sensation seeking might be related—in very small ways—to hundreds of situational variables, from wearing slightly flashier clothing than the norm, to reading slightly more sexual books, to choices of more violent or risqué movies, to eating spicier meals, or to holding riskier investments. Because component forms are embedded amidst more complex forms, any one of these relationships can be turned off or disappear. The sensation seeker's desire for spicier foods might be turned off by stomach ailments. His or her enjoyment of violent movies might be turned off by ethical scruples. Nonetheless, it should be operative in more domains than not. As a consequence, component formations should correlate with the sum of many small potentially related external criteria. Thus, in one study from our laboratory, we correlated another component form, need for solitude (Burger, 1995), with a list of activities related to solitude. These included, "I ate my lunch alone every day last week," and "In the past two weeks, I rented a movie by myself and watched it alone," and found a correlation ($r = .38, p < .01$) between internal preferences and external activities (Chabot, Dearing, Mangan, Smirles, & Mayer, 1998).

The predictions of component forms are simple, consistent, and broad; the predictions for developmental forms, however, are unlikely to be this way. For example, a high level of ego development means that a person has been able to integrate a number of divergent trends in his or her life, among other things. This person's ability to integrate different desires, feelings, and thoughts internally would suggest that he or she is also more ready to integrate different people living with one another in families, or working with one another in organizations. As a consequence, a person with high ego development, may, (other things being equal) be more highly regarded and depended upon within a family. In addition, such an individual might attain a higher level of managerial responsibility in certain well-run organizations. It is also apparent, however, that such an ego integration may be fairly independent of particular books read, particular movies seen, and so forth, for the simple reason that most environments don't afford expression to such high-level integration.

For that reason, we need to create new criterion variables external to personality that are of a complexity and sophistication comparable to our internal developmental (or dynamic) forms. We need to find the external formations that correspond to the internal ones we wish to elucidate. Although this is not an easy task, it is by no means impossible. Let me describe, for example, my concept of an external developmental form. My concept of such a form is that it reflects a developmental sequence or record of experiences the individual has undergone. A person might check off going on a date, getting engaged, getting married, or celebrating a fifth wedding anniversary, and this would tell us something about the individual's development. This would probably be different from the person who goes on a date, lives with another, breaks up, dates again, and lives together with someone else. A board game exists—the Game of Life (Milton Bradley, 1991)—in which the players run cars around the board along developmental paths, deciding (or having decided for them) along the way whether or not they receive a college education, get married, have children, adopt, engage in community service, and so forth. This board game provides the elements of a simple but elegant blueprint for the sorts of external formations we need to compose to study internal formations such as ego strength. As personality psychologists, we should pay particular attention to how personality relates to the game of life.

Our parents and grandparents used to tell us that certain experiences allow a person to grow, and that a person who has gone through them is different than before. The individual who has overcome an illness, fought in a war, and raised a child is different from the individual who has not. And the way that individual has gone about coping with the experience also distinguishes him or her. The individual who has overcome a serious illness but remains a shut in afterward, rarely venturing out and frequently requesting others' help, is different from the individual who has overcome the illness and goes on to volunteer at hospital programs to assist others facing the same disease. The individual who survives a war but then votes, agitates, or prepares for more war is different from the one who works, instead, for peace.

Choosing Formations for Study

Scientific Considerations

What about the selection of the most productive or important formations to study? The number of possible internal and external personality formations is essentially astronomical. (Just consider that they can be constructed from components drawn 1, 2, 3, or more at a time, from hundreds of different personality components). This variety should not surprise us: Dahlstrom (cited in Buss & Craik, 1985) once noted:

The fact that the known species in either zoology or botany numbers in the millions serves to shame the pretenses of any behavioral typologist who seeks to employ at most a dozen 'species' of personality organization to account for human behavioral diversity. (p. 945)

Still, it raises the question of which personality formations are most important to study.

It would be nice if all the formations could be reduced, somehow, to three or four groups so that we could assign people to those simple groups, and could always refer to a person as being a Type 1, 2, 3 or 4. As soon as we said Type 4, we could tailor our predictions accordingly. Such attempts have been made. For example, one system that dates back to Hippocrates divided people into sanguines, choleric, phlegmatics, and melancholics. This was based on observational classification, which can be quite accurate (e.g., Mayer & Bower, 1986). As Eysenck has pointed out, those four categories closely correspond to variations in two central dimensions of personality: variations in Extroversion–Introversion and Stability–Emotionality. Thus, sanguines were stable extroverts (calm and outgoing), choleric were emotional extroverts (distressed and outgoing), phlegmatics were stable introverts (calm and withdrawn), and melancholics were emotional introverts (distressed and withdrawn).

Are those the right four categories for classifying everyone? Big Five researchers want to add three more dimensions to Eysenck's two: Agreeableness–Disagreeableness, Conscientiousness–Carelessness, and Openness–Closedness. This would yield $2 \times 2 \times 2 \times 2 \times 2 = 32$ categories. From a convenience standpoint we might want only, say, four categories, evenly dispersed in the population so that we could find them readily, and set up so as to maximize the statistical power of our tests. Also, we would want the groups to be sufficiently different, across a range of attributes, to warrant their division. It is unlikely that we will arrive at any single four-fold division upon which we might all agree. One more viable alternative, incidentally, would be to work simultaneously with different sets of four.

Need and Value-Based Approaches

The criteria for the most important formations to study will probably emerge from outside of science, from the wellspring of human needs and values. Personality psychology will, as will engineering, biotechnology, and other applied fields, be directed by human needs and values—both individual and societal. Such needs include the search for happiness in the internal environment. They also include, externally, good health in the biological environment, good interpersonal relations and effective skills in the situational environment, and good group memberships and

good intergroup relations in the incorporative environment. There is nothing wrong with taking direction from these needs and values as long as scientists make clear that they are foregoing their scientific roles in such an instance, and are speaking as individuals (or as members of a political party, or religion, or some other group). Speaking as an individual, it seems to me that one of the best ways we have of choosing formations may be according to such criteria outside of science.

For example, a small class of internal formations exist, closely related to consciousness and to the conscious self, that are valued intrinsically. That is, they are valued whether or not they are ever discerned beyond the individual's most private concerns, and whether or not they ever influence anything external to the individual's private thoughts. Two individuals could behave in the same way, with one very happy, content, and loving on the inside; the other, miserable, self-hating, and spiteful, but successfully disguising it so that others simply cannot perceive it. Although their behavior is the same how different it feels on the inside! Certainly we would prefer to be that person who is happy rather than unhappy. Comfort within our singular human consciousness is an end in itself. It is for this reason, certainly, that Singer encouraged us to study the private personality, its stream of consciousness, its accompanying daydreams, repressions, fantasies, and the like (J. L. Singer, 1975, 1984, 1990). The formations involved with better internal experience are understudied at present, but will form a centerpiece to the study of personality.

Just as much as internal consciousness can be valued intrinsically, much the same point can be made for good health in the biological realm, good behavior in the situational realm, and good memberships in the incorporative realm. Indeed, assuming that internal personality and its neighboring biological, situational, and incorporative systems interact, we must move beyond the evaluation of consciousness by itself, to further consider it in relation to its external environments. This takes us to the prediction from internal to external formations, and vice versa. Formations exist along a continuum of complexity, from the component based to the developmentally based. Although personality and its neighbors can be described and valued individually, they can also be viewed as complex, interacting systems. It returns us, once again, to the personologist's job to predict from internal to external formations and back again. The classification provided here may help that pursuit by letting us know our internal personalities—and find order.

POSTSCRIPT

Almost everyday I worked on this chapter, I was reminded of Singer's contributions to the field of personality psychology: both to the field's specific workings and to its larger outlines. Singer was, and remains, one

of the pioneer clinician researchers. Throughout my career, I have felt personally encouraged and renewed by his thoughtful integration of the most sophisticated clinical concepts with the most sophisticated research ideas. I hope this systems perspective about personality formations captures some of that sophisticated thinking. The development of this system owes something to his consistent exhortations to remember the importance of internal feelings and thoughts. More directly, Singer was willing to publish the first article about the systems framework in 1993–1994. The present article, fairly broad though it is, is insufficient to illustrate all the areas in which Singer's work has informed my own; to go further, however, would require another article, so I must finish.⁴ Before I do, I also wish to express my warm thanks to my esteemed colleague Jefferson Singer, and to my esteemed colleague and veteran collaborator, Peter Salovey, who together kindly honored me with the opportunity to honor, in turn, Jerome Singer.

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⁴I can't help but mention somewhere that the Singer family lived across the small town of Ardsley, NY, from the Mayer family when I was growing up, and I occasionally played with the Singer boys during that time; I believe we may have traded stamps from our respective collections. There must have been something about Ardsley (pop: 2,000) that encouraged an interest in the mind, for in addition to the psychology contingent, there are now quite a few psychiatrists hailing from there, including Paul Summergrad, Director of the Psychiatry Network for the Partners Healthcare System (founded by Massachusetts General Hospital and other hospitals, Boston, Massachusetts), and Peter Kramer, whose book *Listening to Prozac*, was responsible for popularizing the drug.

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