and they are largely overlooked in the contemporary literature of psychology. This is a serious omission, one that hinders and distorts the study of personality. This entry focuses on some of the issues involved in the ontology of persons and personality.

Ontologies to Traits to Ontologies

Early personality theorists, such as Sigmund Freud, Alfred Adler, and Carl Jung, postulated explicit ontologies about the basic nature of persons and personality. These are mostly not taken seriously in contemporary research—for example, researchers "know" that "psychic energy" is a false ontology.

In the mid-20th century, the study of personality was overtaken by the behavioristic restriction to external behaviors and properties, which led, for example, to pure trait theories, such as the Big Five. There was no theory at all about the nature of persons and their characteristics, other than the assumption that everything of relevance could be captured in behavioral trait theory. The study of personality has been struggling within this framework since then.

Behaviorism avoided any ontological focus, but clinical concerns cannot avoid considerations at the level of the whole person, not just small-scale empirical, behavioral patterns. Clinical perspectives, thus, have tended to maintain classical personality theories but to treat them as instrumental (i.e., heuristically useful) rather than as capturing something of the reality of persons. With academic psychology focusing on data patterns, there was little at the level of the whole person for clinicians to make use of. Some approaches to therapy were developed around learning theories, but these approaches, too, acknowledged that the person and the relationship between the client and the therapist could not be ignored, in spite of there being no acceptable model of the ontology of persons available.

There has been a move to consider (statistical) interactions between traits and characterizations of situations. But this requires some model of how those individual-level characterizations work, how they are constructed, and what their nature is. These are person-level ontological considerations.

METATHEORETICAL ISSUES IN PERSONALITY PSYCHOLOGY

What is personality? What is a person? A channel for the discharge of psychic energy? A collection of behavioral traits? These are issues of the *ontology* (i.e., what it is to be) of persons and personality,

What Kind of Ontology?

This move is to be greatly applauded, but taking ontology into account also opens the possibility of getting the ontology wrong. It does not suffice to simply *have* an ontology of persons and personality. The ontological models and frameworks involved must comport with the actual nature of persons and personality.

Psychopathology

In particular, it is arguable that *structure* ontologies create problems—for example, for modeling and explaining psychopathology and therapeutic change. Structure ontologies assume the rigidity of structure and thus make it difficult to account for change.

Conversely, if persons are recognized as alwaysongoing processes, always engaged in learning and development, it can no longer be a background presupposition that personality structures tend to be persistently rigid, but it becomes a theoretical problem about how and why people do not "simply" learn their way out of their psychopathologies. It becomes a theoretical problem to explain how and why dysfunctional modes of being in the world are maintained—how they are rigid—in the face, at times, of massive negative feedback.

It is difficult for structural models to even ask this question, because as already noted, structures are intrinsically rigid. One of the few attempts to address the question arises in models of cycles of self-fulfilling prophecy. A common characteristic of dysfunctional modes of being is to approach the world, and especially other people, with anticipatory assumptions and already-active defenses that tend to elicit precisely the kind of responses that confirm the "prophecy" expectations, thus keeping those anticipations and dysfunctional ways of dealing with them intact.

Such processes certainly occur, and it is crucial to understand how they work. But they do raise the question of how and why such self-confirming cycles are themselves stable. In particular, other people differ in the kinds of "confirming" feedback they provide and, at times, may offer straightforwardly contradictory feedback to the anticipations involved. That feedback depends not only on the defensive stance of the initial individual but also on the personality and current mood of the other persons involved. So why doesn't the self-fulfillingprophecy individual differentiate such cases and "simply" learn his or her way out of the cycle? Again the problem of the rigidity of psychopathology arises.

Differing assumptions about the underlying ontological nature of persons yield differing conceptions of what psychotherapy is doing: altering structures versus freeing up "stuck" learning and developmental processes. It would help to understand more about how such "stuckness" could occur.

Representation and Cognition

Another realm in the study of persons and personality in which background ontological assumptions are crucial has to do with the constituent processes that make up individuals, such as cognition, learning, emotions, consciousness, language, the nature of persons per se, and so on. One theme that permeates these processes is a common assumption about the nature of representation. It is assumed to be constituted as some sort of special correspondence between the representation and the represented-perhaps an informational, causal, or structural correspondencethat somehow constitutes a mental encoding of that which is being represented. Such assumptions are the basis for the dominant informational or computational approaches in psychology.

The issues here are complex and long-standing (extending back to the classical Greeks in Western thought), and this is not the place to elaborate them. But it should be pointed out that there is a whole family of problems with these approaches, none of which is solved in the literature, and also that there is an approach, within the pragmatic tradition, that claims to resolve them.

Just to mention one such problem. It must be possible for an organism, at least in principle, to detect (however fallibly) error in its own representations. That much is required in order for learning to occur. Because learning occurs, such organismdetectable error is, in fact, possible, and any model that renders it impossible is thereby refuted. This one relatively simple point suffices to invalidate almost all the candidates in the contemporary literature for a model of the nature of representation. This is a refutation at the level of ontology and requires work in terms of ontology to attempt to resolve or transcend it.

Implications

If these and related critiques are sound, then ontology, and theory more generally, must become an explicit level of consideration within academic psychology (just as it is in physics and other sciences). The ideology of operational definitions, however (among other barriers) makes this a difficult move. Operational definitions do not and cannot provide genuine theoretical definitions. It is useful and necessary to be precise about methods of measurement, categorization, and intervention, but to consider these as *definitions* renders genuine theory impossible and confuses the distinction between theory and theory testing.

Further, it is arguable that those ontologies of persons and other psychological processes must be framed within a process metaphysics. Standard, background structure and substance ontologies create serious, even unsolvable, problems of presupposition (e.g., What is the weight of phlogiston? What is the basic structure behind obsessivecompulsive disorder?). This problem has been illustrated here for modeling and explaining psychopathology and for the nature of representation. It holds for understanding all aspects of persons.

Mark H. Bickhard

See also Ancient and Premodern Theories of Personality; Behavioral Theories of Personality; Culture and Personality; Culture and the Dialogical Self; Existential Theories of Personality; Factor Analysis and Personality Theory; Freud's Psychosexual Stage Theory of Personality; Humanistic Theories of Personality; Humanistic Theories of Psychopathology; Personality Development; Personality Disorders; Personality Types Versus Personality Traits; Psychoanalytic and Psychodynamic Theories of Personality; Self

Further Readings

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MIXED METHODS

In general, an *empirical research study*—or, more simply, a *research study*—represents research wherein data are collected by one or more persons (i.e., researchers) in a systematic way, such as via direct *observation* or experiment in order to advance knowledge. More specifically, researchers conduct research by collecting data to address one or more research questions (i.e., questions of interest to researchers) or to test one or more *hypotheses* (i.e., proposed explanations of observable phenomena).

The analysis undertaken on the data collected yields *findings*. Therefore, findings that stem from (empirical) research studies are based on actual evidence and are interpreted to enhance, support, refute, or modify an existing theory, proposition, assumption, or the like. Over the years, in the social, behavioral, and human sciences, including the field of psychology, three major research traditions or approaches have emerged: quantitative research, qualitative research, and mixed-methods research. After brief descriptions of quantitative and qualitative research, this entry discusses mixedmethods research in more detail.

Broadly speaking, *quantitative research* studies primarily involve the collection, analysis, and interpretation of numeric data that stem from numerous sources (e.g., standardized test scores, rating scales, self-reports, symptom checklists, personality inventories) that typically involve the assignment of numbers to quantify certain attributes and with goals that include to explore, describe, explain, and predict phenomena.