Vygotsky (1987), the founder of cultural historical psychology, criticized the reduction of higher-level psychological processes to the lower-level elements. Vygotsky demonstrated the limitations of the analysis of psychological phenomena into separated elements studied in isolation. In contrast to analysis by elements, he suggested analysis by units which contained the basic characteristic of the whole. The issue of units of psychological research remains a crucial, open-ended question in psychology.

Reductionism is not a purely scientific or philosophical matter, but it has political significance in our social life. The reduction of the social to the individual is not a neutral theoretical stance, but it could diminish the importance of social relations as an explanation of psychological phenomena. The treatment of individuals as solely responsible for their problems, ignoring the wider social context of their activity, is a politically problematic approach.

From the standpoint of biological determinism, society can be reduced to a collection of individuals and the individuals to a collection of genes which provide a sufficient explanation of human behavior. Biological determinism claims that natural and intrinsic differences between individuals determine inequalities in their status, wealth, and power (Lewontin, 1982). Cultural evolution is presented as a mere extension of biological evolution through natural selection. The political implication of biological determinism is that society cannot be transformed, because the characteristics of human nature are genetically fixed, eternal, and unchangeable (Lewontin, 1982). Gould (1996) and other critical scientists analyzed various episodes of biological determinism in North America psychology (the introduction of the IQ test, the publication of book The Bell Curve by J. Herrnstein and Charles Murray, etc.) and demonstrated how biological determinism serves particular sociopolitical purposes (immigration restriction, racial discrimination, student classification, reduction of government spending on social programs, etc.).

In conclusion, it can be said that reductionism is a controversial epistemological and methodological stance which serves to bridge different theories from different disciplines. Building a theoretical framework connecting the high-level structures with the lower level, beyond simplistic reductionism is a crucial issue for contemporary science.

References


Introduction

Over the last half century, reflexivity has received attention across the human sciences although far less so in psychology than in its kindred
disciplines. In the broadest, epistemological meaning, reflexivity refers to the back-and-forth process whereby an account of reality depends on preexisting knowledge of that account. This sense of the concept acknowledges that the knower and knowledge generated cannot be fully separated. Within the human sciences, where the knower and the object to be known are of the same kind (human beings), reflexivity has additional meanings since any knowledge about humans attained through human science inquiry refers to the human observers as well as the human objects of observation. This particular epistemological understanding of reflexivity is not the only one for across the human sciences, psychology included; reflexivity thus has acquired several meanings. The term has been used to refer to an inescapable epistemological condition, a comparably unavoidable cognitive process, and a self-conscious act whereby the human science researcher appraises his or her relations to the processes knowledge creation as well as to the knowledge generated. Although the reflexive conditions of knowledge making have been periodically addressed in philosophy and the human sciences for centuries, reflexivity emerged in the latter part of the twentieth century as one key to analyzing the conditions and limits of objectivity. Along with that overarching meaning, it came to be used to describe the relations between expert and lay knowledge as well as being forwarded as a general capacity of humans to make sense of and engage in the social world.

Regarding psychology specifically, claims made about reflexivity generally have been either ignored or countered by assertions that reflexive processes are sufficiently controlled if not eliminated by that science’s objective methods, notably by psychologists’ techniques for distancing or dissociating themselves from their empirical observations and subjects alike. Such pervasive neglect or dismissal of reflexive conditions has meant that there remain unrealized opportunities to investigate reflexivity either constructively (as a feature of theories or a cognitive process) or critically (as investigative “bias”). What then awaits future psychological study are the generative possibilities that emerge when we attend to reflexivity’s functioning as an epistemological condition, a property of research techniques, a feature of psychologists’ own thinking, and a socio-cognitive capacity of all human actors.

**Definition**

As employed in contemporary inquiry, reflexivity enjoys neither singular nor simple definition. Consequently, several scholars have argued that its multiple conceptualizations are warrant for retiring reflexivity as a viable subject within human science inquiry, yet such critiques themselves might reflect less a concern with conceptual precision than resistance to acknowledging the thornier complexities of human science inquiry. Understood as an epistemological matter, reflexivity refers to inescapable, dynamic relations between accounts of reality and reality. In this usage reflexivity names that back-and-forth process through which an account of reality depends on preexisting knowledge of what (worldly object) that account refers to, and vice versa. This conception implicates all investigations aiming to produce observation-based accounts of an object in the world given that such inquiries are structured with and guided by already extant understandings of that object in the world. When considering the human and social sciences, reflexivity has an additional meaning as an unavoidable self-referential quality of theory. Here it comprises “an aspect of all social science since any statement which holds that humans act or believe in particular ways in particular circumstances refers as much to the social scientists as to anyone else” (Gruenberg, 1978, p. 22). Finally, reflexivity sometimes is defined as a form of human reflection, as an active turning back on oneself or enacting some form of self-regard; such reflection is taken to be essential to engaging in and making sense of one’s place in the material and social world. Upon appraising the heterogeneous definitions along with their shared subject matters, Roger Smith proposes that “reflexivity” be “understood as a term denoting a number of topics related by family resemblance rather than identity” (2005, p. 3).
Despite distinct implications for scientific practice, all three conceptions engage a general assumption about humans, namely, an appreciation of the social, practical, and cognitive operations of reflection (conscious or nonconscious) that are constitutive of human thinking and acting. While unified in a specific assumption about human thought and action, the conceptions actually vary in a number of respects. First, notions differ in regard to the degree to which reflexivity is taken to be an essential, inescapable condition or one that can (and sometimes should) be controlled, avoided, or eliminated from inquiry. Relatedly, reflexivity is sometimes understood as being intended, as in the case of self-regard or critical self-reflection, or unintentional, as in the necessary relation between observational accounts and preexisting beliefs (often described as observer bias). Third, these conceptualizations differ in presumed implications of seeing reflexivity either as a matter of “benign introspection” (Woolgar, 1988), an investigative problem believed to be controllable if not removable, or a tool for critically interrogating knowledge claims and productively examining previously neglected aspects of human thought and action. Finally, these conceptions are deployed differently to examine discrete realms of human affairs. Some versions of reflexivity direct analytic focus to the actions of scientists or technical production of knowledge. Some are taken up as purchase for better understanding how everyday actors make sense of social life. Other approaches toward analyzing reflexivity trace the dynamic traffic between expert knowledge and lay knowledge. Still others consider whether and how reflexivity comprises a distinctive, perhaps even aesthetic, condition of modernity more generally (Giddens, 1992; McMylor, 2005). Ultimately, whether defined as an ontological, epistemological, methodological, or psychological phenomenon, reflexivity invites four broad questions: Where does reflexivity operate? Is it intended or unintended? Is it acknowledged or unacknowledged? Is it a fundamental human capacity that affects both knowledge and object or an avoidable, removable practice?

Across the family of definitions along with the questions imbedded within them, reflexivity is found to present two overarching matters, one of paradox and the other of irony. Paradox arises from the fact that critical regard of the reflexivity of human science itself comprises a reflexive act: it entails reflexivity about reflexivity. This state of reflection about reflection can prompt what Steve Woolgar has called the “methodological horrors” of reflexivity, the seemingly unending regress of reflection. However, this paradox might be apparent abstract than material. The second matter is of more basic significance for human scientist as it ensues from the fact that they, the human sciences, were founded with the belief that self-reflection is a superior means to better understand and improve the human condition. Given the foundational place of reflection in the human science, psychology included, there arises a certain irony whenever human scientists disregard or dismiss reflexivity as something that might operate in intellectual life or as an important attribute of the human condition while at the same time they are engaged in a scientific enterprise dedicated to self-reflection as means to knowledge and melioration. Beyond these two matters that emerge when reflexivity is taken seriously is a practical one of how human scientists should proceed with their inquiries once the circuitry of reflexive processes is acknowledged. Numerous scholars have claimed the significance of reflection to human science inquiry (earlier scholars including Stuart Hampshire and R.G. Collingwood and contemporaries including Ian Hacking, Bruce Mazlish, Graham Richards, and Roger Smith) and have, in turn, concluded that the human sciences must be understood historically: they must be historical in the sense that over time the looping and circuitry of reflexivity can change not only the science but also the very objects of science.

**Keywords**

Reflexivity; epistemology; methodology; ontology; history
Philosophers have long considered the limiting conditions of a science of human nature and knowledge making in general, raising questions related to reflexivity (Brinkman, 2005). In the twentieth century such considerations surfaced in distinct intellectual realms: natural science, philosophy of science, and post-structuralist theory. Physicists’ attention to the effects of the observer on observations called critical attention to the inadequacy of aperspectival (view from nowhere) notions of representation. Writings in the philosophy of science probed the limits of language to adequately represent the world and refuted the presupposition of independence of observer and object being observed. Philosophers from Nietzsche to Derrida and Foucault challenged claims about essential foundations of knowledge (Smith, 2005), while analytical philosophers proffered critiques of scientific positivism, claiming that even positivist knowledge contains presuppositions.

Psychologists’ engagements with these twentieth-century investigations of reflexivity have been relatively sparse. Professional investments crucial to establishing the discipline as an unequivocally scientific one appeared at odds with acknowledging and incorporating ideas of reflexivity. Substantive acknowledgement of reflexivity in any of its meanings risked the perception that psychology is a subjective, or soft, rather than objective, or hard, science. In establishing experimental methods psychologists labored to distinguish the observer from the object (the subject) through technical, conceptual, and rhetorical means; they honed a representation of the experimenter’s self, insisting in E.G. Boring’s words, that the psychologist “cultivate dissociation” from his subjective self thereby apparently eliminating the possibilities of reflexivity (quoted in Morawski, 1992). Textbooks accordingly incorporated a binary of human actors, distinguishing between empirical psychologists who operate objectively and the ordinary persons who purportedly rely on subjective experiences. Reflexivity’s assumptions of the dynamic relations between reality and representations of reality potentially unsteady these technical and scientific operations. Additionally, engaging reflexivity with its premise of dynamic ontology challenged notions of a stable, universal subject who is suitable for experimentation.

Not all psychologists adhered to the possibility of escaping reflexivity. In Principles of Psychology William James warned of “the psychologist’s fallacy,” asserting “the great snare of the psychologist” to be “the confusion of his own standpoint with that of the mental fact about which he is making his report” (1890, p. 196). Between James’ 1890 statement and the 1970s, some researchers located some specific reflexive conditions of experimental psychology. In the 1920s, Horace Mann Bond enumerated the presuppositions embedded in programs for investigating racial differences in intelligence. Bond revealed numerous racial assumptions made by the nearly exclusively white research community thereby linking observers to the reality being observed. In the 1930s, Saul Rosenzweig excavated the psychological dynamics that transpire in experiments yet go unnoticed or suppressed, thereby revealing similar dynamic relations within laboratories (Morawski, 2005). In 1962, experimentalists Donald Oliver and Alvin Langfield pronounced reflexivity to be an “unfaced” issue in psychology, claiming that its disregard undermined scientific psychology because “any psychology venture is a failure if in its accounting it fails, or refuses, to take into account its own accounting” (1962, p. 117).

Oliver and Langfield’s assertion reflects post-World War II apprehensions about the conditions of human experimentation and consequent questions about validity, representativeness, and the volunteer subject. Coupled with advances in the philosophy of science (notably the work of Thomas Kuhn), post-structuralist critiques of the foundations of knowledge, and human rights issues, some psychologists became interested in reflexivity. For their part, feminist psychologists turned to reflexivity when investigating how gendered experiences shape knowledge making (Unger, 1983; Wilkinson, 1988), and critical psychologists interrogated the logics through which
psychology is implicated in governing people. Methodologists identified situations in which the conceptual language or experimental design contains and sustains nonscientific assumptions, thus challenging claims that experiments yielded veridical accounts of reality. These explorations of reflexivity, produced from the 1970s onward, were enriched by a burgeoning literature on reflexivity appearing in sociology, history, science studies, and philosophy (Ashmore, 1989; Gouldner, 1970; Sandywell, 1996; Woolgar, 1988).

Problems related to reflexivity have been more common than appears to be the case. As an ontological and epistemological matter, reflexivity also figured in early twentieth-century debates over the viability of introspection and over quality-quantity distinctions, and the “controversies” over what constituted adequate theory in psychology. However, in these debates the term “reflexivity” was largely absent nor was it used in the extended conversations about what counted as an adequate “psychologist’s standpoint” despite the fact that reflexivity actually was a central to ascertaining the psychologist’s distance from and affective disinterestedness in the experimental phenomena.

As feminist and science studies researchers delineated the unavoidable reflexive processes of knowledge production by undertaking methodological and epistemological critiques, historians and philosophers documented the macro-dynamics of psychologists’ dependence upon cultural, political, and personal ideas even when they formulated and tested scientific ones (Capshew, 1999; Morawski, 1992). For example, Jamie Cohen-Cole (2005) documented psychologists’ incorporation of attributes of the ideal scientist (flexibility, rationality, and creativity) as conceptual basis for new cognitive models of personhood, models that would challenge and replace behaviorist conceptions.

Critical Debates

Psychologists’ persistent abeyance of reflexivity, whether considered in its epistemological, ontological, or methodological forms, has meant that the concept is rarely the explicit subject of interrogation or debate. This situation diverges from the other human and social sciences: outside psychology there has ensued debate over the utility of a concept that has plural meanings and the extent to which reflexivity is a distinctive condition of modern sociology. Despite the modest attention given to it within psychology, several related developments in the study of reflexivity are of substantive and potentially transformative relevance to contemporary psychological research. The first concerns the implications of the reflexive conditions of language whereby our classification of psychological states is not independent of our psychological vocabulary. In other words, psychologists depend on linguistic categories in structuring and testing knowledge claims. Modern psychology’s conceptions of “motivation” and “addiction,” for instance, depended on preexisting understandings of “will,” and residuals of those prior understandings persist in scientific studies of motivation and addiction. To critically examine that language one requires historical analysis of how terms and concepts are connected to ways of life. Second, the implications of seeing the binding of psychological knowledge to language as well as cultural experiences go beyond the need for a historical psychology. They raise matters of “historical ontology” that acknowledge the circuitry or looping between psychological knowledge and psychological phenomena through which knowledge changes psychological phenomena. As Bruce Mazlish notes, social science’s aspirations of prediction, control, and determinist explanations of human action are complicated if not precluded by the capacities of social actors. Social science discoveries and laws have uncertain existences given that “any law in the social sciences is part of a process including prescriptions that foster change, which then creates new conditions in which that law no longer effectively applies” (1998, p. 189). As somewhat more acidly stated by Alastair MacIntyre, “Psychologists have had varying (sometimes striking) success in interpreting the human world; but they have been systematically successful in changing it” (1985, p. 897). The
dynamics through which psychological knowledge can change psychological phenomena, along with the dependence of that knowledge on preexisting, linguistic categories, intimates a need to understand ontology as historical, as a circuitry or looping that connects ways of being with knowledge about those ways of being. The circuit of such knowing and being “is flexible, often indeterminate in its effects, some level ‘natural’ as opposed to ‘artificial’ and emanates...from its own reflexive struggles to know itself” (Richards, 2002, p. 30). Examining this looping of human kinds, as Hacking terms it, or this circuitry of the psychological, as Richards names it, “Must itself be a Psychological model” (8). Recent work in critical neuroscience calls for examining these reflexive processes in the making and disseminating of neuroscience knowledge and techniques (Choudhury & Slaby, 2012). Some researchers have proposed even more substantive implications for the nature of the social and human sciences, though most are not specifically addressing the discipline of psychology. Concern with the dynamics of ontology in economics has prompted investigation into how economics is performative and how economics knowledge shapes subsequent economic behavior (McKenzie, Muniesa, & Siu, 2007). Others have advanced network models that take entities, objects, and knowledge as interactive, relational processes. According to John Law, “People, technologies, ‘natural’ phenomena, documents, non-human life forms, knowledges, social facts, collectivities and phenomena – all of these are relational effects, materials, being done in interaction” (2004, p. 632). Such theory projects indicate that taking seriously the reflexive conditions of the human and social sciences ultimately calls for reconstruction of root premises about persons, culture, knowledge, technologies attending that knowledge, and the interrelations of these. Whether investigations of reflexive processes center on epistemology, methodology, or ontology, they invariably will reveal the necessity for new psychological theories as well as modified investigative practices.

**International Relevance**

Since the 1970s, when research on the subject grew in both number and foci, scholars from across Europe, the United Kingdom, and North America have participated. Scholarship pertaining specifically to psychology likewise has been produced within these geographic regions; however, researchers in the USA where the preponderance of empirical psychological research originates have been far less active than those working in Europe, the United Kingdom, and Canada. Conceptual and empirical work that extends neuroscience to engage reflexive matters is being undertaken in Europe (Brenninkmeijer, 2010; Choudhury & Slaby, 2012).

**Future Directions**

The multiple associations of reflexivity and psychology along with that sciences’ relative disregard of those associations open way for vital innovations. Promising future research includes genealogies of psychological categories and concepts, tracing them as they are drawn from conventional language to be empirically examined, rendered in quantitative forms, redefined or altered, made causally explicable, and extended to give new meanings to psychological phenomena. Likewise warranting historical study are relations between the lifeworlds of psychologists and their psychological ideas (McMylor, 2005). Studies of contemporary investigators and their lifeworlds, the laboratory included, are essential to development of reflexive methods that take into account the researcher’s presence in the full course of scientific practice, from the formulation of hypothesis to reporting of results.

Perhaps the most transformative potential of psychology’s fully acknowledging reflexivity is development of pioneering theories and models that account for the dynamic circuitry or looping of psychology and those so classified through that knowledge. These ventures necessarily require empirical work that extends beyond the experimental situation. They would constitute at once
both critical examinations of knowledge and also constructive scientific undertakings that might fundamentally change psychology. Advances in network theory (Law, 2004), the performativity of the human sciences (McKenzie et al., 2007), and mapping the broad reflexive cycle of psychology (Hacking, 1995; Richards, 2002) offer templates for such inventive theories and models. For a recent example, “critical neuroscience” (Choudhury & Slaby, 2012) and related research (Brenninkmeijer, 2010) illustrate how incorporating reflexivity into scientific programs enables researchers to conduct critical interrogations and build innovative models that integrate cultural, material, and experiential knowledge with neuroscience.

Engaging reflexivity in its methodological, epistemological, and ontological forms forwards crucial objectives long professed in psychology. A reflexive psychology, for one, moves us toward realizing the science’s aim of enabling our subjects to become “more self-aware than they were before they involved themselves in our procedures” (Unger, 1983, p. 28) or than they were before they were implicated in our scientific understandings of them. Attending to the recursive flows of beliefs and commitments within psychological research requires expansion of our empirical observations with the consequence of bettering our observations of psychological phenomena. Likewise, attention to these intellectual and cultural forces casts brighter light on the ways psychology is involved in the governing of social and personal life. Most importantly, a reflexive psychology appreciates, just as it provides grounds for studying, the dynamic connections between personal identities, social relations, and technoscientific practices that are constitutive of modern psychological experiences.

References

Relational theories have become increasingly influential in the international psychoanalytic community in recent decades, profoundly affecting the practice of psychoanalysis and psychoanalytic psychotherapy. These theories have reenvisioned the fundamentals of psychoanalytic work, including what gets explored in the consulting room, who does the exploring, and how the patient and analyst perceive and interact with each other.

Definition

Drawing on British-school object relations theories, attachment theory, self psychology, and interpersonal psychoanalysis, relational theorists have developed an understanding of the human psyche as shaped primarily by interpersonal interactions rather than internal forces. What the many varied and heterogeneous relational approaches have in common is the view of humans, not as the solitary biological drive machines of the classical Freudian theory, but as shaped by relationships and always embedded in relational contexts, past and present (Mitchell, 1988). The focus of the psychoanalytic exploration has shifted, in relational psychoanalysis and psychotherapy, from the individual as an isolated entity to the relational interactions and experiences through which the individual comes into being (Greenberg & Mitchell, 1983). Where the analytic dyad is concerned, relational psychoanalysis is a two-person alternative to the one-person view of the classical theory (Harris, 2011), in that the patient-analyst unit, rather than the patient alone, is the focus of exploration (Mitchell & Aron, 1999).

Keywords

Relational; relationality; intersubjective; inter-subjectivity; two-person psychology; analyst self-disclosure; enactment; multiple self-states; psychoanalysis; co-construction; feminist; queer

History

Stephen Mitchell is widely credited with being the catalyst and pioneer of the relational movement, which was launched with the publication, in 1983, of the text Mitchell coauthored with Jay Greenberg, Object Relations in Psychoanalytic Theory. Lewis Aron, Neil Altman, Jessica Benjamin, Robert Stolorow, Jody Davies, Muriel Dimen, Philip Bromberg, Emmanuel Ghent, and Adrienne Harris are some of the other influential relational theorists.

In 1989, the first relationally oriented journal, Psychoanalytic Dialogues, was founded, and in the same year, the first relational training program was formed at the New York University. In 2001, the movement, originally overwhelmingly American, made an attempt to go international with the establishment of the International Association for Relational Psychoanalysis and Psychotherapy.

Traditional Debates

The major theoretical innovations of the relational school include the relational matrix (Mitchell, 1988), intersubjectivity (e.g., Benjamin, 1990;