

Toward a Psychology of Human Agency

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ABSTRACT—*This article presents an agentic theory of human development, adaptation, and change. The evolutionary emergence of advanced symbolizing capacity enabled humans to transcend the dictates of their immediate environment and made them unique in their power to shape their life circumstances and the courses their lives take. In this conception, people are contributors to their life circumstances, not just products of them. Social cognitive theory rejects a duality between human agency and social structure. People create social systems, and these systems, in turn, organize and influence people's lives. This article discusses the core properties of human agency, the different forms it takes, its ontological and epistemological status, its development and role in causal structures, its growing primacy in the coevolution process, and its influential exercise at individual and collective levels across diverse spheres of life and cultural systems.*

Conceptions of human nature have changed markedly over time. In the early theological conceptions, human nature was ordained by original divine design. Evolutionism transformed the conception to one in which human nature is shaped by environmental pressures acting on random gene mutations and reproductive recombinations. This nonteleological process is devoid of deliberate plans or purposes. The symbolic ability to comprehend, predict, and alter the course of events confers considerable functional advantages. The evolutionary emergence of language and abstract and deliberative cognitive capacities provided the neuronal structure for supplanting aimless environmental selection with cognitive agency. Human forebears evolved into a sentient agentic species. Their advanced symbolizing capacity enabled humans to transcend the dictates of their immediate environment and made them unique in their power to shape their life circumstances and the course of their lives. Through cognitive self-regulation, humans can create

visualized futures that act on the present; construct, evaluate, and modify alternative courses of action to secure valued outcomes; and override environmental influences. In a later section, this article discusses the growing ascendancy of human agency in the coevolution process through the force of social and technological evolution.

CORE PROPERTIES OF HUMAN AGENCY

Social cognitive theory adopts an agentic perspective toward human development, adaptation, and change (Bandura, 1986, 2001). To be an agent is to influence intentionally one's functioning and life circumstances. In this view, personal influence is part of the causal structure. People are self-organizing, proactive, self-regulating, and self-reflecting. They are not simply onlookers of their behavior. They are contributors to their life circumstances, not just products of them.

There are four core properties of human agency. One is *intentionality*. People form intentions that include action plans and strategies for realizing them. Most human pursuits involve other participating agents, so there is no absolute agency. Individuals have to accommodate their self-interests if they are to achieve unity of effort within diversity. Collective endeavors require commitment to a shared intention and coordination of interdependent plans of action to realize it (Bratman, 1999). Effective group performance is guided by collective intentionality.

The second property of human agency is *forethought*, which involves the temporal extension of agency. Forethought includes more than future-directed plans. People set themselves goals and anticipate likely outcomes of prospective actions to guide and motivate their efforts. A future cannot be a cause of current behavior because it has no material existence. But through cognitive representation, visualized futures are brought into the present as current guides and motivators of behavior. In this form of anticipatory self-guidance, behavior is governed by visualized goals and anticipated outcomes, rather than pulled by an unrealized future state. The ability to bring anticipated outcomes to bear on current activities promotes purposeful and foresightful behavior. When projected over a long time course on

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matters of value, a forethoughtful perspective provides direction, coherence, and meaning to one's life.

The third agentic property is *self-reactiveness*. Agents are not only planners and forethinkers. They are also self-regulators. Having adopted an intention and an action plan, one cannot simply sit back and wait for the appropriate performances to appear, as Searle (2003) noted in his analyses of the explanatory gap. Agency thus involves not only the deliberative ability to make choices and action plans, but also the ability to construct appropriate courses of action and to motivate and regulate their execution. This multifaceted self-directedness operates through self-regulatory processes in the explanatory gap to link thought to action (Bandura, 1991a; Carlson, 2002).

The fourth agentic property is *self-reflectiveness*. People are not only agents of action. They are also self-examiners of their own functioning. Through functional self-awareness, they reflect on their personal efficacy, the soundness of their thoughts and actions, and the meaning of their pursuits, and they make corrective adjustments if necessary. The metacognitive capability to reflect upon oneself and the adequacy of one's thoughts and actions is the most distinctly human core property of agency.

People do not operate as autonomous agents. Nor is their behavior wholly determined by situational influences. Rather, human functioning is a product of a reciprocal interplay of intrapersonal, behavioral, and environmental determinants (Bandura, 1986). This triadic interaction includes the exercise of self-influence as part of the causal structure. It is not a matter of "free will," which is a throwback to medieval theology, but, in acting as an agent, an individual makes causal contributions to the course of events. The relative magnitude of the personal contribution to the codetermination varies depending on the level of agentic personal resources, types of activities, and situational circumstances. Social cognitive theory rejects a duality of human agency and a disembodied social structure. Social systems are the product of human activity, and social systems, in turn, help to organize, guide, and regulate human affairs. However, in the dynamic interplay within the societal rule structures, there is considerable personal variation in the interpretation of, adoption of, enforcement of, circumvention of, and opposition to societal prescriptions and sanctions (Burns & Dietz, 1992).

Most human functioning is socially situated. Consequently, psychological concepts are socially embedded. For example, in an interpersonal transaction, in which people are each other's environments, a given action can be an agentic influence, a response, or an environmental outcome, depending arbitrarily on different entry points in the ongoing exchange between the people involved. In human transactions, one cannot speak of "environment," "behavior," and "outcomes" as though they were fundamentally different events with distinct features inherent in them.

A theory of human agency raises the issue of freedom and determinism. When viewed from a social cognitive perspective,

freedom is conceived not just passively as the absence of constraints, but also proactively as the exercise of self-influence in the service of selected goals and desired outcomes. For example, people have the freedom to vote, but whether they get themselves to vote, and the level and form of their political engagement, depends, in large part, on the self-influence they bring to bear. In addition to regulating their actions, people live in a psychic environment largely of their own making. The self-management of inner life is also part of the agentic process. Because self-influence is an interacting part of the determining conditions, human agency is not incompatible with the principle of regulative causality. Given that individuals are producers as well as products of their life circumstances, they are partial authors of the past conditions that developed them, as well as the future courses their lives take.

The cultivation of agentic capabilities adds concrete substance to abstract metaphysical discourses about freedom and determinism. People who develop their competencies, self-regulatory skills, and enabling beliefs in their efficacy can generate a wider array of options that expand their freedom of action, and are more successful in realizing desired futures, than those with less developed agentic resources (Bandura, 1986, 1997; Meichenbaum, 1984; Schunk & Zimmerman, 1994). The exercise of freedom involves rights, as well as options and the means to pursue them. At the societal level, people institute, by collective action, regulatory sanctions against unauthorized forms of social control (Bandura, 1986).

MODES OF AGENCY

Social cognitive theory distinguishes among three modes of agency: individual, proxy, and collective. Everyday functioning requires an agentic blend of these three forms of agency. In personal agency exercised individually, people bring their influence to bear on their own functioning and on environmental events. In many spheres of functioning, however, people do not have direct control over conditions that affect their lives. They exercise socially mediated agency, or proxy agency. They do so by influencing others who have the resources, knowledge, and means to act on their behalf to secure the outcomes they desire (Baltes, 1996; Brandtstädter & Baltes-Gotz, 1990; Ozer, 1995).

People do not live their lives in individual autonomy. Many of the things they seek are achievable only by working together through interdependent effort. In the exercise of collective agency, they pool their knowledge, skills, and resources, and act in concert to shape their future (Bandura, 2000a). People's conjoint belief in their collective capability to achieve given attainments is a key ingredient of collective agency.

Self-efficacy theory (Bandura, 1997) distinguishes between the *source* of judgments of efficacy (i.e., the individual) and the *level* of the phenomenon being assessed (i.e., personal efficacy or group efficacy). There is no disembodied group mind that believes. Perceived collective efficacy resides in the minds of

group members as the belief they have in common regarding their group's capability. In a collectivity, members acting on their common beliefs contribute to the transactional dynamics that promote group attainments. The findings of meta-analyses show that perceived collective efficacy accounts for a good share of variance in quality of group functioning in diverse social systems (Gully, Incalcaterra, Joshi, & Beaubien, 2002; Stajkovic & Lee, 2001).

The collective performance of a social system involves interactive, coordinative, and synergistic dynamics that create emergent group-level properties not reducible solely to individual attributes. Group activities vary in the degree to which attainments require interdependent effort and collaborative contributions. Meta-analysis of research on collective efficacy corroborates that the more extensive the interdependence within a social system, the higher the predictiveness of the perceived efficacy of the collectivity (Stajkovic & Lee, 2001).

AGENTIC MANAGEMENT OF FORTUITY

There is much that people do designedly to exercise some measure of control over their self-development and life circumstances. But there is a lot of fortuity in the courses lives take. Indeed, some of the most important determinants of life paths occur through the most trivial of circumstances. People are often inaugurated into new life trajectories, marriages, and careers through fortuitous circumstances (Austin, 1978; Bandura, 1986; Stagner, 1981). In their insightful volume on *The Travel and Adventures of Serendipity*, Merton and Barber (2004) documented the workings of fortuitous events in life trajectories.

A fortuitous event in social encounters is an unintended meeting of persons unfamiliar with each other. The physical sciences acknowledge indeterminacy at the quantum level in the physical world. Fortuitous events introduce an element of indeterminacy in the behavioral sciences. The separate paths that lead up to a fortuitous event have their own determinants, but they are causally unconnected until their intersection, at which point the encounter creates a unique confluence of influences that can alter the course of lives. The intersection, where the transactions take place, occurs fortuitously rather than by design (Nagel, 1961). Consider a true example of a fortuitous event at an address on the psychology of chance encounters (Bandura, 1982). An academic publisher entered the lecture hall as it was rapidly filling up and seized an empty chair near the entrance. He ended up marrying the woman who happened to be seated next to him. With only a momentary change in time of entry, seating constellations would have altered, and this intersect would not have occurred. A marital partnership was thus fortuitously formed at a talk devoted to fortuitous determinants of life paths!

A seemingly insignificant fortuitous event can set in motion constellations of influences that change the course of lives. These branching processes alter the continuity and linear pro-

gression of life-course trajectories. The profusion of separate chains of events in everyday life provides myriad opportunities for such fortuitous intersects. Even if one knew all the determinate conditions for particular individuals, one could not know in advance the intersection of unconnected events. Fortuitous intersects introduce probabilistic uncertainty that complicates long-range predictions of human behavior. Most fortuitous events leave people untouched, others have some lasting effects, and still others lead people into new trajectories of life. A science of psychology does not have much to say about the occurrence of fortuitous intersects, except that personal proclivities, the nature of the settings in which a person moves, and the types of people who populate those settings make some types of intersects more probable than others. Fortuitous occurrences may be unforeseeable, but having occurred, they create conditions that enter as contributing factors in causal processes in the same way as prearranged ones do. Hence, psychology can advance knowledge on the effects of fortuitous events on life paths. Several lines of evidence identify personal attributes and the properties of the environments into which individuals are fortuitously inaugurated as predictors of the nature, scope, and strength of the impact that such encounters are likely to have on human lives (Bandura, 1982, 1986).

Fortuity does not mean uncontrollability of its effects. People can bring some influence to bear on the fortuitous character of life. They can make chance happen by pursuing an active life that increases the number and type of fortuitous encounters they will experience (Austin, 1978). Chance favors the inquisitive and venturesome, who go places, do things, and explore new activities. People also make chance work for them by cultivating their interests, enabling beliefs, and competencies (Bandura, 1998). These personal resources enable them to make the most of opportunities that arise unexpectedly. Pasteur (1854) put it well when he noted that "chance favors only the prepared mind" (cited in Bartlett, 1992, p. 502). Even that distinguished lay philosopher Groucho Marx is said to have insightfully observed that people can influence how they play the hand that fortuity deals them: "You have to be in the right place at the right time, but when it comes, you better have something on the ball." Self-development gives people a hand in shaping the courses their lives take. These various proactive activities illustrate the agentic management even of fortuity.

NONAGENTIC THEORETICAL APPROACHES

In its brief history, psychology has undergone wrenching paradigm shifts. Behaviorists proposed an input-output model linked by an intervening but noncausal black box. This line of theorizing was eventually put out of vogue by the advent of computer technology. Creative thinkers filled the black box with symbolic representations, rules, and computational operations. The mind as a symbol manipulator, in the likeness of a linear computer, became the conceptual model for the times. Computerized serial

cognitivism was, in turn, supplanted by connectionist models operating through interconnected, multilayered, neuronal-like subsystems working simultaneously in parallel. In these models, sensory organs deliver up information to a multitude of subsystems acting as the mental machinery that processes the inputs and, through some type of integrating system, generates a coherent output automatically and nonconsciously out of the fragmentary neuronal activity.

These alternative theories differ in what they place in the mediating system—whether or not it includes determinative functions and the forms they take. Radical behaviorism posits a noncausal connector, computerized cognitivism posits a linear central processor, and parallel distributed connectionism posits interconnected, neuronal-like subunits. But the theories share the same bottom-up causation: input → throughput → output. In each of these models, the environment acts on the biological machinery that generates the output automatically and nonconsciously.

These nonagentic conceptions strip humans of agentic capabilities, a functional consciousness, and a self-identity. As Harré (1983) noted in this connection, it is not sentient individuals but their subpersonal parts that are orchestrating activities nonconsciously. In actuality, however, people act on the environment. They create it, preserve it, transform it, and even destroy it, rather than merely react to it as a given. These changes involve a socially embedded interplay between the exercise of personal agency and environmental influences.

PHYSICALISTIC THEORY OF HUMAN AGENCY

One must distinguish between the physical basis of thought and its deliberative construction and functional use. The human mind is generative, creative, proactive, and reflective, not just reactive. The dignified burial of the dualistic Descartes forces one to address the formidable explanatory challenge for a physicalistic theory of human agency and a nondualistic cognitivism. How do people activate brain processes to realize given intentions and purposes?

Consciousness is the very substance of mental life. It provides the means to make life not only personally manageable, but also worth living. Without deliberative and reflective conscious activity, humans are simply mindless automatons. Cognitive capabilities provide us with the means to function as mindful agents. Consciousness encompasses multiple functions that reflect the difference between being conscious of an activity and consciously engaging in purposeful activity (Korsgaard, 1989). It includes a nonreflective component and a reflective awareness component, as well as a conceptual functional component operating mainly through the linguistic medium. The functional aspect of consciousness involves purposefully accessing and deliberately processing information for selecting, constructing, regulating, and evaluating courses of action.

Consciousness is an emergent brain activity with higher-level control functions, rather than simply an epiphenomenal by-product of lower-level processes. Indeed, if the neuronal processes of common activities were automatically reflected in consciousness, it would be hopelessly cluttered with mind-numbing contents that would foreclose any functionality. When one is driving a car, for example, one's consciousness is filled with thoughts of other matters rather than simply mirroring the ongoing neuronal mechanics of driving.

Emergent properties differ in kind from their lower-level bases. For example, the novel emergent properties of water, such as fluidity and viscosity, are not simply the combined properties of its hydrogen and oxygen microcomponents (Bunge, 1977). Through their interactive effects, these components are transformed into new phenomena. Van Gulick (2001) made the important distinction between emergent properties and emergent causal powers over events at the lower level. In the metatheory enunciated by Sperry (1991, 1993), cognitive agents regulate their actions by cognitive downward causation and also undergo upward activation by sensory stimulation.

As previously noted, the evolutionary emergence of a language-processing system provided the essential neuronal structure for the development of a conscious agentic species. Most human thinking operates through language, drawing on a vast knowledge base. The core agentic capabilities of intentionality, forethought, self-reaction, and self-reflection operate as hierarchically organized determinants. In a theory of cognitive functionalism (Eccles, 1974; Sperry, 1993), the patterns of neural activities characterizing interpretive and deliberative thought processes have a downward regulatory function over lower-level neural events that lead to action. These structural and functional properties are central to the exercise of human agency.

In acting as agents, individuals obviously neither are aware of nor directly control their neuronal processes and functional structures. Rather, they exercise second-order control. They do so by intentionally engaging in activities known to be functionally related to given outcomes. In pursuing these activities, over which they can exercise control, they activate and modify subpersonal neuronal events. For purposes of illustration, consider the following analogy. In driving an automobile to a desired place, the driver engages in coordinated acts of shifting gears, steering, manipulating the gas pedal, and applying brakes. These deliberate acts, which the driver can control directly, regulate the mechanical machinery to get the car safely to where the driver wants to go. But the driver has neither awareness nor understanding of the correlative microcombustion, transmission, steering, and braking processes subserving the driver's purposes. The deliberate planning of where to go on a trip, what route to take, and what to do when one gets there keeps the neuronal circuitry hard at work.

Consider also dual-level control in skill acquisition. Baseball coaches get novice pitchers to practice unique ways of throwing a

baseball in strategically designated situations that they know have an increased likelihood of discombobulating batters. In practicing and refining their pitching performances, over which they can exercise direct control, pitchers build and enlist the subserving neurophysiological machinery over which they unknowingly exercise second-order control. Enactments of functional activities at the controllable macrobehavioral level provide the means for agentic orchestration of the subserving events at the microneural level.

Much of psychological theorizing and research is devoted to verifying causal relations between actions and outcomes and the governing sociocognitive mechanisms. The fact that individuals have no awareness of their brain processes does not mean that they are just quiescent hosts of automata that dictate their behavior. Neuroimaging can shed light on how agentic causal beliefs and activities develop functional neuronal structures and orchestrate neurodynamics.

PROACTIVE AGENTS VERSUS ONLOOKERS

One must distinguish between understanding how the biological machinery works in implementing cognitive algorithms by the nervous system and how the biological machinery is orchestrated agentially for diverse purposes. To use an analogy, the laws of chemistry and physics explain how a television set produces images, but do not explain the endless variety of creative programs it implements. The creative neuronal activation must be distinguished from the neuronal mechanical production.

People are contributors to their activities, not just onlooking hosts of subpersonal networks autonomously creating and regulating their performances. People conceive of ends and work purposefully to achieve them. They are agents of experiences, not just undergoers of experiences. The sensory, motor, and cerebral systems are tools people use to accomplish the tasks and goals that give meaning, direction, and satisfaction to their lives. To make their way successfully through a complex world full of challenges and hazards, people have to make sound judgments about their capabilities, anticipate the probable effects of different events and courses of action, size up socio-structural opportunities and constraints, and regulate their behavior accordingly. These belief systems are a working model of the world that enables people to achieve desired futures and avoid untoward ones.

Research on brain development underscores the influential role that agentic action plays in shaping the functional structure of the brain (Diamond, 1988; Kolb & Whishaw, 1998). It is not mere exposure to stimulation but agentic action in exploring, manipulating, and influencing the environment that counts. By regulating their motivation and activities, people produce the experiences that form the functional neurobiological substrate of symbolic, social, psychomotor, and other skills. An agentic perspective fosters lines of research that can provide new in-

sights into the social and behavioral shaping of brain function. This is a realm of inquiry in which psychology can make unique contributions to the biopsychosocial understanding of human development, adaptation, and change. In nonreductive physicalism, all psychosocial phenomena have a physical basis. Research from an agentic perspective, however, goes beyond the anatomical localization and brain circuitry subserving human activities to advance knowledge about brain development and its functional organization by behavioral means (Dawson, Ashman, & Carver, 2000).

ONTOLOGICAL AND EPISTEMOLOGICAL REDUCTIONISM

A theory of human agency raises the question of reductionism. One must distinguish among three different forms of reductionism (Ayala, 1974). In ontological reductionism, mental events are physical entities and processes, not disembodied immaterial ones. Epistemological reductionism contends that the laws governing higher-level psychosocial phenomena are ultimately reducible to the laws operating at atomic and molecular levels. Methodological reductionism maintains that research on rudimentary processes is the really fundamental science that will explain psychosocial phenomena at higher levels of complexity. In the heyday of behaviorism, for example, elementary processes were explored with animal analogues, using mainly rats and pigeons.

Most theorists adopt the ontological view that mental events are brain activities and not immaterial entities. But how mind, characterized as higher cognitive processes, arises from lower-level physical processes remains an intractable problem. As for methodological reductionism, the knowledge gained through the study of rudimentary processes is generalizable to some aspects of human functioning, but there are limits as to what this approach can tell us about the complex human capacity for abstraction and symbolic thinking or the workings of societal systems. It is the epistemological form of reductibility that is most in contention. The major argument against it is that each level of complexity—atomic, molecular, biological, psychological, and social structural—involves emergent new properties that are distinct to that level and must, therefore, be explained by laws in its own right. Proponents of nonreductive physicalism are physicalists at the ontological level but nonreductionists at the epistemological level. Hence, physicality in the ontological sense does not imply reduction of psychology to biology, chemistry, or physics. Were one to embark on the epistemological reductibility route, the journey would traverse biology and chemistry and ultimately end in atomic subparticles. Because of emergent properties at higher levels of complexity, neither the intermediate locales nor the final stop in atomistic physicalism can fully account for human behavior.

As Nagel (1961) explained, there are several necessary conditions for reductibility: They include explicitness of theoretical

postulates for each specialized discipline, correspondence or connectability through theoretical terms in common, and derivability from the postulates of the reducing theory. Neither the concepts nor the predicates in psychological theories have representational counterparts in chemistry or physics. Nor is there an adequate set of bridging principles linking the vocabularies of the reduced and reducing theories, as required to fulfill the conditions of connectability and derivability. There are lively debates about the required preciseness in linkage between the reduced and reducing theories—debates about whether empirically established links between the two suffice or whether the bridging principles must provide logically necessary conceptual links (van Gulick, 2001).

Consider even the reduction of psychology to biology. Much of psychology is concerned with discovering principles about how to structure environmental conditions to promote given personal and social outcomes and with the psychosocial mechanisms through which the environmental influences produce their effects. This line of theorizing, much of it based on exogenous determinants, does not have corresponding concepts in neurobiological theory. How the neuronal machinery works and how to regulate it by psychosocial means are different matters. Knowing where things happen in the brain does not tell you how to make them happen. Each explanatory system is governed by its own set of principles that must be studied in its own level.

For example, knowledge of the locality and brain circuitry subserving learning can say little about the optimal levels of abstractness, novelty, and intellectual challenge; about how to get people to attend to, process, and organize relevant information; or about whether learning should be conducted independently, cooperatively, or competitively. Psychological science provides a rich body of knowledge regarding the conditions conducive to learning and the psychosocial mechanisms through which they operate. These social determinants reside in the structure of learning environments and in socially rooted incentive systems, enabling opportunity structures, and constraints (Bandura, 1986; Johnson & Johnson, 1985; Rosenholz & Rosenholz, 1981). These determinants operate through modeling, social norms, aspirations, and expectations conveyed in the practices of families, in peer relations, in school systems, and in socioeconomic life conditions (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996, 2001). These are the collective social dynamics of human learning. They have no conceptual counterpart in neurobiological theory and, therefore, are not derivable from it. The optimal learning conditions must be specified by psychological principles. A full explanation of human learning must, therefore, encompass both the psychosocial principles and the subserving neurobiological principles governing the processes of learning.

System-level emergence calls for theoretical plurality across biological, psychological, and social structural levels of function, with linkage between them rather than reductibility to a single superseding theory. The issue of reductionism in an ap-

plied social science must also be evaluated in terms of functional criteria. Can laws at the neuronal, molecular, or atomic levels tell us how to develop efficacious parents, teachers, executives, or social reformers? For reasons already given, the psychological level is required to provide such guidance.

ORIGINS OF PERSONAL AGENCY

The newborn arrives without any sense of selfhood and personal agency. The self must be socially constructed through transactional experiences with the environment. The developmental progression of a sense of personal agency moves from perceiving causal relations between environmental events, through understanding causation via action, and finally to recognizing oneself as the agent of the actions. Infants exhibit sensitivity to causal relations between environmental events even in the first months of life (L. Lent, 1982; Mandler, 1992). They most likely begin to learn about action causation through repeated observation of contingent occurrences in which the actions of other people make things happen. Infants see inanimate objects remain motionless unless manipulated by other people (Mandler, 1992). Moreover, they personally experience the effects of actions directed toward them, which adds salience to the causative functions of actions. As infants begin to develop some behavioral capabilities, they not only observe but also directly experience that their actions make things happen. We can greatly enhance their learning that actions produce certain outcomes by linking outcomes closely to actions, by using aids that channel their attention to the outcomes they are producing, and by heightening the salience and functional value of the outcomes (Millar, 1972; Millar & Schaffer, 1972; Watson, 1979). With the development of representational capabilities, infants can begin to learn from probabilistic and delayed outcomes brought about by personal actions.

Development of a sense of personal agency requires more than simply producing effects by actions. Infants acquire a sense of personal agency when they recognize that they can make things happen and they regard themselves as agents of their actions. This additional understanding extends the perception of agency from action causality to personal causality. The differentiation of oneself from others is the product of a more general process of the construction of an agentic self. Proprioceptive feedback from one's activities and self-referent information from visual and other modalities during transactions with the environment aid in the early perception of an experiential self. Personal effects resulting from self-directed actions further identify the self as the recipient experiencing the effects. Thus, if touching a hot object brings pain, feeding oneself brings comfort, and entertaining oneself with manipulable objects generates enjoyment, such self-produced outcomes foster recognition of oneself as an agent. The self becomes differentiated from others through rudimentary dissimilar experiences. If stubbing one's toe brings pain, but seeing other people stub their toes brings no

personal pain, one's own activity becomes distinguished from that of other persons.

The construction of selfhood is not entirely a matter of private reflection on one's experiences. There is a social aspect to this process. As infants mature and acquire language, the people around them refer to them by personal names and treat them as distinct persons. With the development of language, social self-referent labeling accelerates self-recognition and development of self-awareness of personal agency. By about 18 months, infants have self-referent verbal labels and apply them to pictures of themselves, but not pictures of other people (Lewis & Brooks-Gunn, 1979). They differentiate themselves from others in their verbal labeling. As they become increasingly aware that they can produce effects by their actions, by about 20 months, they spontaneously describe themselves as agents of their actions and describe their intentions as they engage in activities (Kagan, 1981). Before long, they begin to describe the psychological states accompanying their actions. On the basis of growing personal and social experiences, an infant eventually forms a symbolic representation of him- or herself as a distinct self capable of making things happen.

There is also a great deal of intentional guidance that fosters infants' agentic capabilities (Heckhausen, 1987; Karniol, 1989; Papousek & Papousek, 1979). Parents create highly noticeable proximal effects of infants' actions, providing them with objects within their manipulative capabilities to encourage production of effects by actions and segment activities into manageable subskills. Parents also set challenges for their infants just beyond the infants' existing competencies. They adjust their level of assistance as infants pass through phases of mastery, offering explicit guidance in earlier phases of skill acquisition but gradually withdrawing aid as infants become more competent in mastering tasks on their own. These types of enabling strategies are highly conducive to the development of a sense of personal agency during the initial years of life.

The self is the person, not a homunculan overseer that resides in a particular place and does the thinking and acting. Selfhood embodies one's physical and psychosocial makeup, with a personal identity and agentic capabilities operating in concert. Although the brain plays a central role in psychological life, selfhood does not reside solely in the brain, any more than the heart is the sole place where circulation is located (Schechtman, 1997). A transplant of the brain of an extraordinary gymnast into an octogenarian's body will not produce a sense of self as a dazzling gymnast, as a single-organ view would imply. Nor are there multiple independent selves. Individuals wrestle with conflicting goals and courses of action. However, given but a single body, the choices finally made and the actions taken at a given time require unity of agency. Successful implementation of a chosen course of action also calls for coherent effort.

Adaptive functioning requires both appropriate generalization in the face of bewildering situational variation and perceptive discrimination to avoid dysfunctional overgeneralization.

People, therefore, vary in their behavior, with this variation conditional on circumstances. But these are instances of the same being doing different things under different life conditions, not different selves doing their separate things. One cannot be all things. Hence, people vary in how heavily they invest their personal identity in sociocultural, political, familial, and occupational aspects of life. A multifaceted self-view and variability in behavior reflect the complexity of human functioning, not fragmentation of agency.

Personal identity refers to self-characterizations of what one is. The continuity of personal identity resides more in psychological factors and the experiential continuity of one's life course than in physical constancy. Continuing self-identity in the midst of notable changes is preserved in memories that give temporal coherence to life (McAdams, 1996), in continuance of belief and value commitments that link the present to the past and shape the future, and in the connectedness of human relationships and one's lifework over time. As an agent, one creates identity connections over time (Korsgaard, 1996) and construes oneself as a continuing person over different periods in one's life. Through their goals, aspirations, social commitments, and action plans, people project themselves into the future and shape the courses their lives take. Personal identity is therefore rooted not only in phenomenological continuity, but also in agentic continuity.

Continuity in personal identity is not solely a product of an intrapsychic autobiographical process that preserves a sense of selfhood over time. Other people perceive, socially label, and treat one as the same person over the course of life despite one's physical changes. Personal identity is partially constructed from one's social identity as reflected in how one is treated by significant others. As the model of triadic reciprocal causation suggests, a sense of selfhood is the product of a complex interplay of personal construal processes and the social reality in which one lives.

FOUNDATION OF HUMAN AGENCY

Among the mechanisms of human agency, none is more central or pervasive than belief of personal efficacy (Bandura, 1997). This core belief is the foundation of human agency. Unless people believe they can produce desired effects by their actions, they have little incentive to act, or to persevere in the face of difficulties. Whatever other factors serve as guides and motivators, they are rooted in the core belief that one has the power to effect changes by one's actions.

Belief in one's efficacy is a key personal resource in personal development and change (Bandura, 1997). It operates through its impact on cognitive, motivational, affective, and decisional processes. Efficacy beliefs affect whether individuals think optimistically or pessimistically, in self-enhancing or self-debilitating ways. Such beliefs affect people's goals and aspirations, how well they motivate themselves, and their perseverance

in the face of difficulties and adversity. Efficacy beliefs also shape people's outcome expectations—whether they expect their efforts to produce favorable outcomes or adverse ones. In addition, efficacy beliefs determine how opportunities and impediments are viewed. People of low efficacy are easily convinced of the futility of effort in the face of difficulties. They quickly give up trying. Those of high efficacy view impediments as surmountable by improvement of self-regulatory skills and perseverant effort. They stay the course in the face of difficulties and remain resilient to adversity. Moreover, efficacy beliefs affect the quality of emotional life and vulnerability to stress and depression. And last, but not least, efficacy beliefs determine the choices people make at important decisional points. A factor that influences choice behavior can profoundly affect the courses lives take. This is because the social influences operating in the selected environments continue to promote certain competencies, values, and lifestyles.

Many meta-analyses of the effects of efficacy beliefs have been conducted. They have included both laboratory and field studies of diverse spheres of functioning, with diverse populations of varying ages and sociodemographic characteristics, and in different cultural milieus (Boyer et al., 2000; Holden, 1991; Holden, Moncher, Schinke, & Barker, 1990; Moritz, Feltz, Fahrback, & Mack, 2000; Multon, Brown, & Lent, 1991; Sadri & Robertson, 1993; Stajkovic & Luthans, 1998). The evidence from these meta-analyses shows that efficacy beliefs contribute significantly to level of motivation, emotional well-being, and performance accomplishments.

MORAL AGENCY

The exercise of moral agency, rooted in personal standards linked to self-sanctions, is an important feature of an agentic theory of human behavior (Bandura, 1986). In the development of moral agency, individuals adopt standards of right and wrong that serve as guides and deterrents for conduct. In this self-regulatory process, people monitor their conduct and the conditions under which it occurs, judge it in relation to their moral standards and perceived circumstances, and regulate their actions by the consequences they apply to themselves (Bandura, 1991b). They do things that give them satisfaction and a sense of self-worth, and they refrain from behaving in ways that violate their moral standards because such conduct will bring self-condemnation. Thus, moral agency is exercised through the constraint of negative self-sanctions for conduct that violates one's moral standards and the support of positive self-sanctions for conduct that is faithful to one's moral standards.

People have the capability to refrain from acting, as well as to act. In the face of situational inducements to behave in inhumane ways, they can choose to behave otherwise by exerting self-influence. The moral knowledge and standards about how one ought to behave constitute the cognitive foundation of mo-

rality. The evaluative self-sanctions serve as the motivators that keep conduct in line with moral standards. Moral thought is translated into moral conduct through this self-reactive regulatory mechanism.

Moral agents commit themselves to social obligations and righteous causes, consider the moral implications of the choices they face, and accept some measure of responsibility for their actions and the consequences of their actions for other people (Keller & Edelman, 1993). The types of activities that are designated as moral, their relative importance, and the sanctions linked to them are culturally situated. Hence, societies, and even subgroups within them, vary in the types of activities and social practices they consider to be central to morality (Shweder, 2003).

The exercise of moral agency has dual aspects—*inhibitive* and *proactive* (Bandura, 2004b; Rorty, 1993). The inhibitive form is manifested in the power to refrain from behaving inhumanely; the proactive form is expressed in the power to behave humanely. Thus, in exercising this dual nature of morality, people do benevolent things, as well as refrain from doing harmful things. When individuals strongly invest their self-worth in certain principles and values, they will sacrifice their self-interest and submit to prolonged maltreatment rather than accede to what they regard as unjust or immoral (Bandura, 1999b; Oliner & Oliner, 1988).

Moral standards do not function as unceasing internal regulators of conduct, however. Various psychosocial mechanisms can be used to disengage moral self-sanctions from inhumane conduct (Bandura, 1991b). Selective moral disengagement is most likely to occur under moral predicaments in which detrimental conduct brings valued outcomes. The disengagement may center on sanctification of harmful conduct by moral justification, self-exonerating social comparison, and sanitizing language. It may focus on obscuring personal agency by diffusion and displacement of responsibility, so that perpetrators do not hold themselves accountable for the harm they cause. It may involve minimizing, distorting, or even disputing the harm that flows from detrimental actions. And the disengagement may include dehumanizing, demonizing, and blaming the recipients of the injurious actions. Through selective moral disengagement, people who are considerate and compassionate in other areas of their lives can get themselves to support detrimental social policies, carry out harmful organizational and social practices, and perpetrate large-scale inhumanities (Bandura, 1999a).

In the nonagentic microdeterministic theories reviewed earlier, behavior is the product of nonconscious processes in which environmental inputs activate subpersonal modules that cause the actions. If people's actions are the product of the nonconscious workings of their neuronal machinery, and their conscious states are simply the epiphenomenal outputs of lower-level brain processes, it is pointless to hold people responsible for the choices they make and what they do. No one should be

held personally accountable for their harmful behavior—not transgressors for their crimes, police for abusive enforcement practices, prosecutors and jurors for biased sentencing practices, jailers for maltreatment of inmates, or the citizenry for the social conditions their public policies and practices breed. They can all disclaim responsibility for their actions. Their neural networks made them do it.

Analyses of neuroethics center mainly on the more parochial issues. They include the ethics of pharmacological manipulation of neural systems for self-enhancement and court-ordered management of offenders, breaches of privacy through functional neuroimaging intended to detect personal characteristics and cognitive and emotional states, genetic counseling, and the like (Farah, 2002). The more fundamental moral implications of neuroethics receive little notice, however.

The subpersonal workings of the biological machinery are nonethical. The issue of morality arises in the purposes to which behavior is put, the means that are used, and the human consequences of the actions. A deterministic thesis that humans have no conscious control over what they do, in fact, represents a position on morality. It is a position of moral nonaccountability that is socially consequential. Would a nonagentic conception of human nature erode the personal and social ethics that undergird a civil society? How would people create and maintain a civil society if its members were absolved of any personal accountability for their actions?

The capacity for moral agency is founded on a sense of personal identity, moral standards, and behavioral regulation through self-sanctions (Bandura, 1991b). This ability is acquirable. Social judgments of detrimental conduct are made in terms of personal controllability of the actions. For example, it is within individuals' capacity to stop at a red signal light. A driver who caused a fatal injury by running a red light would be held accountable for his actions. In moral agency, individuals can exercise some measure of control over how situations influence them and how they shape the situations. In the triadic interplay of intrapersonal, behavioral, and environmental events, individuals insert personal influence into the cycle of causation by their choices and actions. Because they play a part in the course of events, they are at least partially accountable for their contribution to those happenings.

Research conducted within the agentic perspective has furthered our understanding of the determinants and processes governing the development and exercise of moral agency (Bandura, 1991b, 1999a). These diverse lines of research clarify how individuals construct moral standards from the mix of social modeling, the moral values conveyed by evaluative social sanctions of their conduct, and tuition. They specify the processes by which people select, weigh, and integrate morally relevant information in making moral judgments. They explain the self-regulatory mechanisms linking moral judgments to moral conduct through self-sanctions. And they elucidate the psychosocial processes through which moral self-sanctions are

selectively engaged and disengaged in the management of moral predicaments.

GENETIZATION OF HUMAN BEHAVIOR

We are currently witnessing an extensive “genetization” of human behavior. Social roles and human practices are increasingly being proclaimed to be driven by the inertia of ancient biological programming. Not all evolutionary theorists speak with one voice, however. Psychological evolutionists often take a more extreme deterministic stance regarding the rule of nature (Archer, 1996; Buss, 1995) than do many biological evolutionists (Dobzhansky, 1972; Fausto-Sterling, 1992; Gould, 1987; Gowaty, 1997). Psychological evolutionists are quick to invoke evolved behavioral traits as cultural universals. Natural selection operates through functional advantages of adaptive patterns in a given environment. Biological evolutionists, therefore, emphasize functional relations between organisms and local environmental conditions, underscoring the diversifying selection influence of variant ecological niches. Cultures evolve over generations and shape the ways people need to live to survive in the particular cultural milieu in which they are immersed (Boyd & Richerson, 1985, 2005). As Boyd noted (Dreifus, 2005), humans evolved in the tropics but hunt seals in the Arctic. Genes did not teach them how to build a kayak; their culture did.

Biology provides the information-processing architectures and potentialities and sets constraints. But in most spheres of functioning, biology permits a broad range of cultural possibilities. As Gould (1987) noted, the major explanatory dispute is not between nature and nurture, as the issue is commonly framed. Rather, the issue in contention is whether nature operates as a determinist that has culture on a “tight leash,” as Wilson (1998) contended, or as a potentialist that has culture on a “loose leash,” as Gould (1987) maintained.

Humans have created societies of diverse natures: aggressive and pacific ones, egalitarian and despotic ones, altruistic and selfish ones, individualistic and collectivistic ones, and enlightened and backward ones. Evidence supports the potentialist view. For example, people possess the biological capability for aggressive acts, but cultures differ markedly in aggressiveness (Alland, 1972; Gardner & Heider, 1969; Levy, 1969). There are also wide differences in aggression within the same culture (Bandura, 1973). Even entire nations, such as Sweden and Switzerland, have transformed from warring societies to pacific ones. The Swiss used to be the main suppliers of mercenary fighters in Europe. As they transformed into a pacific society, their militaristic vestige was evident only in the plumage of the Vatican guards. For ages, the Vikings plundered other nations. After a prolonged war with Russia, the populace rose up and forced a constitutional change (Moerk, 1995) that prohibited kings from starting wars. This political act promptly transformed a warring society into a peaceful one. Sweden is now a mediator for peace among warring nations. Cultural diversity

and the rapid transformative societal changes that have occurred underscore that the answer to human aggression lies more in ideology than in biology.

Biological determinists support a conservative view of society that emphasizes the rule of nature, inherent constraints, and limitations. They contend that people should not try to remake themselves and their societies against the rule of nature, as the determinists construe it. Biological potentialists give greater weight to enabling social conditions that promote self-development and societal change. They emphasize human possibilities and how to realize them. People have changed little genetically over the past millennium, but over the recent decades they have changed markedly in their beliefs, mores, social and occupational roles, cohabiting arrangements, family practices, and styles of behavior in diverse spheres of life. They have done so through rapid cultural and technological evolution.

GROWING PRIMACY OF HUMAN AGENCY IN THE COEVOLUTION PROCESS

Dobzhansky (1972) reminded us that humans are a generalist species that was selected for learnability and plasticity of behavior, not for behavioral fixedness. Although not limitless, malleability and agentic capability are the hallmark of human nature. Because of limited innate programming, humans require a prolonged period of development to master essential competencies. Moreover, different periods of life present variant competency demands requiring self-renewal over the life course if the challenges of changing life circumstances are to be met. Adding to the necessity of changeability, the eras in which people live usher in technological innovations, shifts in socioeconomic conditions, cultural upheavals, and political changes that make life markedly different and call for new advantageous adaptations (Elder, 1994). These diverse adaptational changes are cultivated by psychosocial means.

People are not just reactive products of selection pressures served up by a one-sided evolutionism. They are prime players in the coevolution process. Social cognitive theory does not question the contribution of genetic endowment. Indeed, this endowment provides the very neuronal structures and mechanisms for the agentic attributes that are distinctly human. These include generative thought, symbolic communication, forethought, self-regulation, and reflective self-consciousness. The uniqueness of humans resides in these self-directing and self-transforming capacities.

Other species are heavily innately programmed as specialists for stereotypic survival in a particular habitat. In contrast, through agentic action, people devise ways of adapting flexibly to remarkably diverse geographic, climatic, and social environments. They devise ways to transcend their biological limitations. For example, humans have not evolved morphologically to fly, but they are soaring through the air and even in the rarified atmosphere of outer space at breakneck speeds despite this

fundamental constraint. Agentic inventiveness trumped biological design in getting them airborne. People use their ingenuity to circumvent and insulate themselves from selection pressures. They create devices that compensate immensely for their sensory and physical limitations. They construct complex environments to fit their desires, many of which are fads and fashions that are socially created by aggressive marketing practices. They create intricate styles of behavior necessary to thrive in complex social systems, and through social modeling and other forms of social guidance pass on to subsequent generations accumulated knowledge and effective practices. They transcend time, place, and distance, as they interact globally with the virtual environment of the cyberworld.

Through contraceptive ingenuity that disconnected sex from procreation, humans have outwitted and taken control over their evolved reproductive system. They seek sex without reproductive outcomes, rather than strive to propagate their kind in large numbers. They are developing reproductive technologies to separate sex even from fertilization. Through genetic engineering, humans are creating biological natures, for better or for worse, rather than waiting for the slow process of natural evolution. They are now changing the genetic makeup of plants and animals. Unique native plants that have evolved over eons are disappearing as commercial horticulturalists are supplanting them with genetically uniform hybrids and clones. Not only are humans cutting and splicing nature's genetic material, but, through synthetic biology, they are also creating new types of genomes. Humans are even toying with the prospect of fashioning some aspects of their own biological nature by genetic design.

The creative power of human agency generally is downgraded in evolutionary accounts of human behavior, especially in the more biologically deterministic views propounded in psychological evolutionism. Given the growing human modifications of evolved heritages and creative circumventing of endowed limitations, the common notion that biological evolution provides the potential and culture can do only so much with it alleges greater physical constraints than does evidence from the extraordinary human achievements of inventive agency.

As testified to by the diverse modes of behavioral control, the psychosocial side of coevolution is gaining ascendancy through the agentic power to transform environments and what humans become. In short, we are an agentic species that can alter evolutionary heritages and shape the future. What is technologically possible is likely to be attempted by someone. We face the prospect of increasing effort directed toward social construction of our biological nature through genetic design. These developments present an enormous challenge regarding how to bridle unbounded genetic manipulation (Baylis & Robert, 2004). The values to which people subscribe, and the social systems they devise to oversee the uses to which their technological power is put, will play a vital role in what people become and how they shape their destiny.

Were Darwin writing today, he would be documenting the overwhelming human domination of the environment. Many of the species in our degrading planet have no evolutionary future. We are wiping out species and the ecosystems that support life at an accelerating pace. Unlike former mass extinctions by meteoric disasters, the current mass extinction of species is the product of human behavior. As the unrivaled ruling species atop the food chain, we are drafting the requiem for biodiversity. By wielding powerful technologies that amplify control over the environment, humans are producing hazardous global changes of huge magnitude—deforestation, desertification, global warming, topsoil erosion and sinking of water tables in the major food-producing regions, depletion of fisheries, and degradation of other aspects of the earth's life-support systems. Expanding economies fueling consumptive growth by billions of people will intensify competition for the earth's vital resources and overwhelm efforts to secure an environmentally and economically sustainable future. Myriad parochial interests create tough impediments to improving living standards globally through sustainable ecodevelopment in which economic growth preserves the environmental basis for it. Through collective practices driven by a foreshortened perspective, humans may be well on the road to outsmarting themselves into irreversible ecological crises.

The global ecosystem cannot sustain soaring population growth and high consumption of finite resources. Some of the global applications of social cognitive theory are aimed at abating this most urgent global problem, especially in less-developed nations that have experienced high fertility rates and doubling of their populations over a short period (Bandura, 2002a; Rogers et al., 1999). These applications also seek to curb the spreading AIDS pandemic and to raise the status of women in societies in which they are marginalized, disallowed aspirations, and denied their liberty and dignity. These worldwide applications combine the functions of three models in ways that augment widespread changes. They combine a theoretical model that provides the guiding principles, a translational and implementational model that converts theory into innovative practice, and a social diffusion model that fosters adoption of changes through functional adaptations to diverse cultural milieus.

These global applications in Africa, Asia, and Latin America use the enabling power and reach of the mass media, in the form of long-running serialized dramas, as the vehicle of personal and social change. They portray people's everyday lives, the impediments with which they struggle, and realistic solutions to those impediments. They inform, enable, and motivate people to take control of their reproductive life, to visualize a better future, and to take the steps to realize it. These types of changes help people break the cycle of poverty, improve their lives, and adopt reproductive and environmental practices that support ecological sustainability.

EXERCISE OF AGENCY IN CULTURAL CONTEXT

A contentious dualism pervades the field of cultural psychology, pitting autonomy against interdependence, individualism against collectivism, and human agency against social structure reified as an entity disembodied from the behavior of individuals. It is widely claimed that Western theories lack generalizability to non-Western cultures. In truth, however, the relative weight given to individual, proxy, and collective agency varies cross-culturally and across spheres of life, but one needs all forms of agency to make it through the day, regardless of where one happens to live.

Most of cultural psychology is based on territorial culturalism. Nations are used as proxies for psychosocial orientations. For example, residents of Japan get categorized as collectivists, and those in the United States as individualists. But cultures are dynamic and internally diverse systems, not static monoliths. There is substantial diversity among societies placed in the same category. For example, collectivistic systems founded on Confucianism, Buddhism, and Marxism all favor a communal ethic. But they differ in values, meanings, and the customs they promote (Kim, Triandis, Kâğitçibasi, Choi, & Yoon, 1994). Nor are so-called individualistic cultures a uniform lot. Americans, Italians, Germans, French, and the British differ in their brands of individualism. There is also diversity across regions within the same country. In the United States, the Northeast brand of individualism is quite different from the Midwestern and Western versions, which differ from that of the Deep South (Vandello & Cohen, 1999). Given the notable diversity, bicultural contrasts in which members of a single collectivist culture are compared with those of a single individualistic one can spawn misleading generalizations.

The differences associated with sociodemographic characteristics are even greater than the differences between cultures (Matsumoto, Kudoh, & Takeuchi, 1996). For example, there are generational and socioeconomic differences in communality in collectivistic cultures. Analyses across activity domains and classes of social relationships further reveal that people behave communally in some aspects of their lives and individualistically in many other aspects (Freeman & Bordia, 2001; Matsumoto et al., 1996). They express their cultural orientations conditionally, depending on incentive conditions, rather than invariantly (Yamagishi, 1988). Measures of cultural traits cast in terms of faceless others and disembodied from domains of activity, social contexts, and incentive conditions mask this diversity upon which human adaptation is conditional. This multifaceted diversity underscores the conceptual and empirical problems of using nations as proxies for culture, and then ascribing global traits to a nation and its members as though they all believed and behaved alike (Gjerde & Onishi, 2000).

Not only are cultures not monolithic entities, but they are no longer insular. Global connectivity is shrinking cross-cultural uniqueness. Transnational interdependencies and global mar-

ket forces are restructuring national economies, and shaping the political and social life of societies. Advanced telecommunications technologies are disseminating ideas, values, and styles of behavior transnationally at an unprecedented rate. The symbolic environment, feeding off communication satellites, is altering national cultures and producing intercultural commonalities in some lifestyles. The growing role of electronic acculturation is fostering a more extensive globalization of culture. People worldwide are becoming increasingly enmeshed in a cyberworld that transcends time, distance, place, and national borders. In addition, mass migrations of people, and high global mobility of entertainers, athletes, journalists, academics, and employees of multinational corporations, are changing cultural landscapes. This intermixing creates new hybrid cultural forms, blending elements from different ethnicities. Growing ethnic diversity within societies conveys functional value to bicultural efficacy that can be used to navigate the demands of both one's ethnic subculture and the culture of the larger society.

These social forces are homogenizing some aspects of life, polarizing other aspects, and fostering considerable cultural hybridization (Holton, 2000). The new realities call for broadening the scope of cross-cultural research to include analyses of how national and global forces interact to shape the nature of cultural life. As globalization reaches ever deeper into people's lives, a strong sense of collective efficacy to make transnational systems work for them becomes critical to furthering their common interests and welfare.

One must distinguish between inherent capacities and how culture shapes these potentialities into diverse forms. For example, observational learning figures prominently in social cognitive theory. Humans have evolved an advanced capacity for observational learning. It is essential for their self-development and functioning regardless of the culture in which they reside. Indeed, in many cultures, the word for "learning" is the word for "show" (Reichard, 1938). Modeling is a universalized human capacity. But what is modeled, how modeling influences are socially structured, and the purposes they serve vary across cultural milieus (Bandura & Walters, 1963). Global applications of social cognitive theory to promote society-wide changes attest to the power of social modeling in diverse cultural milieus (Bandura, 2002a, 2006; Rogers et al., 1999; Vaughan, Rogers, Singhal, & Swalehe, 2000).

A growing body of research shows that a resilient sense of efficacy has generalized functional value regardless of whether one resides in an individualistically oriented culture or a collectivistically oriented one (Earley, 1993, 1994; Gibson, 1995). Being immobilized by self-doubt and believing in the futility of effort have little evolutionary advantage. But how efficacy beliefs are developed and structured, the ways in which they are exercised, and the purposes to which they are put vary cross-culturally. In short, there is cultural commonality in basic agentic capacities and mechanisms of operation, but diversity in

the culturing of these inherent capacities. In this dual-level analysis, universality is not incompatible with manifest cultural plurality. Kluckhohn and Murray summarized eloquently the blend of universality, commonality, and uniqueness of human qualities: Every person is in certain aspects like all other people, like some other people, like no other person (as cited in Muñoz & Mendelson, 2005).

Research testifies to the cross-cultural generalizability of self-efficacy theory. The factor structure of self-efficacy beliefs is essentially the same in different cultural systems (Pastorelli et al., 2001). Not only is the structure of self-efficacy beliefs comparable cross-culturally, but so are their functional properties. Regardless of whether the culture is American, Italian, Korean, or Chinese, the stronger the perceived self-efficacy, the higher the performance attainments (Bandura et al., 1996; Bong, 2001; Joo, Bong, & Choi, 2000; Shih & Alexander, 2000). The cross-cultural comparability of function is evident as well in the impact of efficacy beliefs on perceived occupational efficacy and career choice and development (Bandura et al., 2001; R. Lent, Brown, & Larkin, 1987; R. Lent, Brown, Nota, & Soresi, 2003). Even the mechanisms through which self-efficacy beliefs affect performance are replicated cross-culturally (Bandura, 2002b; Cheung & Sun, 2000; R. Lent et al., 2003; Park et al., 2000).

GROWING PRIMACY OF HUMAN AGENCY IN DIVERSE SPHERES OF LIFE

The societies of today are undergoing drastic social, informational, and technological changes. The revolutionary advances in electronic technologies and globalization are transforming the nature, reach, speed, and loci of human influence. These new realities present new challenges and vastly expand opportunities for people to exercise some measure of control over how they live their lives. Wrenching changes that dislocate and restructure lives are not new in history. What is new is the boundless scope and accelerated pace of human transactions, and the growing globalization of human interconnectedness.

Life in the rapidly evolving cyberworld transcends time, place, distance, and national borders, and alters our conceptions of them. People now have instantaneous communicative access worldwide. It is transforming how people communicate, educate, relate to each other, and conduct their business and daily affairs. These transformative changes are placing a premium on the exercise of human agency to shape personal destinies and the national life of societies.

Most of our psychological theories were formulated long before the revolutionary changes in communications and the new social realities these technologies have created. Given the circumscribed situational boundedness of people's lives at the time, the traditional psychological theories focused heavily on behavioral transactions and contingencies operating within people's confined tangible environment. The situational tran-

scendence afforded by ready access to vast symbolic environments in the cyberworld has enabled people to take a stronger hand in shaping their lives. Consider some examples of the growing primacy of human agency in virtually every sphere of life.

In the educational field, students can now exercise greater personal control over their own learning. In the past, their educational development was heavily dependent on the quality of the schools in which they were enrolled. Students now have the best libraries, museums, and multimedia instruction at their fingertips through the global Internet, and they can use these resources for educating themselves. They can do this independently of time and place. This shift in the locus of initiative requires a major reorientation in students' conception of education. They are agents of their own learning, not just recipients of information. Education for self-directedness is now vital for a productive and innovative society. Proficient self-regulators gain knowledge, skills, and intrinsic interest in academic areas; deficient self-regulators achieve limited self-development (Schunk & Zimmerman, 1994; Zimmerman, 1989).

At the student, teacher, and school levels, a sense of efficacy contributes to academic development (Bandura, 1997; Pajares & Schunk, 2001). We are entering a new era in which the construction of knowledge will rely increasingly on electronic inquiry. Students with high perceived efficacy for self-regulated learning are the ones who make the best use of Internet-based instruction (Joo et al., 2000).

Health is another sphere of functioning in which the exercise of personal agency is gaining prominence. The health field is changing from a disease model to a health model. It is just as meaningful to speak of levels of vitality and healthfulness as to speak of degrees of impairment and debility. The quality of health is heavily influenced by lifestyle habits, which means that people can exercise some control over their health. Current health practices focus heavily on the medical supply side, and there is growing pressure on health systems to reduce, ration, and delay health services to contain health costs. The social cognitive approach, founded on an agentic model of health promotion, focuses on the demand side (Bandura, 2000b, 2004a). It promotes effective self-management of health habits that keep people healthy.

Increasing applications of the self-regulatory model are enhancing people's health status, improving the quality of their lives, and reducing their risk of disease and need for costly health services (Bandura, 2005; M. Clark et al., 1997; DeBusk et al., 1994; Holman & Lorig, 1992; Lorig & Holman, 2003). This self-regulatory model is being integrated into mainstream health care systems and adopted internationally (N. Clark et al., in press; Dongbo et al., 2003; Lorig, Hurwicz, Sobel, & Hobbs, in press). People's beliefs in their self-regulatory efficacy affect every phase in the adoption of healthful practices—whether they even consider changing their health habits, whether they enlist the motivation and perseverance needed to succeed

should they choose to do so, and how well they maintain the changes they have achieved (Bandura, 1997, 2004a).

A major part of people's daily life is spent in occupational activities. These pursuits do more than provide income for one's subsistence. They serve as a major source of personal identity, self-evaluation, and social connectedness. Beliefs of personal efficacy play a key role in occupational development and pursuits (Bandura, 1997; R. Lent, Brown, & Hackett, 1994). The capacity for self-renewal is becoming a prominent factor in a satisfying occupational life. In the past, employees learned a given trade and performed it much the same way throughout their lifetime in the same organization. The historic transition from the industrial to the information era calls for advanced cognitive and self-regulatory competencies. With the fast pace of change, knowledge and technical skills are quickly outmoded unless they are updated to fit the new technologies. Employees have to take charge of their self-development to meet the challenges of evolving positions and careers over the full course of their work lives. Those of high self-efficacy influence the course of their occupational self-development, are receptive to innovations, and make their work life more productive and satisfying by restructuring their occupational roles and the processes by which their work is performed (Frese, Teng, & Ceas, 1999; Jorde-Bloom & Ford, 1988; McDonald & Siegall, 1992; Speirer & Frese, 1997).

Many occupational activities are increasingly conducted by members of virtual teams working together from scattered locations via the Internet. Working remotely across time, space, and cultural orientations can be taxing. A high sense of efficacy promotes positive attitudes for remotely conducted collaborative work and enhances group performance (Staples, Hulland, & Higgins, 1998).

Agentic adaptability has become a premium at the organizational level as well. Organizations must continuously innovate to survive and prosper in the rapidly changing global marketplace. They face the paradox of preparing for change at the height of success. Many fall victim to the inertia of success. They get locked into the technologies and products that produced their success and fail to adapt fast enough to the technologies and marketplaces of the future. The development of new business ventures and the renewal of established ones depend heavily on innovativeness and entrepreneurship. Turning visions into realities entails heavy investment of time, effort, and resources in ventures strewn with many difficulties, unmerciful impediments, and uncertainties. A resilient sense of efficacy provides the necessary staying power in the torturous pursuit of innovations. Indeed, perceived self-efficacy predicts entrepreneurship and which patent inventors are likely to start new business ventures (Baron & Markman, 2003; Chen, Greene, & Crick, 1998).

It is the organizations with a high sense of collective efficacy that create innovative changes that fit evolving technologies and global marketplaces (Bandura, 2000a). However, hard-driving

competitiveness raises value issues concerning the purposes to which human talent, advanced technologies, and resources are put. Some intense market activities promote lavish consumption that neither uses our finite resources wisely nor leads to a better quality of life. Many of these practices may be profitable in the short run, but, as previously noted, they are environmentally unsustainable in the long run.

The revolutionary advances in communications technology also enable people to bring their influence to bear on social and political matters in ways that were not possible before. The Internet technology gives people an instrument of global reach, free of centralized institutional controls and gatekeepers who reign over the mass media. People can now transcend time, place, and national borders to make their voice heard on matters of personal interest and concern. The Internet is not only a vehicle of unlimited social reach. It also serves as a means for building social networks by connecting disparate groups and individuals in pursuit of common cause. By coordinating and mobilizing decentralized self-organizing groups, people can meld local networks with different self-interests into a vast collectivity for unified action for common purpose (Shapiro, 2003).

The Internet is a tool that requires personal enablement for its effective use. It is individuals with a sense of personal and collective efficacy who voice their views and participate in social and political activities in the arena of the cyberworld (Bandura, 1997). But human agency does not come with a built-in value system. The Internet is a double-edged tool. Internet freelancers can use this unfiltered and unfettered forum to propagate hate and to mobilize support for detrimental social practices.

CONCLUDING REMARKS

Viewed from the perspective of nonreductive physicalism, the field of psychology is not merely an ancillary branch of a more fundamental theoretical system. Psychology is the one discipline that uniquely encompasses the complex interplay among biological, intrapersonal, interpersonal, and sociostructural determinants of human functioning. As a core discipline, it is especially well suited to advance understanding of the integrated biopsychosocial nature of humans, and how they agentially manage and shape the everyday world around them. Today's world of accelerated social, informational, and technological changes with instant communicative access worldwide provides people with expanded opportunities to bring their influence to bear on events that affect their lives. The exercise of individual and collective agency is contributing increasingly, in virtually every sphere of life, to human development, adaptation, and change. At the broader social level, the challenges center on how to enlist these agentic human capabilities in ways that shape a better and sustainable future.

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