Reflections on an Agentic Theory of Human Behavior

Albert Bandura

A world of accelerated social, informational, and technological changes 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 to human development. How can we enlist these agentic human capabilities in ways that shape a better and sustainable future?

Correspondence concerning this article should be addressed to Albert Bandura, Department of Psychology, Stanford University, Jordan Hall, Building 420, Stanford, California 94305–2130. Email: Bandura@psych.stanford.edu. *A major portion of this article was presented as an invited address at the celebration of the 25th anniversary of the Faculty of Psychology, University of Bergen. Sections of this article include revised, updated, and expanded material from my article «Towards a psychology of human agency,»* Perspectives in Psychological Science*, 2006, 1, 164–180.*

I will present an agentic perspective to human self-development, adaptation, and change. Our 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 provides 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. Humans 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 visualize futures that act on the present, construct, evaluate, and modify alternative courses of action, and override environmental influences.

To be an agent is to influence intentionally one's functioning and life circumstances. In this view people are self-organizing, proactive, self-regulating and self-reflecting. They are contributors of their life circumstances, not just products of them.

Core Properties of Human Agency

There are four core properties of human agency. One such property is *intentionality.* People form intentions that include action plans and strategies for realizing them. The second property involves the temporal extension of agency through *forethought.* This includes more than future-directed plans. People set themselves goals and anticipate likely outcomes of prospective actions to guide and motivate their efforts anticipatorily. When projected over a long time course, a forethoughtful perspective provides direction, coherence, and meaning to one's life.

The third feature is *self-reactiveness.* Agents are not only planners and forethinkers. They are also self-regulators. They adopt personal standards and monitor and regulate their actions by self-reactiveness. They do things that give them satisfaction and a sense of self-worth, and refrain from actions that bring censure. The fourth feature is *self-reflectiveness.* People are not only agents of action.

They are self-examiners of their own functioning. Through functional self-awareness they reflect on their personal efficacy, the soundness of their thoughts and actions, the meaning of their pursuits, and make corrective adjustments if necessary.

Nonagentic Theoretical Approaches

In its brief history psychology has undergone wrenching paradigm shifts. Behaviorists gave us the input-output model linked by a 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 cognitivism was, in turn, supplanted by connectionist models that operate through interconnected, multilayered, neuronal-like subsystems. Sensory organs deliver up information to a network acting as the mental machinery that processes the inputs and generates the output directly and nonconsciously.

These alternative theories differ in what they place in the internal system, but they share the same bottom-up causal structure: Input 4 Throughput 4 Output. These conceptions do not endow humans with agentic capabilities, a functional consciousness and a self-identity. As Harré (1983) notes, it is not individuals but their subpersonal modules that are orchestrating activities nonconsciously. In actuality, people act on the environment. They create it, uphold it, transform it, and even destroy it, rather than merely react to it as a given. This involves a socially-embedded interplay between the exercise of personal agency and environmental influences.

Proactive Agents Versus Host Onlookers

Consciousness is the very substance of mental life. It not only makes life personally manageable but worth living. A functional consciousness involves purposeful accessing and deliberative processing of information for selecting, constructing, regulating, and evaluating courses of action.

In the metatheory advanced by Sperry (1993), cognitive agents regulate their actions by cognitive downward causation as well as undergo upward activation by sensory stimulation. Consciousness is an emergent brain activity. But it is not simply an epiphenomenal byproduct of lower brain processes. Deliberative and reflective consciousness has a unique downward causal function in enlisting and regulating lower level brain activities.

One must distinguish between understanding how the biological machinery works in implementing cognitive algorithms by nervous systems, and how the biological machinery is orchestrated agentically for diverse purposes. To use an analogy, knowing the mechanics of how a televised set produces images does not explain the creative programs it implements. People are agentic operators 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 hazards people have to make sound judgments about their capabilities, anticipate the probable effects of different events and courses of action, size up sociostructural 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 insights into the social construction 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. We need to go beyond the localization and brain circuitry subserving human activities to the social development and functional organization of the brain.

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 phenomena are reducible to the laws operating at atomic and molecular levels. Methodological reductionism maintains that research on lower level processes will ultimately explain the phenomena at higher levels of complexity. Many methodological reductionists regard the lower level inquiry as the really fundamental science and take a skeptical view of research at the psychosocial level. Knowledge gained through the study of rudimentary processes is generalizable to some aspects of human functioning, but there are limits as to what it can tell us about the complex human capacity for abstraction and symbolic thinking or the workings of societal systems.

Most everyone adopts the ontological view that cognitive events are brain activities not immaterial entities. It is the epistemological form of reductability 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, therefore, must be explained in their own right. The laws governing atomic particles will not provide the answer to psychosocial life and the functioning of social systems. Thus, physicality, in the ontological sense does not imply reduction of psychology to biology, chemistry, or physics.

As Nagel (1961) explains, there are two necessary conditions for reductability: they include connectability across theoretical schemes and derivability. Neither the concepts nor the functional relations in psychological theories have counterparts in physics or chemistry. Psychological laws are, therefore, not derivable from the laws explaining atomic particles. Much of psychology is concerned with discovering principles about how to structure environmental conditions to promote given psychosocial outcomes and the psychosocial mechanisms through which they produce their effects.

How the neuronal system works, and how to regulate it by psychosocial means are different matters. Each explanatory system is governed by its own set of laws that must be studied in its own right. For example, knowledge of the locality and brain circuitry subserving learning can say little about how best to devise conditions of learning in terms of level of abstractness and challenge, in what modes to present information, how to get people to attend to, process, and organize relevant information, and whether learning is better achieved independently, cooperatively or competitively. The optimal conditions must be specified by psychological principles. A full explanation of human learning must encompass both the psychosocial principles and the neurobiological principles governing the processes of learning. There is little at the neuronal level that can tell us how to develop

efficacious parents, teachers, executives, or tenacious social reformers. This requires a psychological level theory.

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 us to address the formidable explanatory challenge for a physicalistic theory of human agency, and a nondualistic cognitivism. How do people intentionally activate brain processes to realize given intentions and purposes?

Second-Order Control of Neuronal Processes

In acting as agents, individuals obviously are neither aware of, nor directly modifying, their brain states 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. 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 controls directly, regulate the mechanical machinery to get 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.

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 the psychological theorizing and research is devoted to verifying such functional dependencies. Neuroimaging is shedding light on how agentic activities develop and orchestrate the neurodynamics. Because individuals have no awareness of their brain processes does not mean that they are just quiescent hosts of automata that dictate their behavior.

Genetization of Human Behavior

We are currently witnessing extensive genetization of human behavior, especially by psychological evolutionists. Virtually every human practice is now being proclaimed as driven by the inertia of ancient, biological propensities. However, not all evolutionists speak with one voice. 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 that underscore the diversifying selection influence of variant ecological niches.

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 Jay Gould (1987) notes, the major explanatory battle is not between nature and nurture as commonly framed. But whether nature operates as a determinist, that has culture on a «tight leash,» as Wilson (1998) contends, or as a potentialist that has culture on a «loose leash,» as Gould (1987) maintains. Humans have created societies of diverse natures: aggressive and pacific ones. Egalitarian and despotic ones. Altruistic and selfish ones. Individualistic and collectivistic ones. 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. 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 is evident only in the plumage of the Vatican guards. For ages the Vikings plundered other nations. After a prolonged war with Russia, the populous rose up and forced a constitutional change that prohibited kings from starting wars. This political act transformed a warring society into a peaceful one (Moerk, 1995). Sweden is now a mediator for peace among warring nations. Cultural diversity and rapid transformative societal change underscore that the answer to human aggression lies more in ideology than in biology.

Biological determinists support a conservative view of society. It emphasizes the rule of nature, inherent constraints, and limitations. They argue that people should not try to remake themselves and their societies against the rule of nature, however they construe it. Biological potentialists give greater weight to enabling social conditions for self-development and societal change.

People have changed little genetically over the past millennium but they have changed markedly over the recent decades in their beliefs, mores, social and occupational roles, cohabiting arrangements, family practices, and styles of behavior. They have done so through rapid cultural and technological evolution. Cultures evolve over generations and shape the ways people need to live in the particular cultural milieu in which they are immersed. As Boyd and Richerson (2005) note, humans evolved in the tropics but hunt seals in the Arctic. Genes did not teach them to build a kayak, their culture did.

Growing Primacy of Human Agency in the Co-evolution Process

As Dobzhansky (1972) puts it, humans are a generalist species that was selected for learnability and plasticity of behavior not for behavioral fixedness. Because of limited innate programming, humans require a prolonged period of development, and self-renewal over the life course to meet the challenges of changing life circumstances.

People are not just reactive products of selection pressures served up by a one-sided evolutionism. They are prime players in the co-evolution process. Through this bidirectionality of influence, people have evolved the capacity for the very agentic attributes that are distinctly human. These include generative symbolization, 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 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 create technologies 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 overrides biological design in getting them airborne.

Consider other examples of the growing primacy of human agency in the co-evolution process. 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 transcend time, place, and distance as they interact globally with the virtual environment of the cyberworld. They redesign and construct environments to their desires, many of which are socially created by aggressive marketing practices. They devise intricate styles of behavior necessary to thrive in a complex social

system and pass on to subsequent generations the accumulated knowledge and effective practices by social modeling and other forms of social guidance.

Through contraceptive ingenuity, that disconnected sex from procreation, humans have outwitted and taken control over their evolved reproductive system. They are developing reproductive technologies to separate sex 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 make-up of plants and animals. Humans are not only cutting and splicing nature's genetic material. They are creating new types of genomes by synthetic biology. They are even toying with the prospect of fashioning some aspects of their own biological nature by genetic design.

In these many ways, the psychosocial side of co-evolution is gaining ascendancy through the agentic power to transform environments and the course of human development. In short, humans 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 at direct social construction of our biological nature through genetic design. The values to which we subscribe and the social systems we devise to oversee the uses to which we put our technological power, will play a vital role in what we become and how we shape our 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 them out and the ecosystems that support life at an accelerating pace. Past mass extinctions were 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 degrading the ecological supports of life and 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 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 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 by sustainable eco-development 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 outsmart themselves into irreversible ecological crises.

Foundation of Human Agency

Among the mechanisms of human agency none is more central or pervasive than beliefs of personal efficacy (Bandura, 1997). This core belief is the foundation of human motivation and accomplishments. 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 self-development, successful adaptation, and change. 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 obstacles 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. 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 selected environments continue to promote certain competencies, values, and lifestyles.

Modes of Agency

Social cognitive theory distinguishes among three modes of agency. They include individual, proxy, and collective efficacy. In personal agency, exercised individually, people bring their influence to bear on their own functioning and on environmental events. In many spheres of life, people do not have direct control over conditions that affect their lives. They exercise socially-mediated 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. People do not live in isolation. They have to work together to manage and improve their lives. They pool their knowledge, skills, and resources and act in concert to shape their future. Everyday functioning requires an agentic blend of individual, proxy, and collective efficacy.

Because efficacy beliefs involve self-referent processes, self-efficacy is often misconstrued as self-centered individualism. Self-efficacy does not come with a built in singular value system. Personal efficacy can serve varied purposes, many of which subordinate self-interest to the benefits of others. Gandhi provides a striking example of austere self-sacrifice in the exercise of tenacious personal efficacy to overthrow oppressive rule.

Personal efficacy is valued, not because of reverence for individualism, but because a resilient sense of efficacy has generalized functional value, regardless of whether activities are pursued individually or by people working together. People's goals and aspirations designate the values their efficacy serves. The duality between agency and communion is a false dichotomy. Perceived self-efficacy to promote communal relationships fosters communal styles of behavior.

Exercise of Agency in Cultural Context

A contentious dualism pervades our field, pitting autonomy against interdependence, individualism against collectivism, and social structure against agency. The blend of individual, proxy, and collective agency may vary cross-culturally. But one needs all forms of agency to make it through the day wherever one lives. Much of our cultural psychology is based on territorial culturalism. Nations are used as proxies for psychosocial orientations. For example, residents of Japan get categorized as collectivists, those in the United States as individualists.

Cultures are dynamic and internally diverse systems, not static monoliths. There is substantial diversity among societies placed in the same category. Collectivistic systems founded on Confucianism, Buddhism, and Marxism favor a communal ethic. But, they differ in values, meanings,

and the customs they promote (Kim, Triandis, Kâitçibasi, 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 in regions within the same country. There are even greater individual differences among members within cultures. For example, there are generational and socio-economic differences in communality in collectivistic cultures (Matsumoto, Kudoh, & Takeuchi, 1996). The younger, higher educated, and more affluent members are adopting individualistic orientations.

Analyses across activity domains and classes of social relationships reveal that people behave communally in some aspects of their lives and individualistically in many other aspects. They express their cultural orientations conditionally, rather than invariantly depending on incentive conditions (Yamagishi, 1988).

The categorical approach masks extensive diversity. The diversity within cultures underscores the conceptual and empirical problems of using nations as proxies for culture and then ascribing global traits to the nations and its members as though they all believed and behaved alike.

Not only are cultures not monolithic entities but they are no longer insular. Transnational interdependencies and global market 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 homogenizing collective consciousness. People are spending much of their time in the expanding cyberworld. This is furthering the globalization of culture. 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.

These social forces are homogenizing some aspects of life, polarizing other aspects, and fostering a lot of cultural hybridization. Growing ethnic diversity within societies adds functional value to bicultural efficacy. This enables people to navigate the demands of both one's ethnic subculture and that of the larger society. These new realities call for broadening the scope of cross-cultural research beyond the focus on the social forces operating within given societies. The issues of interest center on how diverse national orientations interact with global forces to shape the nature of cultural life.

It is widely claimed that Western theories lack generalizability to non-Western cultures. One must distinguish between basic human 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 learning through observation of modeled attitudes, values, and styles of behavior.

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 structured, and the purposes they serve varies in different cultural milieus.

A resilient sense of efficacy also has generalized functional value, regardless of the culture in which one resides. Being immobilized by self-doubt and belief in the futility of effort has little evolutionary value. But how efficacy beliefs are developed, the ways in which they are exercised, and the purposes to which they are put vary cross-culturally. In short, there is a 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. Cultural variations emerge from universalized capacities through the influence of social practices reflecting shared values, beliefs, and norms and from the impact of incentive systems, role prescriptions, and pervasive modeling of distinctive styles of thinking and behaving. The distinguished anthropologist, Kluckholn summarized eloquently the blend of universality, commonality, and uniqueness of human qualities (Muñoz and Mendelson, 2005). «Every person is in certain aspects like all other people. Like some other people. Like no other person.»

Global applications of social cognitive theory to promote society-wide changes confirm the power of social modeling and efficacy beliefs in diverse cultural milieus (Bandura, 2006; Singhal, Cody, Rogers, & Sabido, 2004). These applications, which reach millions of people in Africa, Asia, and Latin America, address some of the most urgent global problems. These include soaring population growth, especially in less developed nations; pernicious gender inequity in which women are subjugated, marginalized, and denied aspirations and their liberty and dignity; and the spreading AIDS epidemic.

Long-running serial dramas serve as the vehicle to alleviate such problems and to improve the quality of peoples' lives. They inform, enable, motivate, and guide viewers for personal and social changes that improve their life conditions. These dramatic productions are not just fanciful stories. They portray peoples' everyday lives. They help viewers to see a better life and provide the strategies and incentives that enable them to take the steps to realize it. These are not programs foisted on nations by outsiders. The serials are created by invitation from nations seeking help. They are produced in partnership with the local media personnel to create serials appropriate to their culture.

These applications change deeply held beliefs and social practices through strong emotional bonding to efficacious models who provide a vision of a better future. Hundreds of episodes allow people time to form emotional bonds to the characters. Viewers in these diverse cultures become emotionally engaged in the lives of the models and identified with their aspirations and perseverance. Viewers take steps that advance them toward the future they want to realize.

The societies of today are undergoing drastic social, informational, and technological changes. The revolutionary advances in electronic technologies and globalization are transforming the nature, the reach, the speed, and the loci of human influence. These new realities present adaptational challenges and vastly expand opportunities for people to exercise some measure of control over how they live their lives.

Growing Primacy of Human Agency in Diverse Spheres of Life

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 out conceptions of them. People now have instantaneous communication 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 create. Consider some examples of how the growing primacy of human agency enables people to take a stronger hand in shaping virtually every aspect of their life.

Educational Development and Functioning

Increasing complexities in technologies, social systems, and the international economy now place heavy demands on development of higher-order cognitive competencies. As a result, educational deficiencies have increasingly serious personal and societal consequences. The hope and future of people in a knowledge-based global society that is rapidly changing reside in their capacities for continual self-development and self-renewal. Educational systems must change their emphasis from mainly imparting knowledge to teaching students how to educate themselves throughout their lifetime. They have to be adaptable and proficient self-directed learners.

In the past, children's educational development was heavily dependent on the quality of the schools in which they were enrolled. Students can now exercise greater personal control over their own learning. They have the best libraries, museums, and multimedia instruction at their fingertips through the global Internet for educating themselves. They can do this independently of time and place. Information technologies do more than just expand access to vast bodies of information. They also serve as a convenient vehicle for building social networks for creating shared knowledge through collaborative learning. Through interactive electronic networking, people link together in dispersed locales, exchange information, share new ideas, and work collaboratively on projects.

This shift in locus of initiative requires a major reorientation in students' conception of education. They are agents of their own learning, not just recipients of information. It is not enough to have self-management skills. They will contribute little if students cannot get themselves to apply those skills persistently in the face of difficulties, stressors, and competing attractions. Firm belief in one's efficacy to exercise control over one's motivation, and activities provides the needed staying power. Efficacious self-regulators gain knowledge, skills, and intrinsic interest in academic activities, deficient self-regulators achieve limited self-development (Bandura & Schunk, 1981; Zimmerman, 1989; Zimmerman, Bandura & Martinez-Pons, 1992; Schunk & Zimmerman, 1994). The content of early schooling is perishable and long forgotten, but self-management skills last a lifetime as a valuable means for continual self-development Education for self-directedness in this information era is vital for a productive and innovative society.

Occupational Functioning

A major part of people's daily life is spent in occupational activities. These pursuits do more than provide income for one's livelihood. They serve as a major source of personal identity, self-evaluation, and social connectedness. Self-regulation is becoming a key factor in occupational life as well. In the past, employees learned a given trade and performed it much the same way during their lifetime in the same organization. The historic transition from the industrial to the information era calls for advanced cognitive and self-regulatory competencies.

Efficacy beliefs shape career choice and development (Lent, Brown, & Hackett, 1994). The higher the people's perceived efficacy the wider the career options they seriously consider pursuing. The greater the interest they have in them. The better they prepare themselves educationally for different occupational careers, and the greater their staying power in chosen challenging pursuits.

Much of the world of work is now being structured so employees assume greater operational control. In many occupational activities they work in flexible self-managed teams. With the fast pace of change, knowledge and technical skills are quickly outmoded unless they are updated to fit the new technologies. In the self-management of their occupational life, employees have to take charge

of their self-development for a variety of evolving positions and careers over the full course of the worklife. Those of high self-efficacy take a hand in their occupational self-development, are receptive to innovations, and make their work life more productive and satisfying by restructuring occupational roles and the processes by which the work is performed (Frese, Teng, & Cees, 1999; Jorde-Bloom & Ford, 1988; McDonald & Siegall, 1992; Speirer & Frese, 1997).

To add to the complexity of contemporary occupational life, many occupational activities are increasingly performed 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).

Organizational Functioning

Efficacious 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 change fast enough to the technologies and marketplaces of the future.

The development of new business ventures and the renewal of established ones depends heavily on innovativeness and entrepreneurship. Such pursuits are strewn with obstacles and uncertainties. Turning visions into realities is an arduous process, with uncertain outcomes. Entrepreneurship, therefore, requires a robust efficacy to sustain one through the stresses and discouragements inherent in innovative pursuits (Bandura, 1997).

There has been a phenomenal growth of digital technologies. A prime example is Silicon Valley. It is not a place. It is a flourishing entrepreneurial subculture distributed around the San Francisco Area (Lee, Miller, Hancock, & Rowen, 2000). There is extensive cross-pollination of ideas in this milieu through an open regional network. Individuals with diverse expertise exchange ideas freely, celebrate risk taking, and accept failure as a natural part of innovative success. Close ties to universities that generate creative ideas, and ready venture capital nurture the climate for innovation and reinforce the entrepreneurial spirit.

The organizations with a high sense of collective efficacy are the ones that create innovative changes to the evolving technologies and global marketplaces and maintain their productivity (Bandura, 2002). However, hard-driving competitiveness raises value issues concerning the purposes to which human talent, advanced technologies, and resources are put. Some of the intense market activities promote lavish consumption that neither use our finite resources wisely nor lead to a better quality of life. Many of these practices may be profitable in the short-run, but are environmentally and economically unsustainable in the long-run.

Technological innovations and globalization are creating a growing social and economic divide between the rich and poor within societies and across different nations. The daunting challenge is to make globalization more inclusive and the benefits of technological innovation more equitably distributed. There is more to society than the market place. Critics of globalization admonish those who control the transnational market forces for their failure to temper its excesses and to use it for the betterment of the human condition worldwide. European nations are oriented toward a more balanced model of globalization to take advantage of its many benefits while preserving social and civic commitments to the society at large.

Health Promotion and Disease Prevention

The field of 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 of degrees of impairment and debility. The quality of health is heavily influenced by lifestyle habits. This enables people to exercise some control over their health. By managing their health habits people can live longer, healthier and retard the process of aging. Self-management is good medicine.

Current health practices focus heavily on the medical supply side with growing pressure on health systems to reduce, ration, and delay health services to contain health costs. Vast sums are spent treating chronic diseases but relatively little on prevention and health promotion. The days for the supply-side health system are limited, however. People are living longer. This creates more time for minor dysfunctions to develop into disabling chronic diseases requiring costly health services. The social cognitive approach, which is rooted in an agentic model of health promotion, focuses on the demand side (Bandura, 1997, 2004). It promotes effective self-management of health habits that keep people healthy through their life course. Aging populations will force societies to redirect their efforts from supply-side practices to demand-side remedies. Otherwise, nations will be swamped with staggering health costs that consume valuable resources needed for national programs.

New health self-management systems based on self-regulatory principles are enhancing people's health status, reducing their risk of disease and need for costly health services, and improving the quality of their lives (Bandura, 2005; DeBusk, et al., 1994; Holman & Lorig, 1992; Lorig & Holman, 2003). The evolving advances in interactive technologies provide the means to increase the reach and productivity of health promotion programs. These psychological approaches provide the high individualization of the clinical approach with the large-scale applicability of the public health approach. By linking the interactive aspects of the self-management system to the Internet, one can vastly expand its availability for preventive and remedial health guidance to people wherever they may live.

Social and Political Change

The revolutionary advances in communications technology also enable people to bring their influence to bear on social and political matters in ways they could not do before. The Internet technology gives people an instrument of global reach free of centralized institutional controls and gatekeepers, who control the mass media. People can now transcend time, place, and national borders to make their voice heard on matters of interest and personal concern. Social and political contests are shifting to the cyberworld. The unfettered, pluralistic nature of the Internet is also changing the locus of power of the news media. The cyberworld contains a multiplicity of voices. Online journalistic enterprises, serving diverse ideologies and vested interests, may eventually supplant old-line broadcast networks as the main purveyors of social and political information.

The Internet is not only a vehicle of unlimited social reach. It can connect disparate groups to one another. By coordinating and mobilizing decentralized, self-organizing groups, participants can meld local networks with different self-interests into widespread collective action for common cause. There is much utopian talk of electronic democratization and the liberalizing force of the Internet as a new political forum. The Internet technology distributes the capacity to communicate throughout society and across national borders. But it does not determine the quality of online communities and

what gets communicated. The cyberworld is fertile ground for insular polarization of viewpoints and social fragmentation rather than serving as an instrument for the accomplishment of widely shared purposes.

Ready access to communication technologies does not necessarily enlist active participation unless people believe that they can achieve desired results by this means. Strong personal and collective efficacy determines whether people make their voices heard in cyberspace politicking and whether they play an active part in bringing about meaningful changes in their lives. It is the self-efficacious who gain Internet presence. Human agency does not come with a built-in value system. The Internet is a double-edged tool. People can also use this unrestricted forum to propagate hate and to mobilize support for harmful activities as well as for human betterment.

Agentic Management of Fortuity

There is much that people do planfully 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 initiated into new life trajectories, marital partnerships, and occupational careers through fortuitous circumstances.

The separate paths that people take 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. Consider but one example of the workings of fortuitous events in life trajectories (Bandura, 1982).

An academic publisher enters the lecture hall as it was rapidly filling up and seized an empty chair near the entrance. Some months later, he marries 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!

Most fortuitous events leave people untouched, others have some lasting effects, and still others branch people into new trajectories of life. 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 put it well when he noted that, «Chance favors only the prepared mind.» Self-development gives people a hand in shaping the courses their lives take. These various proactive activities illustrate the agentic management even of fortuity.

Concluding Remarks

A 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 challenge centers on how to enlist these agentic human capabilities in ways that shape a better and sustainable future.

Albert Bandura
Department of Psychology
Stanford University
Stanford CA 94305–2130
Fax (650) 725–5699
E-mail bandura@psych.stanford.edu

Referanser

References

Austin, J. H. (1978). *Chase, chance, and creativity: The lucky art of novelty.* New York: Columbia University Press.

Ayala, F. (1974). The concept of biological process. In F. Ayala & T. Dobzhausky (Eds.), *Studies in the philosophy of biology: reductions and related problems* (pp. 339–356). Berkeley: University of California Press.

Bandura, A. (1973). *Aggression: A social learning analysis.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1982). The psychology of chance encounters and life paths. *American Psychologist, 37,* 747–755.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: Freeman.

Bandura, A. (1998). Exploration of fortuitous determinants of life paths. *Psychological Inquiry, 9,* 95–99.

Bandura, A. (2002). Environmental sustainability through sociocognitive approaches to deceleration of population growth. In P. Schmuck, & W. Schultz (Eds.), *The psychology of sustainable development* (pp. 209–238). Dordrecht, the Netherlands: Kluwer.

Bandura, A. (2004). Health promotion by social cognitive means. *Health Education & Behavior, 31,* 143–164.

Bandura, A. (2005). The growing centrality of self-regulation in health promotion and disease prevention. *The European Health Psychologist, Issue 1,* 11–12.

Bandura, A. (2006). Going global with social cognitive theory: From prospect to paydirt. In S. I. Donaldson, D. E. Berger, & K. Pezdek (Eds.), *Applied psychology: New frontiers and rewarding careers* (pp. 53–79). Mahwah, NJ: Lawrence Erlbaum.

Bandura, A., & Schunk, D. H. (1981). Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. *Journal of Personality and Social Psycho-logy, 41,* 586–598.

Boyd, R., & Richerson, P. J. (2005). *Not by genes alone: How culture transformed human evolution.* University of Chicago Press.

DeBusk, R. F., Miller, N. H., Superko, H. R., Dennis, C. A., Thomas, R. J., Lew, H. T., Berger III, W. E., Heller, R. S., Rompf, J., Gee, D., Kraemer, H. C., Bandura, A., Ghandour, G., Clark, M., Shah, R. V., Fisher, L., & Taylor, C. B. (1994). A case-management system for coronary risk factor modification after acute myocardial infarction. *Annals of Internal Medicine, 120,* 721–729.

Diamond, M. C. (1988). *Enriching Heredity.* New York: The Free Press.

Dobzhansky, T. (1972). Genetics and the diversity of behavior. *American Psychologist, 27,* 523–530.

Frese, M., Teng, E., & Cees, J. (1999). Helping to improve suggestion systems: Psychological predictors of giving suggestions in a Dutch company. *Journal of Organizational Behavior, 20,* 1139–1155.

Gould, S. J. (1987). *An urchin in the storm.* New York: Norton.

Harré, R. (1983). *Personal being: A theory for individual psychology.* Oxford: Blackwell.

Holman, H., & Lorig, K. (1992). Perceived self-efficacy in self-management of chronic disease. In R. Schwarzer (Ed.), *Self-efficacy: Thought control of action* (pp. 305–323). Washington, DC: Hemisphere.

Jorde-Bloom, P., & Ford, M. (1988). Factors influencing early childhood administrators' decisions regarding the adoption of computer technology. *Journal of Educational Computing Research, 4,* 31–47.

Kim, U., Triandis, H. D., Kâitçibasi, C., Choi, S., & Yoon, G. (1994). *Individualism and collectivism: Theory, method, and applications.* Thousand Oaks, CA: Sage.

Kolb, B., & Whishaw, I. Q. (1998). Brain plasticity and behavior. *Annual Review of Psychology, 49,* 43–64.

Lee, C. M., Miller. W. F., Hancock, M. G., & Rowen, H. S. (Eds.). (2000). *The Silicon Valley edge: A habitat for innovation and entrepreneurship.* Stanford: Stanford University Press.

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior, 45,* 79–122.

Lorig, K. R., & Holman, H. R. (2003). Self-management education: history, definition, outcomes, and mechanisms. *Annals of Behavioral Medicine, 26,* 1–7.

Matsumoto, D., Kudoh, T., & Takeuchi, S. (1996). Changing patterns of individualism and collectivism in the United States and Japan. *Culture & Psychology, 2,* 77–107.

McDonald, T., & Siegall, M. (1992). The effects of technological self-efficacy and job focus on job performance, attitudes, and withdrawal behaviors. *The Journal of Psychology, 126,* 465–475.

Moerk, E. L. (1995). Acquisition and transmission of pacifist mentalities in Sweden. *Peace and Conflict: Journal of Peace Psychology, 1,* 291–307.

Muñoz, R., & Mendelson, T. (2005). Toward evidence-based interventions for diverse populations: The San Francisco General Hospital prevention and treatment manuals. *Journal of Consulting and Clinical Psychology, 73,* 790–799.

Nagel, E. (1961). *The structure of science.* New York: Harcourt, Brace and World.

Reichard, G. A. (1938). Social life. In F. Boas (Ed.), *General anthropology* (pp. 409–486). Boston: Heath.

Schunk, D. H., & Zimmerman, B. J. (Eds.). (1994). *Self-regulation of learning and performance.* Hillsdale, NJ: Erlbaum.

Singhal, A., Cody, M. J., Rogers, E. M., & Sabido, M. (Eds.). (2004). *Entertainment-education and social chante: history, research, and practice.* Mahwah, NJ: Lawrence Erlbaum Associates.

Speirer, C., & Frese, M. (1997). Generalized self-efficacy as a mediator and moderator between control and complexity at work and personal initiative: A longitudinal field study in East Germany. *Human Performance, 10*(2), 171–192.

Sperry, R. W. (1993). The impact and promise of the cognitive revolution. *American Psychologist, 48,* 878–885.

Staples, D. S., Hulland, J. S., & Higgins, C. A. (1998). A self-efficacy theory explanation for the management of remote workers in virtual organizations. *Journal of Computer-Mediated Communication, 3,* Issue 4.

Wilson, E. O. (1998). *Consilience: The unity of knowledge.* New York: Knopf.

Yamagishi, T. (1988). The provision of a sanctioning system in the United States and Japan. *Social Psychology Quarterly, 51,* 265–271.

Zimmerman, B. J. (1989). A social cognitive view of self- regulated academic learning. *Journal of Educational Psychology, 81,* 329–339.

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal-setting. *American Educational Research Journal, 29,* 663–676.

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. The article addresses 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 co-evolution process, and its influential exercise at individual and collective levels across diverse spheres of life and cultural systems.

Keywords: co-evolution, collective efficacy, human agency, self-efficacy

Published: 31.07.2007, Journal of the Norwegian Psychological Association.