EVOLUTION



C. Margaret Hall

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C. Margaret Hall

e-Book 2016 International Psychotherapy Institute

From The Bowen Family Theory and Its Uses by C. Margaret Hall

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Bowen (1973) suggests that human beings are intimately related to less evolved forms of animal life and that different levels of behavior are more similar than is generally recognized. A proposition generated by this hypothesized kinship with other animals is that emotional illness can be viewed as a dysfunction of the characteristics human beings share with other animals.

Evolutionary processes provide a comprehensive context in which families may be examined. Evolutionary processes tend to create, maintain, or destroy families. Family interaction is an integral part of broad natural systems that serve primary functions of procreation, socialization, and adaptation. Emotional systems, which are considered present in behavior at all levels of evolution, operate in ways that reflect different stages of phylogenetic history. Although emotional systems have almost constant influence over human lives, this influence is usually rationalized as self-determined (Kerr 1972). In fact, human perception may be distorted to the extent that behavior is regarded as anything other than a product of emotional systems.

Evolutionary changes can be either regular or irregular, and the types of change may be markedly different from each other. The various products of evolutionary processes are particularly salient: interdependency, togetherness, differentiation, dislocation, and adaptiveness.

Any measure that attempts to represent the time dimensions of evolutionary change is so vast that figures are usually beyond comprehension. Estimates of the period of time that has elapsed since the earth was formed differ and are constantly being revised. Although it is generally recognized that human evolution is a slow process, from an overall viewpoint it has occurred fairly rapidly. If the earth was formed about four billion years ago and the first life appeared on earth only about five hundred million years ago, seven eighths of the earth's existence did not experience any life. It has been predicted that the earth will last another ten billion to fifteen billion years before it becomes a dead planet. We are faced with additional awesome data if we consider that human beings first walked upright about seven hundred fifty thousand years ago, and first became "civilized" twenty thousand years ago. People began to read and write about ten thousand years ago.

One way to bring these complex developmental processes into sharper relief, so that the relative rapidity of some of the evolutionary changes may be seen, is to convert the earth's four-billion-year time span into a unit of one hundred years. Using this unit as abase, one can say that the earth was formed one hundred years ago, the first primitive human life appeared twelve years ago, and people walked upright about seven days ago. A person became a thinking being about four days ago, and some evidence of civilization appeared at this time. Reading and writing skills were acquired approximately two hours ago, Jesus lived for a fraction of a second only twenty-four minutes ago, and Columbus discovered America six minutes ago. In relation to the timing of these events, the earth would be expected to exist for another three hundred and fifty more years before it would become a dead planet (Bowen 1973).

Human life is one of the most highly developed forms of animal existence. The most rapid form of human evolution has been what may be described as a disproportionate increase in the size of the brain. Since highly developed forms of life usually have a greater probability of becoming extinct, as refinement of function is concomitant with increased dependency, the human brain may be an overspecialization that could ultimately lead to extinction of the human race. This idea contradicts the more widespread opinion that human beings can dominate the environment and can choose between perpetuating themselves and destroying the planet. In relation to these and other broad evolutionary trends and changes, the Bowen theory is an attempt to view human life as an integral part of other kinds of life on earth

Evolutionary Perspective

After observing a wide variety of behavior in families, Bowen purposely selected an evolutionary-biological model as the most effective way to describe and define multigenerational emotional processes. This theoretical model is sensitive to both segmental and comprehensive multigenerational interdependencies and provides a context for depicting some of the most significant intricacies and complexities in family relationships. An evolutionary perspective suggests that human nature is related to less evolved animal forms. One aspect of this emphasis on the basic animal qualities of human nature is a related deemphasis on the widely held view that human nature is unique and distinct from other kinds of animal life.

An evolutionary-biological frame of reference highlights the relative powerlessness and defenselessness of human nature. from this perspective, human freedom to act appears to be bound by strict and narrow limits, and the related ability to change self seems extremely restricted. Faced with complex and powerful external and internal forces, the most effective human efforts to survive as individuals largely consist of ways to avoid or escape the inexorable and merciless laws of evolution. Even though the species may be protected through evolution, individual well-being is not.

Adaptation describes a key process in evolution. Animal and human adaptive mechanisms generally facilitate development of greater elasticity or

flexibility in behavior. Darwin suggested that the highest stage of evolution in moral culture would be to recognize that human beings have the capacity to control thoughts (Darwin 1871). Development and retrogression are both adaptations to an environment, however, and the present widespread breakdown of family forms and functions (Cooper 1970) can be viewed as a phase of retrogressive adaptation in evolution.

Evolutionary Processes

Evolution describes life's interrelatedness more clearly than do other theoretical frameworks. Competition, an evolutionary process, may precipitate overspecialization, which frequently becomes a condition of extinction (Simpson 1949). Irregularities, dislocations, or disharmony in evolutionary processes may be products of developments in competition and overspecialization.

Opportunism may also be observed in evolutionary processes, and the course of evolution has been described as typically following the lead of opportunity rather than plan. From this point of view, evolutionary parallelism and convergence may be conceptualized as consequences of the development of the same kinds of opportunities by different groups of organisms (Simpson 1949).

A fairly well substantiated hypothesis about evolutionary processes is

the proposition that organisms tend to increase in size (Simpson 1949). However, the number of effective adaptive characteristics of an organism appears more significant for its progressive evolution than an increase in size. A key characteristic of an organism's effective adaptability is its usefulness under the conditions in which it lives (Simpson 1949). Extinction is the ultimate outcome of regressive adaptation, which can be described as changes or paralysis in the organism-environment relationship that inhibit progressive adaptation (Simpson 1949).

Pierre Teilhard de Chardin's concept of atomism, the universal trend toward granulation, is another way of describing evolutionary processes. Atomism takes place in relation not only to the atoms and molecules of inorganic matter but also to plants, animals, and even human consciousness (Teilhard 1970). Teilhard's "law of recurrence" in evolution describes successive temporal phases that develop into a new plurality or atomism, and a higher synthesis. Teilhard's use of the concept of entropy, the dissipation of energy, and his thesis of development toward continuously heightened consciousness and increased spontaneity suggest that human beings evolve as their powers of reflection and thought increase (Teilhard 1970). Evolutionary processes appear to move toward a greater plasticity of behavior, with increased learning and insight (Lorenz 1965).

A serious consideration of the influence of evolutionary processes on

human behavior challenges the central assumptions of rational though—for example, that human beings are able to control their lives. An evolutionary perspective suggests that human behavior is not attributed to factors lying solely within the human experience (Ardrey 1968). Furthermore, from an 236 evolutionary perspective, any single stimulus cannot usefully be conceptualized as causing a process in an otherwise inert system. However, a stimulus may modify some of the many complex processes in a comprehensive and already autonomously active system (Bertalanffy 1968).

Evolutionary theory, although considered scientifically weak by many researchers owing to its tendencies to emphasize "single factors" or unilinear direction, is potentially the greatest unifying theory of animal and human behavior. A focus on evolutionary processes can give meaning and some coherence to a wide range of seemingly chaotic facts.

Human Nature

Huxley and other social theorists have suggested that human adaptation to the environment may be achieved by manipulation of the environment to fit human needs and desires (Keller 1931). from this perspective, human beings become rulers of the universe. People cannot oppose the forces that produced them, however, and as human survival and interests are an integral part of the natural schema of the universe, their dependence on natural forces

must be acknowledged. Power over nature can only be achieved to the extent that people are able to adapt or conform to natural laws, since people are in large part the helpless playthings of natural forces (Keller 1931). Knowing how natural laws operate affords some degree of control by making obedience to the laws possible.

For the last thirty years, naturalists and zoologists have researched animal behavior in natural conditions rather than in captivity or domestication. Some attention has been paid to patterns of behavior that appear to be shared by both animals and human beings (Ardrey 1968). For example, the expression of aggressive drives may preserve rather than destroy the life of both animals and human beings (Lorenz 1963). Furthermore, many human problems appear to be derived from conditions associated with the loss of the outward expression of instincts, such as domestication (Darwin 1896) or the overcrowding of the population and increased urbanization.

Darwin's description of natural selection from random variations denies the idea of any given "divine" plan in the universe. He suggested that variations favoring survival are preserved by automatic natural selection processes and not by any form of divine intervention. For Darwin, the sum of accidents of life acts upon the sum of accidents of variation and provide a mechanical or materialistic system in which human beings try to account for

changes that have appeared and continue to appear in living forms (Barzun 1941).

Although Darwin's model of human nature is undoubtedly limited, he viewed more evolved animals as relatively free, nonspecialized "creatures of curiosity." a human being may be defined as a specialist in nonspecialization, who possesses only a few distinctive motor patterns with a small degree of differentiation. Human behavior is perceived as consisting of a wide range of general rather than highly specialized motor patterns. Furthermore, this characteristic flexibility in human behavior contrasts with the relatively rigid adaptive behavior of less evolved animal forms (Lorenz 1971). The capacity of human beings to utilize a wide range of behavior patterns may depend on their having fewer instinctual drives than other animals. The degree of variability of potential forms and types of action may be one of the most important characteristics of the human condition. Flexibility tends to enhance human adaptiveness and contributes to evolutionary developments (Parsons 1966).

The overall trend in human evolution may be conceptualized as an increase in this generalized adaptive capacity. Overspecialization, with its attendant rigidity and lack of adaptiveness, appears to be one of the greatest threats to 238 extinction. Bowen suggests that the brain tends to blur instinctive awareness of the vital human need to adapt to the environment, as

people are too preoccupied with attempts to manipulate the environment.

Means-end capacities, conscious awareness, ideation and even inventive ideation are found, to some degree, throughout the animal kingdom. Although speech and introspection are the sole prerogative of human beings, primitive forms of these processes can be observed in a variety of animal behaviors (Tolman 1932). Complex emotions appear to be experienced primarily by more evolved animals, and human behavior is not as cerebral as is generally believed. Human ideas frequently derive more from emotional imitation than from intellectual reason (Darwin 1871).

Learning and spontaneity may be described as more significant in human life than in most animal life (Darwin 1871). "Instinct" and "drive" do not necessarily denote disorderly, unmanageable tendencies. Procreation and child rearing, for example, are more or less orderly processes. A related idea to consider is that a recognition of order in instinctive behavior may increase freedom or choice in behavior more than a denial of instincts (Keller 1931).

Society

Society is not merely a human product. Cultural values shape patterns of social interaction but do not determine them. Society may be thought of as being more a consequence of an evolutionary past than as a result of a cultural present (Ardrey 1968). It has been suggested that behavior may be as

characteristic of human nature as the shape of a human thigh bone or the configuration of nerves in a corner of the human brain (Ardrey 1966).

Insofar as there is a continuous tendency for entropy to increase in human affairs (Buckley 1968), people can aspire to only limited control over their lives. They may, perhaps, choose between alternative postures to the natural forces that move all living beings but not from among the unlimited range of options that they frequently imagine they have.

Human beings appear to be able to check their aggressive drives through social contacts and rituals. These interactions do not weaken or hinder the drives' species-preserving function. One of the greatest dangers of the human aggressive drive has been defined by Freud and some of his followers as its unpredictability. Freud showed that lack and deprivation of social contact and rituals facilitate aggression (Lorenz 1963). People seem to need a variety of contacts with other human beings to preserve themselves as a living species. without these controls of interdependency, aggression becomes a destructive force in society.

The evolutionary origin of the most complex social organizations has frequently been considered related to kinship groupings (Parsons 1966). Some preliterate societies remain at highly undifferentiated levels of social, cultural, and personality development, whereas more evolved societies

appear to be moving toward both progressive individuation and progressive centralization. For one social structure to emerge from another, grouping around certain individuals may be necessary (Bertalanffy 1968).

A society may be most adequately defined as a living, open system that as a whole functions in accordance with the interdependence of its parts (Buckley 1968). In more complex groupings, parts assume certain properties because they are components of the larger whole. Some research findings indicate that differences between inert matter and living material are based not on intrinsic qualitative differences but on the way substances are organized. In applying this concern to social organization, it can be postulated that a rigid differentiation of 240 parts within society poses problems of integration for the whole (Parson 1966), whereas continuity between society and culture generally enhances the quality of life of the whole (Parsons 1971).

There is no single rate of evolution in society. Evolution is by no means an overall cosmic influence that has changed all living things in a regular way throughout the earth's history. Structural change and diversification have been described as two specific kinds of evolutionary processes that have produced some of the most significant developments in societies. However, the rates of these changes are highly variable, and discrepancies and discontinuities are the rule rather than the exception (Simpson 1949).

Bowen Theory as an Evolutionary Theory

In some respects, the Bowen theory can be considered an evolutionary theory. Bowen's concepts describe qualities of emotional interdependencies between members of successive generations. "Vertical" relationships and patterns of emotional dependency manifested in patterns of interaction between members of different generations can be viewed as minuscule prototypes of evolutionary change. Although the overall direction of evolutionary development in a family and in wider society cannot be measured with precision, each system appears to adapt and function in relation to other systems and to the whole.

The Bowen family theory conceptualizes basic patterns of interdependency as principles of process and organization in evolution. The eight basic concepts of the Bowen theory address the most significant facets of the ways in which relationships provide closure or opportunities for individuation. These selective representations of empirical reality describe trends in family interaction and broader social processes.

Differentiation of Self The emotional process of differentiation in human relationship systems can be viewed as an integral part of evolution. Following Darwin's contributions in the midnineteenth century, biologists and zoologists have used the concept of differentiation to describe evolutionary processes of increasing complexity in biological specificity and functioning,

and an increasing multiplicity of zoological species. Increasing heterogeneity or differentiation in organic phenomena is frequently specified by concepts such as adaptation, natural selection, and survival of the fittest. Adaptation, maladaptation, natural selection, extinction and survival of the fittest suggest particular aspects of differentiation.

About the time that mid-nineteenth-century biologists and zoologists began to describe evolution, social theorists produced parallel formulations for social processes. For example, before Darwin published *The Origin of Species*, Herbert Spencer, the English social philosopher, published a paper, "Development Hypothesis," that described and defended a theory of organic evolution with applications to biology, psychology, ethics, and sociology (Ruitenbeek 1963). Spencer emphasized the importance of differentiation, or increasing specificity, and heterogeneity within evolution.

Emile Durkheim, a sociologist who wrote at the turn of the century, also viewed evolution as diversification. He emphasized the importance of qualities of social cohesiveness or solidarity in evolutionary processes. Durkheim suggested that social structures and functions in societies become increasingly heterogeneous through time. Bowen views differentiation as a vital emotional process that influences each individual's behavior. He conceptualizes families as primary units within societies and evolutionary change. However, Bowen does not suggest that differentiation is an

"automatic" or irreversible development.

Bowen's key process of differentiation specifies characteristics of goal directedness, increased awareness of self, and more effective functioning in relationship systems. Individuals and families considered less differentiated frequently behave in symptomatic ways and are more emotionally reactive in their responsiveness to others. Lower levels of differentiation represent less advanced stages of evolution, and higher levels of differentiation are conceptualized as optimal or effective adaptations for self and families.

Triangles. Bowen's concept of triangles can be used to describe and define basic microscopic and macroscopic evolutionary changes. If the delineation of triangles in families provides reliable indicators of patterns of intergenerational change, the delineation of triangles in other human and animal groups may provide indicators of broad emotional processes, including evolutionary change.

The concept of differentiation of self implies that human behavior in less evolved states may be conceptualized as emotionally reactive and largely undirected by thought processes. At earlier stages of development, individuals can be considered undifferentiated in their functioning and in their relationships with others. Less evolved human beings are predictably influenced by the primitive or instinctive needs of the groups in which they

participate.

The concept of triangles suggests that patterns of emotional forces in less evolved behavior are more intense and more easily identifiable than are patterns of interdependency in more evolved behavior. Reactivity and repeated sequences of interaction are more predictable where triangles are more intense. Triangular patterns of emotional forces in more evolved conditions are less intense and less easily identifiable. Predictability is less accurate and less apparent in more developed stages, and chain reactions are shorter and less easy to identify because the triangles in the later stages are more flexible.

The fact that a person can change self to a certain extent indicates that individuals are able to play some part in broad evolutionary processes. When one is aware of the predictability of emotional processes, one can initiate change in relation to these forces, thereby acting voluntarily. One can, of course, refuse this opportunity to create self and participate in evolution by opting to act automatically and choosing to have little plan or direction throughout life.

Nuclear Family Emotional System. a goal related to viewing self in evolutionary change is increasing self-awareness within the context of the nuclear family emotional system. An individual is able to assume

responsibility for the position taken in a nuclear family emotional system and thereby control it to some extent. A more evolved posture in the nuclear family emotional system implies that one can maintain emotional contact with this system and simultaneously think and direct behavior as an autonomous self.

Knowing the most predictable patterns of behavior in one's family is synonymous with being aware of the less evolved forms of behavior in one's family. Observing and at least partially understanding these processes are preconditions of being able to control one's posture in relation to evolutionary forces. Only when human beings recognize some of the influences of evolutionary forces and automatic behavior on their lives will they be able to be more than pawns in the processes of evolutionary change.

Family Projection Process. Family projection describes microscopic evolutionary change insofar as this concept outlines ways in which parents project their undifferentiation and anxiety to one or more offspring. Children who remain outside a projection process in a nuclear family appear to have a level of differentiation higher than that of their parents. When a nuclear family emotional system produces a strong projection process, the differentiation level of a "projected" child is generally lower than that of the parents. A child who becomes the "object" of the family projection develops an "impaired" self. The responses demanded of this child are directly related

to the emotional needs of the parents and to the needs of the nuclear and extended families. A child who is object of the parental projection may function in the family or in the wider society as a "savior," or "prima donna," rather than as a patient. In each kind of projection, the relationship between the parents is stabilized by the processes involved, and a minuscule evolutionary adaptation is made.

Emotional Cut-off. any discussion of the concept of emotional cut-off in relation to evolution is highly tentative and hypothetical. As more data about animal behavior in natural surroundings are accumulated, the identified behavior patterns shared by both animals and human beings may increase.

The emotional forces that influence cut-offs between human beings may be viewed as an integral part of attraction-repulsion activities and drives among all living creatures. The phenomenon documented as repulsion between animals can be considered the moving force in emotional cut-offs between human beings. Insofar as emotional cut-off is a far-reaching activity rather than an intrapsychic defense, the propensity to cut off from intimate others may be a human manifestation of an animal drive. Emotional cut-off can be described as an unlearned developmental response that is deeply rooted in evolutionary processes.

Different phases of evolution and rates of evolutionary change may be

characterized by varying distortions of cut-offs in human relationships. When more cut-offs occur, the evolutionary phase may be an anxious period, with differentiation of self being either difficult or impossible. Under these conditions, a society may be assessed as regressive rather than progressive. The existence of fewer cut-offs suggests an evolutionary phase where relationship systems are flexible, with individuals acting for self rather than reacting to anxiety. A decrease in the number of emotional cutoffs may be followed by less loneliness and more effective communication between generations. Societies at this evolutionary stage may be progressive in their qualities of interpersonal behavior and achievements.

Genealogical research into relatively recent generations and the investigation of events in earlier periods of time are ways in which individuals or societies may avoid some of the detrimental aspects of being cut off from the evolutionary past. A natural history perspective on the present may also have a beneficial bridging effect on any estrangement with the evolutionary past.

If emotional cut-offs between animals precipitate aggressive behavior, an examination of cut-offs among human beings may lead to a greater understanding of aggression and other kinds of human behavior. Although the concept of emotional cut-off describes processes opposite to those of fusion, these two relationship phenomena—both products of anxiety—are

not qualitatively different from each other. Animal and human aggression may be intimately related to emotional cut-off as well as to fusion and togetherness in evolutionary adaptation.

Even though the concept of emotional cut-off cannot be described with reference to specific linkages with evolution, behavior that cuts off close relationships appears to be basic in most animal forms. Human beings are not so far removed from their evolutionary origins that they can easily circumvent these primitive ways of dealing with anxiety and intimacy. Although bridging a cut-off may be achieved more or less successfully by conscious and sustained efforts, there is evidence that the human tendency to cut off intimate relationships is automatic and difficult to reverse.

Multigenerational Transmission Process. The scope of multigenerational transmission process is not limited by the range of generations in which emotional forces operate. The concept describes continuing processes that are activated over succeeding generations and that have consequences of fluctuating levels of functioning and differentiation in the related nuclear families. Multigenerational transmission is a versatile concept that can begin to document minuscule evolutionary processes over many generations.

The clarity and usefulness of the concept of multigenerational transmission is restricted by the current lack of available or measurable data

for accurately representing the quality of emotional processes in families over many generations. Many years of systematic empirical research are needed to begin to verify some of the hypotheses and propositions suggested by this concept. Although a fairly adequate reconstruction of short-term multigenerational transmission processes can be derived from genealogical data, any projections regarding specific characteristics of long-range multigenerational transmission processes may represent little more than "educated guesses."

Sibling Position. Owing to the lack of multigenerational data, only tentative propositions can be used to describe a relationship between sibling position and evolution. Assuming there is a correlation between sibling position and the capacity to differentiate self, some projections about changing levels of differentiation in past generations can be made, especially for more clearly defined sibling positions, such as oldest, youngest and only chid. For example, the sibling position of an oldest could be considered more conducive to increased differentiation than other sibling positions. On a multigenerational level, it could be hypothesized that differentiation in past generations has been more frequent in periods when oldests were significant participants in the extended family system.

It can be postulated that in less evolved phases, behavior is determined more by sibling position or functioning sibling position than by conscious

efforts to differentiate self. When a person lives by self-selected beliefs, thoughts, and goals, the programmed effects of a particular sibling position are less influential than when behavior is emotionally responsive and reactive. Although sibling position may be an inhibiting influence for a person who is less differentiated, a more differentiated individual in the same sibling position may be less confined by sibling position programming.

In considering microscopic evolutionary changes between generations, the sibling position of the same sex parent appears to have a more significant influence on a person's emotional programming than the sibling position of the opposite sex parent. For example, an oldest has a more "crystallized" sibling position if that oldest's parents, grandparents, and great-grandparents were also oldests. Toman (1972) has undertaken more detailed studies on the interplay of these influences than has Bowen, and has specified a particular range of characteristic conflicts between members in two different generations. Bowen generalizes that an oldest son tends to pick up a family's expectations for sons, whereas an oldest daughter generally picks up expectations for daughters. Parents may view an only child as an emotional son or daughter, regardless of the child's actual sex. Where these patterns are repeated through several generations, they may be tentatively conceptualized as microevolutionary trends.

Emotional Process in Society. To some extent, the concept of emotional

process in society attempts to describe the quality and diversity of broad trends in evolution. One related hypothesis is that when togetherness forces in society are strong, differentiation and individual contributions are neutralized or negated and societal trends are regressive in general. The suppression of individuality impedes constructively adaptive evolutionary growth, leading to less flexibility and actualization of human potential in the societal emotional system.

Propositions of this kind are partly derived from observations of social trends in contemporary and earlier historical periods. For example, one repeated phenomenon is that great leaders or innovators have been "sacrificed" to the wishes of the masses or castigated by majority public opinion. Some of the herding activities observed in the animal kingdom may be so basic in life that parallel thrusts and tendencies surface in human behavior. Although generalizations from observing animal behavior cannot be applied directly to understanding people, there appear to be some common denominators, such as herding and togetherness, in the behavior of animals and human beings.

The concept of emotional process in society describes a range of evolutionary trends, with each trend depending on the level of anxiety in society. Effective adaptation or extinction of a society both may result from the quality of emotional process in society, which is an important component

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of evolutionary processes. Evolution is a complex combination of change that is incomprehensible to human beings. To simplify this infinite variety of characteristics of evolutionary change, some properties can be considered more conducive to regression or extinction, and others more conducive to progression or constructive adaptation.

In recent decades, members of our society appear to have been so emotionally bound to each other that relationships in general have been overly intense or estranged. As a result, broader social systems have been rigid and dysfunctional. Such evidence suggests a considerable degree of fusion and togetherness, which are more characteristic of societal regression than of effective adaptation.

In a phase of societal regression within evolution, both family symptoms and social-problem behavior increase. There may be more crime and violence in society in a period of marked societal regression owing to the greater probability of emotional cut-offs, repeated patterns of symptomatic behavior in different generations, and impairing projection in families. In a regressive, maladaptive phase of evolution, this social-problem behavior and the related family symptoms may be continually reinforced for long periods of time, and their pervasiveness and severity may correspondingly increase. In an evolutionary phase of societal regression, significantly effective differentiating efforts are needed by many individuals before the regression

can begin to be reversed.

Fertility Patterns

Although Bowen used data from individual families to develop his theory, several of his propositions can be applied to broad social trends. One pertinent application is to link fertility behavior and evolutionary adaptation. It can be postulated that our current world population has resulted from fertility behavior precipitated by both micro and macro levels of emotional processes. Certain fertility patterns may have maladaptive consequences for individual families and society. There appear to be more stresses in individual families and broader social systems where the following patterns of timing and spacing of births occur:

- 1. When the first birth is within the first year of a marriage or equivalent.
- 2. When the first birth is after ten years of a marriage or equivalent.
- 3. When subsequent births are spaced less than one year apart.
- 4. When subsequent births are spaced more than five years apart.
- 5. When the total childbearing span exceeds twenty years.

As the Bowen theory is not based on linear cause-effect thinking, the

timing of the first birth and the spacing of subsequent births are not considered causes of the accompanying stresses and strains. The births frequently precede intense strains, but the strains result from a complex variety of conditions present before the births occurred. Strains and stresses are as likely to produce births as births are to produce strains and stresses. Particular fertility patterns appear to be fairly reliable indicators of tension in families, and these patterns perhaps also point to strain in societies where these patterns are pervasive.

Hypothetically, societal fertility patterns with early or delayed timing and spacing of births are accompanied by a high frequency of social strains and stresses and less effective evolutionary adaptation. When there is a high frequency of early or delayed timing and spacing of births in a society, there are more social problems than when the frequency of these fertility patterns is low.

In some instances, census and survey data from different cultural and social settings may be used to describe and document the existence or nonexistence of these fertility patterns. Where this can be accomplished with sufficient accuracy, the degree and extent of societal tensions and stresses relating to the patterns may be tentatively predicted.

Examples of the kinds of strains that precipitate or accompany early and

delayed births in families include divorce, separation, hospitalization, illness, and accidents. Broader societal stresses include poverty, unemployment, crime, rioting, war, and homicide. Although not all of these diverse manifestations accompany particular fertility patterns, some correlations can be identified.

In a world systems perspective, fertility patterns and societal strains and stresses can be conceptualized as evolutionary processes. When research is organized in this way, accumulated observations and data can extend beyond normative description and move toward the formulation of a general theory of human behavior.

Further Research

Macro-level research in family interaction has a need for new concepts to neutralize some of the existing value-laden normative schemas. If family theory is to develop toward scientific explanation and prediction, some means of comparing and identifying shared behavior patterns on a world system level must be found.

Much scientific discovery is a result of finally being able to see phenomena that have been visible all the time. Researchers can be more open to new observations when previous concepts have been replaced in thinking and formulating activities. One advantage of an evolutionary perspective in family research is that it encourages the observation and explanation of variables that have previously been obscured by an overemphasis on cultural or normative descriptions of family interaction. The Bowen family theory is an effective means of bringing into clearer focus the role of emotional processes in microlevels and macrolevels of human behavior and social science research. When families are thought of as emotional systems in an ecological and world system perspective, they become an integral part of evolutionary change and adaptation.

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