Dr. Stephen T. Emlen, the Jacob Gould Schurman Professor of behavioral ecology at Cornell University, is a pioneer and international authority in the study of evolution and its impact on animal social behavior. Dr. Emlen is the author of over 100 scientific papers and has served on the executive committees and administrative boards of numerous professional organizations. He currently serves as president of the International Society for Behavioral Ecology.

Dr. Emlen’s work on the evolutionary, or adaptive, aspects of animal behavior has carried him across the habitats of North America to the subtropics of Australia, the savannas of East Africa, and the rain forests of Central America. A recent focus of his research is the application of concepts about natural selection and the social interaction of animals to human blended and single-parent families.

Because readers of The Family Journal are typically grounded in theories which emphasize the role of the environment, Dr. Emlen’s Darwinian approach provides the opportunity to view family behavior from a very different perspective.

Kaplan and VanDuser: You seem to be the “Indiana Jones” of biology. What brought you into this field?

Emlen: My father was a pioneer in the study of animal behavior and ecology and I was raised taking lots of trips to wild places. Being raised in a questioning family, having an interest in the outdoors, and coming in by chance on the ground floor during a time when behavior, ecology and genetics were coming together all combined to allow me to do what I’ve loved to do all of my life. Not many people can really say that, and it’s been a great ride!

Kaplan and VanDuser: What piqued your interest in social behavior?

Emlen: General principles about animal social behavior started to appear when I was a graduate student. William Hamilton had published a paper in 1964 that crystallized ideas from behavior and genetics. John Crook published another classic paper linking behavior to ecology. This lead to an ecological WOW and a genetic WOW that started the field of behavioral ecology running. Since then, behavioral ecology has been gaining momentum like a tidal wave and has increased our ability to predict many aspects of the social behavior of animals and the organization of their societies.

Kaplan and VanDuser: What was it that made you decide to extend your interest to human families?

Emlen: For the past 20 years, I have been studying animal family systems and measuring the continuity of their behaviors from highly cooperative to extremely violent. As a byproduct of my fieldwork, I also came into close contact with many different human cultures. I slowly convinced myself that the evolutionary approach could also make a major contribution to the understanding of human families.

Kaplan and VanDuser: Before we talk about humans, we ought to look at your studies of animal families.

Emlen: I was after a sort of holy grail of behavioral ecology: how to explain altruism in animals. It is easy to see how behaviors that increase “fitness” (an individual’s ability to survive and produce strong healthy offspring) could evolve. But altruism refers to behaviors that benefit others while decreasing the individual’s fitness. How could such behaviors be favored by natural selection? To explore this question, I set out for Kenya to investigate an exception to nature’s law in a species of bird called white-fronted bee-eaters. Bee-eaters seemed a biological exception because they have a very different type of society than most creatures. They appear to have an open and selfless society where strangers altruistically help each other. But after years of research I found that the exception proved to be the rule. Bee-eaters do not altruistically help strangers.
Indeed, virtually all helping occurs within intact families and genetic ties are critical to understanding their altruism. Bees are much more likely to take risks to help others who are members of their own biological family. This phenomenon has since been shown to occur in many animals. Virtually all altruistic societies are comprised of multigenerational families.

Kaplan and VanDuser: How did that lead you down the path to theorizing about adaptive behavior in humans?

Emlen: I am fascinated by the ability to predict. When behavioral ecologists start measuring costs and benefits, we speak in terms of the tactics or strategies that animals use to maximize successful reproduction. Some of these strategies are incredibly fascinating, and parallel human behavior. For example, the bee-eaters live in extended family groups and parents occasionally “divorce” and “remarry” by taking new mates. Thus, in-laws and stepparents also exist in the bee-eater society. We soon discovered that not all family members are treated equally and that very different social rules govern the dynamics between genetically related and unrelated family members. My field team in Kenya would sit around in the evenings and have discussions about how the bees were behaving incredibly like human families.

So, in 1995, I developed a general evolutionary framework for understanding the formation, the stability, the organizational structure, and the social dynamics of biological families. I proposed a set of 15 evolutionary predictions about family living.

Kaplan and VanDuser: Which predictions are the most relevant to family counselors?

Emlen: Before I respond, let me say that we are talking about probabilities and that any individual problem can be overcome by education and effort. Having said that, I believe that four predictions which focus on stepfamily dynamics are critical to family counselors. They are as follows:

Prediction 1: Stepparents will invest less in their stepchildren than in their biological children.

Kaplan and VanDuser: What is your rationale?

Emlen: Stepparents are genetically unrelated to any dependent children from their spouse’s previous marriage and so gain little “fitness benefit” by investing in such children’s continued care. Conflicts of interest are therefore expected because it will often be in the stepparent’s best evolutionary interest to provide less care to stepchildren and more to biological children.

Prediction 2: Stepparents are more likely to engage in sexual activity with stepchildren (including sexual abuse and rape) than parents are with their biological children.

Kaplan and VanDuser: What is your rationale?

Emlen: Reproduction between parents and their children, or between brothers and sisters, is extremely rare among animals. Evolutionarily speaking, such incest is costly because inbred offspring have statistically lower chances of surviving. For a stepparent, however, reproducing with a stepchild does not carry this fitness cost. Unwanted sexual behavior will be most prevalent in stepfather families because of the difference in physical strength between males and females.

Prediction 3: Children will cooperate less with half- and stepsiblings than with full siblings.

Kaplan and VanDuser: What is your rationale?

Emlen: When children are born into reconstituted families, the result is the coexistence of offspring who differ in the degree of genetic relatedness. Evolutionary conflicts of interest are then expected around the issue of cooperation because full siblings are less invested in helping half- and stepfamilies due to a lack of genetic relatedness.

Prediction 4: Stepfamilies are inherently less stable than biologically intact families.

Kaplan and VanDuser: What is your rationale?

Emlen: Family stability can be measured in two ways: by the tendency of children to remain at home and by the tendency of parents or stepparents to remain together. Because of the first three predictions, there is an incentive for children in blended families to leave home earlier than intact families. In addition, because of parental conflicts generated by the first three predictions, married couples with stepchildren will also exhibit higher rates of divorce than couples with biological children.

Kaplan and VanDuser: What has research shown regarding the accuracy of these predictions?

Emlen: The disruptions we find in the social dynamics of animal reconstituted families closely parallel those found in human stepfamilies. Our literature reviews consistently find that children in stepfamilies have a higher probability of behavioral, emotional, and health problems than children in biologically intact families. Research also indicates that stepparents invest less time and effort in stepchildren than they do in their own children and this tendency appears to be culturally universal. At the extreme end of this investment continuum, the work of Daly and Wilson has established that stepchildren suffer much higher rates of physical abuse, and even death, than children in intact families, and that stepparents are the primary abusers.

We have also found that in some societies that permit polygamy, sons compete with their fathers for sexual access to junior wives. More ominously, numerous studies confirm that stepdaughters are at far greater risk for sexual abuse than genetic daughters are, and that stepfathers are overwhelmingly the abusers. For example, the National Study on Child Neglect and Reporting found the incidence of sexual abuse of stepdaughters to be five times that of biological daughters.
**Kaplan and VanDuser:** So inherent in your paradigm is the proposition that, statistically speaking, stepparents are more likely to abuse or neglect their stepchildren than biological parents are to abuse or neglect their children. Tell us more about the evolutionary logic of why this would occur.

**Emlen:** The evolutionary model emphasizes the role of inherited predispositions that influence how we behave. These unconscious predispositions are those that would have increased biological fitness in the social environments of the past. As such, they can be considered as “genetic baggage” that we carry with us today. Recall that fitness is measured in terms of reproduction—the number of children, grandchildren, and other genetic relatives present in future generations. It should thus come as no surprise that we unconsciously give more of our time, energy, and resources to blood relatives than we do to individuals to whom we are not related. This is the logic behind my stepparent/stepchild predictions.

**Kaplan and VanDuser:** Your model refers to “ultimate” causes in family dysfunction. Explain what you mean.

**Emlen:** Every behavioral question can be asked at two levels: proximate and ultimate. Proximate questions are “how” questions. They are answered by studying the mechanisms that cause the behavior (for example, how early experience influences adult behavior). Ultimate questions are “why” questions. The answers lie in understanding why we evolved to behave in the ways we do. For example, suppose that we do show extra concern for family members who are blood relatives. A proximate explanation might be that we form stronger bonds with such individuals when we (or they) are young. An ultimate explanation might be that individuals who showed such extra concern had higher biological fitness than those who did not, hence tendencies to form stronger bonds with blood relatives have been favored evolutionarily. Answers at the two levels are complementary. Evolutionary (why) explanations in no way negate developmental answers. Similarly, developmental explanations do not negate evolutionary ones. Hopefully, the addition of the evolutionary perspective to the “tool box” of family counselors will help them to better understand and anticipate when and where family dynamics may go sour.

**Kaplan and VanDuser:** What, then, are the evolutionary explanations for behavioral conflicts?

**Emlen:** The answer lies in the fact that what is good for one individual is often at odds with what is good for another, and what is good for an individual is often at odds with what is good for the larger group. Culturally selected benefits and evolutionarily selected benefits are rarely maximized simultaneously. Inherited predispositions are expected to be resistant to short-term societal pressures.

**Kaplan and VanDuser:** Perhaps we should discuss some reasons why family counselors might be resistant to your ideas. The first would revolve around the fact that your approach may appear deterministic.

**Emlen:** I wish I could get rid of the idea that evolutionary approaches have to be deterministic. Genes don’t determine behavior; they merely influence it. And what they influence is our ability to evaluate social situations. For example, there isn’t a gene for altruism. Everyone has the genetic capacity to behave altruistically. But different expressions of altruism have different fitness consequences. So natural selection has favored those “decision rules” that unconsciously influence when we are cooperative, with whom, and to what degree. On top of this, the environment plays a major role. The same genes may be expressed differently in individuals growing up in different environments.

**Kaplan and VanDuser:** So environment and culture are not second fiddle to genetics?

**Emlen:** No. Both genetics and environment are major fiddles. There is no disagreement that most human behavior is strongly influenced by culture and environment. But I am suggesting that there are biological underpinnings as well, and these underpinnings (our inherited predispositions) play a more important role in shaping our social interactions than previously realized.

**Kaplan and VanDuser:** Another reason counselors have shied away from biological explanations of behavior is the historical misuse of genetic data, by such people as Jensen and Shockley, to promote racism. Is that misuse possible with your theory?

**Emlen:** Yes, I think there is a danger and it’s one downside to any evolutionary argument. You cannot have a potential benefit without the same potential for incorrect justification. However, a lot of people mistakenly assume that if there’s an evolutionary explanation which predicts something, it means that it’s “right.” That’s not true at all. There was a sordid history of this misuse in Nazi Germany. Just because an evolutionary decision rule was established long ago does not necessarily mean that it still makes sense today. We have completely changed the structure of our society in the last few thousand years. The social environments in which we live today bear little resemblance to those in which our “genetic baggage” evolved. So why should we expect our baggage from the past to necessarily be adaptive or relevant to the location we have arrived at today?

**Kaplan and VanDuser:** A final criticism from family counselors might be that you are talking theoretically about very real people who have been verbally, emotionally, and physically abused.

**Emlen:** I understand. But it would be discouraging to think that trying to bring this approach to people in dysfunctional or desperate situations is doomed to fail because it is so emotional that it is almost impossible to talk about.

**Kaplan and VanDuser:** Then one argument is that taking a scientific approach and bringing deductive logic to this issue can only move us forward. What solutions do you suggest for helping families overcome the evolutionary odds against stepchildren?
Emlen: First, we must not allow ourselves to be prisoners of our inherited predispositions. We have the capacity to consciously overcome them. The value of the evolutionary approach is that it gives us the tools to better identify and suppress those predispositions that hurt our loved ones.

I suggest a five point program for the problem of stepfamily dysfunction. All of the points are primarily educational and may involve both family members and professional counselors. The assumption is that with heightened understanding comes heightened awareness. Heightened awareness, in turn, leads to earlier detection of potential problems and more effective interventions.

1. **Expect greater conflict in stepfamily environments.** There is a need to educate both family members and family counselors to the fact that greater conflict in stepfamily environments is not only the observed norm but also the evolutionary expectation. By recognizing this risk, individuals can better anticipate problems and deal with them earlier in ways that promote greater harmony and stability.

2. **Understand the evolutionary basis of emotions.** Evolutionary psychologists believe that our emotions have been shaped by natural selection to unconsciously govern how we feel in various social situations and thus influence the behaviors we express. These emotions are part of our evolved decision-making mechanisms. There is a lot of evidence that step-parents feel guilty because they do not engender the same emotional depth toward their stepchildren as they do their own biological children. Understanding the evolutionary pressures that shaped these feelings can help us handle the challenge of making stepfamilies work. We must realize that it is up to us to make the conscious effort to go the extra mile because biology is not going to help.

3. **Anticipate flash points of family conflict.** The greatest potential value of the evolutionary perspective is that it specifies the precise contexts, as well as the likely participants, of different forms of family conflict. It tells us when, where, and between whom conflict is most likely to occur. Such information can help counselors and family members at risk to better anticipate and identify these flash points. This should increase the probability of actively avoiding or preemptively diffusing such situations before they escalate.

4. **Alter the criteria for choosing a new partner when you have children.** Natural selection has shaped the assessment criteria by which we choose sexual and marriage partners. Most of these criteria are correlates of youth, reproductive potential, and genetic and resource quality. The evolutionary predictions concerning stepfamilies suggest that a parent with dependent children would do well to use different choice criteria in choosing a new partner. Single parents should be encouraged to place a greater conscious emphasis on qualities more appropriate to the stepfamily environment, such as a demonstrable interest in the children, financial generosity, and a willingness to become an active participant in a "ready-made" family.

5. **Sign a stepfamily agreement.** When a second marriage occurs that involves dependent children from a former union, a stepfamily agreement should be signed along with the marital agreement. The purpose would be to ensure that all family members are aware of the greater statistical risks of conflict that are associated with reconstituted families. In signing such an agreement, the participants would be acknowledging such risks and accepting their heightened responsibility for dealing with them.

Kaplan and VanDuser: You propose a number of other ideas. Which ones do you think are most pertinent for family counselors?

Emlen: I think it is important to realize that the family structure of the baby boomer generation—the nuclear family with two parents and their children—is not the family structure of our ancestral past. Throughout recorded history, and presumably for many thousands of generations before that, extended families were the norm. Many individuals besides the parents played major roles in the social fabric and child-rearing function of the family. Such additional individuals included grandmothers and grandfathers, aunts and uncles, older nieces, nephews, and siblings. The importance of this is that, until very recently, childcare was a communal affair shared by a large number of extended family relatives. Our ancestral families thus came with a "built-in work force" of genetic relatives who were predisposed to help out in times of need.

But times are changing. Extended families are becoming increasingly rare. Today, we often live far apart and children may see their relatives, even their grandparents, mostly on birthdays and holidays. With the weakening of extended-family bonds comes a reduction in our ability to make use of this ancestral "built-in work force." As a result, the child-rearing responsibilities of parents today have greatly increased.

Kaplan and VanDuser: This leads us to ask what your prediction is for single parent families.

Emlen: The notion of single parenting in the human species is an evolutionary oxymoron. When viewed within the context of ancestral extended families, the single-parent family simply does not exist. Until very recent times, if a parent with a dependent child was widowed, divorced, or abandoned, the child had access to the support system of the extended family to help with child-rearing tasks and could count on grandparents, aunts, uncles, and others for assistance. Today, however, the blood relatives who would be most predisposed to help the single parent often live far away, and our ancestral family support system no longer functions well. Even the nuclear family of today should be viewed as a stripped down version of the ancestral extended family. Increases in divorce rates and teenage pregnancies are driving an ever-increasing number of single parent families. This further strains an already reduced support system, and places an unrealistic burden on the single parent. The scenario of a single parent raising children without cooperative and reciprocal assistance from other extended family members must
have been a rarity in ancestral times. In fact, it was a rarity until very recently. So we should not be surprised that our inherited predispositions are not adapted to single parenting. We have created a culturally novel type of family, one for which our inherited predispositions have poorly prepared us. Our challenge is to see whether the evolutionary perspective can help us as we seek to build societal alternatives to the family-based child support system of the past.

Kaplan and VanDuser: One of these social alternatives is welfare. From an evolutionary perspective, does the welfare system run counter to the best interests of families by providing resources that allow people to have children without a partner or extended family?

Emlen: How do we define what is in the “best interests of families”? The evolutionary perspective tells us that what is in the best evolutionary interest of one family member is seldom identical with what is in the best evolutionary interest of another. This is the ultimate cause of many family conflicts. Suppose that children do fare best in extended family settings. This does not mean that parents today, would voluntarily choose to remain in such settings. Living with older generations of blood relatives has its benefits in terms of cooperative child care. But it also has a downside. Staying close to such relatives limits our opportunities to marry partners or accept better jobs that would take us further away from where our parents live. I don’t think we’re going to go back to true extended families because it’s probably not what is in the best interests of many adults. You also have to consider society versus the individual. The promotion of extended families might come at an awesome cost to the civil liberties and freedoms of choice for the individual.

Kaplan and VanDuser: What would your prediction be if there continues to be a reduction in welfare benefits?

Emlen: I am not an expert on existing welfare laws or their consequences. But I suspect that your question would have very different answers over the short term and long term, and also at the levels of the individual and of society. Hence the dilemma. One cannot in good conscience remove the only financial source of support for a dependent child. Yet the existence of that support undoubtedly contributes to people’s willingness to have children when no self- or family-generated resources are available for their care. It is in the long-term interest of both society and dependent children to find alternatives to welfare. But is it not in the short-term interest of most parents on welfare or their children to have it removed. So the problem is how we get there from here.

Kaplan and VanDuser: What are some alternatives?

Emlen: We are already seeing an increase in the number of single parents who turn to their own parents for childcare assistance. In this way, one part of the ancestral extended family is being reestablished—the grandparent/grandchild link. There are biological reasons to expect grandparents to be highly solicitous to the needs of their grandchildren (i.e., they are predisposed to be so). Providing that such care is beneficial to the grandchildren (and there is evidence that it is), much more could be done to facilitate these interactions. I personally favor offering significant tax credits to either grandparents who wish to relocate to be near their dependent grandchildren or to parents with dependent children who wish to relocate to be close to the grandparents. I believe that Australia already offers tax relief for the construction of “Grannie flats,” apartments in the parental homes where the built-in babysitter (typically the grandmother) resides. The benefits realized by such a program, both financially, through reduced needs for paid childcare alternatives, and psychologically, in the enhanced emotional well-being of the children involved, would more than pay back the costs.

Kaplan and VanDuser: There seems to be some common ground and parallels between counseling theories and your evolutionary framework.

Emlen: I fully agree. Sometimes a new paradigm can be threatening. It’s natural to entrench because you have so much invested in the framework that you’ve been taught. It takes a while to perceive where the commonalities are and where the potential added value of a new approach lies. But there is nothing about the evolutionary model that in any way contradicts or negates frameworks used by family counselors. If the addition of the evolutionary perspective can help counselors to better anticipate flash points of family conflict before they occur, then it will have been valuable. If it can help family members to increase their ability to consciously suppress behaviors they wish to overcome, it will have been valuable. Just how useful it will be remains to be determined. The answer will come from readers of The Family Journal, counselors who work with families in need. It is my hope that the evolutionary approach will be able to contribute to our search for solutions to problems of family conflict and violence.

Kaplan and VanDuser: Additional research will be needed to continue to test the hypotheses you have proposed.

Emlen: What directions would you suggest for family counseling researchers?

Emlen: I would welcome more work being done on the role of grandparents at almost any level. My approach would be to try to predict the circumstances under which grandparents might be most likely to invest time and energy in their grandchildren. I would also like to see more work done on the dynamics of true extended families.

It would also be fascinating to learn more about stepmother families. Today the vast majority of stepfamilies consists of a biological mother, her children, and a stepfather. But a century ago stepmother families predominated. Biological mothers often died in childbirth. In the male-dominated society of the time, widowed men rarely took care of their own children. Instead they were likely to remarry and the new step-
mother took on primary responsibility for her stepchildren. We really don’t know a great deal about the dynamics of stepmother families.

Kaplan and VanDuser: Would you be able to send us a reading list for those readers who would like to go into more depth? [Note: Dr. Emlen’s thoughtful response to this request is reproduced in the Appendix. In addition, he would be happy to send copies of any papers or magazine articles he has authored to readers who request them. Dr. Emlen can be contacted at Neurobiology and Behavior, W323 Seeley G. Mudd Hall, Cornell University, Ithaca, New York, 14853-2702; email: ste1@cornell.edu].

Stephen and Natalie Emlen then prepared a sushi dinner for Molly and David at their beautiful home nestled in a wood-side canyon. The perfect ending to a very special day.

APPENDIX
Dr. David Kaplan

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Dear David:

As promised, I have put together a suggested reading list that might be helpful in introducing family counselors to the evolutionary perspective on behavior, both generally and as it might specifically apply to family dynamics. The list, with some comments, is given below.

General background reading in evolution and behavior:

Daly, M. & Wilson, M. (1983). Sex, evolution, and behavior (2nd ed.). Boston: Willard Grant Press. This is an excellent introduction to the evolutionary approach of looking at behavior written by two highly regarded evolutionary psychologists. The primary readership was academic psychologists. In particular, the last few chapters deal with reproductive and parenting strategies in humans.

Wright, R. (1994). The moral animal: Evolutionary psychology and everyday life. New York: Pantheon Press. This is a popular book that explains the natural selection viewpoint in predicting human behavior as well as the evolutionary psychologists’ viewpoint on how it shaped the human mind. An excellent read.

More general popular readings pertaining specifically to human family dynamics:


Small, M. (1997, September). It’s all in the family. Conocer, 176, 64-71. Perhaps the shortest and most readable summary of my work; however it is written in Spanish. I would be happy to send an English translation to readers who request it.


Scientific papers dealing specifically with evolutionary predictions of human family dynamics:


Emlen, S. T. (1997). The evolutionary study of human family systems. Social Science Information, 36, 563-589. This is the primary article in which I expand upon the ideas discussed in this interview, including a presentation of the logic behind my evolutionary predictions and a review of the sociobiological evidence pertinent to them.


Finally, just a word to say that Natalie and I greatly enjoyed meeting with both you and Ms. VanDuser. And I thank you again for providing me with this opportunity of introducing the Darwinian approach to the readers of The Family Journal.

Regards,
Stephen T. Emlen
The Jacob Gould Shurman
Professor of Behavioral Ecology

David M. Kaplan, Ph.D., is a professor of education and director of the graduate program in counseling at Alfred University. He is the current president of the International Association of Marriage and Family Counselors.

Molly L. VanDuser is a graduate student in the counseling program at Alfred University. Her research interests include childhood sexual abuse, domestic violence, anger, and dissociative identity disorder. She is currently completing her internship at Ithaca College and is a May, 1999 master’s degree candidate.