

# Biosynergy: The Synergy of Life

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**About the Author: Psychologist Anthony L. Rose** has worked nearly forty years developing organizational and community programs to confront change and chaos as consultant to government, military, organized religion, educational institutions, wildlife conservation NGOs and private businesses. During the last decade his studies and interventions in wildlife and rainforest conservation have been reported in scores of books, magazines, and journals. His latest book, Consuming Nature, reveals the crisis facing people and nature in equatorial Africa in stunning words and images. Dr. Rose's talks and writings on biosynergy and the biodiversity crisis have catalyzed the formation of conservation alliances worldwide. Rose is president of the Biosynergy Institute and a member of the WBSI International Leadership Forum. He served as research fellow at the UCLA Brain Research Institute in Los Angeles and the Western Behavioral Sciences Institute in La Jolla, California. He was founder and director of Center for Studies of the Person and director of organization design and research for the Kaiser Permanente Medical Care Program. Dr. Rose has taught dozens of university courses in fields ranging from animal behavior and drug abuse prevention to organization development and conservation psychology.

## **Biosynergy: The Synergy of Life**

*Biosynergy is the fundamental and overarching process that sustains life on Earth. Its seed and its spark have been born and imbedded in every living cell, organism, and ecosystem since the beginning of time. Biosynergy is the inner force that compels each and every individual being to collaborate with others for the greater good.* It is so ubiquitous as to be invisible. So vastly important as to feel unspeakable. So rife with promise and hope as to seem impossible in this era of human hegemony and global chaos. It is the impetus for persons to fall in love, for dogs and cats to nuzzle and mark their human companions, for field researchers and explorers to rescue orphan apes in the rain forest and for the apes to let them. Biosynergy is the ultimate interface of life forms that scientists long to observe. Biosynergy is the sunrise awakening of wilderness that naturalists long to experience. Biosynergy is the call of the wild that adventurers long to follow. This essay aims to help you make *biosynergy* visible, effable, and possible. To do so, you will need to set aside resistance, defiance, and pessimism. Biosynergy, the synergy of life, has tremendous implications for the future of all life on earth. To explore and understand biosynergy will foster an inclusive optimism which we direly need in these difficult and troubled times.

It was in the Gunung Leuser reserve in the far north of Sumatra that I first experienced the profound process which I labeled "**biosynergy**". The morning air was crisp and cool at the Ketembe research site, and we had struck out early in search of orang-utan. Two hours along mud trails laced with strands of archetypal light and inscrutable green mists that drift in layers through the ever rising canopy conformed me, body and mind, to a vitally mystic reality. We found three of our great ape cousins that day – a mother with babe in arms and a young daughter stared down at us from the branches, offered us figs, an orangutan welcome. An absolutely profound interspecies event. Still, It wasn't the exhilarating encounter with apes that taught me the ultimate lesson of biosynergy. It was the leeches.

A day earlier I had stopped at the bend in a narrow trail, studied the spaghetti lines that criss-crossed my soiled and crumpled map, and was about to tilt a water bottle toward my lips when I saw the wormy creatures. Twenty, at least, were wiggling out of the leaf litter and heading my way. The prior evening I had extracted thirteen of these blood suckers from my toes and ankles upon return from a trek in the forest. Now a company of annelids was streaking toward the scuffle and heat of my feet, gnashing their teeth in the excitement of a probable feast. I deftly hopped over the encroaching circle and stood fast. In an instant they had whirled 'round and were again heading my way. I leapt back over them again. They turned again. I bent down, offered my forefinger to the leader of the pack, and watched him crawl on board and attach his jaws to my skin. In a minute or two he had doubled in size, filled with my blood. I removed him and looked closely at the small red dot on my finger. In thanks for my liquid offering, he had injected his anticoagulant.

"Tit for tat – you feed me, I clean up after."

**Biosynergy!** The realization spiraled through me. I was part of an ecosystem that was in a state of synergy, with all life forms engaged in mutual service. More than service, in mutual attraction, fascination, interdependence, harmony. I had entered to explore and the biosynergy of the place had transformed me from observer to participant, from interloper to inhabitant, from utilizer to synergizer.

In the twenty five years since that moment of immersion and discovery, I have named, framed, sorted and reported the experience of **biosynergy** on six continents. No lesson, no essay, and no book can reveal all there is to know about the relationships among life forms. We explorers move through our worlds collecting momentary specimens of experience, assembling fleeting reactions and ideas, concocting personal interpretations and theories. At the end of the day we sit around campfires and coffee tables to compile it all into short stories. At the end of each great adventure we sit at desks and stand in lecture halls patching our stories together into epic tales that strive to illuminate a tiny particle of Life's eternal truth. How audacious is the person who would expose the whole truth in a few thousand words! Yet we must try.

It is the duty of the scientist to document the broad context in which important phenomena are studied. It is also the scientist's obligation to conform measurement procedures to statistical fundamentals and to examine and factor out the influence of observer and experimenter bias on data collection, analysis, and interpretation. When these vital precepts are ignored, doctrinaire theories about the behavior of life on earth are "proven" by the biased collection of confirming data in small guarded environments. Contrary observations are explained away with obtuse and arbitrary arguments. Still, no matter how open-minded we scientists try to be, we must admit that we cannot achieve objective measurement of human-animal relationships. We filter events and situations through human senses, infuse them with human emotions, analyze them with human minds, judge them with human values, and envisage them with human intuitions. And within the category "human", our objectivity is further skewed by culture, education, and personal history. At best we can amalgamate the *collective subjective perceptions* of individual humans who relate to non-human animals. Knowing that we cannot speak for the other animals, we still speak about them in our own diverse human ways.

My research into this preeminent natural phenomenon has focused on indicators of biosynergy that emerge when humans and other animals break through psychosocial barriers to create synergistic relationships. My encounters with leeches, orangutans, and the myriad interlaced life forms in Sumatran rainforests led to extensive exploration of other wild places. Condors and crickets, gorillas and guinea fowl, rhinos and rattle snakes, leatherback turtles and leopards all became part of my life story. Thousands of animals have helped me to experience and define the phenomenon of biosynergy.

In 1994 I began to document the histories of persons who had become devoted to wildlife and wilderness. This enabled me to determine the essential characteristics of profound interspecies events (PIEs) in which previously disconnected humans and non-humans initiate interspecies synergy. My analysis revealed a remarkable similarity between the sequence of elements that compose the most complete PIE and the reports of "near death experiences" investigated by Elizabeth Kubler-Ross. Like the NDE, these "near life experiences" have extraordinary transforming effects on the humans who undergo them. The elements of the most complete PIE are:

1. Initial insurmountable difficulty for the human to gain access to the animal.
2. Perseverance -- patience and faith -- by the human in pursuit of a connection.
3. Reversal of mistrust by the animal with regard to the pursuing human.
4. An arresting first contact, followed by successively closer and longer interaction.
5. Intervening forces that separate the pair, leaving one/both highly endangered.
6. Heroic acts by one/both members of the pair to reach/protect/save the other.
7. Profound shifts in perception of self/other/species by the member(s) of the pair.

To experience any one of these elements can evoke empathy for other species in a person who is emotionally receptive. To experience all elements together can change a person's view of life from ego and human centered to eco and life centered. Unlike the NDE, which is a seemingly long event compressed into seconds of real time, the chain of elements that compose the ultimate PIE can take hours, days, even months to unfold. Yet when conditions are right for the humans and animals involved, the profound experience of epiphany often feels instantaneous.

The fastest route back to nature occurs when animals we consider dangerous, distant, or disinterested befriend us. **Humane** treatment by wild creatures that **seek a friendly encounter** with a human produce the most profound interspecies events -- in my research I call this the **SAFE scenario**. My first interspecies epiphany occurred at the UCLA Brain Research Institute over 40 years ago when I had to capture a macaque monkey that had escaped from his cage and was ransacking my lab. This had never happened to me before. Handling a scared monkey in cage or experimental chamber was one thing: catching an escapee was another. I entered the room and peered through the haze and clutter. Snicky, a large young male, stared down at me from atop a bookcase, hair on end, eyes wide, teeth bared. Half terrified and thinking him hostile, unsure what to do, I mechanically smacked my lips at him, our usual morning greeting. He shuddered through a kind of tension melt-down and suddenly jumped from the shelf, leapt into my arms and held on like a worried child. In the distance he had seemed so huge, imposing, wild. Now in my arms he was small, vulnerable, dependent. I sat on the linoleum floor holding this animal in my arms for the first time in our years together. He groomed my skin while I cleaned the scab that edged his cement skullcap, checked his implanted electrodes to be sure they hadn't loosened, and examined his dilated eyes. I remember thinking "after all I've done to him, he wants my friendship more than his freedom." I cried. This profound experience turned me away from medical research forever. I vowed never again to experiment on friends?

Since that time I have reviewed reports and conducted interviews with hundreds of wildlife professionals and animal aficionados whose world views were transformed by humane emotion laden interspecies encounters. Squid and shark, dolphin and whale, tortoise and tarantula, tiger, wolf and bear, and all the non-human primates from the tiny bush baby to the great gorilla have befriended people, and changed them. Most noteworthy is the alteration of these people's world views. We are propelled by our epiphanies into a world in which other animals are experienced as kindred spirits; a world where synergy among all living beings is the natural way of life on the planet.

I also discovered that early interspecies epiphanies divide into distinct types which correlate with the types of professional work people eventually undertake. The predominant PIEs reported by people who are not involved in animal work are the SAFE scenarios similar to the one described above. For lay people these events involve domesticated animals more often than wild animals. Persons who work as animal care givers, zoo keepers, animal trainers and veterinarians also tend to report having profound friendly encounters with other animals when they were children and young adults. Zoo keeper's early PIEs often involved wild animals. Our research in schools and communities in west and central Africa has shown that telling the general public stories about PIEs in which wild animals seek friendly encounters with humans have the most payoff in the development of conservation values. In general, people are more likely to argue for the protection of endangered animals because the animals are like people, than because the animals are rare and appear to be going extinct.

The wildlife scientists' appetite for discovery appears to have been stimulated by profoundly intriguing interactions with other animals in which they felt that they had been shown a secret clue to understanding animals and nature. This is the kind of epiphany that **scientific** explorers seek, in which animals **exhibit natural reactions which illuminate crucial hypotheses (the ENRICH scenario)**. While forest people and game hunters had seen tool use among wild apes for decades before Jane Goodall went to Gombe Stream, her systematic observation of chimpanzees fishing for termites caused a revolution in thinking among students of evolution and marked a major turning point in her life. Jane's life experience has been filled with every kind of interspecies epiphany. For many years she thrived on the discovery of animal secrets and the testing of human hypotheses about the nature of our ape cousins. By the time I met her she had been befriended by countless wild and orphan chimpanzees and had turned from great ape research to the care and protection of all animals and all of nature.

The last time I spoke with Jane Goodall she said that her most profound moments now came when she walked in the rain forest, engulfed by the majesty of that ever mysterious and ever changing world. Thus she illuminated the third type of natural epiphany reported by lay persons and animal professionals alike -- an awe inspiring **naturalistic** event in which the person is **shown an extraordinary element of nature (the SEEN scenario)**. A tremendous amount of writing has been done about this type of experience. After many long discussions about interspecies epiphanies, orangutan researcher and protector Birute Galdikas wrote: "Looking into the calm, unblinking eyes of an orangutan we see, as through a series of mirrors, not only the image of our own creation but also a reflection of our own souls and an Eden that once was ours. And on occasion, fleetingly, just for a nanosecond, but with an intensity that is shocking in its profoundness, we recognize that there is no separation between ourselves and nature." The life stories of Birute, Jane, and gorilla expert Dian Fossey are brilliant beacons to light our path toward kinship with every living being in this world.

In his studies of human attitudes towards nature, Stephen Kellert describes a utilitarian value structure that stresses the physical benefits of nature for human sustenance, protection, and security. We have found extensive testimony to the psychological benefits. Naturalists, scientists, animal care givers, adventurers, and conservationists as well as people in countless fields not related to animals confirmed the healing effects of interspecies contact and nature immersion. Poet Wendell Berry expresses most poignantly our need for contact with nature:

**When despair for the world grows in me  
and I wake in the night at the least sound  
in fear of what my life and my children's life may be,  
I go and lie down where the wood drake rests  
in his beauty on the water, and the great heron feeds.  
I come into the peace of wild things  
who do not tax their lives with forethought of grief.  
I come into the presence of still water.  
And I feel above me the day-blind stars  
waiting with their light. For a time  
I rest in the grace of the world, and am free.**

In Berry's poem we glimpse the wonder of natural epiphanies, and we are reminded of their necessity. If we despair for the world and are fearful of our human future, it is very important to realize that synergy with other animals is more than a palliative. Biosynergy is a requisite for all life on earth to survive and to thrive.

Common sense throughout the ages is being validated over and over by scientific studies that demonstrate the personal and social dysfunction of individual humans and societies that are detached from and destructive of the natural life with which we are genetically, ecologically, and spiritually entwined. In the United States, fear of the wild and of strangers has escalated to the point where even children in rural communities spend nearly all their time indoors. In suburbs and cities practically nobody goes into their backyards; most young people avoid streets and open space. Children spend nearly 45 hours weekly engaged with electronic-media and less than 30 minutes a day with their parents and guardians. The result is a deficit in nature and nurture that has adverse effects on the well-being of us all.

Evidence is mounting that the greater part of human conflict emanates from our alienation from the rest of nature. Edmund O. Wilson postulated that we suffer from inability to satisfy our need for biophilia ... the innately emotional affiliation of human beings to other living organisms. It has become apparent that biophilia is not enough. For our lives to be whole and healthy, affiliations with other species must be reciprocally supportive. To survive and thrive, living beings need synergistic relationships with other organisms in their ecosystem, and ultimately in the biosphere. Like the leech and me in the Sumatran rain forest, we must give to one another in return for what we take. We've come a long way from that realization to this definition:

### **bi o syn er gy** *n.*

1. The interaction of two or more biological agents or forces so that their combined effect is greater than the sum of their individual effects.
2. Cooperative interaction among species, especially among the individuals and groups in an ecosystem, that creates an enhanced combined effect.
3. The theory that organisms cooperate with passage of time in the same ecosystem, mainly as a result of reciprocal altruism, so that biosocial structure and dynamics change to assure the vigor of all life forms. [Greek, from *bios*, life. From Greek *sunergia*, cooperation, from *sunergos*, working together.)

The hypothesis of "reciprocal altruism" is key to this treatise. It is supported by volumes of observation, analysis, and theory. In recent decades scientists have reinforced the importance of social and genetic co-evolution in the development of earth life. Animal and plant societies thrive through processes of adaptive conformity and cooperation, attenuated by suppression or rejection of aberrant individuals and rebellious groups. The most prolific life forms on the planet are those that undertake intricate social collaboration which enables adjustment to environmental and ecological change. Ants and humans are among the most celebrated and studied of communal species. Both foster the harmonic growth of other organisms to create soothing landscapes, safe and healthy habitats, verdant gardens and fertile farms. Both honor the greater good above the idiosyncratic demands of selfish individuals. As with all animal groups, ants and humans do best when practicing biosynergy with others.

A few philosophers cling to the belief that individual organisms and species are driven entirely by a need to win dominance over others in a vast battle for survival of the fitter. This competitive view of life emerges from fear-induced selective perception which causes people to fixate on aberrations and to ignore commonalities. It manifests in stolen car chases that hijack TV news, pathology and crime studies that plunder scientific research coffers, and paranoia about outsiders that drives global politics. It culminates in the unnatural selection of corporate and national leaders who trade on

terror and fulfill the dog-eat-dog prophecy by transforming democracies into oligarchies in the pursuit of private wealth and power. Insecure people are entranced by the pathos and excitement of super heroes engaged in worst case scenarios. Terrified people are unable to look beyond the highly advertised infernos to see that the vast majority of life on earth is not burning. It is this rampant paranoia and its concomitant destructiveness that renders the illumination of biosynergy so very important.

But just as media and its messages have plunged our world view into a deeply pessimistic outlook on life, so can new ideas and discoveries return us to a brighter reality. Richard Rorty makes an elegant case for our human potential to change: "For beyond the vocabularies useful for prediction and control -- the vocabulary of natural science -- there are the vocabularies of our moral and our political life and of the arts, of all those human activities which are ... aimed at ... giving us self images that are worthy of our species. Such images are not true to the nature of species or false to it, for what is really distinctive about us is that we can rise above questions of truth or falsity. We are the poetic species, the one which can change itself by changing its behavior -- and especially its linguistic behavior, the words it uses." Rorty challenges humankind to redefine itself. By shifting paradigms from bio-dominance to biosynergy, we are challenging humankind to redefine the fundamental and ultimate vision of life on earth.

Albert Einstein wrote that the enlightened person "looks upon individual existence as a sort of prison and wants ... to feel the sublimity and marvelous order which reveal themselves both in nature and in the world of thought." Natural scientists, adventurers, wild animal caretakers and conservationists have been blessed with opportunities to feel that sublimity and marvelous order. They have risked engagement with wildlife and wilderness, and have initiated the reunion of humanity and nature. George Schaller speaks from deep experience when he says that "the recent decades have been a turning point, indeed a revolution in our relationship with animals. Humans have begun to overcome cross-species barriers, achieving intimacy with hump-backed whales, chimpanzees, lions, mountain sheep, wolves ... the gorilla, of course, is more than an animal. These apes are part of human heritage. Our kin." As scientist and poet I strive to articulate the profound experience of kinship with nature in the world of thought.

These worlds where we evolve, the primordial ooze, the sea, the beachhead, the swamp and the savanna, mountain and valley, forest and desert are home to all life. From birth to death, all that grows and moves on this planet reveals itself in glorious living murals, ballets, and symphonies. All visions and voices contribute. All eyes and ears are tuned to the magic interplay of nature. *The biota of earth is interwoven in an ever-changing biosynergy, like threads on a multidimensional loom, the tapestry of nirvana.* It is our calling as humans to illuminate the images of life, enrich the dance of reunion, and sing in the voice of all beings. And it is this voice -- the voice that dares to sing all songs of all life -- which guides us toward the fulfillment of our natural destiny.

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