**Annals of Psychology**

**Social Animal: How the new sciences of human nature can help make sense of a life.**

**by David Brooks January 17, 2011**

Researchers have made strides in understanding the human mind, filling the hole left by the atrophy of theology and philosophy.

After the boom and bust, the mania and the meltdown, the Composure Class rose once again. Its members didn’t make their money through hedge-fund wizardry or by some big financial score. Theirs was a statelier ascent. They got good grades in school, established solid social connections, joined fine companies, medical practices, and law firms. Wealth settled down upon them gradually, like a gentle snow.

You can see a paragon of the Composure Class having an al-fresco lunch at some bistro in Aspen or Jackson Hole. He’s just back from China and stopping by for a corporate board meeting on his way to a five-hundred-mile bike-a-thon to support the fight against lactose intolerance. He is asexually handsome, with a little less body fat than Michelangelo’s David. As he crosses his legs, you observe that they are immeasurably long and slender. He doesn’t really have thighs. Each leg is just one elegant calf on top of another. His voice is so calm and measured that he makes Barack Obama sound like Sam Kinison. He met his wife at the Clinton Global Initiative, where they happened to be wearing the same Doctors Without Borders support bracelets. They are a wonderfully matched pair; the only tension between them involves their workout routines. For some reason, today’s high-status men do a lot of running and biking and so only really work on the muscles in the lower half of their bodies. High-status women, on the other hand, pay ferocious attention to their torsos, biceps, and forearms so they can wear sleeveless dresses all summer and crush rocks with their bare hands.

A few times a year, members of this class head to a mountain resort, carrying only a Council on Foreign Relations tote bag (when you have your own plane, you don’t need luggage that actually closes). Once there, they play with hundred-and-sixty-pound dogs, for it has become fashionable to have canines a third as tall as the height of your ceilings. They will reflect on the genetic miracle they have achieved. (Their grandmothers looked like Gertrude Stein, but their granddaughters look like Uma Thurman.) In the evenings, they will traipse through resort-community pedestrian malls licking interesting gelatos, while passersby burst into spontaneous applause.

Occasionally, you meet a young, rising member of this class at the gelato store, as he hovers indecisively over the cloudberry and ginger-pomegranate selections, and you notice that his superhuman equilibrium is marred by an anxiety. Many members of this class, like many Americans generally, have a vague sense that their lives have been distorted by a giant cultural bias. They live in a society that prizes the development of career skills but is inarticulate when it comes to the things that matter most. The young achievers are tutored in every soccer technique and calculus problem, but when it comes to their most important decisions—whom to marry and whom to befriend, what to love and what to despise—they are on their own. Nor, for all their striving, do they understand the qualities that lead to the highest achievement. Intelligence, academic performance, and prestigious schools don’t correlate well with fulfillment, or even with outstanding accomplishment. The traits that do make a difference are poorly understood, and can’t be taught in a classroom, no matter what the tuition: the ability to understand and inspire people; to read situations and discern the underlying patterns; to build trusting relationships; to recognize and correct one’s shortcomings; to imagine alternate futures. In short, these achievers have a sense that they are shallower than they need to be.

Help comes from the strangest places. We are living in the middle of a revolution in consciousness. Over the past few decades, geneticists, neuroscientists, psychologists, sociologists, economists, and others have made great strides in understanding the inner working of the human mind. Far from being dryly materialistic, their work illuminates the rich underwater world where character is formed and wisdom grows. They are giving us a better grasp of emotions, intuitions, biases, longings, predispositions, character traits, and social bonding, precisely those things about which our culture has least to say. Brain science helps fill the hole left by the atrophy of theology and philosophy.

A core finding of this work is that we are not primarily the products of our conscious thinking. The conscious mind gives us one way of making sense of our environment. But the unconscious mind gives us other, more supple ways. The cognitive revolution of the past thirty years provides a different perspective on our lives, one that emphasizes the relative importance of emotion over pure reason, social connections over individual choice, moral intuition over abstract logic, perceptiveness over I.Q. It allows us to tell a different sort of success story, an inner story to go along with the conventional surface one.

To give a sense of how this inner story goes, let’s consider a young member of the Composure Class, though of course the lessons apply to members of all classes. I’ll call him Harold. His inner-mind training began before birth. Even when he was in the womb, Harold was listening for his mother’s voice, and being molded by it. French babies cry differently from babies who’ve heard German in the womb, because they’ve absorbed French intonations before birth. Fetuses who have been read “The Cat in the Hat” while in the womb suck rhythmically when they hear it again after birth, because they recognize the rhythm of the poetry.

As a newborn, Harold, like all babies, was connecting with his mother. He gazed at her. He mimicked. His brain was wired by her love (the more a rat pup is licked and groomed by its mother, the more synaptic connections it has). Harold’s mother, in return, read his moods. A conversation developed between them, based on touch, gaze, smell, rhythm, and imitation. When Harold was about eleven months old, his mother realized that she knew him better than she’d ever known anybody, even though they’d never exchanged a word.

Harold soon developed models in his head of how to communicate with people and how to use others as tools for his own learning. Thanks to his mom’s attunement, he became confident that if he sent a signal it would be received. Later in life, his sense of security enabled him to go out and explore the world. Researchers at the University of Minnesota can look at attachment patterns of children at forty-two months, and predict with seventy-seven-per-cent accuracy who will graduate from high school. People who were securely attached as infants tend to have more friends at school and at summer camp. They tend to be more truthful through life, feeling less need to puff themselves up in others’ eyes. According to work by Pascal Vrticka, of the University of Geneva, people with what scientists call “avoidant attachment patterns” show less activation in the reward areas of the brain during social interaction. Men who had unhappy childhoods are three times as likely to be solitary at age seventy. Early experiences don’t determine a life, but they set pathways, which can be changed or reinforced by later experiences.

For several months when he was four, Harold insisted that he was a tiger who had been born on the sun. His parents tried to get him to concede that he was a little boy born in a hospital, but he would become grave and refuse. This formulation, “I’m a tiger,” may seem like an easy thing, but no computer could blend the complicated concept “I” with the complicated concept “tiger” into a single entity. As Harold grew, he was able to use his imagination to blend disparate ideas, in the same sort of way that Picasso, at the height of his creative powers, could combine the concept “Western portraiture” with the concept “African masks.”

Throughout his life, Harold had a superior ability to feel what others were feeling. He didn’t dazzle his teachers with academic brilliance, but, even in kindergarten, he could tell you who in his class was friends with whom; he was aware of social networks. Scientists used to think that we understand each other by observing each other and building hypotheses from the accumulated data. Now it seems more likely that we are, essentially, method actors who understand others by simulating the responses we see in them. When Harold was in high school, he could walk around the cafeteria and fall in with the unique social patterns that prevailed in each clique. He could tell which clique tolerated drug use or country-music listening and which didn’t. He could tell how many guys a girl could hook up with and not be stigmatized. In some groups, the number was three; in others seven. Most people assume that the groups they don’t belong to are more homogeneous than the groups they do belong to. Harold could see groups from the inside. When he sat down with, say, the Model U.N. kids, he could guess which one of them wanted to migrate from the Geeks and join the Honors/Athletes. He could sense who was the leader of any group, who was the jester, who played the role of peacemaker, daredevil, organizer, or self-effacing audience member.

One of Harold’s key skills in school was his ability to bond with teachers. We’ve spent a generation trying to reorganize schools to make them better, but the truth is that people learn from the people they love. In eleventh grade, Harold developed a crush on his history teacher, Ms. Taylor. What mattered most was not the substance of the course so much as the way she thought, the style of learning she fostered. For instance, Ms. Taylor constantly told the class how little she knew. Human beings are overconfidence machines. Paul J. H. Schoemaker and J. Edward Russo gave questionnaires to more than two thousand executives in order to measure how much they knew about their industries. Managers in the advertising industry gave answers that they were ninety-per-cent confident were correct. In fact, their answers were wrong sixty-one per cent of the time. People in the computer industry gave answers they thought had a ninety-five per cent chance of being right; in fact, eighty per cent of them were wrong. Ninety-nine per cent of the respondents overestimated their success.

Ms. Taylor was always reminding the class of how limited her grasp of any situation was. “Sorry, I get distracted easily,” she’d say, or, “Sorry, sometimes I jump to conclusions too quickly.” In this way, she communicated the distinction between mental strength (the processing power of the brain) and mental character (the mental virtues that lead to practical wisdom). She stressed the importance of collecting conflicting information before making up one’s mind, of calibrating one’s certainty level to the strength of the evidence, of enduring uncertainty for long stretches as an answer became clear, of correcting for one’s biases. As Keith E. Stanovich, a psychologist at the University of Toronto, writes in his book “What Intelligence Tests Miss” (2009), these “thinking dispositions” correlate weakly or not at all with I.Q. But, because Ms. Taylor put such emphasis on these virtues and because Harold admired her so much, he absorbed and copied her way of being.

By the time Harold was in his mid-twenties, he was well on his way toward a happy and fulfilling life, and the building blocks of his happiness had little to do with the lines on his résumé. There’s a debate in our culture about what really makes us happy, which is summarized by, on the one hand, the book “On the Road” and, on the other, the movie “It’s a Wonderful Life.” The former celebrates the life of freedom and adventure. The latter celebrates roots and connections. Research over the past thirty years makes it clear that what the inner mind really wants is connection. “It’s a Wonderful Life” was right. Joining a group that meets just once a month produces the same increase in happiness as doubling your income. According to research by Daniel Kahneman, Alan B. Krueger, and others, the daily activities most closely associated with happiness are social—having sex, socializing after work, and having dinner with friends. Many of the professions that correlate most closely with happiness are also social—a corporate manager, a hairdresser.

Young American men are not exactly famous for being in touch with their emotions. But Harold sensed that he was a social animal, not a laboring animal or a rational animal, and one day he went on a blind date with the woman—let’s call her Erica—who would someday be his wife. Given the stakes, we might pause over this incident, to show in slightly more detail how the inner processes of the mind interact with the conscious ones.

Harold and Erica got their first glimpse of each other in front of a Barnes & Noble. They smiled broadly as they approached, and a deep, primeval process kicked in. Harold liked what he saw, from the waist-to-hip ratio to the clear skin, all indicative of health and fertility. He enjoyed the smile that spread across Erica’s face, and unconsciously noted that the end of her eyebrows dipped down. The orbicularis-oculi muscle, which controls this part of the eyebrow, cannot be consciously controlled, so, when the tip of the eyebrow dips, that means the smile is genuine, not fake.

Erica was impressed by him: women everywhere tend to prefer men who have symmetrical features and are slightly older, taller, and stronger than they are. But she was more guarded and slower to trust than Harold was. That’s in part because, while Pleistocene men could pick their mates on the basis of fertility cues discernible at a glance, Pleistocene women faced a more vexing problem. Human babies require years to become self-sufficient, and a single woman in that environment could not gather enough calories to provide for a family. She was compelled to choose a man not only for insemination but for continued support. That’s why men leap into bed more quickly than women. Various research teams have conducted a simple study. They hire a woman to go up to college men and ask them to sleep with her. More than half the men say yes. Then they have a man approach college women with the same offer. Virtually zero per cent say yes.

So Erica was subconsciously looking for signs of trustworthiness. Marion Eals and Irwin Silverman, of York University, have conducted research suggesting that women are sixty to seventy per cent more proficient than men at remembering details from a scene. In the previous few years, Erica had used her powers of observation to discard entire categories of men as potential partners, and some of her choices were idiosyncratic. She rejected men who wore Burberry, because she couldn’t see herself looking at the same pattern on scarves and raincoats for the rest of her life. She viewed fragranced men the way Churchill viewed the Germans—they were either at your feet or at your throat. She would have nothing to do with men who wore sports-related jewelry, because her boyfriend should not love Derek Jeter more than her.

She looked furtively at Harold as he approached. Janine Willis and Alexander Todorov, of Princeton, have found that we make judgments about a person’s trustworthiness, competence, aggressiveness, and likability within the first tenth of a second. These sorts of first glimpses are astonishingly reliable in predicting how people will feel about each other months later. Erica noticed that Harold was good-looking but not one of those men who are so good-looking that they don’t need to be interesting. He was tall, which tends to inspire confidence; one study estimated that each inch of height corresponds to six thousand dollars of annual salary in contemporary America. Then he walked up and said hello.

Despite the saying about opposites attracting, people usually fall in love with people like themselves. There’s even some evidence that people tend to pick partners with noses of similar breadth to their own and eyes about the same distance apart. At lunch, Harold and Erica quickly discovered that they had a lot in common. They both affected connoisseurship regarding prosaic things such as muffins, hamburgers, and iced tea. They both exaggerated their popularity in high school, and had the same opinions about the characters in “Mad Men.” People generally overestimate how distinct their own lives are, so the commonalities seemed to them a series of miracles. The coincidences gave their relationship an aura of destiny.

The server came to their table and took their orders. The restaurant seemed to specialize in hard-to-eat salads. Erica, anticipating this, chose an appetizer that could be easily forked and a main dish that didn’t require cutlery expertise. But Harold went for a salad, composed of splayed green tentacles that could not be shoved into his mouth without brushing salad dressing on both of his cheeks. None of it mattered, because Harold and Erica clicked. Most emotional communication is nonverbal. Gestures are a language that we use not only to express our feelings but to constitute them. By making a gesture, people help produce an internal state. Harold and Erica licked their lips, leaned forward in their chairs, glanced at each other out of the corners of their eyes, and performed all the other tricks of unconscious choreography that people do while flirting. Erica did the head cant women do to signal romantic interest, a slight tilt of the head that exposes the neck. Then, there was the hair flip: she raised her arms to adjust her hair and heaved her chest into view. She would have been appalled if she had seen herself in a mirror at that moment.

And through it all the conversation flowed. You’d think, if you listened to cultural stereotypes, that women are the more romantic of the sexes. In fact, there’s evidence that men fall in love faster and are more likely to believe that true love lasts forever. Though men normally spend twice as much time talking about themselves as women do, in this conversation Harold was actually talking about Erica’s problems. Surveys by the evolutionary psychologist David Buss suggest that, for both men and women, kindness is one of the most important qualities desired in a sexual partner. Courtship consists largely of sympathy displays, in which potential partners try to prove how compassionate they can be, as anybody who has seen dating couples around children and dogs can attest.

Of course, there are less noble calculations going on as people choose their mates. Like veteran stock-market traders, people respond in predictable, if unconscious, ways to the valuations of the social marketplace. The richer the man, the younger the woman he is likely to mate with. A man’s job status is an outstanding predictor of his wife’s attractiveness. Without being aware of it, Harold and Erica were doing these sorts of calculations—weighing earnings-to-looks ratios, calculating social-capital balances. Every signal suggested that they had found a match.

“The greatest happiness love can offer is the first pressure of hands between you and your beloved,” Stendhal observed. Harold and Erica left the restaurant and walked down the sidewalk past a high-end stationery store unaware that they were already doing the lovers’ walk—bodies close to each other, smiles beaming out at the space in front of them. Harold actually shivered as he escorted Erica back to her car. He felt that he had been extraordinarily witty over lunch, encouraged by her flashing eyes.

As Erica and Harold semi-embraced, they took in each other’s pheromones. Smell is a surprisingly powerful sense in these situations. People who lose their sense of smell eventually suffer greater emotional deterioration than people who lose their vision. In one experiment conducted at the Monell Center, in Philadelphia, researchers asked men and women to tape gauze pads under their arms and then watch either a horror movie or a comedy. Research subjects, presumably well compensated, then sniffed the pads. They could somehow tell, at rates higher than chance, which pads had the smell of laughter and which pads had the smell of fear, and women were much better at this test than men.

Harold and Erica both sensed that this had been one of the most important interviews of their lives. In fact, it turned out to be the most important two hours of their lives, for there is no decision more important to lifelong happiness than the decision about whom to marry. During that early afternoon, they had begun to make a decision. The meal was delightful, but it was also a rigorous intellectual exam that made the S.A.T. seem like tic-tac-toe. Both of them had spent a hundred and twenty minutes performing delicate social tasks. They had demonstrated wit, complaisance, empathy, tact, and timing. They had measured their emotional responses with discriminations so fine that no gauge could quantify them. Every few minutes, each had admitted the other one step closer toward his or her heart.

This is how life works. Deciding whom to love is not an alien form of decision-making, a romantic interlude in the midst of normal life. Instead, decisions about whom to love are more intense versions of the sorts of decisions we make throughout the course of our existence, from what kind of gelato to order to what career to pursue. Living is an inherently emotional business.

Harold and Erica were never more alive than in the first weeks of being in love. If Harold was walking down the street alone, he kept thinking that he saw her face in the crowd. Things that used to bore him he now found charming. When he was out running, he would concoct elaborate fantasies in which he heroically saved her from harm. (Something about the act of running, and the chemicals it releases in the brain, brought out these Walter Mitty imaginings.) According to research by Faby Gagné, of Yorkville University, and John Lydon, of McGill, ninety-five per cent of people in relationships believe that their partner is above average in looks, intelligence, warmth, and sense of humor. (Other research shows that people describe former lovers as closed-minded, emotionally unstable, and generally unpleasant.) Harold now understood why the pagans had conceived of love as a god. It really felt as if some supernatural entity had entered his mind, reorganizing everything and lifting him to some higher realm.

But, in the first few months of their relationship, Harold and Erica were also engaged, as new couples must be, in a sort of map-meld. Each of them had come into the relationship with a mental map of how day-to-day life worked. Once their lives were permanently joined, they discovered that their maps did not entirely cohere. It was not the big differences they noticed but the little patterns of existence that they had never even considered.

Erica thought that dishes should be rinsed and put in the dishwasher right after they were used. Harold left them in the sink for the day and then put all of them in the dishwasher in the evening. For Harold, reading the morning paper was a solitary activity done in silence by two people who happened to be sitting together. For Erica, the morning paper was an occasion for conversation and observations about the state of the world. When Harold went to the grocery store, he bought meal products—a package of tortellini, a frozen pizza, a quiche. Erica bought ingredients—eggs, sugar, flour. Harold was amazed that she could spend two hundred dollars and there was still nothing for dinner.

Gradually, they entered the second stage of map-melding: pre-campaign planning. A house divided against itself cannot stand. Both Harold and Erica subliminally understood that the quirks that seemed charming and lovable in the early stages of love—Erica’s tendency to fire up the laptop in bed at 6 A.M., Harold’s feigned helplessness in the face of any domestic chore—would eventually cause the other to harbor homicidal urges. And so they began to make mental checklists of Things That Would Have to Change. Harold considered himself a neat man, but neatness consisted of taking things that were cluttering the countertops and shoving them into the nearest available drawers. He was apparently smarter than every football coach he had ever watched, but he lacked the foresight to see why you might not want to leave your shoes in the path that leads from the bed to the bathroom.

While they were negotiating these issues, something deeper was going on. It had to do with the familiar pleasure one feels when the internal networks of the mind and the outer patterns of reality suddenly match. Friends who are having a conversation begin to replicate each other’s vocal patterns. People in conversations begin to mimic the body language of the other person, and, the more closely they mimic the body language, the more perceptive they are about the other person’s emotions. As the neuroscientist Marco Iacoboni notes, “vicarious” is not a strong enough word to describe the effect of these mental processes. The brain exists within the skull, but the mind extends outward and arises from the interactions between people or between a person and the environment.

A year or so after they were married, Harold and Erica spent a week with Harold’s parents at their house in Aspen. They went riding and rafting and they attended an ideas festival. They sat through panel discussions on green technology and on how to adopt a charter school, and they spent a few hours immersed in the “China: Friend or Foe?” debate. One morning, they attended a talk by a neuroscientist. He was a young man in black jeans and a leather jacket, and he came to the session carrying a motorcycle helmet, as if he’d just escaped from a Caltech revival of “Grease.” He greeted a Finnish TV crew that was making a documentary about his work, mounted the stage, and gave a slide presentation that started with a series of optical illusions, like two tabletops that seem totally different but are actually the same size.

Then he displayed a series of colorful brain-scan pictures and threw out some startling statistics: we have a hundred billion neurons in the brain; infants create as many as 1.8 million neural connections per second; a mere sixty neurons are capable of making ten to the eighty-first possible connections, which is a number ten times as large as the number of particles in the observable universe; the ability to distinguish between a “P” and a “B” sound involves as many as twenty-two sites across the brain; even something as simple as seeing a color in a painting involves a mind-bogglingly complex set of mental constructions. Our perceptions, the scientist said, are fantasies we construct that correlate with reality.

At first, Harold found the talk a little chilling: it seemed that the revolution the scientist was describing was bound to lead to cold, mechanistic conclusions. If everything could be reduced to genes, neural wiring, and brain chemistry, what happened to the major concepts of life—good and evil, sin and virtue, love and commitment? And what about the way Harold made sense of his life as he lived it, the everyday vocabulary of morals, moods, character, aspirations, temptations, values, ideals? The scientist described human beings as creatures driven by deep mechanisms, almost like puppets on strings, not as ensouled human beings capable of running their own lives.

During the question-and-answer period, though, a woman asked the neuroscientist how his studies had changed the way he lived. He paused for a second, and then starting talking about a group he had joined called the Russian-American Folk Dance Company. It was odd, given how hard and scientific he had sounded. “I guess I used to think of myself as a lone agent, who made certain choices and established certain alliances with colleagues and friends,” he said. “Now, though, I see things differently. I believe we inherit a great river of knowledge, a flow of patterns coming from many sources. The information that comes from deep in the evolutionary past we call genetics. The information passed along from hundreds of years ago we call culture. The information passed along from decades ago we call family, and the information offered months ago we call education. But it is all information that flows through us. The brain is adapted to the river of knowledge and exists only as a creature in that river. Our thoughts are profoundly molded by this long historic flow, and none of us exists, self-made, in isolation from it.

“And though history has made us self-conscious in order to enhance our survival prospects, we still have deep impulses to erase the skull lines in our head and become immersed directly in the river. I’ve come to think that flourishing consists of putting yourself in situations in which you lose self-consciousness and become fused with other people, experiences, or tasks. It happens sometimes when you are lost in a hard challenge, or when an artist or a craftsman becomes one with the brush or the tool. It happens sometimes while you’re playing sports, or listening to music or lost in a story, or to some people when they feel enveloped by God’s love. And it happens most when we connect with other people. I’ve come to think that happiness isn’t really produced by conscious accomplishments. Happiness is a measure of how thickly the unconscious parts of our minds are intertwined with other people and with activities. Happiness is determined by how much information and affection flows through us covertly every day and year.”

As the scientist went on to talk about the rush he got from riding his motorcycle in the mountains, Harold was gripped by the thought that, during his lifetime, the competition to succeed—to get into the right schools and land the right jobs—had grown stiffer. Society had responded by becoming more and more focussed. Yet somehow the things that didn’t lead to happiness and flourishing had been emphasized at the expense of the things that did. The gifts he was most grateful for had been passed along to him by teachers and parents inadvertently, whereas his official education was mostly forgotten or useless.

Moreover, Harold had the sense that he had been trained to react in all sorts of stupid ways. He had been trained, as a guy, to be self-contained and smart and rational, and to avoid sentimentality. Yet maybe sentiments were at the core of everything. He’d been taught to think vertically, moving ever upward, whereas maybe the most productive connections were horizontal, with peers. He’d been taught that intelligence was the most important trait. There weren’t even words for the traits that matter most—having a sense of the contours of reality, being aware of how things flow, having the ability to read situations the way a master seaman reads the rhythm of the ocean. Harold concluded that it might be time for a revolution in his own consciousness—time to take the proto-conversations that had been shoved to the periphery of life and put them back in the center. Maybe it was time to use this science to cultivate an entirely different viewpoint.

After the lecture, Harold joined his family and they went downtown to their favorite gelato shop, where Harold had his life-altering epiphany. He’d spent years struggling to dazzle his Mandarin tutors while excelling in obscure sports, trying (not too successfully) to impress admissions officers with S.A.T. prowess and water-purification work in Zambia, sweating to wow his bosses with not overlong PowerPoints. But maybe the real action was in this deeper layer. After all, the conscious mind chooses what we buy, but the unconscious mind chooses what we like. So resolved, he boldly surveyed the gelato selections before him and confidently chose the cloudberry.