

Copyright © 2012 Andrew Newberg, M.D., and Mark Robert Waldman. All Rights Reserved IMPORTANT: DO NOT COPY, DISTRIBUTE, POST ON THE INTERNET, OR SHARE THIS WITH ANYONE ELSE

HUDSON STREET PRESS

CONTENTS

Part 1

The Evidence: The Neuroscience of Communication, Consciousness, Cooperation, and Trust Chapter 1: A New Way to Converse (included in this pdf) Chapter 2: The Power of Words (included in this pdf) Chapter 3: The Many Languages of the Brain Chapter 4: The Language of Consciousness Chapter 5: The Language of Cooperation (included in this pdf)

Chapter 6: The Language of Trust

Part 2

The Strategies: Developing New Communication Skills

Chapter 7: Inner Values: The Foundation of Conscious Living (included in this pdf)

Chapter 8: Twelve Steps to Intimacy, Cooperation, and Trust (included in this pdf)

Chapter 9: Compassionate Communication: Retraining Your Social Brain

Part 3

The Application: Practicing Effective Communication with Others

Chapter 10: Compassionate Communication with Loved Ones

Chapter 11: Compassionate Communication in the Workplace

Chapter 12: Compassionate Communication with Kids

AUTHORS' NOTE: The communication strategies we've developed and presented in this book have grown out of years of evidence-based research conducted by hundreds of neuroscientists and psychologists throughout the world. This book represents a new model for how the brain creates unique language systems that are designed to convey complex information to others. But neuroscience is often difficult to convey in simple language. Sometimes important information can be left out, and sometimes a hypothesis may read as though it were a fact. Furthermore, when it comes to the brain, a single millimeter of tissue can control many processes in addition to the ones we describe in this book. To counter these problems, and to provide the necessary substantiation for this new approach to communicating effectively with others, we've included extensive endnotes, which will also help guide you if you choose to delve more deeply into the neuroscience of empathy, cooperation, and trust.

Chapter 1

A New Way to Converse

Without language, we would find ourselves living in a state of emotional chaos. Our brain has given us the potential to communicate in extraordinary ways, and the ways we choose to use our words can improve the neural functioning of the brain. In fact, a single word has the power to influence the expression of genes that regulate physical and emotional stress.

If we do not continually exercise the brain's language centers, we cripple our neurological ability to deal with the problems we encounter with each other. Language shapes our behavior, and each word we use is imbued with multitudes of personal meaning. The right words, spoken in the right way, can bring us love, money, and respect, while the wrong words—or even the right words spoken in the wrong way—can lead a country to war. We must carefully orchestrate our speech if we want to achieve our goals and bring our dreams to fruition.

Although we are born with the gift of language, research shows that we are surprisingly unskilled when it comes to communicating with others. We often choose our words without thought, oblivious of the emotional effects they can have on others. We talk more than we need to. We listen poorly, without realizing it, and we often fail to pay attention to the subtle meanings conveyed by facial expressions, body gestures, and the tone and cadence of our voice—elements of communication that are often more important than the words we actually say.

These conversational shortcomings are not caused by poor education. Rather they are largely related to an underdeveloped brain, for the areas that govern social awareness, empathy, and related language skills are not fully operational until we're about thirty years old. Despite this neurological handicap, scientific research shows that anyone—young or old—can exercise the language and social-awareness centers of the brain in ways that will enhance their capacity to communicate more effectively with others.

To date we've identified and documented twelve strategies that will enhance the dynamics of any conversation, even with strangers. They can stimulate deep empathy and trust in the listener's brain, and they can be used to interrupt negative thought patterns that, if left unchecked, can actually damage your brain's emotional-regulation circuits.

The Twelve Strategies of Compassionate Communication

- 1. Relax
- 2. Stay present
- 3. Cultivate inner silence
- 4. Increase positivity
- 5. Reflect on your deepest values
- 6. Access a pleasant memory
- 7. Observe nonverbal cues
- 8. Express appreciation
- 9. Speak warmly
- 10. Speak slowly
- 11. Speak briefly
- 12. Listen deeply

4 Words Can Change Your Brain

In this book, we'll show you how to use these strategies to rapidly develop deep, long-lasting relationships at home and at work. You'll learn how to interrupt unconscious inner speech that generates anxiety, fear, and doubt. You'll build more intimate relationships in your personal life, and you'll build more successful relationships with your clients, employees, and colleagues. You'll create fun, productive collaborations at work; you'll enhance your management skills; and this will translate into more income and sales.

You'll learn how to recognize when another person is lying, and you'll discover how to use your intuition to know what others are thinking before they even speak. You'll even discover how silence can strengthen the power of your communication skills.

We'll also show you a little secret that will change your facial expression in ways that will inspire trust in others. You can change the rate of your speech to influence how the other person feels, and you'll be able to use your body language to convey more meaning than words can ever capture.

If you practice these strategies for just a few minutes each day, you'll think more clearly, you'll enhance your creativity, and you'll generate more authentic dialogues with others. You can even eliminate conflicts before they begin.

Our brain-scan studies, when combined with the latest research in the fields of language, communication, and mindfulness, demonstrate that these strategies can improve memory and cognition while simultaneously lowering stress, anxiety, and irritability—factors that are known to undermine the effectiveness of any conversation or social interaction. As you practice these strategies on a daily basis, your self-confidence and satisfaction in life will grow in ways that can be measured in the laboratory and felt at home.

We call this strategy "Compassionate Communication," and when you use them in your conversations, something quite surprising occurs: both of your brains begin to align themselves with each other. This special bond is a phenomenon referred to as "neural resonance," and in this enhanced state of mutual attunement two people can accomplish remarkable things together. Why? Because it eliminates the natural defensiveness that normally exists when people casually converse.

The elements of Compassionate Communication can be combined in different ways to fit different situations, and you can integrate them with other communication approaches, thereby making them more effective. You can use Compassionate Communication with children to help them cope more effectively with interpersonal conflicts, to discuss difficult topics, and even help them achieve higher grades in school. It also helps family members and caregivers converse more effectively with people who are suffering from mental illness or various forms of cognitive decline. Psychotherapists and peer-counseling groups have integrated Compassionate Communication into their practices, and it has been embraced by many spiritual and religious organizations that promote interfaith dialogue and nonviolent communication.

Compassionate Communication in the Workplace

Compassionate Communication was originally developed as a tool to help couples build intimacy and resolve conflicts, and it has found its way into the hallways of hospitals and caregiving facilities, where doctors and nurses use it to improve their interactions with patients and colleagues.

Compassionate Communication has also generated strong interest in the boardrooms of corporate America. It reduces work-related stress, which compromises productivity and eventually leads to burnout, and it has proven to be particularly effective for building stronger and more cooperative teams, for improving communication between upper and lower management, and for improving client and customer support, thus leading to increased sales and company loyalty. Financial and real estate companies have also embraced Compassionate Communication. Donna Phelan, a vice president and investment officer at a major bank, explains:

In the fast-paced world of business and financial management, my most important responsibility is *client communication*. Service professionals have a tremendous need to integrate the most effective strategies that exist, and this is particularly true when working in volatile financial markets, where people often experience sensory overload due to the flood of information coming from stock-quote monitors, analysts' research reports, urgent e-mails, and multiple phone lines ringing at once. The principles and techniques of Compassionate Communication provide a mind-set that optimizes the dialogue between clients, advisors, and market strategists. The mind-set asks, what do clients want most? The answer: to be listened to, and to be heard, in the briefest period time, with the greatest accuracy, and in a manner that generates mutual respect and trust. In my profession, business success depends on developing these crucial skills, and we have found that advanced training in Compassionate Communication effectively and quickly accomplishes this need.

In personal relationships, poor listening and speaking skills are major causes of disputes and divorce. And in the business world, such weaknesses can drive a company into bankruptcy. Thus any strategy that can teach a person to speak with clarity, brevity, calmness, kindness, and sincerity will increase interpersonal stability in the workplace and at home. For this reason, Compassionate Communication has been incorporated into a core training module in the Executive MBA Program at Loyola Marymount University in Los Angeles. It enhances teamwork performance and the development of socially responsible corporate values, and it helps to reduce the stress generated by the extraordinary demands placed on students who are also managing thriving businesses. As Chris Manning, a professor of finance and real estate, states, "Compassionate Communication offers a cost-effective way to train individuals to communicate more efficiently and professionally with each other while fostering higher levels of openness, trust and interpersonal rapport."¹ Dr. Manning elaborates:

As a society, we have become word dependent, unaware that words play only a partial role in the overall communication process in business. More important is the sender's skill in conveying an *intended* message and the receiver's skill at *inferring* what that message will be.² These nonverbal messages are imbued with feelings, attitudes, and implied values.³ The strategies built into Compassionate Communication help students, managers, and business executives to recognize and develop these essential nonverbal cues.

Joan Summers also uses a variation of Compassionate Communication when she interviews job applicants for her insurance company. She begins by asking them what their deepest values are (a key component of Compassionate Communication that we'll address in chapter 7). If the applicant's personal values differ from the values of her company, that person is not hired, because she knows such discrepancies will eventually lead to employee dissatisfaction.

Joan then pays attention to how the person engages in dialogue: Do they make the right kind of eye contact? Do they respond to her questions directly and briefly? Is the tone of their voice warm and gentle? Do they exude positivity about themselves, their skills, and their desire to be part of her team? In essence she is using the components of Compassionate Communication to identify those individuals who have a propensity to it helps children develop better coping strategies when conflicts arise on the playground.

6 Words Can Change Your Brain

Deep Listening

Compassionate Communication puts as much emphasis on listening as it does on speaking. Conscientious listening demands that we train our busy minds to remain focused, not only on what the other person is saying, but also on the nonverbal cues reflected in the speaker's voice, face, and body language. Deep listening also interrupts the inner speech that is constantly produced by the language centers of the brain, a phenomenon we'll explore in chapter 3. When we learn how to step back and observe this chattering mind, a new type of silence is created. This allows us to give greater attention to what the other person is saying and bolsters our capacity to intuit what the other person is feeling, including subtle forms of honesty or deceptiveness that are reflected in the micro-expressions of the face.

As recent brain-scan research shows, the more deeply we listen, the more our brain will mirror the activity in the other person's brain. This is what allows us to truly understand another person and to empathize with their sorrows and joys.

Stress and Transformation: Why Old Brains Resist New Tricks

Throughout this book we'll guide you through different strategies that will change the way you listen, speak, and interact with others, but because they are new, you may find yourself resisting them. This resistance is a natural function of the brain. Once a behavior is learned, it slips into unconscious long-term memory, where it can be brought into action with hardly any conscious effort. Even when we've learned a new behavior that's more effective, the earlier memory and behavior are triggered first.

The human brain needs a tremendous amount of energy to function, and it takes even more energy to build new neural circuits to change the way we normally converse with one another. In fact, every change we make in our lifestyle is perceived by the brain as a stressful event, which is why Compassionate Communication gives special attention to developing strategies that decrease stress.

Stress interferes with the neurological mechanisms that govern language production and perception. When we are stressed, the emotional circuits of the limbic brain become active, and the language circuits in the frontal lobe become less active. Communication studies have shown that stress and tension tighten up the muscles of the face in ways that convey suspicion in the minds of others who are watching us. A relaxed demeanor, on the other hand, conveys openness, confidence, and trustworthiness.

When we are under stress, our tone of voice also changes, taking on a quality of irritability and frustration. This will immediately stimulate a defensive reaction in the listener's brain that will undermine the potential of having a productive dialogue even before the conversation begins.

How do you integrate stress reduction and relaxation into a dialogue, especially when you are in the midst of a busy workday? Here's what John Watkins does at his software development firm. He starts the day by standing in a circle with his six departmental heads. The first minute is spent yawning and stretching, which helps to clear everyone's mind of distracting thoughts and irritations. Next each person is allotted thirty seconds to describe what they are currently working on. If they're encountering any problems, or need assistance, other people in the circle can respond with positive suggestions. But again, they must adhere to the "thirty second" rule, which is a crucial component of Compassionate Communication. No criticisms may be expressed, because a single negative thought can disrupt the collaborative process for the rest of the day. This may sound like a strange ritual for a multimillion-dollar company, but the results speak for themselves: in less than twenty minutes the team can identify the most essential goals for that day and come up with creative suggestions that can be rapidly evaluated, modified, and implemented.

When John's company was tested by an independent research team, there was—after a year of utilizing this strategy—a significant increase in corporate camaraderie and personal satisfaction, along with measurable decreases in personal anxiety and stress. The number of sick days decreased and company loyalty increased, and this translated into a lower rate of employee turnover. In essence, low stress means greater happiness, and as an important research study recently found when examining more than two thousand business divisions of ten large companies, happy people work harder. They're also more imaginative, creative, and productive.⁴

The Meandering Conversation

Compassionate Communication has a long history. It began in 1992 as an informal experiment that Mark developed with a group of transpersonal psychologists and therapists in Los Angeles. At that time there were only three "rules": relax, speak slowly, and take turns saying whatever comes to mind, without censorship.

The premise was simple: if we could speak from the depth of our beings, rather than in the defensive way we normally relate to others, we might be able to communicate our feelings and desires with more honesty, less anger, and greater sensitivity. Furthermore, if we allow ourselves to speak spontaneously from this inner, deeper self, without imposing a specific agenda on the conversation, the dialogue might become more relevant and meaningful for the individuals involved. We might be able to access deeper emotional truths without fear and thereby generate increased intimacy and trust with others.

When we teach Compassionate Communication to others, we pair people up and guide them through a series of well-tested relaxation techniques. This is followed by several imagination and values-related exercises. Then we tell them to let their conversation flow in any direction it wants to take and to make sure that they respond only to what the other person just said. This strategy enables them to interrupt the inner agendas that most of us unconsciously impose on others when we speak.

By responding only to what the other person just said, both speaker and listener learn how to stay focused on the present moment, and this allows a stronger interpersonal connection to be established. To converse without an agenda may seem counterintuitive—and in business this may sound impractical—especially when there are important issues that need to be addressed. But it isn't. One can open the dialogue by addressing a specific topic, for this will set the tone and direction for the conversation; but once the dialogue begins, you need to give both yourself and the person you are speaking with the opportunity to bring up other issues and concerns that if left unaddressed could compromise the outcome that you desire.

If we don't create a "space" in which these hidden concerns and problems can be shared, then we have failed to communicate effectively. Compassionate Communication creates such a space by limiting the speaker's time and increasing active listening. Consciously encouraging spontaneity in dialogue is also one of the best ways to solve problems because it rapidly generates new ideas and solutions that are unlikely to emerge in more constrained forms of dialogue. In business this is called brainstorming. From a neurological perspective, it taps into the creativity that our human frontal lobes are famous for,⁵ and which some scientists like to call "cognition without control."⁶

In situations where you are attempting to establish intimacy, following a preconceived agenda can feel like cold manipulation to the other person. The same holds true when talking to clients and

8 Words Can Change Your Brain

colleagues. They too need to be heard, and so a balance must be struck between having an agenda and following the flow of a moment-to-moment exchange. This "flow" experience is a core element of Compassionate Communication, and research shows that it encourages optimal work capacity, with the greatest potential for creativity, and with least amount of effort and conscious control.⁷

In order to give an individual an experiential sense of the power of moment-to-moment spontaneity, we developed a specific training protocol: a twenty-minute scripted exercise in which two people sit down and practice the twelve strategies of Compassionate Communication. You will be guided through this exercise in chapter 9, and if you practice it several times, with different people, you'll begin to see how it can transform an ordinary conversation into a remarkable event. The more you practice the training exercise, the easier it will become to integrate Compassionate Communication into conversations in the real world.

A relaxed, meandering conversation turns out to have other benefits as well. For example, it can reduce social anxiety in people who feel uncomfortable when entering new situations. It also allows a person to gain access to deeper levels of unconscious material without becoming overwhelmed by its contents. This component of Compassionate Communication is related to the Freudian psychoanalytic process of free association and the meditation practice known as mindfulness. Both strategies help an individual to remain relaxed and in the present moment, where they can watch the productions of their busy, noisy mind without becoming caught up in a myriad of distracting thoughts.

The Neuroscience of Mindfulness and Compassion

In the 1970s mindfulness practices were introduced to the medical community, and they are now considered one of the most effective ways to reduce stress and improve health. In the 1990s mindfulness began to transform the world of psychotherapy. By remaining deeply relaxed and observant of their feelings and thoughts, patients were able to reduce their anxiety, depression, and irritability. They didn't have to do anything other than to watch themselves with detachment.

As interest in mindfulness continued to grow, teams of neuroscientists began to explore the neurological correlates of this unusual way of thinking. As they observed the brains of hundreds of people while they practiced various forms of relaxation, stress reduction, and meditation, they discovered a common effect. Mindfulness not only increased a person's ability to control destructive emotions, it also improved the cognitive functioning of the brain, especially in areas relating to language and social awareness.

Our own brain-scan research found that the strategies incorporated in mindfulness could strengthen the neural circuits associated with empathy, compassion, and moral decision making, and it even appears to enhance our ability to be more aware of the nature of our own consciousness. As we began to study the latest findings concerning the coevolution of language and the brain, we realized that the principles of mindfulness could be directly applied to our conversations with other people.

Speaking Briefly and the "Thirty Second" Rule

The neuroscience of language, consciousness, and communication raises many fundamental questions, the answers to which consistently defy definition. For example: When we speak, where do our words come from? Our brain or our mind? And what do we mean by mind? Is it purely a production of the

brain, or is it something else—a process that can influence and even reshape the brain?

Similar dilemmas arise when we try to study the nature of consciousness. What is it and where is it? Is it generated solely by neural activity, or is it a separate force that influences the activity of the brain? Hypotheses abound, but nobody seems to know for certain.

However, we do have a few clues that illuminate the relationship between the brain, our thoughts, and the ability to communicate effectively. For example, everyday consciousness seems to be dependent on an area of the frontal lobes where short-term "working memory" is processed. Our brain stores a tremendous amount of information in long-term memory, but when carrying out a task it must select only the pieces of information that relate to that task in a meaningful and appropriate way.

How much information can our conscious mind hold in its working memory? About four "chunks," and it can hold them only for thirty seconds or less (we'll explain this in more detail later). This tiny bit of information, contained in a tiny window of time, is what we use to communicate our needs to others. This evidence convinced us to modify Compassionate Communication in a fundamental way: when conversing with others, we realized, we should limit ourselves whenever possible to speaking for no more than twenty or thirty seconds. Even a single sentence can contain more than four chunks of information.

Most people say, "But I need time to explain!" That may be true, but if you talk for several minutes, the other person's brain will only recall a fraction of what you've said, and it might not be the part you wanted to convey. The solution? Brevity followed by intense listening to make sure that the other person has grasped the key points of what you said. If they have, great! You can say another sentence. If not, why move on? If the other person hasn't understood you, what good will it do?

In business, time is money, so brevity is a highly valued trait. In fact, some executives insist that important questions and statements be written down on an index card. Once condensed to fit the card, the most important information can be conveyed in the briefest period of time. It's also a great braintraining exercise. The act of writing down a thought forces us to formulate our message in a meaningful, concise, and accurate way.

When we limit ourselves to speaking for only thirty seconds, the brain quickly adapts by filtering out irrelevant information. There's another advantage to speaking briefly: it limits our ability to express negative emotions.

The Problem of Negativity

Extreme brevity keeps the emotional centers of the brain from sabotaging a conversation. Anger is averted before it begins, and, as we will emphasize throughout this book, anger rarely works. Neuroscience supports this premise, but this discovery contradicts the popular belief that people need to express their feelings of frustration to effectively process anger. If you don't, some therapists believe you're not being honest or true to yourself.

Yet the moment a person expresses even the slightest degree of negativity, it increases negativity in both the speaker's and listener's brains. Instead of getting rid of anger, we increase it, and this can, over time, cause irreparable damage, not only to relationships, but to the brain as well. It can interfere with memory storage and cognitive accuracy, and it can disrupt your ability to properly evaluate and respond to social situations.⁸ It interferes with making rational decisions,⁹ and you're more likely to feel prejudice toward others.¹⁰ What makes anger particularly dangerous is that it blinds you even to the fact that you're angry; thus it gives you a false sense of certainty, confidence, and optimism.¹¹

Expressing anger is destructive, but this does not mean that we should completely repress negative feelings. That too can be quite damaging, because unconscious anger—and the constant flow of stress

10 Words Can Change Your Brain

hormones and neurochemicals it releases—can literally eat you alive, damaging the emotionalregulation centers of the brain.

Research shows that the best way to deal with negativity is to observe it inwardly, without reaction and without judgment. The next step is to consciously reframe each negative feeling and thought by shaping it into a positive, compassionate, and solution-based direction. As the esteemed psychologist Barbara Fredrickson has demonstrated, it's important to generate a minimum of three to five positive thoughts in response to every negative reaction you have. When you do, your work will thrive and your personal relationships will blossom.¹² If you don't, your relationships and work will wither.

There's another way to prevent negativity from creeping into the conversation: express frequent comments of appreciation. The more the better, but they need to be heartfelt and genuine. Talk about positive events in your life and avoid complaining about the world. When it comes to positive and negative feelings, the brain responds like an on-off switch: it cannot focus on both at the same time, and as we will explain in the next chapter, negativity is more powerful. That's why we have to maintain the highest positivity ratio we possibly can if we want our work, relationships, and lives to flourish.¹³

Think Before Speaking

As our research evolved, we found that speaking spontaneously, without censorship, could sometimes cause problems for the listener. So we added another rule: before you speak, ask yourself, can the other person hear what I'm about to say without becoming upset? If the answer is no or even maybe, then put that thought aside for a moment, or write it down on a sheet of paper. At a later time, the other person may be more receptive to what you want to say, and in the meantime you'll be able to think about alternative ways of getting your message across.

In business a poorly phrased statement can undermine an important sale or even cost a person their job. But many people fail to realize that the same principle applies to personal and family relationships. Why do we tend to ignore the strategy of thinking before we speak at home? There are many reasons, but one of the most common is tiredness. Exhaustion from a long day of intense work slows down the compassion circuits in the brain. We become impatient, and we lose some of our ability to think clearly. In this state, negative comments can slip out because we simply don't have the energy to turn them off.

Another reason we may not think before we speak is that we grew up in a family with poor communication skills. Illness and aging can also interfere with the neural circuits governing language and emotion, causing us to speak in ways that are difficult for other people to handle.

Of course expressions of frustration and irritability during conversations are unavoidable, but when they happen, you need to do some reparation work. Sometimes a simple apology will suffice, but the best way to handle an emotional blunder is to ask the other person how they were affected. Just showing interest, and being fully present in your blunder, can be enough to reinstate mutual trust and respect. If you stay deeply relaxed during this delicate exchange of words, you'll be able to handle your frustration, or the other person's irritability, with greater diplomacy and tact.

Unlearning How to Speak

Nearly all the research conducted in the fields of communication suggests that we dialogue poorly with one another. And yet most people believe they are effective communicators. How can that be? How can

we be oblivious to our own shortcomings? Neuropsychologists have an explanation: "positivity bias."¹⁴ Believing we are better than we actually are turns out to be neurologically enhancing! It gives us confidence and hope in the most difficult situations; without it, we are more likely to give up and fail. Having a positivity bias helps us to maintain emotional stability, and the part of the brain most activated is the anterior cingulate, a key center for generating compassion toward others.¹⁵

As we'll explain in the next several chapters, the development of our basic language skills tends to culminate around the age of twelve. It's enough to get us through elementary school, but the finer aspects of communication and social awareness are regulated by parts of the brain that don't become fully operative until our late twenties or early thirties.

The metaphor of riding a bicycle comes to mind. We learn how to ride when we are young, but if you want to excel at bicycling, you have to *unlearn* the bad habits you acquired in your earlier years and replace them with more efficient skills. To be an expert bicyclist, you need to delve into the mechanics of balance and motion, and to immerse yourself fully in the *experience* of riding. And you have to practice, practice, practice.

The same applies to communication. We learn the basics in grammar school and high school, but if you want to excel at communicating, you have to unlearn many bad habits and replace them with advanced skills like empathetic listening. You have to study the mechanics of verbal inflection, and you have to learn how to read facial expressions that most people tend to ignore. You have to immerse yourself fully in the experience of speaking and listening, and you have to practice, practice, practice.

To improve our conversational skills, we need to do four things:

- 1. Recognize the limits of our personal communication styles.
- 2. Interrupt old, habituated patterns of conversing.
- 3. Experiment with new communication strategies long enough to build new neural circuits and behaviors.
- 4. Consciously apply these strategies when we talk with others.

How long does it take to experience the beneficial effects of these new communication strategies? Based on the data we've gathered, less than an hour. We've been able to measure an 11 percent increase in social intimacy and empathy in individuals who practice Compassionate Communication with two or three different people, for ten minutes each. That's an astonishing finding, and so far there are no other communication strategies that have been able to generate the same degree of effectiveness.

A New Science of Communication

In the first part of this book, we'll present the most recent evidence on how the brain processes language, speech, and listening. We'll explain how language builds a unique brain and how trust and cooperation are developed and conveyed to others. We'll take you through each of the twelve strategies of Compassionate Communication and share with you the neuropsychological studies that support them.

Then we'll guide you through a twenty-minute interpersonal exercise that incorporates these strategies in a way that will enhance the communication circuits of your brain. Along the way, you may discover that many of your old notions of conversing with others need to be jettisoned and replaced by new forms of speaking and listening.

When doubt creeps in—which happens whenever we try to change old behaviors—we ask that you try to suspend your current belief systems as you experiment with the exercises in this book. By

assuming a "beginner's mind," we can teach our old brain some newer tricks that will deepen our connection to others.

We'll introduce you to several techniques that effectively eliminate doubt, worry, and procrastination, and in the final chapters we'll share with you how different people—lovers, parents, children, therapists, teachers, financiers, entrepreneurs, and business executives—have applied Compassionate Communication to their work and lives.

We suggest that you spend five or ten minutes each day practicing the different components of Compassionate Communication, first with the people you trust the most, and then with other people in your social and business circles. After a few weeks of practice, you should notice a significant difference in how you relate to others and how they respond to you, even though they may be unfamiliar with the principles you are applying. Ask them if they notice any difference in your communication style. They'll probably pause for a few moments and agree, and in that instant you will have successfully introduced Compassionate Communication to them. You'll generate greater empathy and mutual trust simply by using your words more wisely.

Chapter 2

The Power of Words

Words can heal or hurt, and it only takes a few seconds to prove this neurological fact. First ask yourself this question: how relaxed or tense do you feel right now? Next become as relaxed as you possibly can. Take three deep breaths and yawn a few times; this is one of the most effective ways to reduce physical, emotional, and neurological stress.

Now stretch your arms above your head, drop them to your side, and shake out your hands. Gently roll your head around to loosen up the muscles in your neck and shoulders, then take three more deep breaths. Check your body: do you feel more relaxed or tense? Now check your mind: do you feel more alert or tired or calm?

You've just engaged in the first strategy of Compassionate Communication. Later we'll explain how these small actions change your brain and promote more effective dialogue with others. But for this experiment, we want you to stay as relaxed as possible so you can notice the subtle emotional shifts that take place when you see the first series of words on the following page. Take another deep breath and bring your awareness into the present moment. When you are ready, turn the page. No. NO.

NO.

NO. NO! NO!!!

How did you react when saw those words? Did your eyebrows rise? Did your muscles tighten? Did you smile or tense your face?

If you were in an fMRI scanner—a huge doughnut-shaped magnet that can take a video of the neural changes happening in your brain—we would record, in less than a second, a substantial increase of activity in your amygdala and the release of dozens of stress-producing hormones and neurotransmitters. These chemicals immediately interrupt the normal functioning of your brain, especially those that are involved with logic, reason, language processing, and communication.

And the more you stay focused on negative words and thoughts, the more you can actually damage key structures that regulate your memory, feelings, and emotions.¹⁶ You may disrupt your sleep, your appetite, and the way your brain regulates happiness, longevity, and health.

That's how powerful a single negative word or phrase can be. And if you vocalize your negativity, even more stress chemicals will be released, not only in your brain, but in the listener's brain as well. You'll both experience increased anxiety and irritability, and it will generate mutual distrust, thereby undermining the ability to build empathy and cooperation. The same thing happens in your brain when you listen to arguments on the radio or see a violent scene in a movie. The brain, it turns out, doesn't distinguish between fantasies and facts when it perceives a negative event. Instead it assumes that a real danger exists in the world.

Any form of negative rumination—for example, worrying about your financial future or health will stimulate the release of destructive neurochemicals. And if you are prone to constantly thinking about negative possibilities and persistently ruminating about problems that have occurred in the past, you may ultimately test positive for clinical depression.¹⁷ The same holds true for children: the more negative thoughts they have, the more likely they are to experience emotional turmoil.¹⁸ But if you teach them to think positively, you can turn their lives around.¹⁹

Negative thinking is also self-perpetuating: the more you are exposed to it—your own or other people's—the more your brain will generate additional negative feelings and thoughts. In fact, the human brain seems to have a capacity to spend more time worrying than that of any other creature on the planet. And if you bring that negativity into your speech, you can pull everyone around you into a downward spiral that may eventually lead to violence. And the more you engage in negative dialogue, at home or at work, the more difficult it becomes to stop.²⁰

Fearful Words

Angry words send alarm messages through the brain, and they partially shut down the logic-and-

14 Words Can Change Your Brain

reasoning centers located in the frontal lobes. But what about fearful words—words like "poverty," "sickness," "loneliness," and "death"? These too stimulate many centers of the brain, but they have a different effect from negative words. The fight-or-flight reaction triggered by the amygdala causes us to begin to fantasize about negative outcomes, and the brain then begins to rehearse possible counterstrategies for events that may or may not occur in the future.²¹ In other words, we overtax our brains by ruminating on fearful fantasies.

Curiously, we seem to be hardwired to worry—perhaps an artifact of ancient memories carried over from ancestral times when there were countless threats to our survival.²² However, most of the worries we have today are not about really serious threats. We can learn how to retrain our brain by interrupting these negative thoughts and fears. By redirecting our awareness to setting positive goals and building a strong, optimistic sense of accomplishment, we strengthen the areas in our frontal lobe that suppress our tendency to react to imaginary fears. Not only do we build neural circuits relating to happiness, contentment, and life-satisfaction, we also strengthen specific circuits that enhance our social awareness and our ability to empathize with others. This is the ideal state in which effective communication can prosper.

Interrupting Negative Thoughts and Feelings

Several steps can be taken to interrupt the natural propensity to worry. First ask yourself this question: is the situation *really* a threat to my personal survival? The answer is almost always no. Our imaginative but unrealistic frontal lobes are simply fantasizing about a catastrophic event.

The next step is to reframe a negative thought into a positive one. Instead of worrying about your financial situation—which won't have any effect on your income—think about the ways that you can generate more money and keep your mind focused on the steps you need to take to achieve your financial goals.

The same holds true for personal relationships. For example, if you are the type of person who worries about being rejected or perceived in the wrong way by others, shift your focus to those qualities that you truly admire about yourself. Then, when you talk to others, talk about the things your really love and deeply value. And don't talk about your personal problems or the catastrophes happening in the world; they'll enmesh you in feelings of self-doubt and insecurity.

The faster we can interrupt the amygdala's reaction to real or imaginary threats, the quicker we can generate a feeling of safety and well-being and extinguish the possibility of forming a permanent negative memory in our brain.²³ By shifting our language from worry to optimism, we maximize our potential to succeed at any realistic goal we truly desire.

Words Shape the Reality We Perceive

Human brains like to ruminate on negative fantasies, and they're also odd in another way: they respond to positive and negative fantasies as if they were real. Moviemakers make use of this phenomenon all the time. When the green three-eyed monster jumps out of the closet, we jump out of our seat. This is what makes nightmares so frightening for children, whose brains have yet to develop clear distinctions between language-based fantasies and reality.

To make matters worse, the more emotional we get, the more real the imaginary thought becomes.

But imagination is a two-way street. If you intensely focus on a word like "peace" or "love," the emotional centers in the brain calm down. The outside world hasn't changed at all, but you will still feel more safe and secure. This is the neurological power of positive thinking, and to date it has been supported by hundreds of well-designed studies. In fact, if you simply practice staying relaxed, as we asked you to do at the beginning of this chapter, and repetitively focus on positive words and images, anxiety and depression will decrease and the number of your unconscious negative thoughts will decline.²⁴

When doctors and therapists teach patients to reframe negative thoughts and worries into positive affirmations, the communication process improves and the patient regains self-control and confidence.²⁵ Indeed just seeing a list of positive words for a few seconds will make a highly anxious or depressed person feel better, and people who use more positive words tend have greater control over emotional regulation.²⁶

Growing Positivity

Certain positive words—like "peace" or "love"—may actually have the power to alter the expression of genes throughout the brain and body, turning them on and off in ways that lowers the amount of physical and emotional stress we normally experience throughout the day.²⁷ But these types of words cannot be grasped by a child's immature brain. Young children do not have the neural capacity to think in abstract terms, so the first words they learn are associated with simple, concrete images and actions. Verbs like "run" or "eat" can be easily associated with visual images, but abstract verbs like "love" or "share" demand far more neural activity than a young child's brain can muster.²⁸

Even more neural processing is required when it comes to highly abstract concepts like "peace" or "compassion." This is easy to test. See how long it takes you to visualize the word "table." In less than a second, you can grasp its shape and function, and you can see it in your mind's eye. Now think about the word "justice." You'll realize that it takes much longer to identify an image, and most people will envision the well-known picture of a woman holding a scale. Obviously justice is far more complex than that image can impart, which explains why so few people can agree on what this important concept means. Abstract words make greater demands on many areas of the brain,²⁹ whereas concrete words require less neural activity.

Abstract thoughts may be essential for solving complex problems, but they also distance us from deeper feelings, especially those that are needed to bind us to other people. In fact, some people can become so involved with abstract concepts that they partially lose touch with reality.³⁰ Love is a perfect example because we can easily project our ideal notions onto a potential partner, thereby blinding ourselves to the other person's faults. Why does it take so many years to discover what love actually is? Neuroscience has an answer: love turns out to be expressed through one of the most complicated and complex circuitries identified in the human brain.³¹ Thus the *language* of love may be the most sophisticated communication process of all.

Abstract concepts can also be sources of miscommunication and conflict because we rarely explain to others what these complex terms mean to us. Instead we make the mistake of assuming that other people share the same meanings that we have imposed on our words. They don't. Let's take, for example, the word "God." In our research we queried thousands of people, using a variety of surveys and questionnaires, and discovered that 90 percent of the respondents had definitions that differed significantly from everyone else. Even people who came from the same religious or spiritual background had fundamentally unique perceptions of what this word means. And for the most part, they never realized that the person they were talking to about God had something entirely different in mind. Our advice: when an important abstract concept comes up in conversation, take a few minutes to explore what it means to each of you. Don't take your words, or the other person's, for granted. When you take the time to converse about important values and beliefs, clarifying terms will help both of you avoid later conflicts and confusion.

The Power of Yes

What about the power of the word "yes?" Using brain-scan technology, we now have a very good idea of what happens when we hear positive words and phrases. What do we see? Not much! Positive words do not connote a threat to our survival, so our brain doesn't need to respond as rapidly as it does to the word "no." ³² This presents a problem because evidence showing that positive thinking is essential for developing healthy relationships and work productivity continues to grow.

Can we train our brain to become more responsive to "yes"? We think so but in an indirect way, through intense, repetitive focusing on positive images, feelings, and beliefs. And it doesn't matter if the positive thinking is grounded in science, business, or theology. In fact, positive irrational beliefs have also been proven to enhance a person's sense of happiness, well-being, and lifetime satisfaction.³³ Positive thinking can help even people who are born with a genetic propensity toward unhappiness to build a better and more optimistic attitude toward life.³⁴

In a landmark study that put "positive psychology" on the map, a large group of adults, ranging in age from thirty-five to fifty-four, were asked to write down, each night, three things that went well for them that day, and to provide a brief explanation why. Over the next three months, their degrees of happiness continued to increase, and their feelings of depression continued to decrease, even though they had discontinued the writing experiment.³⁵ Thus by using language to help us reflect on positive ideas and emotions, we can enhance our overall well-being and improve the functioning of our brain.

Positive words and thoughts propel the motivational centers of the brain into action,³⁶ and they help us build up resilience when we are faced with the myriad problems of life.³⁷ According to Sonja Lyubomirsky, one of the world's leading researchers on happiness, if you want to develop lifelong satisfaction, you should regularly engage in positive thinking about yourself, share your happiest events with others, and savor every positive experience in your life. If you use language—your inner dialogues, your conversations with others, your words, your speech—to engage in optimism and positivity, you will find yourself moving in a more life-enhancing direction.

Can positive thinking be taken too far? Yes, especially if you engage in exaggeration. People may begin to distrust you because the overuse of extremely positive words in speech or writing can be read as a signal that you are being deceptive.³⁸ This happens quite often in business communication and advertising, and it isn't that the public has become more savvy. It's a natural function of your brain, which is specifically designed to look for dishonesty in a person's face or tone of voice. The solution to this communication problem is to be positive but honest. You don't have to oversell yourself, because if you truly believe in the product or service you are offering—if your words *feel* genuine to you—other people will intuit your authenticity from the nonverbal communication cues you give out.

Here are some examples of words that turn prospective friends and customers off: "amazing," "excellent," "fabulous," "fantastic," "incredible," "marvelous," "great," "phenomenal," "splendid," and "wonderful." Ironically, extremely negative words, especially if directed toward an opponent, appear to give the speaker more credibility in the eyes of the listener by casting doubt on the other person. It's just another example of the power of no.

People can become immune to the overuse of strongly positive or negative words.³⁹ Their awareness and sensitivity decreases, which may explain why chronic complainers are often unaware of

their negativity and the emotional damage they are causing.

Words Can Change Your Genes

As mentioned earlier, certain positive words can, if focused on for ten or twenty minutes per day, influence genetic expression in your brain. In a recent study, Herbert Benson's team at Massachusetts General Hospital discovered that the repetition of personally meaningful words can actually turn on stress-reducing genes.⁴⁰ But you have to remain in a deeply relaxed state. To help subjects achieve this state, they were taught to use Benson's "relaxation response." It's very easy to do, and we've described a variation of it in the accompanying sidebar.

Turn on Your Genes, Turn off Your Stress

Sit in a comfortable chair and close your eyes. Take ten deep breaths as you relax every muscle in your body. Now repeat to yourself, silently or aloud, a word or short phrase that gives you a feeling of serenity, peacefulness, or joy. Continue for ten to twenty minutes as you slowly breathe through your nose. Whenever a distracting thought or feeling intrudes, notice it without judgment and let it float away as you return to the repetition of your word. When you finish, open your eyes and notice how you feel. After a few weeks of practice, you'll feel more relaxed and alert, less anxious and depressed. You may even find that you lose some of your desire to smoke, drink, or overeat.

Even novices who had never practiced any form of meditation or relaxation strategy were able to alter their genetic expression in eight weeks. Subjects were each given a twenty-minute CD that guided them through exercises involving diaphragmatic breathing, a "body scan" that involves consciously bringing attention to areas of tension in the body, and the repetition of a single word or phrase that generates a sense of peacefulness and well-being. The researchers suggested that similar practices, including various forms of meditation, repetitive prayer, yoga, tai chi, breathing exercises, progressive muscle relaxation, biofeedback, and guided imagery would have similar effects on our genes. And as you will see in chapter 9, our Compassionate Communication training exercise includes a similar relaxation exercise.

How about negative words? There is mounting evidence that strongly negative terms can interrupt the normal expression of genes that regulate one of the most important language centers of the brain, Wernicke's area.⁴¹ This is where we learn how to interpret the meaning of words. Hostile language also appears to disrupt specific genes that are instrumental in the production of neurochemicals that protect us from physiological stress, and if we are exposed to it during childhood, it can undermine our ability to fend off anxiety, depression, and fear. Hearing hostile language has also been shown to lead to negative ruminations, which can likewise damage our brain.

Can Subliminal Words Influence Behavior?

New research demonstrates that subliminal messages can unconsciously influence our thoughts, feelings, and actions. For example, words and phrases repeated at a volume that we can barely perceive

can create subtle changes in mood.⁴² Negative words stimulate anxiety, and positive words can lower it.⁴³ But again the studies consistently show that the brain gives more attention to negative words, even when we are not aware that we've heard them.⁴⁴ This reinforces our argument that even the subtlest forms of negativity can sour a relationship. We may murmur a complaint under our breath, but our voice and face will give us away.

On the positive side, subliminal messages can be used to motivate us to do better work. ⁴⁵ And in personal relationships, subliminal erotic words can trigger intimacy-related thoughts. That should come as no surprise. What is surprising is that erotic words appear to improve a person's conflict-resolution strategies!⁴⁶ In fact, just hearing a beloved's name, even if we are unconscious of it, will stimulate the circuits related to passion, whereas hearing a friend's name will not.⁴⁷

This has powerful ramifications for intimate relationships, because it tells us how important it is to communicate our feelings of love as often as we possibly can. Unfortunately, we often fall into the habit of taking our loved ones for granted, and thus we tend to speak up only when something bothers us.

But subliminal words are not as effective as persuasive messages that are clearly spoken or written. At the University of California, Los Angeles, researchers put subjects in an fMRI scanner and had them read and listen to messages encouraging the use of sunscreen. The more they were exposed to the messages, the more the subjects used sunscreen in the following week, even though there was no encouragement from the researchers to do so.⁴⁸ The authors of this study replicated their findings with smokers: all the participants reduced the number of cigarettes they smoked over the next month, and those with the greatest increase in brain activity demonstrated the greatest decline in smoking.⁴⁹

Transforming Reality

By holding a positive and optimistic thought in your mind, you stimulate frontal lobe activity. This area includes specific language centers that connect directly to the motor cortex responsible for moving you into action.⁵⁰ And as our research has shown, the longer you concentrate on positive words, the more you begin to affect other areas of the brain. Functions in the parietal lobe start to change, which changes your perception of yourself and the people you interact with. A positive view of yourself will bias you toward seeing the good in others, whereas a negative self-image will incline you toward suspicion and doubt. Over time the structure of your thalamus will also change in response to your conscious words, thoughts, and feelings, and we believe that the thalamic changes affect the way in which you perceive reality.

Let me give you an example. If you repetitiously focus on the word "peace," saying it aloud or silently, you will begin to experience a sense of peacefulness in yourself and in others. The thalamus will respond to this incoming message of peace, and it will relay the information to the rest of the brain. Pleasure chemicals like dopamine will be released, the reward system of your brain will be stimulated, anxieties and doubts will fade away, and your entire body will relax. And if you do these practices consistently over a period of time, your sense of compassion will grow. In fact, some of the most recent studies show that this kind of exercise will increase the thickness of your neocortex and shrink the size of your amygdala, the fight-or-flight mechanism in your brain.

Our own brain-scan research shows that concentrating and meditating on positive thoughts, feelings, and outcomes can be more powerful than any drug in the world, especially when it comes to changing old habits, behaviors, and beliefs. And to the best of our knowledge, the entire process is driven by the language-based processes of the brain.

By changing the way you use language, you change your consciousness, and that, in turn, influences every thought, feeling, and behavior in your life. Over time you may even begin to ameliorate

limiting and disturbing memories by talking about them in a relaxed and positive way. When you do this, the old memory is changed and filed away in a slightly different way.⁵¹ The next time it's recalled, it incorporates some of the new positive language that you encoded it with.

Positive refocusing, positive affirmations, acceptance-based awareness exercises, relaxation, hypnosis, and meditation have all been shown to be effective in interrupting negative ruminations and depressive thoughts,⁵² so why not include them in your daily routines? By changing your inner language, you can transform the reality in which you live.

Preventing Ruminations

To undermine negative ruminations, Robert Leahy, a clinical professor of psychology at Weill-Cornell Medical School, recommends that you try the following:

- 1. Ask yourself if your negative thinking has ever helped you in the past. Usually the answer is no.
- 2. Write down your negative thoughts, and then put the sheet of paper aside. When you look at it later, the problem won't seem as large.
- 3. Ask yourself if the problem is real or imaginary. Is it part of the present or part of the past. Accept the past and let it go.
- 4. Instead of focusing on your problem, focus on an immediate goal that you can accomplish.
- 5. Accept that many problems are unpleasant, difficult, and unfair and that some of them simply can't be solved.
- 6. Take a break and focus on doing something enjoyable.

The human brain is incredibly creative, and it dreams up positive and negative scenarios all day long. But most of us aren't aware of these forms of mental chatter. And even when you discover them, or point them out in someone else's behavior, they can go on repeating themselves like a well-worn groove in a record. Why? Because repetitious patterns of thinking form strong neural pathways that are highly resistant to change. That's why we have to continually impose new styles of thinking, speaking, and listening to get new neural circuits to form.

That's the power of imagination: it can trap us in a downward spiral of negative thoughts, or we can use it change decades of habituated behaviors that no longer serve us well.

Minding Our Words

The first step is to recognize that we have all kinds of negative thoughts flowing unconsciously through our mind. Then all we have to do is turn our awareness inward and pay close attention to the processes of the busy brain. We don't have to do anything with what we see or hear; we simply observe, without judging them, the moment-to-moment changes in our thoughts and feelings and sensations. This is the formal definition of mindfulness, and it is a very important tool when it comes to changing the way we think and feel.

Try this experiment right now. Close your eyes and see how long you can remain empty-headed before a thought or feeling intervenes. If you are new at this exercise, you might be able to sit in complete inner silence for just five or ten seconds. And even if you are a seasoned practitioner of mindfulness, you'll rarely be able to go for more than thirty seconds before the mental chatter kicks in.

In mindfulness the purpose is not to remain silent but to become aware of the continual shifts of

consciousness that are taking place, a consciousness that is primarily language driven and is filled with opinions, beliefs, conjectures, and plans, with an occasional insight or two. By learning how to passively watch all these inner voices, you'll become aware of the other sounds your mind has filtered out.

And then—just when you think you've quieted your mind—a cacophony of complaints might erupt. For example, you might find yourself thinking, "This is stupid! I've got more important things to do!" In mindfulness you'll note that thought and then you allow it to float away as you bring your attention back to a state of inner silence or to your breath. But it won't be long before another thought or feeling intrudes, like, "My back hurts!"

This inner dialogue never seems to stop, and it doesn't have to. Your task is to simply observe, without judging it. It's a unique form of awareness that makes your frontal lobes light up like the Fourth of July. When this happens, the brain's ability to generate feelings of anxiety, irritability, or stress are suppressed. Thus when you learn how stay in this state of awareness while you work, you'll accomplish more without getting burned out. You'll feel more satisfied with yourself and with your work, and as some of the newest research has found, you'll even act with greater generosity toward others.⁵³ As one corporate researcher remarked, it will improve the gross national happiness.⁵⁴ This is the neuroeconomics of business psychology, and research shows that with mindful observation and alteration of the inner voices of consciousness, corporate collaboration and management improves.⁵⁵

When you add optimistic thinking to this equation, you can actually add two years to your life.⁵⁶ That's what the prestigious Mayo Clinic found in a study that followed seven thousand people for more than forty years. So choose your words wisely, because they will influence your happiness, your relationships, and your personal wealth.

Chapter 5

The Language of Cooperation

If we were totally selfish, isolated creatures, there would be little need for communication. We'd simply do what we wanted to do, whenever we wanted to do it. But if every living organism were to engage in such behavior, competition over scarce resources—like food, water, or viable mates—would immediately escalate into violent conflict. Throughout the natural world, biologists have identified thousands of interrelational strategies that are designed to keep the peace. Those strategies can be boiled down to two words: "cooperative communication."

In order to survive, there has to be a balance between how much we take, how much we share, and how much we give to others who cannot fend for themselves. But the question remains: are humans inclined to be more selfish or cooperative, more greedy or generous?

When we first began to develop this book, we were inclined to believe that humans were fundamentally selfish. In fact, one of the early working titles was *The Selfish Brain*, a paraphrase of the classic work by Richard Dawkins, *The Selfish Gene*. There's plenty of evidence to support the argument for selfishness, but years of research has convinced us that the opposite is true. Only as infants are we allowed the freedom to be utterly selfish. Our brains are so undeveloped at the time of birth that we must

depend on caregivers to provide us with every need.

However, our selfishness doesn't last long, for as soon as we can care for ourselves, our family members demand reciprocation. We have to learn to share our toys with siblings and friends, we have to do chores for our parents, and we have to limit our selfish impulses when we enter school. If we don't, we're punished. We're sent to our room or to the corner of the classroom, deprived of social contact, and this painful message makes it clear that selfishness is rarely tolerated in the social arena of life.

Still, there remains an inner struggle. If we have to share something we value, a plethora of questions arises. For example, how much do we need to share, and for how long? This brings up other questions concerning degrees of fairness and generosity, but there are never clear answers to guide us. Since each situation is different, involving different people with different notions concerning these values, we have to turn to our words and negotiate agreements. If we fail to find a mutually satisfying solution, the other person will not cooperate with us. The same holds true for work. No one is going to hire us and give us money unless we can give them something of value in return.

There is no *language* of selfishness. When we're selfish, there's no exchange of property or words. We simply take what we want without asking. But fairness requires cooperation, and cooperation is entirely dependent on a combination of dialogue, bargaining, compromise, and behavioral change. These are the basic elements that have been considered by two new fields of research: neuroeconomics and social neuroscience.

By placing animals and people in brain-scan machines as they engage in a variety of monetary exchanges, we have discovered a fundamental fact about human nature: in social situations, we reward helpful people with kindness and generosity and punish the unhelpful ones, even when the punishment incurs some cost to ourselves.⁵⁷ And the more we see people behaving in ways that are fair, cooperative, and kind, the more willing we are to form long-term friendships with them.⁵⁸

Do All Organisms Communicate and Cooperate?

Human beings aren't the only organisms on this planet to cooperatively communicate with others. As biologist Joel Sachs, at the University of California, Riverside, reports, cooperation "pervades all levels of biological organization."⁵⁹ Even the lowly bacterium exhibits astonishing social behavior that is governed by specific forms of chemical communication.⁶⁰ In fact, plants can communicate with each other in ways that are remarkably similar to humans. Poplar trees, tomatoes, and lima beans communicate with different plant species, animals, and microorganisms.

Like humans, plants use their communication strategies to cooperate with each other and to protect themselves from enemies. For example, some plants can literally cry out for help when they're being eaten, and the signals they emit can attract carnivorous enemies of the animal grazing on them.⁶¹ Some plants even appear to have the capacity to listen, while others appear to be deaf.⁶² They don't use words, but they do have signaling receptors and pathways that are similar to the communication networks that occur in our brain.⁶³ And they even have their own form of inner speech. For example, some plants can use their vascular networks to send hormonal signals to other parts of the plant.⁶⁴

Biologists call this process "intraplant communication," but for us, it's a reminder that communication takes place on many nonverbal levels, not just in plants but in human beings as well. In his book *Gaia*, James Lovelock even suggested that the entire earth represents a living organism, with its own system of communication that works to create an integrative, cooperative organism. However, unlike plants and most other living creatures on earth, only we, as humans, can consciously choose to increase our levels of cooperation by changing the *way* we communicate to others.

Human Cooperation and Neural Resonance

Boiled down to its essentials, communication involves the accurate transference of information from one brain to another. We do this through the process called neural resonance, and the more we can mirror the neural activity in other person's brain, the better we are able to cooperate with them. If we closely observe a person's face, their gestures, and their tone of voice, our brain will begin to align with theirs, and this allows us to know more fully what the other person is thinking, feeling, and believing.

Researchers at the Social Brain Laboratory in the Netherlands demonstrated this by having couples play the game charades. One partner was strapped into an fMRI scanner, and a word was shown on a screen. The person made hand gestures to describe the word, and a movie was made of the gesturing. Then the other partner went into the scanner, watched the movie, and tried to guess what the word was. The results? Similar areas were stimulated in both the sender's and receiver's brains when the latter guessed correctly,, especially the areas involved in language recognition and speech.⁶⁵

This tells us several important things: that words can be conveyed through specific gestures, and that both the gesture and word stimulate similar areas of the brain—areas associated with language comprehension. In fact, as researchers at Max Planck Institute for Human Cognitive and Brain Sciences report, "Hand signs with symbolic meaning can often be utilized more successfully than words to communicate an intention."⁶⁶

Most important, these studies reconfirm what we've been saying about neural resonance: if you really want to understand what the other person is saying, you have to listen to and observe the other person as deeply and fully as possible. Otherwise your brains won't mirror each other. If we can't simulate in our own brains what another person is thinking and feeling, we won't be able to cooperate with them.

To achieve optimal cooperation, it also helps to have belief systems in alignment. If they're not aligned, to the parties must first dialogue with each other to find common ground by agreeing on a mutually shared goal that will compensate both sides as fairly as possible. If common ground cannot be found, the communication process collapses, and any hope of cooperation will dissolve. As researchers at the University of Geneva have shown, when there is congruence of personal goals the brain systems relating to cooperation will be stimulated.⁶⁷

The strategies of Compassionate Communication are designed to create neural resonance between two people as they converse, and if you enter a conversation with the *intention* of creating a fair exchange, you'll stimulate the cooperative circuits of your brain. The newest research also shows that the more you imitate, or mirror, a person's communication style, the more you'll increase the neural resonance between you and them, and this will generate more empathy, cooperation, and trust.⁶⁸

Other research suggests that when you put yourself in a cooperative, empathetic state of mind, your emotional state may become socially contagious, spreading through your home, your work environment, and even your community like a virus.⁶⁹ In essence, we can bring people into alignment with our values and goals by spreading compassion nonverbally. Of course there are other ways to ensure cooperation, like using coercion, but the risks are higher because resentment quickly builds to the point where a person will be willing to make enormous sacrifices rather than submit to continuing abuse. We see this happening throughout the world today, as suppressed societies begin to demand equality, fairness, and justice from those who act with undue selfishness and greed. In these scenarios neural and cognitive *dissonance* has increased to the point where people can no longer remain passive.⁷⁰ Even small discrepancies between personal values and goals can undermine the communication process by creating chaos within the brain.⁷¹

Effective communication depends upon neural resonance. As researchers at Princeton University demonstrated in an fMRI brain-scan experiment, neural coupling vanishes when participants communicate poorly. In fact, they could even predict the degree of communication success by observing how closely one person's brain resonated to the other.⁷² The researchers also discovered that good

listeners—the ones who paid the closest attention to what was being said—could actually anticipate what the speaker was going to say a moment before they said it. Perhaps this is what a good psychic does: they pay attention to every nonverbal detail and use them to infer what the person is thinking and feeling. It's not magic; they're simply using some of the strategies of Compassionate Communication.

Mirroring Each Other's Voice

If you match the language style of the person you are conversing with, and the intensity of their voice, they will perceive you as being more related and attuned.⁷³ According to researchers at the University of Hawaii, "When partners interact, if things are to go well, their speech cycles must become mutually entrained." Not surprisingly, this verbal entrainment will improve your chances when you are searching for a suitable date. In an experiment involving speed dating—where you are only allowed four minutes to converse before you must switch to another person—couple with matching language styles were three times more likely to pair up by the end of the event.⁷⁴

When two people like each other, they'll mirror each other's posture, facial gestures, and movements.⁷⁵ It's a sign that they feel connected,⁷⁶ it builds mutual rapport,⁷⁷ and it communicates a desire to affiliate and cooperate with each other. It may even earn you more money at work. When waitresses mirrored their customer's comments, they increased their tips by 50 percent.⁷⁸ Research has even shown that matching language style will improve the likelihood of a peaceful resolution, even in situations that involve serious conflicts and potential threats to one's life.⁷⁹

Training Your Brain to Connect

If you want to increase your ability to resonate and empathize with someone else, just use your imagination. When a person is speaking, imagine you are them. Mentally visualize yourself in the situation they describe, and put in as much detail as possible, as if you were actually there. According to researchers at the University of Chicago, this form of mental simulation allows your brain to build a better understanding of the other person, and it doesn't matter if what you imagination is accurate.⁸⁰

It even works with novels and movies, for the more you can project yourself into the role of the character, the more you'll feel compassion or, in the case of a villain, fear and disgust.⁸¹ As António Damásio and his research team at the University of Southern California emphasize, when one actively projects oneself "into the shoes of another person, imagining someone's personal, emotional experience as if it were one's own," one triggers "the neural mechanism for true empathy."⁸²

Can we train ourselves to feel compassion toward everyone? Yes, but it appears that we have a neurological mechanism that stops us from empathizing with people we don't like or respect. This "antimirror neuron" activity, as some researchers call it, appears to deactivate the brain's propensity to imitate another person.⁸³ Thus when we interact with someone whose behavior violates our personal ethics and beliefs, our empathy circuits shut down to ensure that we do not engage in similar acts.

There's even evidence suggesting that the more empathetic we are, the more accurate we become at predicting the other person's ability to engage in cooperative behavior.⁸⁴ But empathy has its limits. For example, we do not have the neural capacity to recognize when we have misread verbal and emotional cues.⁸⁵ Thus it is easy to think we understand what another person says and means, when in fact we don't.

24 Words Can Change Your Brain

Our advice: never presume that you know what a person really feels and means. The day I, Andy, got married, the rabbi kept repeating to us, "Never assume you understand what the other person is thinking—always make sure you ask and find out." The best way to do this is indeed to verify your assumptions with a question. For example, you might say something like "John, if I understand you correctly, I think you mean . . . Is that right?" If the other person doesn't agree, they will appreciate the opportunity you've given them to communicate what they really meant.

The Social Rules of Engagement: Anger Never Works

What happens when people don't cooperate, and how does the brain respond when somebody treats us unfairly or takes advantage of our generosity? We react with a well-documented biological process called "altruistic punishment." In fact, it turns out that the human brain is designed to initiate punishment whenever someone violates a social contract or behaves in a way we consider to be socially irresponsible.⁸⁶

But there is a problem: violators don't appreciate being punished, and they are often unaware that they have violated the other person's trust. If you reprimand them, they'll feel resentful, the possibility of cooperation will deteriorate, and you'll run the risk of retaliation.⁸⁷ But if you don't say anything, the unfair behavior continues. In fact, if your voice shows even the slightest amount of disdain or sarcasm, it will be interpreted by the other person as an act of hostility. The result: relationship dissatisfaction and instability.⁸⁸

In personal relationships, punishment—whether in the form of anger, criticism, or judgment rarely works. But the brain seems to be hardwired when it comes to disappointment. If we don't get what we want—even if what we want is unrealistic—the brain's anger center gets stimulated. If our desires are frustrated, and the reward we hope for is postponed, the anger center gets stimulated. If we're in a rush and someone in front of us is driving slowly, we get irritated because our selfish desires are thwarted.

The best solution to the cycle that we know of is to interrupt the negativity by generating a thought that expresses compassion for yourself, the situation, and the other people involved. The research is robust: if we deliberately send a kind thought to the person we perceive as having violated our personal space, we psychologically increase our sense of social connectedness and strengthen the neurological circuits of empathy and cooperation.⁸⁹

Researchers at the Program for Evolutionary Dynamics at Harvard University have found that people who use punishment the least are more likely to gain more cooperation from others, as well as to increase financial benefits for themselves. They state bluntly, "Winners don't punish... while losers punish and perish."⁹⁰

Power Plays Don't Work

According to the United Nations, cooperation, not *power*, is the key to conflict resolution. When one party tries to impose its belief systems and values on another, conflicts escalate. If a dispute is settled through coercion, both parties feel less satisfied with the outcome.⁹¹

Research at Cornell University's Department of Neurobiology and Behavior found that there is something else you can do to improve your chances of forming stronger cooperative relationships with others, at home and at work: be more generous.⁹² Generosity sends a specific message to other people's

brains, telling them that you intend no harm. If a disagreement is being aired, it de-escalates the potential of an angry rebuttal and opens the door to reengage in a cooperative conversation.

In other words, being kind to those who are unkind to you will soften their hearts and soothe their angry brains. So the next time someone zooms up behind you, blasting their horn and waving their frustrated hands at you, give them the right of way. By pulling over and letting them speed by, you have given shown a little bit of respect. And perhaps one day they will return the favor to someone else.

The same thing applies to conflicts at work. If you show your unkind boss a little extra compassion, your financial security will remain intact. Kindness builds cooperation, and cooperation builds a better brain.

Chapter 7

Inner Values

The Foundation of Conscious Living

"No" may be one of the most powerful words in the world, but it's not necessarily the most powerful word in *your* life. You'll have to discover for yourself what the most powerful word in your life is, but it will be a word that encapsulates the most important principle in your life. And when it informs the other words you say, it will both protect you from being knocked off balance in verbal conflicts and help you to stay focused on achieving your personal and professional goals.

The question that will help you identify this word is an essential one in every person's life, and yet one we rarely ask ourselves. In fact, it's so rare that if you enter any variation of it as a Google search, it brings up fewer than fifty results. Yet a question like "What makes me happy?" can bring up as many as twenty-eight million hits.

For this exercise, we'd like you to have a pen and a piece of paper handy, and as we've done in most of the previous exercises, to start by taking a few minutes to ground yourself. When you feel fully relaxed, ask yourself: what is my deepest, innermost value?

Close your eyes for at least sixty seconds, listening to your inner voices and paying attention to whatever thoughts and feelings float through your mind. Then open your eyes and write down a single word or brief phrase that captures your deepest value.

If nothing occurs to you, close your eyes again and stay focused on the question for another couple of minutes until a word comes to mind. Write it down, and repeat the question: what is my deepest, innermost value? If a different word comes to mind—and it often does—write that one down as well. Repeat this step several more times, to see if other essential values rise into consciousness.

Now look at your list of words, and circle the one that feels the truest for you at this moment. Close your eyes once more and repeat the word or phrase to yourself, silently and then aloud. Notice how it

feels to say it, and then compare it to the other words you wrote down.

What is the point of doing such an exercise? According to researchers at the University of California, Los Angeles, "Reflecting on personal values can keep neuroendocrine and psychological responses to stress at low levels."⁹³ This is truly amazing: by simply pondering and affirming your deepest values you'll improve the health of your brain, you'll protect yourself from burnout at work, you'll reduce your propensity to ruminate about failure, and you'll be less reactive and defensive when someone confronts you with uncomfortable information.⁹⁴

The Ten-Day Experiment

Try doing this "inner values" exercise for the next ten days. It's the first assignment Mark gives to his students on the first day of class in the Executive MBA Program at Loyola Marymount University, Los Angeles, one of the top-ranked business schools in the world. This specialized program is designed for full-time managers, executives, and business leaders who need to learn advanced skills for maintaining a growing and successful company.

Here's what we'd like you to do. Each morning, shortly after you wake up, take a few moments to stretch, breathe deeply, and relax. Then ask yourself, what is my deepest, innermost value? Create a log and record your words, along with any feelings or reactions you have relating to doing the exercise. Do this for ten days, and on day eleven briefly answer the following seven questions, using only a single sheet of paper. Be spontaneous in your responses, and remember that there are no right or wrong answers to these questions. They're only designed to deepen the self-reflective process.

- 1. What was your initial reaction to this exercise?
- 2. Was the exercise enjoyable, boring, interesting, annoying, etc.?
- 3. How long did you spend, each day, contemplating your inner values?
- 4. Did the exercise have any effect on other aspects of your day, work, or life?
- 5. How do you define the word "value"?
- 6. Did you discover anything about yourself?
- 7. Did the exercise influence the way you think about your work and business values?

In Mark's class this homework assignment was optional, and the students who completed it were asked to submit their daily logs, along with the answers to the above questions, anonymously. He didn't ask them for their names because he really wanted to know if the exercise had any immediate or lasting value for the busy executives enrolled in the program.

In the end nearly everyone found the exercise useful, enlightening, and enjoyable, but it didn't start out that way. Some were intrigued, others were bored, and a few actually became irritated with the assignment. One student—a chief operating officer at a midsize corporation—put it bluntly: "What the *#!* does this have to do with financial planning?" But by the end of the ten days, he wrote the following comment: "I think that this exercise should be taught to every MBA student in America." He was not alone, as the following excerpts illustrate, taken from the students' written responses to the seven questions listed above:

At first I thought, "Who has time for this?" I barely have enough minutes in the day to run my company, and the workload for the MBA class is overwhelming. But those couple of minutes each morning helped me stay calm and focused for the rest of the day. I plan to do this exercise for the rest of the school year.

The moment I awake, my mind rushes to plan the day. This exercise made me realize that I'm undermining my health. I get the most from it when I practice five to ten minutes a day, and I've noticed that the quality and quantity of my sleep has improved. I know I have strong values, but I've never taken the time to acknowledge it.

I really became more conscious about my emotions, and how they could sabotage my evenings with my wife. Once, after having a fight with her, I spent thirty minutes sitting alone, thinking about the value of my marriage. I went back and apologized, and we worked our problem out.

I used my positive word all day long. I felt calmer, less stressed, and it seemed to help when it came to solving difficult problems at work. I loved the self-awareness it brought, and the way it made me feel throughout the day.

The core values that kept coming up for me were honesty, integrity, and family. It made me think about my business ethics and values, and what was really essential for work. I realized that I'd rather climb the ladder of success more slowly so I can support the people I meet along the way, and give more time to my family.

This exercise grounded me in the principles of goodness and the desire to live by my deepest principles. For me, work can drown out the self-talk of my core values. When that happens, I can't truly express who I am or realize my greatest potential.

At first I hated this exercise, but it forced me to reexamine my priorities. I realized that business is not just about numbers and money. I think everyone needs to find at least two minutes a day to think about their values and principles and how to use them to build a life-sustaining career and personality.

More than a third of the students said that the exercise inspired them to become more involved in spiritual pursuits like meditation, even though no mention had been made of them. But even more surprising, several people wrote that they were going to restructure their companies to be more values oriented. One CEO asked every member of his company to write up a personal "mission and values" statement, which he collated and distributed to the class.

Now, it may be just a coincidence, but the couple of students who ignored the exercise had greater difficulties with their schoolwork. And when they were later involved in teamwork activities with their classmates, they tended to be less cooperative and more stubborn.

Inner Values on the Internet

Over the past two years, we've been able—using Facebook and other social media forums—to get feedback about this exercise from people all over the world: college students, therapists, religious practitioners, divorce attorneys, mediators, teachers, corporate executives. And the feedback is overwhelmingly positive—perhaps because it takes so little time to do. For example, here's what happened when John, a construction worker from New Zealand, did the "inner values" exercise for ten days:

My initial reaction, was, "Not another thing to do!" But then I realized that I hadn't put much focus on values in the past, even though I'd read about it. Love, service, and family were my three top values, and I started to realize where love was really missing: at work. Normally, I feel a lot of animosity toward my boss, but by the third day of my values experiment, I started feeling kindness toward him. I began to let go of my anger because I saw that he was only doing his job. Then I started feeling gratitude, because he was the one who gave me my job.

Cheri Frootko, a South African film director and script supervisor saw the inner values exercise on YouTube, in a clip from a TEDx talk in Thousand Oaks, California, that Mark gave in 2010 (you can see the TEDx talk at http://www.youtube.com/watch?v=yvhCLXEeSDQ). Cheri had just assembled a team to shoot a project in France and decided to show them the video. Each morning, before they began work, they practiced the inner values exercise:

We created a fun routine. We imitated Mark on the video: yawning, breathing deeply, stretching, rolling the shoulders, and shaking our hands. We closed our eyes and asked ourselves what our greatest value was, and then, in a spirit of lightheartedness, we shared our words with each other. The result? Ten people, who a week earlier were total strangers, created a bond of insight and intimacy. And it wouldn't have happened without this three-minute catalyst. We would have worked well without the exercise—say, on a level of 6—but with our sharing of values, the energy and harmony of the group reached a level of 9. PS: Forgot to mention that when the pressure got intense, we used a specific buzz word on the set—"yawn"! It made everybody relax and lighten up.

Exercises like this are slowly working their way into business and medical communities. At Missouri State University, psychologists found that when a personal values exercise was included in a treatment plan designed to help patients cope with chronic pain, their tolerance toward pain improved.⁹⁵ When we get in touch with what is most meaningful in our lives, we are less distracted by the problems that occur throughout the day.

Are We Moving Toward a Values-Based Society?

Inner values used to be a popular topic in the 1950s and 1960s, when books by Viktor Frankl (*Man's Search for Meaning*) and Abraham Maslow (*Religion, Values, and Peak-Experiences*) were best sellers. But during the past twenty years, values-based research mostly disappeared.

Recently the picture has changed. With the meltdown of the financial institutions that occurred several years ago, magazines like *Bloomberg Businessweek* have been regularly calling for the implementation of corporate and leadership values. And the business world is responding.

Harvard business professor Rosabeth Moss Kanter—considered by many to be one of the most powerful women in the world—recently commented on the importance of directly addressing values in the boardroom: "In organizations that I call 'supercorps'—companies that are innovative, profitable, and responsible—widespread dialogue about the interpretation and application of values enhances accountability, collaboration, and initiative."⁹⁶

Our own research supports this. Even though everyone has a unique set of values—running the spectrum from highly idealistic principles like truth, integrity, and growth to highly interpersonal values like love, family, and friendship—when people openly share their values with each other, they come together and express mutual support.

We once had a church auditorium filled with religious believers and disbelievers, liberals and conservatives, millionaires and welfare recipients, and when we guided them through the inner values exercise, and then asked them to share their values aloud, nearly everyone (as far as we could tell) ended up feeling a deep sense of mutual respect for each other. And when the president of the largest atheist association in America told the group that his inner value was to help people find deep peace in their personal and professional lives, everyone in the room applauded.

Kanter finds that the same thing happens in the business world. When people share and discuss their deepest values, it strengthens the motivation of the entire group. Employees' personal values become integrated with the company's policy, and this helps guide the ethical choices of the corporation. By discussing business values openly, Kanter argues, it eliminates the need to impose impersonal and coercive rules.

In Kanter's experience, discussions about values also help to decrease interpersonal conflict. Cooperation grows, everyone feels like they are part of the team, and profitability increases for everyone:

The organization becomes a community united by shared purpose, which reinforces teamwork and collaboration. People can be more readily relied on to do the right thing, and to guide their colleagues to do the same, once they buy into and internalize core principles . . . And, as I have seen in leading companies, active consideration of core values and purpose can unlock creative potential.⁹⁷

That is the power of a single question.

What, Exactly, Is a Value?

We are often asked to define what we mean by "value." But the beauty of this exercise is that we *don't* define it. Nor do we give examples. When someone else suggests what values we should consider, the exercise becomes outer directed, not inner directed. If people to ponder the question in their own ways, remarkable self-discoveries can be made.

Values are difficult to define or categorize because they can touch on so many dimensions of life. There are moral values, political values, religious values, marital values, organizational values, and aesthetic values. There are practical values and theoretical values, scientific values and philosophical values. There are personal values and interpersonal values, health values and money values. Values can even govern the types of food we eat and the products we buy.⁹⁸ But if they become too rigid—or turned into "shoulds"—they can generate a myriad of conflicts with others.⁹⁹

Inner values are shaped by both genetic and environmental influences,¹⁰⁰ and they are essential for providing meaning and purpose to life. Without them, we're more inclined to exhibit antisocial behavior.¹⁰¹ Interestingly, different values activate different structures within the brain,¹⁰² and it's even been shown that people with different cultural values activate different areas in the visual cortex.¹⁰³ They may actually see the world in a fundamentally different way.

Asking the Right Questions

When we were first gathering data to measure the effects of Compassionate Communication, we asked workshop participants the following question: what is your secret desire? The question was inspired by the phenomenal success of the movie and book *The Secret*, and we were curious to see how people would respond. It gave us a goldmine of valuable information.

Before participants were guided through the full Compassionate Communication script, most people responded to the "secret desire" question with materialistic goals: more money, a better job, a nicer house, etc. After practicing the dialogue exercise for forty minutes, people responded very differently. Happiness and contentment were often cited. Financial desires dropped from 34 percent to 14 percent, whereas a yearning for peace increased by 60 percent. Desires for self-love and interpersonal love nearly tripled.

Intrinsic values like these are far more likely to be associated with satisfaction in life and emotional well-being than with wealth.¹⁰⁴ That's why it's important to ask the right question, in the right way. If you ask people what they want, their answers will often focus on material prosperity. But if you ask them what makes them happy, money is rarely mentioned. Happiness, it turns out, is a universal value that is far more important to people than material wealth.¹⁰⁵ Money may be desirable, but it cannot buy you trust or help you develop positive emotions—elements that are essential for achieving satisfaction. In his book *The Social Animal*, David Brooks argues that a person who is happy in their job but has a bad family and social life is much worse off than someone who struggles at work but has a great family life.

In reality, the stress created by focusing too much on money can literally threaten our lives. To quote a 2010 study conducted at the University of Liège, "Money impairs people's ability to savor everyday positive emotions and experiences."¹⁰⁶ The study found that wealthier individuals had far more difficulty enjoying their lives than people who earned moderate amounts of income.

Situational Values

As you experiment with the inner values exercise, you'll find that the results will change and evolve over time. Specific events—such as marriage, divorce, or becoming a parent—can dramatically alter our values, for better or for worse. For example, a nasty divorce may cause a child to view marriage suspiciously, but it can liberate a spouse to find a partner who shares similar values and beliefs.

Surprisingly, a life-threatening event will make most people revise their values in ways that bring them greater satisfaction.¹⁰⁷ Even reflecting on death tends to shift values away from greed and toward unselfish and caring behavior.¹⁰⁸

In our research there are two variations of the inner values exercise that people have found to be useful. If you take a moment to reflect on the following questions, you'll see that the answers are different from the ones relating to innermost values: what is my deepest relationship value, and what is my deepest communication value?

Most people have similar responses to these questions. For the relationship value, the most common words chosen are "kindness" and "trust." For the communication value, it's the desire to be listened to with respect and to be spoken to with honesty and warmth. If we consciously exercise these values whenever we engage in dialogue, the odds of conflict are strongly reduced, even when we are interacting with people we dislike or distrust.

I'll give you an example of what occurred when Mark was called into an executive board meeting to negotiate a heated dispute. The organization was a psychology training center, and the issue concerned the expression of anger. One group of therapists believed that the honest expression of anger was essential for the healing process. The other group, comprised mostly of the corporate leadership staff believed that tact and diplomacy were paramount.

The leaders of the two factions could not compromise, and a stalemate had been reached. Mark asked each leader what their innermost personal value was, what their deepest relationship value was, and what their deepest communication value was. Sam, the proponent of tactfulness, went first, and his three words were "love," "compassion," and "gentleness." Jill, who strongly believed in the need to "get the garbage out," as she referred to the psychological theory of emotional release, had a somewhat different list: "kindness," "integrity," and "honesty."

"Perfect!" Mark said. "Do you both respect the other person's values?"

They nodded in approval.

"Then, Jill, I want you to continue your argument with Sam, but you have to honor both Sam's and your own sets of values. I want you to express your anger honestly but with love, compassion, kindness, and gentleness."

She couldn't do it, because it's impossible to express anger, resentment, or for that matter any negative emotion, in a kind and productive way. Two months later, Jill resigned, and the company has continued to flourish.

Inner Values in Personal Relationships

When people share their personal, relationship, and communication values with each other *before* discussing a difficult issue, they are more likely to remain emotionally calm and centered. Such discussions have been shown to be particularly useful for improving communication in couples counseling, because it derails feelings of anger, distrust, and contempt before they creep into the dialogue. Here's an example of how James Walton, Ph.D., a licensed marriage and family therapist in Los Angeles, uses the inner values exercise in his practice:

With my patients, I have them contemplate their deepest value for two minutes every day between sessions. Those that have done so have experienced some amazing transformations. When working with couples, I have them explore the role that personal values play in the relationship and how, if we violate those values, it creates problems. With my clients, love and compassion are the most common values reported.

Let me give you an example. Clara and Bart were having multiple problems communicating with each other. He was passive-aggressive in his behavior toward her and she was openly critical and hostile toward him. They would fight over small things, which would lead to hostilities that were out of proportion to the infraction. They had stopped being friends in the relationship, so I decided to try the inner values exercise with them.

I had them do a brief relaxation exercise; then I asked them to visualize in their minds someone they loved dearly and to feel those feelings of love. I then asked them to focus on their greatest core value and to allow it to come forward in their mind. For Bart, it was his need to feel supported. For Clara, it was her need to feel accepted.

When we discussed their experience, they realized that they were not being sensitive to the other person's core value. I explained that when we violate our own core value, we feel disempowered. I helped Clara become aware of how important support was to Bart, and I asked Bart to practice meditating on the essence of support for a few minutes each day, using the inner values technique. He was to focus on what it felt like receiving support, giving support, and filling his heart with that experience. I also asked Bart to think about how he could show Clara more acceptance. Clara was asked to meditate a few minutes each day on the concept of acceptance—to feel acceptance in her heart for herself and for others, and to feel what it was like to give and receive it.

One week of practice made a dramatic improvement in their relationship. They each said that they felt much closer to the other and more understood. They were becoming friends again, and this one exercise did more for their relationship than all the other work we had done before.

I have employed this technique with other couples, and in each case it has helped them. If they practice daily, contemplating their greatest value, the results are dramatically better, because it helps both individuals feel more empathy for each other.

Is there a general rule that incorporates the most basic values of communication? We think so. It is a paraphrasing of the Golden Rule: speak unto others as you would like them to speak unto you, and listen to others as you would like them to listen to you.

Establishing Lasting Business and Professional Values

We all seem to share similar communication values, but research is beginning to show that personal and professional values frequently differ.¹⁰⁹ This can present a problem, because when there is incongruence between inner values and work-related values, emotional burnout is likely to take place.¹¹⁰

In the health-care and medical community, this happens frequently. For example, physician burnout has been estimated to be close to 50 percent in some parts of the country, and a study of thirty-two hundred Canadian doctors could actually predict who would experience exhaustion and poor work performance by identifying the people whose personal values conflicted with the values promoted in the work environment.¹¹¹

This has strong implications for the business world. As researchers at the University of California, Los Angeles, advise, when your management strategies match the value of your workers, greater job satisfaction is reported, and less people are likely to quit.¹¹²

Here's an exercise created by a dentist, Roger P. Levin, which anyone can use to integrate their personal and professional values:

To identify business values, make a list of approximately 15 words that you feel are the core of your practice [i.e., business] values or beliefs. This list might include such terms as integrity, balance, profit, growth, challenge, caring, excellence, quality, trust, appreciation and enthusiasm. After you have created a list, the key is to spend the next 10 days paring it down to no more than six words. The rule is that you can add a word to the list, but only if you take one off. You can combine words that have similar meaning, such as integrity and honesty. You ultimately will have to eliminate less important words . . .

Once you know your four to six business values, you can strengthen your practice and build a high-powered team . . . [then] repeat the process for your personal values. It can be insightful and fun.¹¹³

Spiritual Values

Throughout most of history, the question of values has been a spiritual one, and sacred texts have attempted to identify which values will lead to the greatest satisfaction, in this life and whatever may lie beyond. But if we were to make a list of all the spiritual values that have been proposed, we could probably fill this book from cover to cover.

Despite centuries of theological debate, our species has yet to come up with a mutually agreedupon list of which values are most essential for our happiness or our survival. Yet everyone has an opinion. Perhaps the easiest way to explain this lack of resolution is to compare it to the nature of the human brain. Unlike other animals, each person has a unique pattern of brain activity, and as we've explained previously, no two people—and no two brains—give the same meaning or value to the same word. We're unique, and so the values we choose to live by, to speak through, are as unique as the everchanging neurons that shape the decisions we make.

Even the word "spirituality" has defied definition within the religious, philosophical, and psychological communities. But to our way of thinking, spirituality and values are often the same. We choose to ask about your "innermost" value rather than what your "highest" value because this phrasing sidesteps theology and speaks equally to believers and disbelievers alike. An ongoing research project at the University of California, Los Angeles, takes a similar approach:

Spirituality points to our interiors, our subjective life, as contrasted to the objective domain of material events and objects. Our spirituality is reflected in the values and ideals that we hold most dear, our sense of who we are and where we come from, our beliefs about why we are here—the meaning and purpose we see in our lives—and our connectedness to each other and to the world around us. Spirituality also captures those aspects of our experience that are not easy to define or talk about, such as inspiration, creativity, the mysterious, the sacred, and the mystical. Within this very broad perspective, we believe spirituality is a universal impulse and reality.¹¹⁴

In this world of competing beliefs, we feel it is essential to promote a values-driven dialogue that while related to political and religious beliefs for many people, also transcends those beliefs. Thus the foundational element of Compassionate Communication is to honor the core values of both the listener and the speaker. All we have to do is to stop outside of the meeting room, or pause for a moment before we walk through the door of our home, and ask ourselves this question: what do I value most about the person I am about to meet?

If we did this more often, the risk of engaging in conflict would recede.

Chapter 8

Twelve Steps to Intimacy, Cooperation, and Trust

Speaking briefly. Speaking slowly. Listening deeply. Showing appreciation and remaining positive. Observing our inner speech and cultivating inner silence. Studying the other person's facial expressions, body gestures, and vocal inflections and mirroring them to build neural resonance. Focusing on your inner values and bringing them into every conversation as you remain as relaxed and as present as you can. These are the twelve strategies that are essential if you want to build meaningful, trustworthy, and long-term productive relationships with others. If you ignore any of them, the research suggests that you will compromise your ability to communicate and increase the risk of conflict.

Whether we are talking to a friend or a lover or a colleague at work, and whether we are talking to a child, a stranger, or a person suffering from an emotional or cognitive disease, these communication strategies will ensure the best dialogue possible. When we choose our words carefully, and orchestrate them with the strategies above, we enhance the comprehension of the listener in a way that fosters compassion and increases friendly cooperation. But the words we speak and listen to are only a small part of the communication process. It is the *way* we say them and the *way* we listen to them that makes all the difference in the world.

To improve our conversational skills we have to do several things. First we need to recognize that the way we normally speak is inadequate, filled with habituated patterns that were mostly set in place in adolescence and early adulthood. Then we have to consciously interrupt those speaking and listening habits, over and over again. And finally we need to replace those old communication styles with new and effective ones. This requires experiential training, and training takes time.

Fortunately, the twenty-minute exercise we explain in the next chapter will guide you through these twelve strategies and allow you to practice them with a partner. Even a few rounds of practice will be sufficient to give you enough experience to take these strategies and incorporate them into your conversations at home and at work. They will significantly improve your ability to empathize with others, and, according to our research studies of similar types of exercises, you should be able to alter the structure and function of key areas in your brain that relate to improved social awareness, enhanced cognition, and greater emotional control in eight weeks or less. You'll be actually rewiring your brain to communicate more effectively with others.

The Twelve Components of Compassionate Communication

In this chapter we'll review the evidence supporting each of the strategies that we want you practice when talking and listening to others. The first six steps are preparatory. They're what you do before you enter a room to engage another person in a conversation, and they are best carried out in the following order:

- 1. Relax
- 2. Stay present
- 3. Cultivate inner silence
- 4. Increase positivity
- 5. Reflect on your deepest values
- 6. Access a pleasant memory

These steps create an inner state of intense awareness and calm, which is essential for engaging in one of the most crucial aspects of communication:

7. Observe nonverbal cues

If you are not conscious of the subtle changes in the other person's tone of voice, facial expressions, and body gestures, you are likely to miss important clues that tell you what that person is really thinking and feeling. You won't know if the person understands you or if they're even paying attention to what you say. Then, when you engage in dialogue, the following five strategies should be consistently adhered to:

8. Express appreciation
 9. Speak warmly
 10. Speak slowly
 11. Speak briefly
 12. Listen deeply

How many people conscientiously apply these techniques on a daily basis? Far fewer than we would wish. It's like weight loss: we all know what's required, but we easily slip back into our old habits. It's human nature, and it takes a lot of neural energy to interrupt an old behavior. To build a new habit, we have to repeat a new behavior hundreds and hundreds of times. Eventually, it will become second nature. It begins by taking a few deep breaths and relaxing as you consciously bring your fullest attention and awareness into the present moment.

Step 1: Relax

Stress is now considered the number one killer in the world. Stress generates irritability, irritability generates anger, and anger shuts down the ability to communicate and cooperate with others.¹¹⁵ So before you enter a conversation with anyone, spend sixty seconds doing any variation of the following relaxation exercises.

First notice which parts of your body are tense. Assign a number on a scale of one to ten (with ten being extremely tense) to signify your state of relaxation or stress. Write down the number on a sheet of paper.

For the next thirty seconds, breathe in slowly to the count of five, and then exhale slowly to the count of five. Repeat this three times. Now, if possible, yawn a few times and notice if your level of relaxation has increased. Assign it a number between one and ten and write it down.

Now slowly stretch your body in any way that feels comfortable and pleasurable, and see if you can immerse yourself completely in the sensation of each stretch. Begin with the muscles of your face,

36 Words Can Change Your Brain

scrunching them up, then stretching them out. Then move down to your shoulders and neck, gently moving your head from side to side and from front to back. Scrunch your shoulders to your ears and let them drop, pushing them down toward the floor.

Next tighten up all of the muscles in your arms and legs. Hold them tightly as you count to ten; then relax them as you shake your hands and feet. Take a few more deep breaths and rest. Once more assign a number to your state of relaxation and write it down, noticing how much you've improved.

Can a brief exercise like this really change your brain in ways that will measurably improve your communication skills? Yes! Several fMRI studies have shown that a one-minute relaxation exercise will increase activity in different areas of the cortex that are essential for language, communication, social awareness, mood regulation, and decision making.¹¹⁶ If you increase the length of this relaxation exercise, additional parts of the brain will be activated that help you become more focused and attentive at work.¹¹⁷ Cortisol levels will drop, which means that your levels of biological stress will have decreased.

Research also shows that just watching the patterns of your natural breathing will change your brain in positive ways, and if you coordinate your breathing with another person, it will help the two of you to feel more calm and caring toward each other.¹¹⁸ At the end of his book *Emotions Revealed*, Paul Ekman (the facial expression expert) writes, "I previously couldn't understand why focusing our awareness on breathing would benefit emotional life." But then, "like the proverbial bolt out of the blue," he explains, he had an insight:

The very practice of learning to focus attention on an automatic process that required no conscious monitoring creates the capacity to be attentive to other automatic processes ... We develop new neural pathways that allow us to do it. And here is the punch line: these skills transfer to other automatic processes—benefiting emotional behavior awareness and eventually, in some people, impulse awareness.

In conversations that get heated, the person who is capable of remaining calm will benefit the most. So by all means learn how to focus on your relaxation and breathing when difficult issues are discussed.

Step 2: Stay Present

When you focus intently on your breathing and relaxation, you pull your attention into the present moment. When we become completely absorbed in something as simple as breathing or relaxing a specific part of our body, the inner speech of everyday consciousness stops, at least momentarily, and this allows us to become aware of the subtle things that are immediately happening around us. We hear sounds we rarely notice, we feel more sensations in our body, and if we bring this "presentness" into a conversation, we hear more clearly the subtle tones of voice that give emotional meaning to the speaker's words.

Here's a little exercise created by the renowned author and spiritual teacher Eckhart Tolle that you can do right now to experience the power of the present moment.¹¹⁹ Begin by concentrating on your right hand; then ask yourself this question: how can I really know, at this very moment, that my hand exists? The more you think about this question as you focus on your hand, the more sensations you'll begin to feel.

If you don't feel any difference after a minute or two, close your hand, very slowly, into a fist, and hold it tight for thirty seconds. Then spend the next thirty seconds slowly opening it back up. Pay attention to every sensation in each finger and your palm.

You'll notice that in this deep state of concentration, your mind has become silent, and although you may not realize it, your blood pressure will have dropped. Being relaxed and in the present moment is beneficial to your heart.

Keep focusing on your hand and compare its "aliveness," as Tolle calls it, to your other hand. Using this technique, you can bring that enhanced awareness to every part of your body, whenever you choose. You can also bring it into the conversations you have with others.

Using fMRI technology we can actually watch how this moment-to-moment awareness of the inner and outer world alters the functioning of the brain. Our everyday consciousness shifts into a meta-awareness that allows us to experience a larger and more unified perception of the world.¹²⁰

If we bring this moment-to-moment awareness into our conversations with others, we will experience the interaction with greater clarity, and we'll be less likely to be knocked off balance by the other person's emotional state. We'll feel their pain and respond with compassion because we have been able to remain relaxed.

Being in the present moment has an interesting side effect: because you're less likely to control the direction of the conversation, it can lead to unexpected dialogues. If sadness comes up for you or the other person, and you remain in the present moment, the conversation will focus on those feelings and the previous topic will fade away. It's a very intimate experience, and thus very appropriate for conversations with family members and friends, but in business it's essential to stay focused on the specific topic of discussion. Being in the present moment, however, will allow you to quickly recognize when a conversation begins to go astray.

Step 3: Cultivate Inner Silence

Most of us are only able to stay relaxed and in the present moment for brief periods of time. Soon it gets interrupted by our inner speech. Research shows that you can suppress those distracting feelings and thoughts, but you have to practice doing it over and over until you gain control.

The more you consciously think about *not* thinking—as a formal training exercise—the more you gain voluntary control over the brain's spontaneous cascade of inner speech and cognition.¹²¹ As researchers as Emory University found, thought suppression can even protect the brain "and reduce the cognitive decline associated with normal aging."¹²²

We specially need to develop the skill to remain silent so that we can give our fullest attention to what other people say. Unconsciously they will know when we're distracted by our inner speech, and the lack of interest they perceive will make them distance themselves from you. Thus in active communication silence is not the enemy. It's your friend.

For many people, learning how to remain in a state of inner silence can be difficult because the temporal lobes of the brain are designed to constantly listen for something. And something is always making some degree of sound.

Here's a technique that we and other teachers use to show people how to cultivate a deeper state of silence. You'll need a bell that when rung will resonate for at least fifteen to thirty seconds. If you go to http://www.mindfulnessdc.org/bell/index.html, you can activate an online mindfulness bell that is perfect for this exercise. Push the button to "strike" the bell, then focus intensely on the sound. As the tone fades, you'll notice that you have to give more attention to your listening. Then, when the sound disappears, continue to listen deeply to the silence, which, as you will discover, is filled with a variety of subtle sounds. You might even become aware of the sound of your breathing, and this is an excellent sound to focus on (it provides substantial benefits to your brain).

Ring the bell again, and listen even more closely than you did before. Continue several more times

as you train yourself to recognize the special state of awareness it puts you in. This is the state of attentiveness that we would like you to use when listening to another person speak. The online mindfulness bell will also aid you in the practice of the Compassionate Communication training exercise described in the following chapter.

Step 4: Increase Positivity

Before you begin any conversation, take a mental inventory of your mood. Are you feeling happy or depressed, tired or alert, anxious or calm? Any negative thought or feeling you have interferes with the parts of your brain that are involved with language processing, listening, and speech.

Research shows that the three previous steps are usually sufficient to eliminate negative feelings and thoughts. But if they still remain, consider the following choices: repeat the exercises above, or consider postponing the meeting, especially if it's related to work. When a colleague, employer, or employee senses your exhaustion or stress, they will know that your ability to have a meaningful, productive dialogue is compromised. So why take the risk?

Even if you feel calm and relaxed, ask yourself this question: do I feel optimistic about this meeting and the person I'm about to converse with? If the answer is no—if you harbor any significant degree of doubt, anxiety, frustration, or even an inkling of anger—then again, if possible, you should postpone your dialogue until a later date. If you can't postpone the dialogue, at least spend a few moments focusing on a more positive idea, because any negative state can generate mutual defensiveness and distrust.

Here's something to do when you have concerns about an upcoming meeting. Mentally rehearse what you think could happen. Have an imaginary conversation with the person you want to talk to, as if you were an actor reading from a script, and see where the dialogue goes. When you do this, it is easy to spot statements you might make that would undermine your intention and goal.

If you still feel upset or worried, then take the fantasy conversation to the next level and imagine how the other person might respond if you told them how you really felt at the moment. If it doesn't make them smile or bring a tear to their eye—if it doesn't make them feel like you respect them—then you'll know ahead of time that the conversation will likely fail.

To make any conversation truly satisfying and successful, you need to generate heartfelt positivity, for yourself and the other person. As Barbara Fredrickson, a distinguished professor of psychology at the University of North Carolina, says, positivity is our birthright,

And it comes in many forms and flavors. Think of the times you feel connected to others and loved; when you feel playful, creative, or silly; when you feel blessed and at one with your surrounding; when your soul is stirred by the sheer beauty of existence; or when you feel energized and excited by a new idea or hobby. Positivity reigns whenever positive emotions—like love, joy, gratitude, serenity, interest, and inspiration—touch and open your heart.¹²³

Fredrickson identified one of the most important factors for predicting success in both personal and business relationships. It's called the three-to-one ratio, and it's a comparison of the number of positive thoughts and negative thoughts you generate when you engage in a conversation with someone else. If you express fewer than three positive thoughts or behaviors for each negative one, the relationship or interaction is likely to fail. This finding correlates with Marcial Losada's research with corporate teams¹²⁴ and John Gottman's research with married couples.¹²⁵

Fredrickson, Losada, and Gottman realized that if you want your business and your personal

relationships to flourish, you'll need to increase your ratio by generating at least five positive messages for each negative utterance you make (for example, "I'm disappointed" or "That's not what I had hoped for" count as expressions of negativity, as does a frown or gesture of contempt). Someone with a positivity ratio that falls below three-to-one is likely be diagnosed with depression.¹²⁶

We suggest that in preparation for a serious dialogue you use your imagination to visualize and rehearse a conversation that is filled with positivity, kindness, and optimism. As researchers at Purdue University found, when you enter a conversation with optimism both you and the listener will likely be more satisfied with the interaction.¹²⁷ And if you consciously visualize a future success, it will enhance your motivation to achieve it.¹²⁸

The research is substantial: positive imagery can reduce a negative state of mind, whereas negative images will maintain or enhance a negative mood.¹²⁹ In fact, positive mental imagery, when compared to other forms of verbal processing, has a greater impact on reducing anxiety.¹³⁰ Negative imagery, however, will amplify it.¹³¹

This raises an interesting question: can you arbitrarily create an optimistic attitude by manipulating your own thoughts? Researchers at the University of Toledo say yes,¹³² and you can even undo negative memories from childhood by "rescripting" the event and imagining a different outcome or solution.¹³³ So by all means, prime yourself with positive feelings and thoughts before you engage in conversation.

However, as Martin Seligman, the founder of positive psychology, points out, "Merely repeating positive statements to yourself does not raise mood or achievement very much." Instead, he says, you have to embed optimism in your brain "through the power of 'non-negative' thinking."¹³⁴ This means that you will need to consciously identify, then root out, the negative beliefs that have been unconsciously stored away in long-term memory.

You can begin this process by asking yourself what evidence there is to support your negative belief or fear. Often you'll find that your doubts are based on an exaggerated view of the situation. If you take a moment to pull yourself into the present moment, these old negative voices will lose their power.

Over time you can transform a helpless and pessimistic outlook into a realistic and lasting optimism. Positivity won't eliminate periods of depression, anxiety, and self-doubt, but it will dramatically reduce the number of incidents.¹³⁵ And this will improve every dimension of your relationships with others.

Step 5: Reflect on Your Deepest Values

In the previous chapter, we explored the transformational power of knowing your inner values. To set the right tone for a conversation, two other values that we've briefly mentioned need to be consciously addressed: your innermost relational value (for yourself in general and specifically concerning the person you're about to engage), and your deepest communication value (likewise, both for yourself and for the conversation you're about to have). Together these three values will create the best possible scenario when it comes to dealing with problems and achieving desired goals.

Few people hold anger and violence as values, but research confirms that sociopaths and people with antisocial and deviant behavior place the highest value on material gain and instant gratification.¹³⁶ Sometimes money and pleasure are their only values. Obviously, such people make bad risks for relationships that demand trust, integrity, honesty, kindness, and fairness—values that are essential in business and love.

If our personal, relational, and business values are not aligned with those of the person we are involved with, trouble is unavoidable. This suggests that we should ask others about their inner values as soon as we possibly can. But there's a catch: sociopaths are very good at reading other people's minds, and they can tell you, with great accuracy, what you hope to hear. They can also mask the nonverbal cues of deceit, so they're very hard to spot.¹³⁷

However, when people become angry they act a little crazy. Like the sociopath, they become emotionally unpredictable, which makes it difficult to have a constructive dialogue. How do you communicate compassionately with angry people, staying true to your own inner values? It's difficult but not impossible. You have to identify, and then speak to, their underlying suffering and pain. You have to look *beyond* the anger. When you do this, as highly empathetic people can do, it will become easier to generate a compassionate smile that will help to defuse the anger being expressed by the other person.¹³⁸

Ideally, when anger erupts a time-out should be called. But sometimes you can't do this. In such situations, it may help to focus on this question: what do I value most about this person? Then speak to those qualities. If you feel like you're about to lose your own patience or temper, then consider extricating yourself from the interaction as quickly as possible. Let the person know that you'll be happy to reengage when everything calms down.

Even if you enter a conversation with calmness, the other person's negativity may have more power because the primitive parts of your will brain kick into defensive and aggressive survival mode. They'll suck you in, and your positivity will vanish. Then what? Research says that you can deliberately suppress these negative reactions and arbitrarily impose a series of positive thoughts—on yourself and on the other person. This technique has been proven to be more effective than most of the other strategies that are used in anger-management training.¹³⁹

Remember that verbal interaction often presupposes a goal-directed intention by the speaker.¹⁴⁰ To make a conversation balanced and fair, both parties need to be clear and up front, about values, intentions, and goals. Sharing these will make the communication process more efficient.

Step 6: Access a Pleasant Memory

It's best to enter a conversation with an inviting expression that conveys kindness, compassion, and interest. But as we explained in the previous chapter, this facial expression cannot be faked. It can be elicited by tapping into a pleasant memory, particularly one that involves people you deeply love and respect. This memory softens the muscles around your eyes and evokes a gentle half smile on your face.

When another person sees this expression, it stimulates a feeling of trust in their brain. The recollection of pleasant memories will also release pleasure chemicals throughout your own body and brain, and this will take you into an even deeper state of relaxation. When you look directly into the other person's eyes as you maintain this loving memory, they will *want* to engage you in a dialogue. Their facial expression will resonate with yours, and this will deepen the sense of contentment and satisfaction in both of you. As researchers at Loyola University Chicago demonstrated, contentment gives rise to mutually benevolent engagements.¹⁴¹

Why not just keep your face relaxed? Well, it turns out that a very relaxed face looks somber, which is why old photographs from the 1800s looked so unhappy. Back then, it took several minutes for an image to become fixed on the photographic plate, so a state of deep relaxation was the best way to keep a person's face still. In the early 1900s, when shutter speeds were faster, photographers were capable of capturing fleeting expressions of contentment.

Now you are ready to engage another person in a meaningful conversation, and it only takes about four minutes of preparation: a minute to stretch, relax, and yawn; another thirty seconds to bring yourself into the present moment; a moment to observe your inner speech and suppress it so that you can enjoy a few seconds of silence; another minute to fill your mind with positivity as you focus on your deepest values and goal; and finally the recollection of a memory that fills you with pleasure and joy.

With a little bit of practice, you'll be able to enter that exquisite state of heightened awareness in less than a minute or two.

Step 7: Observe Nonverbal Cues

"Keep your eyes on the ball." It's an expression used in sports and often applied to business, but when it comes to interpersonal relationships, it's essential to keep your eyes on the individual you are conversing with in order to discern the many nonverbal messages we constantly send to others. However, this does not mean that you should gaze unceasingly at the other person—that could feel invasive—but if you maintain softness in your eyes, generated by a pleasant memory, the other person won't want to take their eyes off you!

Eye contact stimulates the social-network circuits in your brain.¹⁴² It decreases the stress chemical cortisol, and it increases oxytocin, a neurochemical that enhances empathy, social cooperation, and positive communication.¹⁴³

Most people can recognize the seven basic facial expressions—anger, fear, sadness, disgust, surprise, contempt, and happiness—even though they remain on a person's face for just a few seconds. But as Ekman explains, you need to stay completely focused, making sure that you aren't distracted by your inner thoughts.¹⁴⁴

If a person wants to conceal a feeling—out of embarrassment, discomfort, or the desire to deceive—the true expression might only appear for a quarter of second. Reading micro-expressions is not essential for effective communication; it simply gives you an edge. Nor will your impressions necessarily be accurate. You'll have to look for additional clues, and then ask the person if you are correct. But there's a problem: when you do this, the other person can feel violated. It's very disturbing when you discover that someone can read your mind.

Micro-expressions can only tell you that a true emotion is hidden, but it won't tell you why. Nor will it tell you whether the person is consciously or unconsciously concealing it. To ferret out these important bits of information, you'll have to talk more deeply with your partner.

When you learn how to read micro-expressions, says Ekman, "it gives you an edge in business because it allows you to communicate more effectively with business partners." We suggest that you visit Ekman's website (www.paulekman.com) to see how well you can detect micro-expressions using the micro-expression training tool. Ekman is currently using his research on facial expressions to help people cultivate emotional balance.

Step 8: Express Appreciation

The first words you speak will set the tone for the entire conversation, and a single compliment may be all you need to enhance cooperation and trust. Yet few people begin their conversations on a positive note. In fact, we're more inclined to speak out when we are bothered by something, not realizing that complaints immediately create a defensive reaction in the listener. So we have to train ourselves to bring as many expressions of appreciation into the conversation as possible. Every appreciative comment is a powerful form of affirmation and can reduce the negative mood of the recipient.¹⁴⁵

42 Words Can Change Your Brain

Of course the compliment must be genuine, extending beyond the mere formality of a polite comment. As the staff at the Mayo Clinic emphasizes, "Relationships need nurturing. Build up your emotional account with kind words and actions. Be careful and gracious with critique. Let people know that you appreciate what they do for you or even just that you're glad they're part of your life."¹⁴⁶

Our suggestion is to begin each conversation with a compliment but make sure that you end it with another compliment that conveys a deep sense of appreciation for the person and the dialogue you just had. Research shows that people respond better to compliments received at the end of an interaction than those given at the beginning of a dialogue.¹⁴⁷

To make sure your compliments and statements of appreciation are genuine, we suggest you ask yourself this question: what do I really value about this person? As you contemplate that question, write down everything that comes to mind, and then ask yourself which, of all those attributes, you respect the most. Keep your answer in mind as you talk, and listen for an opportunity to share it. If such a moment doesn't occur, consider sending the person a note. An unexpected note of appreciation will rarely be perceived as a ploy.

Whenever I, Mark, turned in a manuscript to Jeremy Tarcher, my former publisher and personal friend, he always complimented it before suggesting how to make it better. The compliments always felt so genuine that I would fully embrace his suggestions. One day I asked him, "Do you really mean it when you compliment my writing, or are you just saying it because it's what an anxious writer needs to hear?" His response startled me: "Mark, I really don't know!" The moral of this story: when you make a habit of showing constant appreciation, even if it begins as a courtesy or subtle manipulation, your own mind comes to believe it's true.

Step 9: Speak Warmly

We cannot overemphasize the importance of speaking warmly—of conveying your compassion and sensitivity—but little research has been conducted on this element of communication. We know that different tones are registered and responded to by different language centers in the brain, but we're only beginning to identify which kinds of sounds reflect specific emotions and feelings.

In 2003 researchers doubted that we could map the human voice the way Ekman did with the face,¹⁴⁸ but now they feel more confident that emotions can be ascertained from nonverbal sounds. These "affect vocalizations," as they are called, may even be superior to facial expressions when it comes to telegraphing anger, contempt, disgust, fear, sadness, and surprise. However, facial expressions seem be more accurate expressions of joy, pride, and embarrassment.¹⁴⁹ Today we can identify many of the characteristics of vocal sound that express emotions and correlate them with the speaker's facial expressions.¹⁵⁰

By looking for discrepancies between the face and the voice, we can come closer to identifying a speaker's truthfulness, sincerity, and trustworthiness, but we still do not have a documented way to train people to recognize many of the basic emotions concealed in tone of voice.¹⁵¹ However, we can take some clues from actors, who have often been used in the research mentioned above. When actors need to project a warm demeanor, they do it by recalling a compassionate dialogue from their past.

If you drop the pitch of your voice and talk more slowly, the listener will hear and respond with greater trust. This strategy was developed and tested in 2011 at the Department of Communication Sciences and Disorders at the University of Houston, and it has been used to help oncologists present bad news to patients in the most supportive way possible. When the doctors reduced their speaking rate and pitch, the listener perceived them "as more caring and sympathetic."¹⁵²

Ted Kaptchuk, of the Harvard Medical School, also discovered that using a warm voice would

double the healing power of a therapeutic treatment.¹⁵³ Kaptchuk actually uses many of the strategies of Compassionate Communication to improve the health of his patients, and these, he states, are the key elements of success: "A warm, friendly manner; active listening . . . ; empathy . . . ; twenty seconds of thoughtful silence . . . ; and communication of confidence and positive expectation."

We use our words to express our wounds, and we use our words to heal. Thus it makes great sense that we train our voices to speak warmly, with confidence, empathy, and hope. Organizational psychologists at the University of Amsterdam concur: A strong, harsh, or dominant voice may impel others to comply with our wishes, but it will generate resentment that leads to weaker performance. A warm supportive voice is the sign of transformational leadership and will generate more satisfaction, commitment, and cooperation between members of a team.¹⁵⁴

The Power of Emotional Speech

Study of the neural circuits associated with emotional speech gives us helpful information about strategies for speaking more empathetically.¹⁵⁵ For example, if you want to express joy, your voice needs to become increasingly melodic, whereas sadness will be conveyed by a flat and monotonic voice. When we are angry, excited, or frightened, we raise the pitch and intensity of our voices, and there's a lot of variability in both the speed and the tone.

However, if the vocal emotion is incongruent with the words you are using, it will create confusion for the listener.¹⁵⁶ You can test this by saying "I am angry" with a warm tone of voice and a sweet expression on your face. It creates a distinct pattern of neural dissonance. The same would be true if you heard "I love you" said in a loud, harsh tone of voice. At first the message would be confusing, but because the power of a negative word or sound trumps the power of a positive expression, the harshness would cause reactions of anger or fear in both you and the listener.¹⁵⁷

Step 10: Speak Slowly

Slow speech rates increase a listener's ability to comprehend what you are saying, and this is true for both young and older adults.¹⁵⁸ Slower speaking will also deepen that person's respect for you,¹⁵⁹ and if you are speaking to someone with any form of language disability, it is essential to proceed slowly, articulating one word at a time.¹⁶⁰

Interestingly, faster speakers are often viewed as more competent than slower speakers.¹⁶¹ But we believe that this is a culturally learned behavior, and one that can easily be taken advantage of to mask a speaker's true intentions and inadequacies. Jeremy Dean, a researcher at University College London, suggests that we be particularly wary of the silver-tongued talker because "the fast pace is distracting and we may find it difficult to pick out the argument's flaws." He also adds that we should slow down when addressing our peers concerning matters of mutual agreement.¹⁶²

Speaking slowly is not as natural as it may seem, and as children we automatically speak fast. But you can teach a child to slow down by speaking slowly yourself because they'll match the rate of your voice.¹⁶³ A slow voice has a calming effect on a person who is feeling anxious, whereas a loud, fast voice will stimulate excitement, anger, or fear.¹⁶⁴

When we train people in Compassionate Communication, we ask participants to practice speaking extremely slowly so they can become aware of their speaking styles. The true power of speaking slowly is in the increased *consciousness* it brings to an otherwise habituated process.

Step 11: Speak Briefly

As you know by now, in Compassionate Communication we have a basic rule: whenever possible limit your speaking to thirty seconds or less. And if you need to communicate something essential to the listener, break your information into even smaller segments—a sentence or two—then wait for the person to acknowledge that they've understood you.

It's a hard concept to embrace. Why? The best reason we know of is that our busy minds have not been able to clearly formulate the essence of what we want to convey, so we babble on, externalizing the flow of information generated by our inner speech.

In centuries past, this problem was addressed by writing. If you really had something important to say, you wrote it in a letter or posted it in the community newspaper. Writing itself is a great way to consolidate one's thoughts, and so we recommend that you write down the major points of what you want to say, especially before an important meeting.

Although we've covered this point several times already, it bears repeating: our conscious minds can only retain a tiny bit of information, and for thirty seconds or less. Then it's booted out of working memory as a new set of information is uploaded. Our solution: honor the golden rule of consciousness and say only a sentence or two. Then pause and take a small deep breath, to relax. If the other person remains silent, say another sentence or two, and then pause again. This allows the other person to join in whenever they feel the need to respond or to ask for clarification. If you must speak for a longer period of time, forewarn the listener. This will encourage them to pay closer attention to you and to ignore their own intrusive inner speech.

Ideally, we suggest that you explain this rule of communication to your partner, and then invite them to experiment with you, each taking turns speaking a sentence or two for thirty seconds or less. If your partner agrees to this strategy, you'll find that you can accomplish an enormous amount in a short period of time, even if you don't use the other components of Compassionate Communication. This is the key strategy we teach to people who are involved in complex negotiations and conflict resolution, and it's especially effective when mediating volatile dialogues between opposing parties.

Step 12: Listen Deeply

To listen deeply and fully, you must train your mind to stay focused on the person who is speaking: their words, tone, gestures, facial cues—everything. It's a great gift to give to someone, since to be fully listened to and understood by others is the most commonly cited deep relationship or communication value.¹⁶⁵

When the other person pauses—and hopefully they'll have enough self-awareness not to ramble on and on—you'll need to respond specifically to what they just said. If you shift the conversation to what you were previously saying, or to a different topic, it will interrupt the neurological "coherence" between the two of you, and the flow of your dialogue will be broken.¹⁶⁶

When practicing Compassionate Communication, there's usually no need to interrupt. If the other person doesn't stop talking, they may be giving you an important clue. Perhaps their mind is preoccupied, or perhaps they are deeply caught up in their own feelings and thoughts. If this is the case, it's unlikely that they will be able to listen deeply to what you want to say.

But what if you have to convey something important, and your time is running out? Neurologically, this is a dilemma, because the listener will feel your interruption as an intrusion. There's no simple solution to this problem, which is why we encourage people to formally agree to speak briefly. If you must interrupt, you can apply the other strategies of Compassionate Communication. For example, you

can quickly interject an apology and a compliment, using a warm, slow voice as you maintain a gentle gaze: "I'm sorry to interrupt since I do value what you are saying. But unfortunately I have a meeting I have to attend, and I want to make sure I'm able to tell you what I need to convey." For most people, this form of imposition will be met with appreciation.

It's also important to realize that most people are unaware that they are hoarding the conversation. They get caught up in their inner dialogues, and they are often impatient to speak lest they forget something important. In fact, research shows that most of us begin to speak *before* the other person has finished talking. Even doctors, who are trained to listen carefully for important medical information, tend to interrupt patients within twenty-three seconds, long before the patient's concerns have been stated!¹⁶⁷

Our advice: if you are engaged in an important discussion, and it becomes clear that the conversation is taking too long, you can suggest to the other person that you both take turns speaking only a sentence or two. You'll be surprised at how quickly an entire business plan, a medical treatment, or even a social event can be laid out.

Bad Listening

According to Lisa J. Downs, former president of the American Society for Training and Development, bad listening behaviors include daydreaming (thinking about unrelated topics when someone is speaking), debating (having an inner argument about what is being said), judging (letting negative views influence you), problem solving (yearning to give unasked for advice), pseudolistening (pretending to be a good listener), rehearsing (planning what you want to say next), stage hogging (redirecting the conversation to suit your own goals), ambushing (gathering information to use against the other person), selective listening (only responding to the parts of the conversation that interest you), defensive listening (taking everything personally), and avoidant listening (blocking out what you don't want to hear).

If the other person keeps going on and on, and there's no need to interrupt, you can use this as an opportunity to study that person in detail. You can observe and at the same time watch how your own inner speech reacts. Allow yourself to flow with the words you hear and the facial expressions you see, and don't worry about what you may remember or forget. You'll actually be practicing a form of meditation that is neurologically enhancing and emotionally relaxing—a far cry from what we usually feel when we are bored by someone speaking.

The Power of Intuition

There you have it: twelve steps and strategies that can transform any conversation into a remarkable event by fostering trust, empathy, and cooperation through the process we call neural resonance. But it will take practice to change the familiar patterns of dialogue that you are used to.

Effective communication demands a conscious, concerted effort, lest we slip back into old behaviors. So we ask you to practice these strategies at every chance you get and to share them with your family, friends, and colleagues. Discuss the twelve steps and decide which ones make sense for you. If you want to change them, by all means do, and if you find a strategy you believe is essential, please let us know. Compassionate Communication is a process and an "open source" experiment that hundreds of people have contributed to, and we expect that the process will continue to evolve.

This brings us to our final piece of advice, drawn from many years of research into the nature of human consciousness and the hidden powers of the mind: trust your intuition, and do what feels right for

you.

Every person is unique, every interaction is unique, and every conversation is unique. Some strategies will work for some people at certain times, while other strategies will be called for with other people at other times. So we have to trust our intuition, which, from our perspective, contains a vast reservoir of insight that is rarely expressed in casual conversation.

Somewhere inside us—behind all the noise of everyday consciousness—there is a calm, observant self capable of making wise decisions. We can exercise this inner voice by practicing the twelve strategies of Compassionate Communication and following the advice of the inner wisdom of life.

APPENDIX:

Compassionate Communication Training: CDs, Mp3s, and Workshops

To aid you in the practice of Compassionate Communication, we have created a seventy-minute selfguided CD (and an mp3 downloadable file) to complement this book. It is designed to teach individuals, couples, and groups how to change their talking and listening behaviors in ways that facilitate mutual trust, empathy, and comprehension. In addition to the twenty-minute Compassionate Communication training module described in chapter 9, it will guide you through the inner values exercise described in chapter 7, a kindness and forgiveness meditation, and a series of stress-reduction and movement exercises designed to guide you into a deep state of relaxation.

In the first ten minutes of the training module, you'll be guided through the first six steps of Compassionate Communication, in which you engage in either an imaginary or real dialogue with another person. In the second ten minutes (designed to be played while you practice with a friend, colleague, family member, or in a group situation), a bell will ring every twenty-five seconds to remind you to slow down, stop speaking, and return to a relaxed state as you listen to the other person speak. The program also includes additional strategies for communicating effectively and resolving conflicts. This self-guided program can be used to train large groups of people in a business, church, or school setting.

A complementary program (available as a CD or mp3 download) is also available to help reduce stress and deepen your Compassionate Communication practice. It includes seven relaxation and mindfulness exercises that research has proven effective and that can be used by individuals or introduced to students in the public and private school systems. This stress reduction program is now part of the Executive MBA module that Mark teaches at Loyola Marymount University, Los Angeles.

To order with a credit card either of these programs in CD format, call Mark's office at (805) 987-7222. To order these programs as a downloadable mp3, go to www.MarkRobertWaldman.com, where you will find additional videos, programs, workbooks, and free materials relating to personal development, business coaching, and executive communication.

At the Mindful Living Foundation (www.MindfulLivingFoundation.org) you can view videos relating to neuroscience and listen to meditations and lectures created by leaders in the mindfulness community.

If you would like to have Mark speak at your group, contact him at MarkWaldman@sbcglobal.net and visit his website if you want to attend any of the workshops he offers throughout the year: www.MarkRobertWaldman.com.

Endnotes and References:

Chapter 1: A New Way to Converse

- ¹ Manning C, Lindsey W, Waldman M, Newberg A. Paper prepared for presentation at the 28th Annual Meeting of the American Real Estate Society. April 2012, St. Petersburg Beach, Florida.
- ² Levinson S. C. Presumptive Meanings. MIT Press, 2000.
- ³ Sperber D, Wilson D. *Relevance: Communication and Cognition*, 2nd Ed. Blackwell Publishers, 2001.
- ⁴ "Causal impact of employee work perceptions on the bottom line of organizations." Harter J. K., Schmidt F. L., Asphund J. W., Killham E. A., Agrawal S. *Perspectives on Psychological Science*. 2010; 5(4):378–89.
- ⁵ "Creative innovation: Possible brain mechanisms." Heilman K. M., Nadeau S. E., Beversdorf D. O. *Neurocase*. 2003 Oct; 9(5):369–79.
- ⁶ "Cognition without control: When a little frontal lobe goes a long way." Thompson-Schill S. L., Ramscar M, Chrysikou E. G. *Current Directions in Psychological Science*. 2009; 18(5):259–63.
- ⁷ "Neurocognitive mechanisms underlying the experience of flow." Dietrich A. Consciousness and Cognition. 2004 Dec; 13(4):746–61. See also: Csikszentmihalyi M. Flow: The Psychology of Optimal Experience. Harper, 1991.
- ⁸ "Neural and behavioral substrates of mood and mood regulation." Davidson R. J., Lewis D. A., Alloy L. B., Amaral D. G., Bush G, Cohen J. D., Drevets W. C., Farah M. J., Kagan J, McClelland J. L., Nolen-Hoeksema S, Peterson B. S. *Biological Psychiatry*. 2002 Sep 15; 52(6):478–502.
- ⁹ "How anger poisons decision making." Lerner J. S., Shonk K. *Harvard Business Review*. 2010 Sep; 88(9):26. ¹⁰ "Functional projection: How fundamental social motives can bias interpersonal perception." Maner J. K.,
- Kenrick D. T., Becker D. V., Robertson T.E., Hofer B, Neuberg S. L., Delton A. W., Butner J, Schaller M. *Journal of Personality and Social Psychology*. 2005 Jan; 88(1):63–78.

¹¹ "Portrait of the angry decision maker: How appraisal tendencies shape anger's influence on cognition." Lerner J. S., Tiedens L. Z. Journal of Behavioral Decision Making. 2006; 19: 115–37.

- ¹² Fredrickson B. *Positivity*. Three Rivers Press, 2009.
- ¹³ "Positive affect and the complex dynamics of human flourishing." Fredrickson B. L., Losada M. F. American Psychologist. 2005 Oct; 60(7):678–86.
- ¹⁴ "Is there a universal positivity bias in attributions? A meta-analytic review of individual, developmental, and cultural differences in the self-serving attributional bias." Mezulis A. H., Abramson L. Y., Hyde J. S., Hankin B. L. *Psychological Bulletin.* 2004 Sep; 130(5):711–47.
- ¹⁵ "Anterior cingulate activation is related to a positivity bias and emotional stability in successful aging." Brassen S, Gamer M, Büchel C. *Biological Psychiatry*. 2011 Jul 15; 70(2):131–37.

Chapter 2: The Power of Words

- ¹⁶ "Some assessments of the amygdala role in suprahypothalamic neuroendocrine regulation: A minireview." Talarovicova A, Krskova L, Kiss A. *Endocrine Regulations*. 2007 Nov; 41(4):155–62.
- ¹⁷ "Happiness and time perspective as potential mediators of quality of life and depression in adolescent cancer." Bitsko M. J., Stern M, Dillon R, Russell E. C., Laver J. *Pediatric Blood and Cancer*. 2008 Mar; 50(3):613–19.
- ¹⁸ "The role of repetitive negative thoughts in the vulnerability for emotional problems in non-clinical children." Broeren S, Muris P, Bouwmeester S, van der Heijden K. B., Abee A. *Journal of Child and Family Studies*. 2011 Apr; 20(2):135–48.
- ¹⁹ "Protocol for a randomised controlled trial of a school based cognitive behaviour therapy (CBT) intervention to prevent depression in high risk adolescents (PROMISE)." Stallard P, Montgomery A. A., Araya R, Anderson R, Lewis G, Sayal K, Buck R, Millings A, Taylor J. A. *Trials*. 2010 Nov 29; 11:114.
- ²⁰ "What is in a word? No versus yes differentially engage the lateral orbitofrontal cortex." Alia-Klein N, Goldstein R. Z., Tomasi D, Zhang L, Fagin-Jones S, Telang F, Wang G. J., Fowler J. S., Volkow N. D. *Emotion*. 2007 Aug; 7(3):649–59.
- ²¹ "Neural mechanisms of grief regulation." Freed P. J., Yanagihara T. K., Hirsch J, Mann J. J. *Biological Psychiatry*. 2009 Jul 1; 66(1):33–40. Epub 2009 Feb 27.
- ²² Wright, R. *The Moral Animal: Why We Are, the Way We Are: The New Science of Evolutionary Psychology.* Vintage, 1995.

48 Words Can Change Your Brain

- ²³ "Erasing fear memories with extinction training." Quirk G. J., Paré D, Richardson R, Herry C, Monfils M. H., Schiller D, Vicentic A. *Journal of Neuroscience*. 2010 Nov 10; 30(45):14993–97.
- ²⁴ "Generalized hypervigilance in fibromyalgia patients: An experimental analysis with the emotional Stroop paradigm." González J. L., Mercado F, Barjola P, Carretero I, López-López A, Bullones M. A., Fernández-Sánchez M, Alonso M. *Journal of Psychosomatic Research*. 2010 Sep; 69(3):279–87.
- ²⁵ "Negative and positive suggestions in anaesthesia : Improved communication with anxious surgical patients." Hansen E, Bejenke C. *Anaesthesist*. 2010 Mar; 59(3):199–202, 204–6, 208–9.
- ²⁶ "In search of the emotional self: An fMRI study using positive and negative emotional words." Fossati P, Hevenor S. J., Graham S. J., Grady C, Keightley M. L., Craik F, Mayberg H. *American Journal of Psychiatry*. 2003 Nov; 160(11):1938–45.
- ²⁷ "Genomic counter-stress changes induced by the relaxation response." Dusek J. A., Otu H. H., Wohlhueter A. L., Bhasin M, Zerbini L. F., Joseph M. G., Benson H, Libermann T. A. *PLoS One*. 2008 Jul 2; 3(7):e2576.
- ²⁸ "Neural correlates of abstract verb processing." Rodríguez-Ferreiro J, Gennari S .P., Davies R, Cuetos F. *Journal* of Cognitve Neuroscience. 2011 Jan; 23(1):106–18.
- ²⁹ "Modulation of the semantic system by word imageability." Sabsevitz D. S., Medler D. A., Seidenberg M, Binder J. R. *NeuroImage*. 2005 Aug 1; 27(1):188–200.
- ³⁰ "Neural evidence for faster and further automatic spreading activation in schizophrenic thought disorder." Kreher D. A., Holcomb P. J., Goff D, Kuperberg G. R. *Schizophrenia Bulletin*. 2008 May; 34(3):473–82.
- ³¹ "Neural correlates of long-term intense romantic love." Acevedo B. P., Aron A, Fisher H. E., Brown L. L. Social *Cognitive and Affective Neuroscience*. 2011 Jan 5.
- ³² "May I have your attention, please: Electrocortical responses to positive and negative stimuli." Smith N. K., Cacioppo J. T., Larsen J. T., Chartrand T. L. *Neuropsychologia*. 2003; 41(2):171–83.
- ³³ "On the incremental validity of irrational beliefs to predict subjective well-being while controlling for personality factors." Spörrle M, Strobel M, Tumasjan A. *Psicothema*. 2010 Nov; 22(4):543–48.
- ³⁴ "The value of positive psychology for health psychology: Progress and pitfalls in examining the relation of positive phenomena to health." Aspinwall L. G., Tedeschi R. G. Annals of Behavioral Medicine. 2010 Feb; 39(1):4–15. "Positive psychology in clinical practice." Lee Duckworth A, Steen T. A., Seligman M. E. Annual Review of Clinical Psychology. 2005; 1:629–51.
- ³⁵ "Positive psychology progress: empirical validation of interventions." Seligman M. E., Steen T. A., Park N, Peterson C. American Psychologist. 2005 Jul–Aug; 60(5):410–21.
- ³⁶ "What is in a word? No versus yes differentially engage the lateral orbitofrontal cortex. "Alia-Klein N, Goldstein R. Z., Tomasi D, Zhang L, Fagin-Jones S, Telang F, Wang G. J., Fowler J. S., Volkow N. D. *Emotion*. 2007 Aug; 7(3):649–59.
- ³⁷ "Happiness unpacked: Positive emotions increase life-satisfaction by building resilience." Cohn M. A., Fredrickson B. L., Brown S. L., Mikels J. A., Conway A. M. *Emotion*. 2009 Jun; 9(3):361–68.
- ³⁸ "Detecting deceptive discussions in conference calls." Larcker D, Zakolyukina, A. Stanford Graduate School of Business Working Paper 2060: July 29, 2010.
- ³⁹ "Affective habituation: Subliminal exposure to extreme stimuli decreases their extremity." Dijksterhuis A, Smith P. K. *Emotion*. 2002 Sep; 2(3):203–14.
- ⁴⁰ "Genomic counter-stress changes induced by the relaxation response." Dusek J. A., Otu H. H., Wohlhueter A. L., Bhasin M, Zerbini L. F., Joseph M. G., Benson H, Libermann T. A. *PLoS One*. 2008 Jul 2; 3(7):e2576.
- ⁴¹ "Increased BDNF promoter methylation in the Wernicke area of suicide subjects." Keller S, Sarchiapone M, Zarrilli F, Videtic A, Ferraro A, Carli V, Sacchetti S, Lembo F, Angiolillo A, Jovanovic N, Pisanti F, Tomaiuolo R, Monticelli A, Balazic J, Roy A, Marusic A, Cocozza S, Fusco A, Bruni C. B., Castaldo G, Chiariotti L. *Archives of General Psychiatry*. 2010 Mar; 67(3):258–67.
- ⁴² "The effects of subliminal symbiotic stimulation on free-response and self-report mood." Weinberger J, Kelner S, McClelland D. *Journal of Nervous and Mental Diseases*. 1997 Oct; 185(10):599–605.
- ⁴³ "Evaluative priming from subliminal emotional words: Insights from event-related potentials and individual differences related to anxiety." Gibbons H. *Consciousness and Cognition*. 2009 Jun; 18(2):383–400.
- ⁴⁴ "Murder, she wrote: Enhanced sensitivity to negative word valence." Nasrallah M, Carmel D, Lavie N. *Emotion*. 2009 Oct; 9(5):609–18.
- ⁴⁵ "Evidence of subliminally primed motivational orientations: The effects of unconscious motivational processes on the performance of a new motor task." Radel R, Sarrazin P, Pelletier L. *Journal of Sport and Exercise*

Psychology. 2009 Oct; 31(5):657-74.

- ⁴⁶ "When sex primes love: Subliminal sexual priming motivates relationship goal pursuit." Gillath O, Mikulincer M, Birnbaum G. E., Shaver P. R. *Personality and Social Psychology Bulletin*. 2008 Aug; 34(8):1057–69.
- ⁴⁷ "The neural basis of love as a subliminal prime: An event-related functional magnetic resonance imaging study." Ortigue S, Bianchi-Demicheli F, Hamilton A. F., Grafton S. T. *Journal of Cognitive Neuroscience*. 2007 Jul; 19(7):1218–30.
- ⁴⁸ "Predicting persuasion-induced behavior change from the brain." Falk E. B., Berkman E. T., Mann T, Harrison B, Lieberman M. D. *Journal of Neuroscience*. 2010 Jun 23; 30(25):8421–24.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3027351/?tool=pubmed.

- ⁴⁹ "Neural activity during health messaging predicts reductions in smoking above and beyond self-report." Falk
 E. B., Berkman E. T., Whalen D, Lieberman M. D. *Health Psychology*. 2011 Jan 24.
- ⁵⁰ "Grasping language—A short story on embodiment." Jirak D, Menz M. M., Buccino G, Borghi A. M., Binkofski F. *Consciousness and Cognition*. 2010 Sep; 19(3):711–20.
- ⁵¹ "Characterization of fear memory reconsolidation." Duvarci S, Nader K. *Journal of Neuroscience*. 2004 Oct 20; 24(42):9269–75.
- ⁵² "A prospective study of cognitive emotion regulation strategies and depressive symptoms in patients with essential hypertension." Xiao J, Yao S, Zhu X, Abela JR, Chen X, Duan S, Zhao S. *Clinical and Experimental Hypertension*. 2010 Dec 19.
- ⁵³ "Ethical principles and economic transformation—A Buddhist approach." Zsolnai L. *Issues in Business Ethics*. 2011; 33, part 4.
- ⁵⁴ "Gross national happiness." Tideman S. G. Issues in Business Ethics. 2011; 33, part 3.
- ⁵⁵ "Neuroeconomics and business psychology." Larsen T. China USA Business Revue. 2010 Aug; Vol 9.
- ⁵⁶ "Prediction of all-cause mortality by the Minnesota Multiphasic Personality Inventory Optimism-Pessimism Scale scores: Study of a college sample during a 40-year follow-up period." Brummett B. H., Helms M. J., Dahlstrom W. G., Siegler I. C. *Mayo Clinic Proceedings*. 2006 Dec; 81(12):1541–44.

The Language of Cooperation and Inner Values

- ⁵⁷ "Rules of social exchange: Game theory, individual differences and psychopathology." Wischniewski J, Windmann S, Juckel G, Brüne M. *Neuroscience and Biobehavioral Reviews*. 2009 Mar; 33(3):305–13.
- ⁵⁸ "Long-term social bonds promote cooperation in the iterated prisoner's dilemma." St-Pierre A, Larose K, Dubois F. *Proceedings of the Royal Society of London: Series B, Biological Sciences*. 2009 Dec 7; 276(1676):4223–28.
- ⁵⁹ "Cooperation within and among species." Sachs J. L. Journal of Evolutionary Biology. 2006 Sep; 19(5):1415-8; discussion 1426–36.
- ⁶⁰ "From quorum to cooperation: Lessons from bacterial sociality for evolutionary theory." Lyon P. Studies in History and Philosophy of Biological and Biomedical Sciences. 2007 Dec; 38(4):820–33.
- ⁶¹ "Behavioural and community ecology of plants that cry for help." Dicke M. *Plant, Cell, and Environment*. 2009 Jun; 32(6):654–65.
- ⁶² "The evolutionary context for herbivore-induced plant volatiles: Beyond the 'cry for help." Dicke M, Baldwin I. T. *Trends in Plant Science*. 2010 Mar; 15(3):167–75. Epub 2010 Jan 4.
- ⁶³ "Recent advances and emerging trends in plant hormone signalling." Santner A, Estelle M. *Nature*. 2009 Jun 25; 459(7250):1071–78.
- ⁶⁴ "New evidence for a multi-functional role of herbivore-induced plant volatiles in defense against herbivores." Rodriguez-Saona C. R., Frost C. J. *Plant Signaling and Behavior*. 2010 Jan; 5(1):58–60.
- ⁶⁵ "Playing charades in the fMRI: Are mirror and/or mentalizing areas involved in gestural communication?" Schippers M. B., Gazzola V, Goebel R, Keysers C. *PLoS One*. 2009 Aug 27; 4(8):e6801.
- ⁶⁶ "Cooperation of different neuronal systems during hand sign recognition." Nakamura A, Maess B, Knösche T. R., Gunter T. C., Bach P, Friederici A. D. *NeuroImage*. 2004 Sep; 23(1):25–34.
- ⁶⁷ "When your errors make me lose or win: Event-related potentials to observed errors of cooperators and competitors." Koban L, Pourtois G, Vocat R, Vuilleumier P. *Society for Neuroscience*. 2010; 5(4):360–74.
- ⁶⁸ "Mirror neuron system involvement in empathy: A critical look at the evidence." Baird A. D., Scheffer I. E., Wilson S. J. Society for Neuroscience. 2011 Jan 10:1–9.
- ⁶⁹ "Sociophysiology: Basic processes of empathy." Haker H, Schimansky J, Rössler W. Neuropsychiatry. 2010;

24(3):151-60.

- ⁷⁰ "Neural activity predicts attitude change in cognitive dissonance." van Veen V, Krug M. K., Schooler J. W., Carter C. S. *Nature Neuroscience*. 2009 Nov; 12(11):1469–74.
- ⁷¹ "The neural basis of rationalization: Cognitive dissonance reduction during decision-making." Jarcho J. M., Berkman E. T., Lieberman M. D. *Social Cognitive and Affective Neuroscience*. 2011 Sep; 6(4):460–67.
- ⁷² "Speaker-listener neural coupling underlies successful communication." Stephens G. J., Silbert L. J., Hasson U. Proceedings of the National Academy of Sciences of the United States of America. 2010 Aug 10; 107(32):14425–30.
- ⁷³ "Effects of language intensity similarity on perceptions of credibility, relational attributions, and persuasion." Aune R. K., Kikuchi T. *Journal of Language and Social Psychology* 1993 12: 224.
- ⁷⁴ "Language style matching predicts relationship initiation and stability." Ireland M. E., Slatcher R. B., Eastwick P. W., Scissors L. E., Finkel E. J., Pennebaker J. W. *Psychological Science*. 2011 Jan 1; 22(1):39–44.
- ⁷⁵ "Human mimicry." Chartrand T. L., van Baaren R. Advances in Experimental Social Psychology 2009 41: 219– 74.
- ⁷⁶ "Where is the love? The social aspects of mimicry." van Baaren R, Janssen L, Chartrand T. L., Dijksterhuis A. *Philosophical Transactions of the Royal Society of London: Section B, Biological Sciences*. 2009 Aug 27; 364(1528):2381–89.
- ⁷⁷ "Using nonconscious behavioral mimicry to create affiliation and rapport." Lakin J. L., Chartrand T. L. *Psychological Science*. 2003 Jul; 14(4):334–39.
- ⁷⁸ "Mimicry for money: Behavioral consequences of imitation." van Baaren R. B., Holland R. W., Steenaert B, van Knippenberg A. *Journal of Experimental Social Psychology*. 2003 39: 393–98.
- ⁷⁹ "Linguistic style matching and negotiation outcome." Taylor P. J., Thomas S. Negotiation and Conflict Management Research 2008 1: 263–81.
- ⁸⁰ "The power of simulation: Imagining one's own and other's behavior." Decety J, Grèzes J. Brain Research. 2006 Mar 24; 1079(1):4–14.
- ⁸¹ "Impact of interactivity on identification with characters in fiction." Soto-Sanfiel M. T., Aymerich-Franch L, Ribes Guàrdia F. X. *Psicothema*. 2010 Nov; 22(4):822–27.
- ⁸² "The neural substrates of cognitive empathy." Preston S. D., Bechara A, Damasio H, Grabowski T. J., Stansfield R. B., Mehta S, Damasio A. R. Society for Neuroscience. 2007; 2(3–4):254–75.
- ⁸³ "Social neuroscience: Mirror neurons recorded in humans." Keysers C, Gazzola V. Current Biology 27 2010; Apr 8 (8): 353–54.
- ⁸⁴ "The effect of empathy on accuracy of behavior prediction in social exchange situation." Tanida S, Yamagishi T. *Shinrigaku Kenkyu*. 2004 Feb; 74(6):512–20.
- ⁸⁵ "Psychophysiology of neural, cognitive and affective integration: fMRI and autonomic indicants." Critchley H. D. *International Journal of Psychophysiology*. 2009 Aug; 73(2):88–94.
- ⁸⁶ "Evolved altruism, strong reciprocity, and perception of risk." Tucker W. T., Ferson S. *Annals of the New York Academy of Sciences*. 2008 Apr; 1128:111–20.
- ⁸⁷ "Evolution of cooperation and altruistic punishment when retaliation is possible." Janssen M. A., Bushman C. *Journal of Theoretical Biology*. 2008 Oct 7; 254(3):541–45.
- ⁸⁸ "Am 'I' more important than 'we'? Couples' word use in instant messages." Slatcher R. B., Vazire S, Pennebaker J. W. *Personal Relationships* 2008 15: 407–24.
- ⁸⁹ "Loving-kindness meditation increases social connectedness." Hutcherson C. A., Seppala E. M., Gross J. J. *Emotion.* 2008 Oct; 8(5):720–4. "Social neuroscience, empathy, brain integration, and neurodevelopmental disorders." Harris J. C. Physiology and Behavior. 2003 Aug; 79(3):525–31.
- ⁹⁰ "Winners don't punish." Dreber A, Rand D. G., Fudenberg D, Nowak M. A. *Nature*. 2008 Mar 20; 452(7185):348–51.
- ⁹¹ "Skills development for conflict transformation: A training manual on understanding conflict, negotiation and mediation." United Nations Conflict Management Project.
- http://unpan1.un.org/intradoc/groups/public/documents/un/unpan001363.pdf.
- ⁹² "Partner choice creates competitive altruism in humans." Barclay P, Willer R. Proceedings of the Royal Society of London: Series B, Biological Sciences. 2007 Mar 7; 274(1610):749–53.
- ⁹³ "Affirmation of personal values buffers neuroendocrine and psychological stress responses." Creswell J. D., Welch W. T., Taylor S. E., Sherman D. K., Gruenewald T. L., Mann T. *Psychological Science*. 2005 Nov;

16(11):846-51.

- ⁹⁴ "Do messages about health risks threaten the self? Increasing the acceptance of threatening health messages via self-affirmation." Sherman D. K., Nelson L. D., Steele C. M. *Personality and Social Psychology Bulletin*. 2000 26: 1046–58. "The cessation of rumination through self-affirmation." Koole S. L., Smeets, K, van Knippenberg A, Dijksterhuis A. *Journal of Personality and Social Psychology*. 1999 77: 111–25.
- ⁹⁵ "Personal values and pain tolerance: Does a values intervention add to acceptance?" Branstetter-Rost A, Cushing C, Douleh T. *Journal of Pain*. 2009 Aug; 10(8):887–92.
- ⁹⁶ "Getting value from value." Kanter R. M. Harvard Business Review (blog). 2010 Jun 14.

97 Ibid.

- ⁹⁸ "Food choice motives and bread liking of consumers embracing hedonistic and traditional values." Pohjanheimo T, Paasovaara R, Luomala H, Sandell M. *Appetite*. 2010 Feb; 54(1):170–80.
- ⁹⁹ "Absolute versus relative values: Effects on medical decisions and personality of patients and physicians." Neumann J. K., Olive K. E., McVeigh S. D. Southern Medical Journal. 1999 Sep; 92(9):871–76.
- ¹⁰⁰ "Genetic and environmental influences on girls' and boys' gender-typed and gender-neutral values." Knafo A, Spinath F. M. Developmental Psychology. 2011 May; 47(3):726–31. "Phenotypic, genetic, and environmental properties of the portrait values questionnaire." Schermer J. A., Feather N. T., Zhu G, Martin N. G. *Twin Research and Human Genetics*. 2008 Oct; 11(5):531–37.
- ¹⁰¹ "The significance of task significance: Job performance effects, relational mechanisms, and boundary conditions." Grant A. M. *Journal of Applied Psychology*. 2008 Jan; 93(1):108–24. "Personal values as a mediator between parent and peer expectations and adolescent behaviors." Padilla-Walker L. M., Carlo G. *Journal of Family Psychology*. 2007 Sep; 21(3):538–41. "Social orientation: Problem behavior and motivations toward interpersonal problem solving among high risk adolescents." Kuperminc G. P., Allen J. P. *Journal of Youth and Adolescence*. 2001 Oct; 30(5):597–622.
- ¹⁰² "Neural basis of individualistic and collectivistic views of self." Chiao J. Y., Harada T, Komeda H, Li Z, Mano Y, Saito D, Parrish T. B., Sadato N, Iidaka T. *Human Brain Mapping*. 2009 Sep; 30(9):2813–20.
- ¹⁰³ "Cultural influences on neural substrates of attentional control." Hedden T, Ketay S, Aron A, Markus H. R., Gabrieli J. D. *Psychological Science*. 2008 Jan; 19(1):12–17.
- ¹⁰⁴ "High income improves evaluation of life but not emotional well-being." Kahneman D, Deaton A. *Proceedings* of the National Academy of Sciences of the United States of America. 2010 Sep 21; 107(38):16489–93.
- ¹⁰⁵ "Wealth and happiness across the world: Material prosperity predicts life evaluation, whereas psychosocial prosperity predicts positive feeling." Diener E, Ng W, Harter J, Arora R. *Journal of Personality and Social Psychology*. 2010 Jul; 99(1):52–61.
- ¹⁰⁶ "Money giveth, money taketh away: The dual effect of wealth on happiness." Quoidbach J, Dunn E. W., Petrides K. V., Mikolajczak M. *Psychological Science*. 2010 Jun; 21(6):759–63.
- ¹⁰⁷ "Near death experiences, cognitive function and psychological outcomes of surviving cardiac arrest." Parnia S, Spearpoint K, Fenwick P. B. *Resuscitation*. 2007 Aug; 74(2):215–21.
- ¹⁰⁸ "Greed, death, and values: From terror management to transcendence management theory." Cozzolino P. J., Staples A. D., Meyers L. S., Samboceti J. *Personality and Social Psychology Bulletin*. 2004 Mar; 30(3):278–92.
- ¹⁰⁹ "Nurses' professional and personal values." Rassin M. Nursing Ethics. 2008 Sep; 15(5):614–30.
- ¹¹⁰ "Burnout and nurses' personal and professional values." Altun I. Nursing Ethics. 2002 May; 9(3):269–78.
- ¹¹¹ "Demands, values, and burnout: Relevance for physicians." Leiter M. P., Frank E, Matheson T. J. *Canadian Family Physician*. 2009 Dec; 55(12):1224–25, 1225.e1–6.
- ¹¹² "Nursing values and a changing nurse workforce: Values, age, and job stages." McNeese-Smith D. K., Crook M. Journal of Nursing Administration. 2003 May; 33(5):260–70.
- ¹¹³ "The power of values." Levin R. P. Journal of the American Dental Association. 2003 Nov; 134(11):1520–21.
- ¹¹⁴ "Spirituality in higher education: A national study of college students' search for meaning and purpose." http://www.spirituality.ucla.edu.

Chapter 8: Twelve Steps to Intimacy, Cooperation, and Trust

- ¹¹⁵ "Stress overload: A new diagnosis." Lunney M. *International Journal of Nursing Terminologies and Classifications*. 2006 Oct–Dec; 17(4):165–75.
- ¹¹⁶ "Short-term meditation training improves attention and self-regulation." Tang Y. Y., Ma Y, Wang J, Fan Y, Feng

S, Lu Q, Yu Q, Sui D, Rothbart M. K., Fan M, Posner M. I. *Proceedings of the National Academy of Sciences of the United States of America*. 2007 Oct 23; 104(43):17152–56.

- ¹¹⁷ "An investigation of brain processes supporting meditation." Baerentsen K. B., Stødkilde-Jørgensen H, Sommerlund B, Hartmann T, Damsgaard-Madsen J, Fosnaes M, Green A. C. *Cognitive Processing*. 2010 Feb; 11(1):57–84.
- ¹¹⁸ "Exploring co-meditation as a means of reducing anxiety and facilitating relaxation in a nursing school setting." Malinski V. M., Todaro-Franceschi V. *Journal of Holistic Nursing*. 2011 Feb 28.
- ¹¹⁹ Tolle E. *Gateways to Now*. Simon and Schuster Audio, 2003.
- ¹²⁰ "Object-based attention: Shifting or uncertainty?" Drummond L, Shomstein S. Attention, Perception, and Psychophysics. 2010 Oct; 72(7):1743–55.
- ¹²¹ "'Thinking about not-thinking': Neural correlates of conceptual processing during Zen meditation." Pagnoni G, Cekic M, Guo Y. *PLoS One*. 2008 Sep 3; 3(9):e3083.
- ¹²² "Age effects on gray matter volume and attentional performance in Zen meditation." Pagnoni G, Cekic M. *Neurobiology of Aging*. 2007 Oct; 28(10):1623–27.
- ¹²³ Fredrickson B. Positivity. Three Rivers Press, 2009.
- ¹²⁴ "The role of positivity and connectivity in the performance of business teams: A nonlinear dynamics model." Losada M, Heaphy E. *American Behavioral Scientist*. 2004; 47 (6):740–65.
- ¹²⁵ Gottman J. What Predicts Divorce?: The Relationship Between Marital Processes and Marital Outcomes. Psychology Press, 1993.
- ¹²⁶ "Optimal and normal affect balance in psychotherapy of major depression: Evaluation of the balanced states of mind model." Schwartz R. M., Reynolds C. F., Thase M. E., Frank E, Fasiczka A. L., Haaga D. A. F. *Behavioral and Cognitive Psychotherapy*. 2002 Oct; 30(4):439–50.
- ¹²⁷ "Patient-provider communication and low-income adults: Age, race, literacy, and optimism predict communication satisfaction." Jensen J. D., King A. J., Guntzviller L. M., Davis L. A. *Patient and Educational Counseling*. 2010 Apr; 79(1):30–35.
- ¹²⁸ "Seeing future success: Does imagery perspective influence achievement motivation?" Vasquez N. A., Buehler R. *Personality and Social Psychology Bulletin*. 2007 Oct; 33(10):1392–405.
- ¹²⁹ "Mental imagery and emotion in treatment across disorders: Using the example of depression." Holmes E. A., Lang T. J., Deeprose C. *Cognitive Behaviour Therapy*. 2009 Aug; 20:1.
- ¹³⁰ "Positive interpretation training: Effects of mental imagery versus verbal training on positive mood." Holmes E
 A., Mathews A, Dalgleish T, Mackintosh B. *Behavior Therapy*. 2006 Sep; 37(3):237–47.
- ¹³¹ "Mental imagery as an emotional amplifier: Application to bipolar disorder." Holmes E. A., Geddes J. R., Colom F, Goodwin G. M. *Behaviour Research and Therapy*. 2008 Dec; 46(12):1251–58.
- ¹³² "Giving off a rosy glow: The manipulation of an optimistic orientation." Fosnaugh J, Geers A. L., Wellman J. A. *Journal of Social Psychology*. 2009 Jun; 149(3):349–64.
- ¹³³ "Treatment of childhood memories: Theory and practice." Arntz A, Weertman A. Behaviour Research and Therapy. 1999 Aug; 37(8):715–40.
- ¹³⁴ Seligman M. Learned Optimism. Free Press, 1997.
- ¹³⁵ "Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis." Sin N. L., Lyubomirsky S. *Journal of Clinical Psychology*. 2009 May; 65(5):467–87.
- ¹³⁶ "Deviance among young Italians: Investigating the predictive strength of value systems." Froggio G, Lori M. *International Journal of Offender Therapy and Comparative Criminology*. 2010 Aug; 54(4):581–96.
- ¹³⁷ "Facial expressions, their communicatory functions and neuro-cognitive substrates." Blair R. J. Philosophical Transactions of the Royal Society of London: Series B, Biological Sciences. 2003 Mar 29; 358(1431):561–72.
- ¹³⁸ "The facial expression says more than words: Is emotional 'contagion' via facial expression the first step toward empathy?" Sonnby-Borgström M. *Lakartidningen*. 2002 Mar 27; 99(13):1438–42.
- ¹³⁹ "Effectiveness of training in negative thought reduction and positive thought increment in reducing thoughtproduced distress." Dua J, Price I. *Journal of Genetic Psychology*. 1993 Mar;154(1):97–109.
- ¹⁴⁰ Nöth W. Handbook of Semiotics. Indiana University Press, 1990.
- ¹⁴¹ "The lived experience of contentment: A study using the Parse research method." Parse R. R. *Nursing Science Quarterly*. 2001 Oct; 14(4):330–38.
- ¹⁴² "The eye contact effect: Mechanisms and development." Senju A, Johnson M. H. *Trends in Cognitive Sciences*. 2009 Mar; 13(3):127–34.

- ¹⁴³ "Oxytocin enhances amygdala-dependent, socially reinforced learning and emotional empathy in humans." Hurlemann R, Patin A, Onur O. A., Cohen M. X., Baumgartner T, Metzler S, Dziobek I, Gallinat J, Wagner M, Maier W, Kendrick K. M. *Journal of Neuroscience*. 2010 Apr 7; 30(14):4999–5007. "Intranasal oxytocin increases positive communication and reduces cortisol levels during couple conflict." Ditzen B, Schaer M, Gabriel B, Bodenmann G, Ehlert U, Heinrichs M. *Biological Psychiatry*. 2009 May 1; 65(9):728–31.
- ¹⁴⁴ "Become versed in reading faces." Ekman P. Entrepreneur, March 26, 2009.
- ¹⁴⁵ "Self-objectification and compliment type: Effects on negative mood." Fea C. J., Brannon L. A. *Body Image*. 2006 Jun; 3(2):183–88.
- ¹⁴⁶ http://www.mayoclinic.com/health/how-to-be-happy/MY01357.
- ¹⁴⁷ "'I've heard wonderful things about you': How patients compliment surgeons." Hudak P. L., Gill V. T., Aguinaldo J. P., Clark S, Frankel R. Sociology of Health and Illness. 2010 Jul; 32(5):777–97.
- ¹⁴⁸ "Facial and vocal expressions of emotion." Russell J. A., Bachorowski J. A., Fernandez-Dols J. M. Annual Review of Psychology. 2003; 54:329–49.
- ¹⁴⁹ "Worth a thousand words': Absolute and relative decoding of nonlinguistic affect vocalizations." Hawk S. T., van Kleef G. A., Fischer A. H., van der Schalk J. *Emotion*. 2009 Jun; 9(3):293–305.
- ¹⁵⁰ "Perceptual cues in nonverbal vocal expressions of emotion." Sauter D. A., Eisner F, Calder A. J., Scott S. K. *Quarterly Journal of Experimental Psychology* (Colchester). 2010 Nov; 63(11):2251–72.
- ¹⁵¹ "Mapping emotions into acoustic space: The role of voice production." Patel S, Scherer K. R., Björkner E, Sundberg J. *Biological Psychiatry*. 2011 Apr; 87(1):93–98.
- ¹⁵² "Voice analysis during bad news discussion in oncology: Reduced pitch, decreased speaking rate, and nonverbal communication of empathy." McHenry M, Parker P. A., Baile W. F., Lenzi R. Supportive Care in Cancer. 2011 May 15.
- ¹⁵³ "Components of placebo effect: Randomised controlled trial in patients with irritable bowel syndrome." Kaptchuk T. J., Kelley J. M., Conboy L. A., Davis R. B., Kerr C. E., Jacobson E. E., Kirsch I, Schyner R. N., Nam B. H., Nguyen L. T., Park M, Rivers A. L., McManus C, Kokkotou E, Drossman D. A., Goldman P, Lembo A. J. *British Medical Journal*. 2008 May 3; 336(7651):999–1003.
- ¹⁵⁴ "Leadership = communication? The relations of leaders' communication styles with leadership styles, knowledge sharing and leadership outcomes." de Vries RE, Bakker-Pieper A, Oostenveld W. *Journal of Business Psychology*. 2010 Sep; 25(3):367–80.
- ¹⁵⁵ "'It's not what you say, but how you say it': A reciprocal temporo-frontal network for affective prosody." Leitman D. I., Wolf D. H., Ragland J. D., Laukka P, Loughead J, Valdez J. N., Javitt D. C., Turetsky B. I., Gur R. C. Frontiers in Human Neuroscience. 2010 Feb 26; 4:19.
- ¹⁵⁶ "Use of affective prosody by young and older adults." Dupuis K, Pichora-Fuller M. K. *Psychology and Aging*. 2010 Mar; 25(1):16–29.
- ¹⁵⁷ "Responses of single neurons in monkey amygdala to facial and vocal emotions." Kuraoka K, Nakamura K. *Journal of Neurophysiology*. 2007 Feb; 97(2):1379–87.
- ¹⁵⁸ "Comprehension of speeded discourse by younger and older listeners." Gordon M .S., Daneman M, Schneider B. A. *Experimental Aging Research*. 2009 Jul–Sep; 35(3):277–96.
- ¹⁵⁹ "Celerity and cajolery: Rapid speech may promote or inhibit persuasion through its impact on message elaboration." Smith S. M., Shaffer, D. R. *Personality and Social Psychology Bulletin*. 1991 Dec; 17(6):663–69.
- ¹⁶⁰ "The effect of rate control on speech rate and intelligibility of dysarthric speech." van Nuffelen G, De Bodt M, Wuyts F, van de Heyning P. *Folia Phoniatrica et Logopaedica*. 2009; 61(2):69–75. "Influences of rate, length, and complexity on speech disfluency in a single-speech sample in preschool children who stutter." Sawyer J, Chon H, Ambrose N. G. *Journal of Fluency Disorders*. 2008 Sep; 33(3):220–40.
- ¹⁶¹ "The influence of speech rate stereotypes and rate similarity or listeners' evaluations of speakers." Street R. L., Brady R. M., Putman W. B. *Journal of Language and Social Psychology*. 1983 Mar; (2): 37–56.
- ¹⁶² "Are fast talkers more persuasive?" Dean J. *Psyblog*: http://www.spring.org.uk/2010/11/are-fast-talkers-more-persuasive.php.
- ¹⁶³ "Influence of mothers' slower speech on their children's speech rate." Guitar B, Marchinkoski L. *Journal of Speech, Language, and Hearing Research.* 2001 Aug; 44(4):853–61.
- ¹⁶⁴ "Voices of fear and anxiety and sadness and depression: The effects of speech rate and loudness on fear and anxiety and sadness and depression." Siegman A. W., Boyle S. *Journal of Abnormal Psychology*. 1993 Aug;

102(3):430-37.

[&]quot;The angry voice: Its effects on the experience of anger and cardiovascular reactivity." Siegman A. W., Anderson R. A., Berger T. *Psychosomatic Medicine*. 1990 Nov–Dec; 52(6):631–43.

 ¹⁶⁵ "Feeling listened to: A lived experience of human becoming." Kagan P. N. *Nursing Science Quarterly* January 2008 21: 59–67. Feeling understood: a melody of human becoming. Jonas-Simpson CM. *Nursing Science Quarterly*. 2001 Jul; 14(3):222–30.

¹⁶⁶ "What is the relationship between phonological short-term memory and speech processing?" Jacquemot C, Scott S. K. *Trends in Cognitive Sciences*. 2006 Nov; 10(11):480–86.

¹⁶⁷ "Soliciting the patient's agenda: have we improved?" Marvel M. K., Epstein R. M., Flowers K, Beckman H. B. *Journal of the American Medical Association*. 1999 Jan 20; 281(3):283–87.