



ROBERT GREENE

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INTRODUCTION

THE ULTIMATE POWER

Everyone holds his fortune in his own hands, like a sculptor the raw material he will fashion into a figure. But it's the same with that type of artistic activity as with all others: We are merely born with the capability to do it. The skill to mold the material into what we want must be learned and attentively cultivated.

—JOHANN WOLFGANG VON GOETHE

There exists a form of power and intelligence that represents the high point of human potential. It is the source of the greatest achievements and discoveries in history. It is an intelligence that is not taught in our schools nor analyzed by professors, but almost all of us, at some point, have had glimpses of it in our own experience. It often comes to us in a period of tension—facing a deadline, the urgent need to solve a problem, a crisis of sorts. Or it can come as the result of constant work on a project. In any event, pressed by circumstances, we feel unusually energized and focused. Our minds become completely absorbed in the task before us. This intense concentration sparks all kinds of ideas—they come to us as we fall asleep, out of nowhere, as if springing from our unconscious. At these times, other people seem less resistant to our influence; perhaps we are more attentive to them, or we appear to have a special power that inspires their respect. We might normally experience life in a passive mode, constantly reacting to this or that incident, but for these days or weeks we feel like we can determine events and make things happen.

We could express this power in the following way: Most of the time we live in an interior world of dreams, desires, and obsessive thoughts. But in this period of exceptional creativity, we are impelled by the need to get something done that has a practical effect. We force ourselves to step outside our inner chamber of habitual thoughts and connect to the world, to other people, to reality. Instead of flitting here and there in a state of perpetual distraction, our minds focus and penetrate to the core of something real. At these moments, it is as if our minds—turned outward—are now flooded with light from the world around us, and suddenly exposed to new details and ideas, we become more inspired and creative.

Once the deadline has passed or the crisis is over, this feeling of power and heightened creativity generally fades away. We return to our distracted state and the sense of control is gone. If only we could manufacture this feeling, or somehow keep it alive longer . . . but it seems so mysterious and elusive.

The problem we face is that this form of power and intelligence is either ignored as a subject of study or is surrounded by all kinds of myths and misconceptions, all of which only add to the mystery. We imagine that creativity and brilliance just appear out of nowhere, the fruit of natural talent, or perhaps of a good mood, or an alignment of the stars. It would be an immense help to clear up the mystery—to name this feeling of power, to examine its roots, to define the kind of intelligence that leads to it, and to understand how it can be manufactured and maintained.

Let us call this sensation *mastery*—the feeling that we have a greater command of reality, other people, and ourselves. Although it might be something we experience for only a short while, for others—Masters of their field—it becomes their way of life, their way of seeing the world. (Such Masters include Leonardo da Vinci, Napoleon Bonaparte, Charles Darwin, Thomas Edison, and Martha Graham, among many others.) And at the root of this power is a simple *process* that leads to mastery—one that is accessible to all of us.

The process can be illustrated in the following manner: Let us say we are learning the piano, or entering a new job where we must acquire certain skills. In the beginning, we are outsiders. Our initial impressions of the piano or the work environment are based on prejudgments, and often contain an element of fear. When we first study the piano, the keyboard looks rather intimidating—we don't understand the relationships between the keys, the chords, the pedals, and everything else that goes into creating music. In a new job situation, we are ignorant of the power relationships between people, the psychology of our boss, the rules and procedures that are considered critical for success. We are confused—the knowledge we need in both cases is over our heads.

Although we might enter these situations with excitement about what we can learn or do with our new skills, we quickly realize how much hard work there is ahead of us. The great danger is that we give in to feelings of boredom, impatience, fear, and confusion. We stop observing and learning. The process comes to a halt.

If, on the other hand, we manage these emotions and allow time to take its course, something remarkable begins to take shape. As we continue to observe and follow the lead of others, we gain clarity, learning the rules and seeing how things work and fit together. If we keep practicing, we gain fluency; basic skills are mastered, allowing us to take on newer and more exciting challenges. We begin to see connections that were invisible to us before. We slowly gain confidence in our ability to solve problems or overcome weaknesses through sheer persistence.

At a certain point, we move from student to practitioner. We try out our own ideas, gaining valuable feedback in the process. We use our expanding knowledge in ways that are increasingly creative. Instead of just learning how others do things, we bring our own style and individuality into play.

As years go by and we remain faithful to this process, yet another leap takes place—to mastery. The keyboard is no longer something outside of us; it is internalized and becomes part of our nervous system, our fingertips. In our career, we now have a feel for the group dynamic, the current state of business. We can apply this feel to social situations, seeing deeper into other people and anticipating their reactions. We can make decisions that are rapid and highly creative. Ideas come to us. We have learned the rules so well that we can now be the ones to break or rewrite them.

In the process leading to this ultimate form of power, we can identify three distinct phases or levels. The first is the *Apprenticeship*; the second is the *Creative-Active*; the third, *Mastery*. In the first phase, we stand on the outside of our field, learning as much as we can of the basic elements and rules. We have only a partial picture of the field and so our powers are limited. In the second phase, through much practice and immersion, we see into the inside of the machinery, how things connect with one another, and thus gain a more comprehensive understanding of the subject. With this comes a new power—the ability to experiment and creatively play with the elements involved. In the third phase, our degree of knowledge, experience, and focus is so deep that we can now see the whole picture with complete clarity. We have access to the heart of life—to human nature and natural phenomena. That is why the artwork of Masters touches us to the core; the artist has captured something of the essence of reality. That is why the brilliant scientist can uncover a new law of physics, and the inventor or entrepreneur can hit upon something no one else has imagined.

We can call this power intuition, but intuition is nothing more than a

sudden and immediate seizing of what is real, without the need for words or formulas. The words and formulas may come later, but this flash of intuition is what ultimately brings us closer to reality, as our minds suddenly become illuminated by some particle of truth previously hidden to us and to others.

An animal has the capacity to learn, but it largely relies on its instincts to connect to its surroundings and save itself from danger. Through instinct, it can act quickly and effectively. The human relies instead on thinking and rationality to understand its environment. But such thinking can be slow, and in its slowness can become ineffective. So much of our obsessive, internal thought process tends to disconnect us from the world. Intuitive powers at the mastery level are a mix of the instinctive and the rational, the conscious and the unconscious, the human and the animal. It is our way of making sudden and powerful connections to the environment, to feeling or thinking inside things. As children we had some of this intuitive power and spontaneity, but it is generally drummed out of us by all of the information that overloads our minds over time. Masters return to this childlike state, their works displaying degrees of spontaneity and access to the unconscious, but at a much higher level than the child.

If we move through the process to this endpoint, we activate the intuitive power latent in every human brain, one that we may have briefly experienced when we worked so deeply on a single problem or project. In fact, often in life we have glimpses of this power—for instance, when we have an inkling of what will come next in a particular situation, or when the perfect answer to a problem comes to us out of nowhere. But these moments are ephemeral and not based on enough experience to make them repeatable. When we reach mastery, this intuition is a power at our command, the fruit of working through the lengthier process. And because the world prizes creativity and this ability to uncover new aspects of reality, it brings us tremendous practical power as well.

Think of mastery in this way: Throughout history, men and women have felt trapped by the limitations of their consciousness, by their lack of contact with reality and the power to affect the world around them. They have sought all kinds of shortcuts to this expanded consciousness and sense of control, in the form of magic rituals, trances, incantations, and drugs. They have devoted their lives to alchemy, in search of the philosopher's stone—the elusive substance that transformed all matter into gold.

This hunger for the magical shortcut has survived to our day in the form of simple formulas for success, ancient secrets finally revealed in which a mere change of attitude will attract the right energy. There is a grain of truth and practicality in all of these efforts—for instance, the emphasis in magic on deep focus. But in the end all of this searching is centered on

something that doesn't exist—the effortless path to practical power, the quick and easy solution, the El Dorado of the mind.

At the same time that so many people lose themselves in these endless fantasies, they ignore the one real power that they actually possess. And unlike magic or simplistic formulas, we can see the material effects of this power in history—the great discoveries and inventions, the magnificent buildings and works of art, the technological prowess we possess, all works of the masterful mind. This power brings to those who possess it the kind of connection to reality and the ability to alter the world that the mystics and magicians of the past could only dream of.

Over the centuries, people have placed a wall around such mastery. They have called it genius and have thought of it as inaccessible. They have seen it as the product of privilege, inborn talent, or just the right alignment of the stars. They have made it seem as if it were as elusive as magic. But that wall is imaginary. This is the real secret: the brain that we possess is the work of six million years of development, and more than anything else, this evolution of the brain was designed to lead us to mastery, the latent power within us all.

THE EVOLUTION OF MASTERY

For three million years we were hunter-gatherers, and it was through the evolutionary pressures of that way of life that a brain so adaptable and creative eventually emerged. Today we stand with the brains of hunter-gatherers in our heads.

—RICHARD LEAKEY

It is hard for us to imagine now, but our earliest human ancestors who ventured out onto the grasslands of East Africa some six million years ago were remarkably weak and vulnerable creatures. They stood less than five feet tall. They walked upright and could run on their two legs, but nowhere near as fast as the swift predators on four legs that pursued them. They were skinny—their arms could not provide much defense. They had no claws or fangs or poison to resort to if under attack. To gather fruits, nuts, and insects, or to scavenge dead meat, they had to move out into the open savanna where they became easy prey to leopards or packs of hyenas. So weak and small in number, they might have easily become extinct.

And yet within the space of a few million years (remarkably short on the time scale of evolution), these rather physically unimpressive ancestors of ours transformed themselves into the most formidable hunters on the planet. What could possibly account for such a miraculous turnaround?

Some have speculated that it was their standing on two legs, which freed up the hands to make tools with their opposable thumbs and precision grip. But such physical explanations miss the point. Our dominance, our mastery does not stem from our hands but from our brains, from our fashioning the mind into the most powerful instrument known in nature—far more powerful than any claw. And at the root of this *mental* transformation are two simple biological traits—the *visual* and the *social*—that primitive humans leveraged into power.

Our earliest ancestors were descended from primates who thrived for millions of years in a treetop environment, and who in the process had evolved one of the most remarkable visual systems in nature. To move quickly and efficiently in such a world, they developed extremely sophisticated eye and muscle coordination. Their eyes slowly evolved into a full-frontal position on the face, giving them binocular, stereoscopic vision. This system provides the brain a highly accurate three-dimensional and detailed perspective, but is rather narrow. Animals that possess such vision—as opposed to eyes on the side or half side—are generally efficient predators like owls or cats. They use this powerful sight to home in on prey in the distance. Tree-living primates evolved this vision for a different purpose—to navigate branches, and to spot fruits, berries, and insects with greater effectiveness. They also evolved elaborate color vision.

When our earliest human ancestors left the trees and moved to the open grasslands of the savanna, they adopted an upright stance. Possessing already this powerful visual system, they could see far into the distance (giraffes and elephants might stand taller, but their eyes are on the sides, giving them instead panoramic vision). This allowed them to spot dangerous predators far away on the horizon and detect their movements even in twilight. Given a few seconds or minutes, they could plot a safe retreat. At the same time, if they focused on what was nearest at hand, they could identify all kinds of important details in their environment—footprints and signs of passing predators, or the colors and shapes of rocks that they could pick up and perhaps use as tools.

In the treetops, this powerful vision was built for speed—seeing and reacting quickly. On the open grassland, it was the opposite. Safety and finding food relied upon slow, patient observation of the environment, on the ability to pick out details and focus on what they might mean. Our ancestors' survival depended on the intensity of their attention. The longer and harder they looked, the more they could distinguish between an opportunity and a danger. If they simply scanned the horizon quickly they could see a lot more, but this would overload the mind with information—too many details for such sharp vision. The human visual system is not built for scanning, as a cow's is, but for depth of focus.

Animals are locked in a perpetual present. They can learn from recent events, but they are easily distracted by what is in front of their eyes. Slowly, over a great period of time, our ancestors overcame this basic animal weakness. By looking long enough at any object and refusing to be distracted—even for a few seconds—they could momentarily detach themselves from their immediate surroundings. In this way they could notice patterns, make generalizations, and think ahead. They had the mental distance to think and reflect, even on the smallest scale.

These early humans evolved the ability to detach and think as their primary advantage in the struggle to avoid predators and find food. It connected them to a reality other animals could not access. Thinking on this level was the single greatest turning point in all of evolution—the emergence of the conscious, reasoning mind.

The second biological advantage is subtler, but equally powerful in its implications. All primates are essentially social creatures, but because of their intense vulnerability in open areas, our earliest ancestors had a much greater need for group cohesion. They depended on the group for vigilant observation of predators and the gathering of food. In general, these early hominids had many more social interactions than other primates. Over the course of hundreds of thousands of years, this social intelligence became increasingly sophisticated, allowing these ancestors to cooperate with one another on a high level. And as with our understanding of the natural environment, this intelligence depended on deep attention and focus. Misreading the social signs in a tight-knit group could prove highly dangerous.

Through the elaboration of these two traits—the *visual* and the *social*—our primitive ancestors were able to invent and develop the complex skill of hunting some two to three million years ago. Slowly, they became more creative, refining this complex skill into an art. They became seasonal hunters and spread throughout the Euro-Asian landmass, managing to adapt themselves to all kinds of climates. And in the process of this rapid evolution, their brains grew to virtually modern human size, some 200,000 years ago.

In the 1990s a group of Italian neuroscientists discovered something that could help explain this increasing hunting prowess of our primitive ancestors, and in turn something about mastery as it exists today. In studying the brains of monkeys, they found that particular motor-command neurons will not only fire when they execute a very specific action—such as pulling a lever to get a peanut or taking hold of a banana—but that these neurons will also fire when monkeys observe another performing the same actions. These were soon dubbed *mirror neurons*. This neuronal firing meant that these primates would experience a similar sensation in both doing and observing the same deed, allowing them to put themselves in the place of another and perceive its movements as if they were doing them. It would

account for the ability of many primates to imitate others, and for the pronounced abilities of chimpanzees to anticipate the plans and actions of a rival. Such neurons, it is speculated, evolved because of the social nature of primate life.

Recent experiments have demonstrated the existence of such neurons in humans, but on a much higher level of sophistication. A monkey or primate can see an action from the point of view of the performer and imagine its intentions, but we can take this further. Without any visual cues or any action on the part of others, we can place ourselves *inside their minds* and imagine what they might be thinking.

For our ancestors, the elaboration of mirror neurons would allow them to read each other's desires from the subtlest of signs and thus elevate their social skills. It would also serve as a critical component in toolmaking—one could learn to fashion a tool by imitating the actions of an expert. But perhaps most important of all, it would give them the ability to *think inside* everything around them. After years of studying particular animals, they could identify with and think like them, anticipating behavioral patterns and heightening their ability to track and kill prey. This *thinking inside* could be applied to the inorganic as well. In fashioning a stone tool, expert toolmakers would feel as one with their instruments. The stone or wood they cut with became an extension of their hand. They could feel it as if it were their own flesh, permitting much greater control of the tools themselves, both in making and in using them.

This power of the mind could be unleashed only after years of experience. Having mastered a particular skill—tracking prey, fashioning a tool—it was now automatic, and so while practicing the skill the mind no longer had to focus on the specific actions involved but instead could concentrate on something higher—what the prey might be thinking, how the tool could be felt as part of the hand. This *thinking inside* would be a preverbal version of third-level intelligence—the primitive equivalent of Leonardo da Vinci's intuitive feel for anatomy and landscape or Michael Faraday's for electromagnetism. Mastery at this level meant our ancestors could make decisions rapidly and effectively, having gained a complete understanding of their environment and their prey. If this power had not evolved, the minds of our ancestors would have become easily overwhelmed by the mass of information they had to process for a successful hunt. They had developed this intuitive power hundreds of thousands of years before the invention of language, and that is why when we experience this intelligence it seems like something preverbal, a power that transcends our ability to put it into words.

Understand: This long stretch of time played a critical, elemental role in our mental development. It fundamentally altered our relationship to

time. For animals, time is their great enemy. If they are potential prey, wandering too long in a space can spell instant death. If they are predators, waiting too long will only mean the escape of their prey. Time for them also represents physical decay. To a remarkable extent, our hunting ancestors reversed this process. The longer they spent observing something, the deeper their understanding and connection to reality. With experience, their hunting skills would progress. With continued practice, their ability to make effective tools would improve. The body could decay but the mind would continue to learn and adapt. Using time for such effect is the essential ingredient of mastery.

In fact, we can say that this revolutionary relationship to time fundamentally altered the human mind itself and gave it a particular quality or *grain*. When we take our time and focus in depth, when we trust that going through a process of months or years will bring us mastery, we work with the grain of this marvelous instrument that developed over so many millions of years. We infallibly move to higher and higher levels of intelligence. We see more deeply and realistically. We practice and make things with skill. We learn to think for ourselves. We become capable of handling complex situations without being overwhelmed. In following this path we become *Homo magister*, man or woman the Master.

To the extent that we believe we can skip steps, avoid the process, magically gain power through political connections or easy formulas, or depend on our natural talents, we move against this grain and reverse our natural powers. We become *slaves* to time—as it passes, we grow weaker, less capable, trapped in some dead-end career. We become captive to the opinions and fears of others. Rather than the mind connecting us to reality, we become disconnected and locked in a narrow chamber of thought. The human that depended on focused attention for its survival now becomes the distracted scanning animal, unable to think in depth, yet unable to depend on instincts.

It is the height of stupidity to believe that in the course of your short life, your few decades of consciousness, you can somehow rewire the configurations of your brain through technology and wishful thinking, overcoming the effect of six million years of development. To go against the grain might bring temporary distraction, but time will mercilessly expose your weakness and impatience.

The great salvation for all of us is that we have inherited an instrument that is remarkably plastic. Our hunter-gatherer ancestors, over the course of time, managed to craft the brain into its present shape by creating a culture that could learn, change, and adapt to circumstances, that wasn't a prisoner to the incredibly slow march of natural evolution. As modern

individuals, our brains have the same power, the same plasticity. At any moment we can choose to shift our relationship to time and work with the grain, knowing of its existence and power. With the element of time working for us, we can reverse the bad habits and passivity, and move up the ladder of intelligence.

Think of this shift as a return to your radical, deep past as a human, connecting to and maintaining a magnificent continuity with your hunter-gatherer ancestors in a modern form. The environment we operate in may be different, but the brain is essentially the same, and its power to learn, adapt, and master time is universal.

KEYS TO MASTERY

A man should learn to detect and watch that gleam of light which flashes across his mind from within, more than the luster of the firmament of bards and sages. Yet he dismisses without notice his thought, because it is his. In every work of genius we recognize our own rejected thoughts; they come back to us with a certain alienated majesty.

—RALPH WALDO EMERSON

If all of us are born with an essentially similar brain, with more or less the same configuration and potential for mastery, why is it then that in history only a limited number of people seem to truly excel and realize this potential power? Certainly, in a practical sense, this is the most important question for us to answer.

The common explanations for a Mozart or a Leonardo da Vinci revolve around natural talent and brilliance. How else to account for their uncanny achievements except in terms of something they were born with? But thousands upon thousands of children display exceptional skill and talent in some field, yet relatively few of them ever amount to anything, whereas those who are less brilliant in their youth can often attain much more. Natural talent or a high IQ cannot explain future achievement.

As a classic example, compare the lives of Sir Francis Galton and his older cousin, Charles Darwin. By all accounts, Galton was a super-genius with an exceptionally high IQ, quite a bit higher than Darwin's (these are estimates done by experts years after the invention of the measurement). Galton was a boy wonder who went on to have an illustrious scientific career, but he never quite mastered any of the fields he went into. He was notoriously restless, as is often the case with child prodigies.

Darwin, by contrast, is rightly celebrated as the superior scientist, one