

G: The human brain is the most complex and most highly organized and most beautifully organized entity in the known universe. Maybe there are some aliens out there with brains this big, but the human brain is absolutely incredible. You know you talk about computers, how smart they are, well a computer is very fast and very clean in its operations and very stupid. The human brain is slow and messy and infinitely creative.

The messiness of the brain partially accounts for the tremendous creativity because the human brain would come up with answers to things that have never been asked, computers don't do that. You have to ask them. Human brains come up with ultimate creativity. I'm going to quote Dr. W. Ross Aicardi, the former head of the UCLA Brain Research Institute, "The creative capacity of the human brain is for all practical purposes infinite."

You can teach a computer to artificial intelligence, to pass a calculus exam at Harvard or to almost become the chess champion of the world. But, the best computer, the best artificial intelligence today still cannot understand a book written for 8 year olds because of all the double meanings, the implications, the ambiguities that are built into our very language itself. And that ambiguity comes with richness of our creativity.

You can't get a computer that can recognize a human face from different angles, whereas any baby, a very young child could do that. So no, I go around giving talks about the genius of the human being. One funny thing, you think landing on the moon is pretty difficult perhaps. You know that the moon landing, we now see it in the recent movie, Apollo 13. Incredible thing. The first real flight of that, the first solo flight of that, actual flight was in zero vacuum and 1/6 the Earth gravity. It was an incredible feat, but let me tell you something more incredible.

Dr. Aicardi, back in the sixties, at the height of the space program with NASA, he was doing experiments on brain activity. When people were doing the moon landing simulator, so they were charting the brain activity and so forth, one of the young men in his laboratory decided to try something. He took the equipment, which is portable, put it in the back seat of a convertible and got the astronaut candidate to drive around the Los Angeles freeways. Driving the Los Angeles freeways took more brain power than landing on the moon. So the fact that people can drive cars on busy freeways, that is a sign of our genius. IF before the car was invented you said people were going to do that, and in those days, women were gonna do that, they'd tell you you're crazy. No, human beings are genius. We will run out of things to master before we run out of brain power.

M: Lifelong learning capacity, built right in.

G: It's our destiny on this planet to learn and to keep learning from birth until death. Recent experiments with animals, and also the best we could do with human beings, with our conscious and so forth, it turns out that new dendrites or connections between the neurons, the brain cells, can continue to grow from birth to death if we stay active.

We did experiments with rats and some rats that kept just quiet, watching rat t.v., sitting back as rat couch potatoes or whatever, doing nothing, and they don't continue to grow new dendrites. But rats that are played with, they have toys in their cages and so forth, they continue to grow new dendrites from birth to death, and it's pretty clear that human beings do too. Also in some areas of the brain, Marian Diamond, a researcher over at UC Berkeley, has found out that neurons can be born from birth to death in certain areas of the brain. So, we're just beginning to plumb the possibilities of the human potential. We're just at the very beginning of it.

M: No animal can match the all-around athletic ability of a human being.

G: The human animal is pretty amazing. A well-trained athlete, I would put that well-trained human athlete up against all mammals if we created a mammal decathlon and I would specify the events. It would be such things as spreading, endurance running, high jumping, long jumping, swimming, diving, showing, striking, events like that. Okay, individual mammals of the animal kingdom would win most of the individual events, but we would have the highest overall score. I do believe in a couple of events like throwing, like gymnastics for example, I think, you look at what the gymnasts do. There's no animal that can do that.

And in endurance running in hot climate, I do believe most of the Research shows that a human being, well-trained athlete, long distance runner, can outrun any animal because human beings of rather primitive tribes have been known to catch horses, zebras, kangaroos, prong horn antelopes, which are among the very fastest animals in the whole animal kingdom, and in endurance running we would do very, very well indeed. So human beings are amazing athletes.

M: And yet, the whole society is hell bent against what you call Mastery.

G: We have an undeclared war against the long term process that is inevitable for any kind of mastery because to master anything, you've got to be willing to apply yourself diligently and stay on a plateau without making any particular progress.

My Martial Art, Aikido, is a very difficult Martial Art. I always tell people that the training method is like the world, but it's like the world under a magnifying glass, things come out very, very strongly. And you see what happens when people try to bypass the plateau. I'm going to get this right tonight. I'll stay here all night. People who do that drop out, or get hurt because it's very tough and it's slow.

Most things that are worthwhile take long term effort. I'm almost embarrassed to say it because it's so obvious and yet in this culture, ten easy lessons. Fast temporary relief. Isn't that a bazaar phrase if you think about it? Instant enlightenment, total fitness in 12 minutes a week. Yeah, that's really a book. It doesn't work. Fast weight loss diets, the only way you can get rich is through the lottery. You know you've got more of a chance of dying by drowning in a well, a cesspool, or a cistern than winning the lottery, and yet young people are told in

advertisements that this is how you're going to get rich. It does not work. And we definitely see it in athletics. A lot of athletes are getting very rich, but the amazing thing, if you send out, I started out this whole question on mastery.

When I was working for Esquire Magazine, in 1987 did a special feature, about 20 pages on the subject of mastery. I sent a reporter out to interview top athletes. They all said the same thing. Practice is more important than any talent. That you can have all the talent in the world, if you're not willing to apply yourself long term, you'll be out of there pretty quick.

Then I began finding something else out, very interesting, the athletes that we called masters are the ones who are not only willing to practice, but in one way or the other most of them love long term practice. In other words, they love the plateau. They love just hanging in there and staying there.

A few years ago I was at the Seattle Seahawks training camp at the invitation of the offensive coordinator. I was watching them practice and then the whistle blew and they all shambled back into the dressing room to take their showers, all but one person. And he was way at the other side of the field. He was a pass catcher, obviously, a receiver. So he went out and he got somebody to throw him a ball over and over again, over and over and over again, after everybody else was taking a shower. Now you might think, well this is just a rookie who is worried about making the team. This is some newcomer who needs extra practice, right? No, wrong. You know who it was, Steve Largent. At that time the leading pass receiver in the history of the national football league. Now he's retired and who is now the leading passer of all times?

Your friend and mine, Jerry Rice. Jerry Rice's practice schedule in the summer is, I'll use that overworked word, awesome. Six hours a day, including running up and down hills, doing power lifting, again and again, doing sprints, doing quick turns. He loves it. He eats it up. Now that is a message that should come to young people. Practice, practice, practice. It's the oldest message in the world and today it is radical. Y

My book, "Mastery," when I first put it up, my agent sent it out to publish it, they were not immediately excited. And you know I'd had a lot of successful books, and not only that, but in Esquire, this mastery cover piece was very popular. I mean they sold out of all their reprints. I heard stories of people like IBM and AT&T doing thousands of photocopies of it, and still the publisher would say well, they'd tell my agent, they'd say but where is the, they couldn't bring themselves to say those dread words, where is the quick fix? Because there's no quick fix in it. So I'm saying these obvious things, and yet they're radical in this culture.

Let me just say one more thing. I guess it's my favorite all time story, Ben Hogan, known as the greatest golfer, perhaps of all times, and especially noted for his ability to make comebacks at the end of a game under great, great pressure. At one of the opens that he won, a reporter came up, he won by making a tremendous shot in the last three holes, a reporter came up and said, "Mr. Hogan, how is it you can keep making these spectacular shots under such

pressure?" So he thought for a minute. He was a man of very few words, as you know, and he said, "Well, guess I'm just lucky." As the reporter said, "But Mr. Hogan, you practice more than any golfer in the world." He thought for a minute more and he said, "Well, the more I practice, the luckier I get." And that's a story that should be told to young people today who still expect they can go out and if they don't get it right away they quit. And we have the coaches that go out there and say come on, you're going to get that today.

No, we've got to get in here for the long term. And that's just the beginning. There's a lot other things, you've got to get good instruction, like if you practice the wrong way, then you get very good at doing something the wrong way. You see those runners, you run and they show us how like this. They've been doing it for 20 years.

We can learn almost anything. We can learn bad things too so we have to got good instruction at the beginning. That's the first key to mastery. But the second, the big one, the one that's being neglected in this culture is practice, long term, patient, joyful, practice.

M: Let's talk about some of the cultural impediments, the brainwashing that's going on in terms of value; commercials, television, how young people are getting this fixed message recorded over and over and over again.

G: For one week while I was working on the Esquire mastery piece I watched television commercials, not all day, I couldn't do that. I mean I'm pretty good, but not that good. About three or four hours a day though I watched commercials and I made notes and I was looking for what do we value in this culture because you know commercials are teaching values. They want you to value something, an experience, a service, or a good so that you will put out money for it. Money is kind of a direct measure of value. So I was watching to try and find out what our values were. I really found out something even more significant.

Over half of the commercials that I watched showed a climactic moment. In other words, the cake had already been baked, the family was gathered around the cake and candles were there, the adorable two year old was about to try to blow the candles out and this beautiful lighting that made everything look like it was glowing, it was a great epiphany, a religious moment. It didn't say anything about the baking of the cake, about the rearing of the child. You see these impossibly slim, impossibly good looking young people dancing up and down on the beach, throwing frosty cans of diet cola to each other, and they've just won the volleyball game. They've always just won it.

You noticed on television commercials? It doesn't say anything about the practice. Certainly back in those days they had a commercial that was on all the time, I think they've finally taken it off now. You see men working for 1 ½ seconds. You can time it, and then it's Miller time. It's Miller time everywhere. A celebration climatic moment that all of life at its best is one climax after another, after another. This kind of curve doesn't exist anywhere in nature for very long. You can keep it going for a little while. And do you know what you keep it going with?

## George Leonard

and Michael Mendizza

Drugs. You wonder why we have such tremendous drug usage, illegal drugs, things like cocaine, uppers, climax, crystal meth, you can keep it going for a while, but then you crash. But you know I really think the culture's getting better. Since I first did this look at television, it was in 1987, I've noticed that I can't really use that same example quite so easily. I think that there's some kind of understanding of the long term and kind of a vague notion that hey, this stuff doesn't work. That endless credit, just gratifying yourself instantly all the time, it doesn't work. There's no gratification. I'm optimistic here, I really am.

M: Let's define what you mean by mastery.

G: Mastery is that mysterious process to which what is difficult or even impossible to do becomes easy and even pleasurable through practice. And it's learning. It's what we're here on this planet for. It what sets us apart from the other animals. That if that we learn and keep learning from birth to death. We have certain instincts. But animals operate mostly on automatic. The higher animals do quite a bit of learning, but nobody even approaches the amount of learning that every human being has the potential to do. Very few of us, if anybody, has ever achieved that full potential. But that is what it's all about.

M: This is the essence of the human potential movement.

G: What could be a better thing? What could be better for our society to set a compass course for where we are going? Then to have a society in which the full development and realization of the human potential, of every individual of the society was our basic aim. We never achieve it but at least we'll have our course set pretty well. Then we can say that, what does this policy do feasibly of the human potential? What does that policy do?

Let's make a correction here. And to look at it another way on the negative side, how much of our uneasiness, unrest, neurosis, drug use, crime, and perhaps even war, how much of that could be accounted for by our failure to develop our human potential? People who are really sailing on this trip of mastery, this endless journey, where we're willing to stay on a plateau for a while, we don't need to do any of those things. We feel much better.

We don't have crime. We don't need drugs and there are so many things to do. Life is so incredibly rich and, of course this is hard to say for people who live in a ghetto and don't have enough money to live. That's part of the human potential; development of the human potential is social justice.

M: This leads us back to education.

G: Aw, education and ecstasy.

M: Yes, one of your important publications.

G: It was published in 1968.

M: I graduated from high school in 1968. Let's follow the scenery of potential.

G: That really is easy. The purpose of our educational system is a full development of human potential, but our present system of mass education by necessity spends a lot of energy in channeling the human potential into well-marked channels.

Because you're trying to keep 30 kids all going at the same rate. Now, it's too slow for most of them, it's too fast for some others, and it might be just right for two or three in the middle.

And even then, mass education has been a wonderful thing but in the ultimate sense, it's a failure as far as developing the potential of every individual.

M: So you want to start long ago.

G: In a sense it would be that very rarely would 30 children be working at the same thing, all on the same time line, with one person presenting information. That's the least affective way I can think of learning.

I created a model school, a school of the year 2001 in "Education and Ecstasy" and that really was kind of high point book. It was highly computerized but also high touch. A lot of interaction. Kids doing things for themselves, acting out historical periods rather than simply reading about them or having it drilled into them by a speaker and it's not 2001 yet, we're not very close to that school, but you know strangely enough, I'm still contacted frequently by computer people and technology people about that model. They say that pretty soon they're going to be able to do that. So let's just keep hoping.

M: I want to make a bridge back to ecstatic states of learning and performance.

G: Ecstatic, out of stases, ex-stases. In other words, if we had stases just at one point, when you have a moment of learning, you're knocked out of that and into a new plateau shall we say at a higher level. Yes I think we should shoot for joy in education too. Why not? It doesn't mean that it's not hard work. Hard work is joyful.

I teach Aikido to people for an hour and a half, sweating, being thrown down, getting up again and again, and again, and again, and again. By the end of the class everybody in there is smiling, laughing, having the greatest time. It's very hard work, very hard work. So, when I say education and ecstasy, it's not a question of being permissive or being disorganized. In fact the school that I created fictionally has a much higher level of organization than the average classroom in which it appears to be orderly because they're all be quiet. Go into the minds and the bodies and senses of those kids who are sitting there squirming around, it is chaos. The free learning environment like the kid learning how to talk, doesn't look like it has much order but there's tremendous order in it. The moment of interaction between the learner and the learning environment is happening all the time, high interaction. And that's what we need.

M: Joy taps into that optimum state.

G: There has to be joy somewhere along the line. And for a highly intellectual person, to make a connection between two texts for example, and see how both Blake and Shelly's idea of evil was the same. To make that connection is ecstasy. To make a new scientific discovery, come running out, look what I've got here!

You want to tell the world, yes, and yet so often people who run educational systems tend to make it a dreary grim sort of place where you have to sit absolutely still. People are not made to sit still. We should also teach people how to sit and how to breathe before we try to teach them how to read.

M: Back to mastery plateaus. The journey of mastering involves choices.

G: Well, you just have to first of all weed out the false assumptions and plant the new plants of growth which doesn't go ever exactly even. There's always going to be all kinds of room for this. It plateaus and a little spurts up. Sometimes you go down and you keep learning, you don't give up. That's the basic idea.

M: Can you take a moment to describe these two categories?

G: There is the person who just loves new beginnings, but as soon as you run up against a little bit of difficulty or see they have to really start practicing, really go off to something else, tennis, oh I sprained my ankle in tennis, I'm going to take up golf now.

Also in human relations, jumping from one partner to another. That's staying exactly the same. To grow, to learn, you might be better with one partner. It forces you into that situation of learning. The obsessive is just the opposite. Obsessive, I'm going to get this right if I have to sit here all night. Nothing can stop me. I can't wait. I'm going to get it done. In business, they're the ones probably who take the shortcuts, who have created some of the problem that we're still paying for.

In other words, just to stay on the plateau and not to keep practicing is not what I'm talking about it. Shall we say that somebody who learns the forehand in tennis and they say well, too much trouble to learn the backhand, then spends his or her tennis career running around the backhand to make it into a forehand. Or the person who just says they're okay, it's good to have people like that around. But they're not on the path of mastery.

The path of mastery is being willing to practice diligently, I'm not saying hard or anything like that, practice diligently, to stick with it even though you seem to be making no apparent progress, and then to be pleased with the little spurts up and to realize that's not when you're learning. The learning is on the plateau. It's when the learning clicks in and becomes automatic. At that point you have the appearance spurt, but the learning took place at the plateau. Just get that realization across. So the Hackers are willing to stay on the plateau and not keep learning.

We should start looking at all of our life as a learning environment, especially when you have children. Everything that happens is part of the learning environment. With adults we can help

create it ourselves if we don't have people to help us, or we can get creative learning communities. Yeah, it's just a different way of looking at life. What is the purpose of life? Well the one who dies with the most toys wins! I don't think that's right.

The one who can really learn and change in a positive way, you're winning all the time, whether or not you're winning a particular contest, you're winning all the time.

M: Let's focus on the coach or teacher, the educator, the parent.

G: I could just give so many terrible examples of bad coaching. There's a baseball manager who all through spring training they had this saying, I'm not going to say who it was, that anybody who makes an error has to buy a 12 pack of beer. And this became very important. They're all kidding and joking about it at all times, "OH you're gonna have to buy one, you're gonna do one." In other words, the high relief is a negative, is not making an error rather than doing right, it's just not doing wrong. I don't think that's a very good way of working.

You've got to let people have, as I say, successive approximations. Not get a thing totally right the first time, but give reward, just a nod sometimes will do it. Give a nod when they do something a little better than the last time. It doesn't have to be perfect.

The perfectionist, I don't know. I don't think they'll really get there. Maybe once you're working with the very top athletes in the country, you can be a perfectionist. Also give a lot of space.

I like Phil Jackson a lot. In fact Phil Jackson's P.R. person sent a manuscript of his most recent book, "Sacred Hoops," for me to give a comment, which I did give a comment which is on the comment, on the jacket. I was very pleased that they both did well. I wish they'd done even better and set every record. Maybe no other team had won a single game in playoffs. I would have liked that because Phil Jackson is very ..., he believes in his players. That's number one. He happens to have some of the best players in the world, that helps, but even, you could run those players.

He gives them lots of latitude, he lets them be in all the decisions, he allows them to decide how they're going to play a certain team and he's kind of like the moderator, or the facilitator, and he's a man they can expect, he's a man who actually asked his players, his players understood if he asked his players not only to read mastery, whether they did it or not is another question, but to read "The Future of the Body," Michael Murphy's huge encyclopedic work on human potential. So, he's treating them as adults, not like bad little boys. He even takes a bad boy, self-proclaimed bad boy, Dennis Rodman, and let's him play and makes it work out okay. No really making him, just kind of channeling him. You don't bend people to your will, you present a vision of what you want to be.

M: You talked about vision.

G: If you take the basic human psyche, the human as a whole entity and, the amazing thing is that each of us is different and unique in the whole universe. We all have different fingerprints, our voice prints, the way we smell. We are unique in the universe. If you call that

uniqueness at a very basic level, identity, that's the word I use in one of my books, then intentionality is the exactor of identity.

A vision can be open-ended. The journey of mastery, if it's a profound thing you're mastering, not just learning touch typing, but anything profound, it's kind a journey that for every mile you go along the path, the destination is two miles further away. And that's great. I mean would you like to do something that you could totally master? Then it would all be over. And after 25 years in Aikido, there's much more that I don't know. Much, much more than when I started.

After about a year I thought I knew a lot about Aikido. After 25 years I realized that it's awesome, it's endless. It goes on forever. One vector could be intentionality, could be to continue to explore all the possibilities within Aikido. And see that's open-ended. That's not a goal in particular, that's a vision. And to apply it to as much of my life as I can, not just on the map, but through all of life. That's what I think intentionality is. And I'm interested that you put that along in terms of vision. That's interesting because it really fits very well. And goals as I say, goals are fine, but goals are limiting. What we say in our work is not that we practice in order to achieve our goals, but do we have goals in order to enhance our practice. Just turn it upside down.

M: You made the point that mastery is a goalless process.

G: Seemingly, yes.

M: But you use goals ... practice. ...

G: Yes.

M: We are trained to compare ourselves, scale ourselves from a good day ... and so much of that conditioning is anti what you're talking about. So, the whole culture is goal orientated, its part of the competitive structure.

G: A lot of people drop out of the race because it's so aggressive. Competition makes winners. But figure it out mathematically, competition makes many more losers than it makes winners. How many people can get an NBA, the National Basketball Association? All those who don't, they're losers. And you hear football players, nothing makes any difference unless we win the Super bowl, but how many players have lost the Super bowl, didn't win the Super bowl? You're making losers out of that. I'd like to turn the word compete around. I'd like to go back to its original meaning. It means to seek together, to seek together. And competition is great. It can be fun. You know, it will add spice to life and to games, but when spice becomes resented as the whole ... it will make you sick.

We don't really compete that much. How did we achieve dominance over the other animals? Our ability to cooperate. Somebody did an analysis. In an average business you're doing 90% cooperation and 10% competition. A lot of its just talk.

The Intelligence of Play  
**George Leonard**  
and Michael Mendizza

M: Let's go back to Olympic Gymnast, Peter Vidamar, people who get into something for money or fame or a gold medal can't perform as well as the person who loves the game.

G: That's absolutely true. Unfortunately we're in a race for huge amounts of money, \$25,000,000 contracts, they're obscene. And it's a way of just comparing, other's are doing it so I'm caught up in this too. But the great sports people really love to play and they'd probably play if they weren't getting any money if they could support themselves some other way. They're really two separate things.

People are making an obscene amount of money and competing on that level just so that we'll look at Shaq, he's getting it so I should get mine. And that's a human tendency. It's not a very noble one, but it's a human tendency. But underneath that I really believe that these great players love the game themselves, or they're not great players. During the NBA finals this year, Chicago won, looking for everything on television they got the second team, five second team people of the Chicago Bulls and they had a nice talk and one of those players said: "You know, they always beat us," and he said, "They're always practicing. They practice more than we do."

M: They love to practice ...

G: Did I say that?

M: You sure did. People don't devote themselves to get better, they love to practice, it's because of this, that they get better.

G: I think people do love to get better but, nice little phrase, I think people like to get better but I really believe that at the very deepest level, people have to have some love of practice or they won't get better. If I can say it that way. That's kind of an exaggerated statement.

M: Do you know John Douillard, he wrote the book "Body Mind and Sport?"

G: No.

M: Great guy. He uses the eye of the hurricane as a metaphor.

G: I think this is absolutely true and there's good reason for it. A muscle cell, a cluster of muscle cells, it has only two possibilities, it's either firing or it's not firing. So if you're tight, you can't use those muscles, try to hit, try to be tight than try to strike. You've got to be totally relaxed.

I had the great opportunity, when I was in my fifties I was a masters class sprinter, I loved to run fast, and just had my chance, was able to be coached one whole afternoon by Lee Evans, one of the great runners of all time. The record for the 800 meter, just recently it was broken, it was in the Mexico City Olympics in 1960. And what did he teach me? The right way to stride and things like that? No way. All he taught me was relaxing. If you want the maximum use of your muscles, you've got to relax all the muscles that are not being used.

The Intelligence of Play  
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Generally if you look at sports you see they have kind of a flat look on their face. Michael Jordan sticks his tongue out, very funny, but it's like I'm in the zone, this is it, you're just floating, you're there.

I teach people in Aikido, sometimes I give a whole class in which I will say let's see how little of our muscles we have to use to do these throws. And then I'll start with the attackers coming in rather gently too, but by the end of the class, or an hour and a half later I'm having attackers come in as hard as they can come in and grasp as hard as they can grasp, and I'm saying the harder you grasp, the more relaxed you should be.

Total relaxation. It's miraculous. You can stay totally relaxed and throw better than if you're tight like this. This is tough, no it isn't. Watch Mohammad Ali. Sugar Ray Robinson and the greatest great boxers, they're relaxed and then suddenly it can come out.

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