

# HECTOR DE J. RUIZ, PH.D.

## ORAL HISTORY

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### COMPUTERWORLD HONORS PROGRAM INTERNATIONAL ARCHIVES

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Transcript of a Video History Interview with  
Hector de J. Ruiz, Ph.D.  
Chairman & Chief Executive Officer  
Advanced Micro Devices

Recipient of the 2006 Morgan Stanley Leadership Award for  
Global Commerce

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Interviewer: Ron Milton (RM)  
Chairman, Board of Trustees,  
Computerworld Information Technology  
Awards Foundation

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Ron Milton: Today is Monday, March 20, 2005 and we're interviewing Hector de J. Ruiz, Ph.D, the Chairman and CEO of Advanced Micro Devices, Inc., and recipient of the 2006 Morgan Stanley Leadership Award for Global Commerce. The interview is taking place at AMD's Austin Texas facility. This interview is made possible by the Chairman's Committee of Computerworld Honors, and the interviewer is Ron Milton, Chairman, Board of Trustees, Computerworld Information Technology Awards Foundation. The honors program was established in 1988-89 to seek out, honor, and preserve the history of the global information technology revolution by Roger Kennedy of the Smithsonian Institution's National Museum of American History, Patrick McGovern of International Data Group, and the Chairmen of forty of the world's leading information technology companies.

This oral history is being recorded for distribution to more than 140 national archives, museums, universities and research institutions in more than fifty countries on six continents around the world, and for the program's archives on-line.

Without objection, the complete video, audio and transcripts of this interview will become part of these international scholarly research collections and made available in complete or edited form to the general public on the worldwide web. This discussion, however, is private and should any participant wish to withhold from the public record all or part of the recordings of these sessions, this request will be honored for a period not to exceed twenty-five years. All present here are honor-bound to respect such a request, and by remaining here, they accept the personal and professional and legal responsibility to abide by this agreement. With no objections being heard, we will proceed.

Dr. Ruiz, let's begin at the beginning. When and where were you born?

Hector Ruiz: I was born in a small town in Mexico called Piedras Negras, which is Spanish for "black rocks."

RM: Tell us about your family. You had four sisters. What was it like to have four sisters?

HR: Being the oldest in the family, and the four sisters being younger, I guess a lot of people thought I was a spoiled kid. I also was the only male in the family. My mother had two other sisters, and out of the three sisters I was the only male, so for the grandparents I was the only grandson. That also made it fun. I was sort of spoiled you could say, from that point of view.

I had great parents. I couldn't imagine parents being more caring and loving than my parents were. I have four great sisters who are devoted to education. As a matter of fact all four of them are teachers. They went to the school in Mexico that taught them how to become a teacher. At some point in their lives they all taught. Some of them still teach.

All I can remember from my childhood is that it was a great childhood.

RM: Tell us about the influence of your parents in your life in terms of what credos they may have instilled in you.

HR: My parents were always very humble and righteous people, in the sense that they believed that doing what was right was important. Even as a little kid I grew up with the strong feeling that I was able to understand, at least in the culture that one grows up in, what was right and what was wrong, what was important, and being able to make those decisions. However, the one thing that is overwhelming in my memory is the tremendous love and care that was exhibited by my parents. So with that balance of being able to be loving, and at the same time teaching you to try to discern for yourself what was right and wrong, made it a very inspiring childhood.

RM: What was Piedras Negras like to grow up in terms of sights, sounds, early friends and experiences?

HR: Well back when I was growing up it was actually considered a small town. It has grown a lot since then, but back in those days I think Piedras Negras had around 50,000 people in population. And for a town in Mexico at that time, it was considered a small town. It was a busy, modern town. There was a lot of business, a lot of trade in that town. I would say a large part of the economy of the town was based on tourism, people being able to come from Texas to visit the town. As the name implies, Piedras Negras, "black rocks," it used to be a coal mining town, that's why it was called that. But the coal mines were no longer the main source of income for the people, and the town had become fairly heavy with investments from American companies in the locality. There was also a lot of tourism, like I said before. So it was a sort of lively little town.

RM: A friend of yours, Len Debarros, said that as a young man you would shine shoes in the public square to make money, but also that you studied very hard. Were you always that determined to succeed?

HR: You know I have to say that back then I wouldn't classify it as determination to succeed. Shining shoes appeared to be the thing that everybody did. I couldn't remember any other child my age who didn't do that. It seemed like the normal thing to do. And the fact that I did well in school frankly, was probably more a gift that I was given more than my determination to succeed. I tell people so many times that I didn't ask to be born with the capability of being able to do well in school; it just happened that way. I was fortunate.

RM: Talking about school, tell us about your teachers, mentors that played a formative role in earlier years.

HR: As is always the case, teachers make a big impact on students. I had a unique situation that my 5<sup>th</sup>-grade teacher was my grandfather. A lot of people thought that maybe that was actually good, but in reality it was very difficult, because I was always the one kid who he was toughest with and demanded the most from. But it was interesting. I got to see a unique view of my grandfather that was quite different from what I would see at home or on weekends. So he was a big influence in my life.

I had a number of other teachers who were very caring. I was very fortunate to also have a great number of teachers who taught me a lot. But I would say as I got older the most influential teacher I had, especially as I got into high school years, was a fellow named Mr. Howard, who was my chemistry teacher. The impact he had on me as a young, impressionable student was pretty enormous back then.

RM: Tell us a little more about Mr. Howard's influence.

HR: Mr. Howard was an interesting teacher in chemistry. He loved to teach first of all. He was passionate about it, and he loved students that were inquisitive. One of the things my parents taught me also was not to be fearful of asking questions. So I was very inquisitive in class. I was always asking questions, and he took that as a very positive sign and actually did things with me to encourage me to go beyond what the classes were intended to teach. So for example, when we were doing an experiment to demonstrate why rotten eggs smelled bad, he would go beyond just that, because I had curiosity. I wanted to understand what exactly happened that made the rotten egg smell so bad. He would take a little bit of extra time with me.

So he taught me a lot about being inquisitive, wanting to know more than just superficially how things occurred. But the one thing that made the biggest impact on me was he taught me how to plan an experiment. That is something that as I look back, became a strong foundation of my engineering work later in life. He would teach me how to plan the experiment, how to write it up, how to make sure I took notes, how to write the report once the experiment was done. It was something I had never done in my life, and because I had to learn it from scratch, I was very cautious to pay a lot of attention. And what happened at the end of the chemistry year is that he said that in all his years of teaching he never had as a rewarding experience as he had teaching me how to write a lab report - because I followed every instruction. Again, that was part of the fact that I was trying to learn. He was a great teacher, a tremendous influence.

RM: Are there any stories your parents would tell, or hobbies, fascinations, that were early indicators of your interest in innovation, business, or leading to information technology?

HR: Well, all I can remember is my mother saying whenever I would invite kids to play I seemed to always be the one who wanted to orchestrate the games and tell kids what we were going to play. My mother says ever since I was 5 years old I seemed to always want to be in charge. So maybe I had not so much an inclination toward technical fields, but maybe an inclination of wanting to lead.

RM: Tell us about Olive Given. How did you meet her? How did she influence your life?

HR: Olive Given was a Methodist missionary in the small town of Piedras Negras. I was probably 14 or so when I first met her. She happened to live very close to where my parents lived. She got to the point where she would ask me to run errands for her. In the beginning I thought it was just a lady who needed somebody to help her. As I got older I realized that she was very purposefully making the connection to see how she could help me.

So in return for some of the things I would do for her, she would try to teach me English. She knew I had a passion for automotive mechanics. She knew I loved cars, and she would keep telling me that if I was really serious I was never going to get to be good at it unless I learned English. So she would try to teach me enough so that I could look up things in books, and that's how I struck up a relationship with her.

RM: So you started walking across the border to go to school at Eagle Pass, Texas. Tell us about that experience. You were just learning to speak English at that time. Was that a culture shock for you?

HR: Being a border town, there was not as large a cultural difference as you would expect. However getting to school, and going to the school was a big cultural difference because all of a sudden I was in a school that the only language spoken was English, and I was not yet proficient in English.

I'll never forget my first English exam. Mr. Rubio, that was his name, he was my English professor. He asked me to write an essay. First of all, people in Mexico don't write essays. It's not something you do in school. So I had to ask, "What is an essay?" He told me that it was a story, and after he explained it, I did the best I could writing an essay with my limited English. I remember when he gave it back to me with a big red "F" on it and he said, "This is the worst essay I have ever read." That was a challenge to me to try to figure out how to get through this. It was interesting, and I have to give him credit, rather than putting the burden of getting through that just on me, he actually said, "Well, it's my problem that you're not good at writing. So let's work together on this and figure it out." And we did. He devoted a lot of extra time after school until I got better at it.

It's interesting because as you may know from reading my background, I ended up being valedictorian of the high school, and made an "A" in English, which is amazing really.

RM: That was my next question, about your being valedictorian – what kind of effort did that take to achieve?

HR: Even though I was blessed with talent that was God-given to me, I had to work hard in high school because the English language made it very challenging. I had to put in a lot of work, and I can't remember in those years having a lot of free time except the time I was in school. The challenge was the language, but I was fortunate with my teachers. That's why I remember the names of the teachers so well. Mr. Lopez was my Geometry teacher, and he was incredibly helpful and taught me a lot. Mr. Salinas was Physics teacher. He was incredibly helpful.

I even have to give credit to the Principal of the school, a fellow named Mr. Landrew. If you can imagine, this was back in the 1960s, a border town having the enlightened vision to allow a Mexican kid to come to school there. That's really something you might hear of today, but not back in the 1960s. So I have to give him credit, because it was his idea to allow a small number of Mexican kids to attend school in Eagle Pass, Texas, and I was fortunate to be one of those.

RM: Let's back up a bit - tell me a little bit more about what caused you to go to that school in the US?

HR: What drove me to go to Eagle Pass High School is that Ms. Olive Given, the missionary that I met, convinced me that if I really didn't become proficient in English, I was never going to be a good auto mechanic. She thought it would be good if I could take advantage of this opportunity that Eagle Pass had made available to a few citizens of Mexico. So I was fortunate to be one of those chosen, and I ended up going there as a result of that.

It was one of those formative experiences that you learn a lot about to respect a country that has invited you to be part of their school system. To respect people when you are sort of a guest in their home, but also to understand the challenges that that brings. That was very interesting for me, to see what occurred in that school. I was fortunate enough to have very enlightened teachers, but an example of what I think was a good understanding occurred between the people who attended the school from Mexico, and those in Eagle Pass. Remember, we didn't pay any taxes. We were being given the privilege of attending the school. It ended up being that the valedictorian and the salutatorian of the school were two of the kids that were invited from Mexico to come. That created a problem, because then the town felt that somehow in their minds they had been cheated out of a local student being a valedictorian and salutatorian. So when you look back at that year, the year ended up with two valedictorians and two salutatorians. The reason for that was to allow two of the local people to be able to move up, and be able to make the town feel better about it.

I remember as a young kid thinking, you know, this is fair. After all we are only here as guests. We didn't pay taxes. This is a fair thing to do. I remember as a 17-year-old kid learning a lot from that experience. A lot of people felt bad about that. They thought that I got cheated from being the one being touted as the true valedictorian. But it didn't have to be official, everybody knew, and it wasn't necessary to have to do it any other way. So it was good. I look back at those years and it taught me a lot about the differences in people, about being civil, and being grateful for the opportunities given, and appreciating the enlightened view that some small town teachers can have.

RM: It must have taken a boldness, or a certain kind of stubbornness for you as a young man to persevere.

HR: Good point, I think it would have been a lot easier to do something else, yes. Maybe that was part of the things that you are born with, it seemed that the more challenging it was, the more you really wanted to get it done. I never remember wondering if I should do it or not. I just remember doing it.

RM: The result of that, and all your efforts in school was a full scholarship to the University of Texas at Austin. Why did you decide to study electrical engineering when you had a passion for cars?

HR: That's a good question because I really came to the University thinking I was going to end up being a mechanical engineer. But as often happens I took a few classes, a few professors got know me, and pretty quickly I began to realize that I also had a passion for electronics. I got fascinated by the technology changes that were occurring at the time.

Back in the 1960s there were a lot of things occurring. Tubes were beginning to disappear. I don't know how many people know what a tube is (laughter), but tubes were beginning to disappear. Solid-state was just beginning to come into the picture. There were a lot of really interesting things happening, and I just became fascinated by the electronic side of engineering field. I got attracted to it, and ended up doing that. I still pursue the automotive on the side. It became my hobby.

RM: You went on with your electronics studies to get your Ph.D. in quantum electronics and solid-state lasers from Rice University. Tell us why you went that next step.

HR: When I graduated from the University of Texas, as all students do, I was faced with the decision, what do you want to do? Did I want to get a job? Did I want to stay in school? It became very clear after a while that I really wanted to stay in school. I wanted to pursue further studies. Again, I was fascinated by the changes in technology that were occurring. I had read about the invention of the laser, and part of my degree at the University of Texas had to do with thermonuclear fusion, and so I thought, well maybe you could use a laser to be able to begin the process of a thermonuclear fusion. So I thought I found a way to connect laser technology with my undergraduate work. Then in doing some work I found out that Rice University had started a very aggressive program in quantum electronics and lasers. I went there, had an interesting interview with a professor who liked me, and I ended up going to school there.

RM: Who offered you your first job, and what was it?

HR: My first job, you mean the very first time I got paid?

RM: Yes.

HR: I was offered a job to grade papers at the engineering school at the University of Texas. That was actually a very interesting experience. It was a very formative experience very early in my career, because I interviewed for the job. I was going to grade papers in this engineering class, and the teacher at the time said that I had the best qualities for being the grader, but he couldn't choose me because I was not a US citizen. He had to give the job to a US citizen. And I thought to myself, well, I guess I'll have to try another job. So I started looking for another job. I couldn't find one, but about 10 days later I got a phone call from the professor saying, "You know what? I made a mistake. I offered the job to a US citizen that took it, and he ended up being terrible at it. We had to terminate that person, and I realized I should have offered it to you. So would you like the job?" So I ended up having that job. I graded papers for approximately a year for this particular class.

RM: Tell us about your various experiences during your career at Texas Instruments. You joined them in 1972 while you were still in school and worked on the team that developed the first single chip calculator.

HR: Back in the early 1970s those familiar with the electronics industry would remember Texas Instruments as being the premier technology company in the world. It was a dream to be able to work at Texas Instruments.

My studies ended in 1972, but my official degree wasn't granted until 1973. Rice is one of those schools that only gives degrees once a year, so you had to wait until you get to the year.

One of the things though that was fascinating to me was to be able to work at Texas Instruments, but if you also are familiar with the history of technology, you know that in the early 1970s the space program ended, and all of a sudden you had all these Ph.D.s floating around without a job. I remember many of my classmates driving 18-wheelers and flipping hamburgers. So to me to think that I could get a job at TI was unthinkable. But, being the stubborn little kid that I grew up being, I decided to contact the director of the lab who was a Rice graduate. I remember appealing to him saying, "Look, I know it is hard to get jobs right now, but I am a Rice graduate. I went to the school you went to, and you have to give me a chance. I have to prove it to you." So he invited me for an interview, and I went, got interviewed, got offered a job, and I ended up in the corporate research labs of Texas Instruments.

RM: It's said you followed your mentor to Motorola. Tell us about your first job there.

HR: When Motorola made the decision to become a relevant player in the semiconductor business, and they were having a hard time, they decided to go after one of the best managers at the time in the semiconductor business, who was Al Stein. Al knew me at TI, and after he was at Motorola for a few months, he called me up and said, "I remember you telling me one time that one of your dreams was to work in Europe." He said, "How would you like to join Motorola? We'll give you an assignment in Europe." I was a young kid and full of energy and passion, I thought, "What a dream." So I didn't hesitate. I went and joined Motorola, moved to Europe, and my first assignment was to establish a factory for building microprocessors in Scotland. I did that. It was a lot of fun. I can tell you I have never been around a group of individuals as friendly as the Scottish people, except perhaps for some small town in west Texas.

RM: You were at Motorola for over 20 years, and in 1997, you took over the struggling semiconductor product sector. You turned that around in two years. How did you do that?

HR: Well, it is sometimes difficult for me to say that I turned it around. There are an awful lot of people that worked very hard, and some of them still questioned whether I turned it around or not because those were very difficult times. But as it happens some times, the organization had been bloated. I had too many factories, too many people, and unfortunately one of the first things I had to do was to recognize that we had 21 factories, but Motorola only needed 14. We had to eliminate 7.

We had to do all those things, and in doing so we were able to significantly improve the efficiency of the organization. It really was an awful thing to do, and a very difficult thing to do, but what came out of it was an organization that was much leaner, much stronger. And they surprised themselves, frankly, that in two years they were able to be profitable at the same level of sales, because they were losing a lot of money before. Now they were a much more efficient organization. So I think the team as a whole learned a tremendous amount from that. And I believe that it was one of those things that you had to do.

RM: You are described by many as laid back, what do you think your management style is?

HR: One gets stuck with those labels. I have no idea why. My kids and my wife don't think I am laid back (laughter), and they see me a lot more than people at work. I just think I'm quiet. I don't speak when I don't need to, and perhaps that has created a label of laid back. I have learned to listen a lot. I think I can form a much higher quality view of the world, or high quality view of a decision to be made if I listen and pay attention to the thoughts of the smart people around me. So I do tend to listen a lot.

I believe that I am what people have referred to as a participative leader. I really believe in participative leadership. I don't have all the answers. I don't know all the answers, but I know that a lot of smart people together can come up with a high quality decision if given enough time to do it. So perhaps that's what leads to a laid back adjective.

RM: Dr. Ruiz, why did you join AMD? And describe your first impression of founder Jerry Sanders. That must have convinced you to leave Motorola despite their offers of more money and power.

HR: AMD and Motorola had a joint development program, which allowed me to get to know Jerry Sanders reasonably well. No one that knows Jerry Sanders will ever describe him any other way than as an incredibly smart man, very passionate about what he did. Certainly he is flamboyant, and certainly he is quite different from my style, but there is no question but that he was a man that wanted AMD to be a successful company. During the two-year period of joint development he began to hint to me that he did not have a successor for himself, and wanted to know how I would feel about joining the company to become his successor. I have to say that in the beginning it was not something that sounded appealing because Motorola is a successful company and I was happy there. But as I started thinking about it, it became pretty clear that my whole life was nothing but a life of forks in the road. I was willing to take risks, and I was happy at the way things had turned out. So my wife and I had a long discussion. "Why wouldn't I want to do that? Why wouldn't I do it?" With her help I ended up concluding that it made an awful lot of sense to try it. Can you imagine an industry where your competitor is only one, and it's Intel? That in itself is almost makes it impossible to say no.

RM: What was the AMD culture like when you joined them?

HR: One of the things about the AMD culture I thought was so positive was first of all it has a real spirit of being indomitable. It didn't matter how bad things were, you could come out of it and fight; people wouldn't give up. They would overcome some of the most challenging obstacles I have seen people do. So there was this very contagious spirit of winning, of wanting to win. I thought that was a legacy Sanders created and left, and I felt that was great, and I would do everything I could to protect that.

At the same time it also reminded me of watching 6-year-olds play soccer. They are full of enthusiasm, and they will kick the ball every chance they get, but sometimes it's not in the right direction. So you have to teach them the rules, teach them how to play. So one of the things that I thought was a lot of fun for me to do is to try to put some discipline in place, to direct this energy and this enthusiasm, and this commitment that people had a little better. And I think the result has been the next phase of AMD, which I believe is one of AMD becoming a more respected and reputable company, as they deserve to be because people have worked hard on it.

RM: There is a story recounted in the press of a meeting between you and Jerry Sanders shortly after you signed on with AMD. You told him that your father said you had to be a better husband and father than he had been. Talk about that, and what Jerry Sanders said to you.

HR: Well actually, the story isn't quite that way. As the press gets it, it begins to change, and no one every gets it exactly the way it was. What happened was, I had a board dinner where the transition from Jerry to me as CEO occurred. He was passing the mantle of the company, and I became the CEO in 2002. I remember telling the story at the dinner that I had learned a lot from my father, because when I decided to go to school it was important for me to become the first person in the family to achieve a college education. When I got married he told me it was important for me to be a better husband than he was, and when I became a father he said it was important for me to be a better father than he was. When I asked him, "Why is it important that I always do better than you did?" He said, "That's progress. That's the definition of progress." And I remember thinking about that, and as I got older it became more real why that was important.

So I told the story at the dinner, and I said, "And I am sure that Jerry Sanders would like me to be a better CEO than he was." That was probably not a good thing to say in front of him. (laughter) It was kind of an interesting experience.

RM: You have been compared to Mr. Spock for your ability to memorize and comprehend information. Describe your management style in the context of that ability.

HR: You know it's another one of those things that you get stuck with and you really don't quite understand why that is. I have learned the skill throughout my career, I don't know how I picked it up, but I have learned that I can truly put out of my mind any information that is not relevant, that I don't think will have use for in the future. But I do try to keep that information that is important. Therefore I don't clutter my brain with some much stuff that perhaps other people allow in. So it's easier for me to remember things because that is all I choose to remember. It's just that I am able to weed through all of this stuff and only remember what is important.

Now, it does cause me a problem because there are things that you know, my wife thinks are important that I never can remember (laughter), but it is certainly what has led people to think of me like that.

RM: You and Jerry Sanders are very different personalities as you mentioned earlier. When you came to AMD, what were your first priorities?

HR: Without a question it was how do we get this group of enthusiastic employees to just begin to play with an orchestrated game plan and a set of rules that make sense. There was no need for me to focus on the things that they already did well. They had excellent technology, excellent designers, and contrary to popular opinion, they had excellent manufacturing. What I did notice is that there was not a game plan. So the key was, how do we put a game plan together that is a winning strategy, that they can win with?

I use the analogy of football. A lot of people hate sports analogies, but I remember when I was a student at the University of Texas that Darryl Royal, who used to be a coach when I went there, had three running backs that were world class. Most teams don't need three running backs, but he wanted to develop the strategy that took advantage of that. That's when he came up with the famous wishbone formation, that people may or may not remember, but it used three running backs at one time. So I tell people, "Look I inherited a company that has outstanding manufacturing, technology, and designers." But we were going to have to figure out how to put a strategy around some of the things it didn't have that minimized their impact while optimizing the things they did well. I think over time we were able to do that. It strengthened those things that were weaker, and I think we are a much better company today as a result of that.

RM: Shortly after you arrived at AMD the dot-com bubble burst, and that coincided with some production issues that delayed the K6 microprocessors. Describe that in the context of early challenges.

HR: I joined AMD in January of 2000, which is probably the peak of the bubble. AMD had just introduced a new generation of product called the K7 Athlon. The K6 had already begun to wither out. So I really wasn't here during the times when the K6 challenges were at their peak. But admittedly, not long after that, the bubble burst and here was a company with a very good product, and a very difficult business environment.

If I remember correctly, people look at 2001 as the worst year in the semiconductor industry in terms of gravity of loss and all the things that happened. Those were challenging times, and I think the thing that I was able to draw upon was all my experience in the past of not panicking, being able to get the team to focus - to say, these are times when great companies are born, really at times like this. We put a plan together back in those days that we made public to everybody. We had three phases. Phase one was survival. Phase two was the introduction of Opteron. And phase three was to gain the enterprise participation of our product. We were able to execute to that, and when I look back I think that was a very important key.

RM: In those difficult economic times for the industry you had to make some tough decisions to lay off employees, and revenues were falling, and yet you continued AMD's investment in R&D, why was that?

HR: In our industry in particular, and in our segment in microprocessors in particular, it's all about technology. It's being able to either create a differentiated solution that appeals to a customer, or a leading edge solution that is better, faster, but it's all about technology.

I figured if we were here to be in the long run, that was the one area that we really couldn't cut back. It was one of those decisions that I felt was critical for the future of the company to not cut back.

RM: At what time did you know that AMD was turning around? And tell us about the successes of AMD over the past four years.

HR: You know it's interesting because there's this milepost on the highway that you begin to recognize later. I would say that the most critical milepost that began to tell me that I we're going to be able to make something significant out of this technology is when IBM chose to use our product. When you have a company of the caliber of IBM that stands up and says we're going to use AMD product - that was very strong, very powerful. It didn't come easy. There was a lot of hard work. A lot of people worked hard at it. But if you had to pick one company that had a name capable of signaling to the world that the technology that we had was good, it's hard to think of anyone better than IBM.

RM: How do you think of the comment that might be made in 2006 that AMD is still chasing Intel? Do you agree or disagree with that?

HR: You know I don't take that too personally in the following sense; we only have 15% of the market. Intel has 85% of the market. From that perspective I can see why people would say that we are still chasing Intel. But I think when it comes to product and technology, capability, manufacturing, customer relations and all that, I really think that in so many of those ways we are leading Intel. I feel pretty good about that.

As a matter of fact you can agree that it's being demonstrated by the fact that Intel had to copy what we have done in the last several years to be able to not lose faster than they have already lost in the last couple of years. Had they not done that they would have been really in a much worse situation.

So I believe that while in the share side of the equation we are definitely chasing them because they are the big gorilla, in product, technology and customers and all that, I feel like we've turned that around significantly. And I think I haven't talked to a customer or a partner or anyone who doesn't view AMD as being a true significant player in the industry.

RM: When you were at Davos in 2004, at the World Economic Forum, you made a significant announcement about your 50 by 15 Initiative, tell us about that please.

HR: As we started looking at the ways in which AMD might be able to grow in the future, we saw that the people that had computer connectivity through the Internet was only 10% of the world. So we thought, "Wow, we've got 5 billion people, in excess of 5 billion people who are not connected, who haven't used the computer yet. What could we do? Is there anything we could do?"

What we thought might be able to happen is that AMD could lead an initiative. AMD wouldn't do it alone, and first of all it couldn't do it alone, but it could lead an initiative to first of all, make the world aware of the situation. Then educate the world on how important it is for this to occur. And if we could draw up enough partnerships, perhaps we could end up connecting 50% of the world by the year 2015, which is what the 50 by 15 Initiative is. We decided to do a bold thing for a small company that many people at Davos had never even heard of. I'll tell you an anecdote, I'm going to the bathroom in Davos, and I had on my badge that said AMD on it, and some guys next to me says, "What does a grocery company have to do in Davos?" (laughter) But we thought it would be an important thing to do.

I'm glad we did it because it has really been able to attract a lot of attention, a lot of interest. We are far from where we think we should be in that initiative. We're frustrated that we are not moving fast enough, but the payoff is still there. Imagine if we could only hook up another billion people, forget 50% of the world, just another billion people. That's a lot of people, and every one of them is going to have to own their own computer. Everyone is going to have to own a microprocessor. It is a tremendous opportunity, and I believe it's still there. And I believe we have learned a lot about what not to do, and what to do, and I believe we are in leading position to benefit from that eventually.

RM: Define leadership from Hector Ruiz's point of view, in terms of traits, qualities, risks and rewards.

HR: Well at the top of the list has to be integrity. I don't see how you can lead without integrity. It has nothing to do with the Enrons of the world and all that, I just think it's important that you have integrity so that employees and customers trust you, and they know you will always tell them the truth.

I think it's important to not shy away from being truthful. I think unfortunately today too often CEOs get interviewed and they get asked a question and the answer they give is almost like a politician, you can't tell what the answer is. So I tell my people and our lawyers to train me so that I can answer the question. Don't train me not to answer the question, because I think it's important to be truthful.

I think it's critical to be able to identify the core competencies people have, what are the things that people do well, and be able to place them. Jim Collin's book, "From Good to Great" is has a great anecdote. Basically it says to get the right people on the bus is a good thing to do, but it's even better to get them in the right seat. And I think that's the key to being a leader, is to be able to get the right people on the bus, and on the right seat so that they can ride the bus. I'm a big believer of Gandhi's philosophy that if you do all that, all you have to do to be a leader is follow your people. That actually is a lot of fun to do. The rewards frankly are not financial. The rewards are really being able to see a number of people achieve their goals and objectives, shareholders included, and it's a lot of fun.

RM: Is leadership learned, innate, or both?

HR: That's the eternal, philosophical question and over one's career you flip back and forth a lot. As you get older you begin to coast into an opinion. I have to say that most of the core traits of a leader are somehow in the DNA of that person. That DNA is of course what that person experiences and achieves over time. So the cumulative experience that one has from the time you are born to the time you become a teenager is probably more significant than anything else can happen after that. So it's that sense, you could say that you are almost born with it, but it's those first 15 years of your life that really kind of determine whether you're going to be able to lead or not. Beyond that, I think you can learn to modify behavior. You can learn to do certain things, but I'm not so sure you can learn those things you missed in the first 15 years.

RM: What experiences in the first 15 years of your life led you to be a leader?

HR: It seems to me that people in general look for leadership. They yearn for leadership. So when I was in school I found that my classmates seemed to look to me for help in leading a game or whatever it was. So I learned that as a young person.

My parents played a big role in that. The idea of being a compassionate leader came from my parents. My parents were very forgiving people. Whereas people would rush to judgment when somebody would do something wrong, my parents would always say, "Step back and look at it. Is that person really totally responsible for what happened?" It made me think a lot as a young person, about those things. So I would attribute a lot of the learning to my parents. They were teachers, growing up, that would use experiences in life to teach. I was fortunate to have had those. As I make decisions today, I look back often to some of the things that happened to me as a young person.

RM: Jack Welch in a recent book said that, "Leaders make sure people not only see the vision, they live and breathe it." How do you feel about that statement?

HR: I think that's pretty accurate. I often run into people who don't believe that being passionate about their job is important. And I think that they are wrong. I really believe that you have to breathe, to live it, be passionate about it. And I think one of the things that AMD had in its culture and I was just fortunate enough to come in and exploit is, a propensity to want to be passionate about winning. So when we talk about what we're trying to do at AMD it is not make money. We're trying to change the world in a computer sense. And everybody wants to be a part of that.

Everybody feels that we have a chance of breaking a monopoly that has been in our view, harmful to consumers and customers, and people are really passionate about that, and they breathe and live it. So I think he's right. I believe that.

RM: What are your hopes for mankind, for humankind for what this IT revolution can achieve?

HR: My hopes in that sense are pretty lofty. I believe technology, particularly the IT side of the house, has the capability of bringing to people knowledge and education that might be difficult to be brought to them in any other way. I think ignorance is one of the biggest culprits of many of our problems. So I believe that fanaticism in all forms is a result of ignorance. So if connectivity and IT technology can help alleviate that, I think that would make humanity that can hopefully that can blend on peaceful terms with itself.

But beyond that, on more pragmatic terms, I believe that technology today could alleviate so many of the challenges we have - healthcare for example, in this country. I believe that IT technology alone could make a huge impact on the cost of health care. And the proof of that is in the Homeland Security challenges. When you look at how terrible, and how awful it has been for the FBI, the CIA, and all the surveillance organizations to be able to share information, coordinate it and all that, even today after four years of trying, because there is not an IT strategy for these organizations.

So I believe the same thing on health care. Imagine being able to walk into a physical exam where the doctor knows everything you have ever done in your life, everything that has happened to you. He doesn't have to call anybody because you have a chip with you, or something that has got every single thing that you have ever done. Think of the impact that would have. The fact that if you went from one hospital to another, you don't have to fill out the same forms, you could just go on and on and on. So I think that my view is a humanity where a lot of the problems that seems so difficult today could be actually mitigated significantly, and also, a humanity who could eliminate ignorance just by being knowledgeable about what's going on, and knowing the truth.

There's a very famous book that says, "You shall know the truth and the truth will make you free." I truly believe that the ignorance in perhaps some of the places in Alabama, as well as the Middle East could be done away with access to information and to IT technology, and that could then lead hopefully to more peaceful people.

RM: So in terms of hopes for mankind, what are the greatest obstacles ahead, do you see them as technical or social?

HR: Definitely not technical. I believe technology is not getting in the way of getting things done. Social may not be as accurate as perhaps political, but I think that the conviction, commitment, to be able to do thing and get things done, and on the part of leaders and politicians could make a huge impact. Technology actually today is far ahead from really where people would need to be for people to be able to solve many of those problems.

RM: How would you like to be remembered in this IT revolution?

HR: That's always tough. I hope people know that I had more interest in them feeling good about themselves than I did on anything else. People ask me today what's the biggest thrill I get from AMD - it's doing better today than we have in quite some time, and I say, it's to stand at the door and watch the people walk out with a smile on their face. I think that's what I would like - to be remembered as somebody who really got a kick out of that.

RM: Define innovation for us in terms of where you think it comes from – traits, qualities of innovators that you respect and admire.

HR: Well, innovation in general comes from competition. You cannot have innovation without having competition, and I mean healthy competition. If you have two universities that are trying to become the best at decoding the human genome, what makes one try harder is the competition with the other one. Everybody wants to get there first. The people that want to discover the vaccine for AIDS is the competition to see who gets there first. So to me competition is critical to innovation, and I think what makes healthy competition so good is having good leaders. And I think good leaders can create an environment in which healthy competition can occur. That is always good for the market, for the consumer, for the customer.

And when I say leaders I mean that in the sense of not just business leaders, but political leaders. I think that the new rounds of trade negotiations going on to open the world more, the desire for countries to join WTO, the efforts that we're trying to put forth for free trade, all of those things will eventually lead to better and healthier competition, which in turn will lead to better innovation. So I think at the root of healthy innovation is healthy competition.

RM: Jon Swartz at Sun Microsystems said that we're entering an era in which people are participating rather than just receiving information. How do you feel about that comment?

HR: I would agree with that because with technology today people are able to truly maneuver through information in a way that makes it interactive and productive. They learn a lot by just getting where they need to be, versus just looking up something in a dictionary. It's going to get even better as people are able to eliminate things like junk mail, ridiculous pop-ups and those things. But as all things will improve and get better, the ability of people to be so efficient at maneuvering through the information environment out there is going to be phenomenal. And that's going to be able to occur any time, any where, by using technology that is portable, broadband, wireless, by being able to have it pretty much be whenever you want it, the way you want it, when you want it. I think we're not that far from being able to meet that space.

RM: There is a lot written about information technology, but there is little written about IT leadership itself. What does IT leadership mean to you, in the context of the CIO?

HR: What I hope is occurring is a transformation of leadership in the CIO community, that is taking it from the old view of the CIO community and the IT community being more focused on transactional productivity. By that I mean being able to make computer transactions occur at low cost, to truly being able to be relevant use of the information, and be able to focus on what's important and relevant.

An example for that is today's procurement of clients in the enterprise by IT professionals. It's truly a transactional thing – you bid it out, whoever gives you the lowest price tends to get the bid. No one yet has thought to step back and think heavily that we've been doing client enterprise IT work for the same way for 20 years. Shouldn't we step back and rethink it? I think a few people have begun to do that, and I am excited about it because I think it's going to revolutionize how IT is done in the enterprise. But that's what leadership in the IT world means to me, to be able to be willing to stick your neck out and not say, "Well I'll buy IBM because it's safe, or if it's got an Intel processor inside. That's the way we have done it for 20 years why change?" We need to have IT professionals start thinking, 'What could dramatically change in my enterprise?' And I mean dramatic changes.

It is believed frankly, that if we could re-architect the client the enterprise could save up to 80% of the cost that they have today. I've seen spots of brilliance around the industry occurring. I hope those things become more pervasive because I think it's time to do that. They can then extend that to other fields. So to answer your question, IT leadership is being able to really think, "Am I changing the rules of the game, or am I just focused on a very linear view of where the world has been for many years?"

RM: Doctor Hector de J. Ruiz, recipient of the 2006 Morgan Stanley Leadership Award for global commerce, thank you for sharing your thoughts with us.

HR: Thank you!