

MIAMI

NSA BANQUET SPEECH

**JACQUES CÔTÉ**

JULY 16, 2006

NOTE: This is the full speech prepared for the NSA Banquet, but not all of it was actually delivered in front of the Banquet audience.

The final delivered speech is in black.

The red text was for guidelines only and not pronounced.

The blue text was meant to be read at the Banquet, but was finally removed from the speech for length reasons. The Convention organisers wanted to keep the speech to a length of about 20 minutes. You will also find an alternate ending that was removed for the same reason.

## THANKS

Thank you Ron,.....Dear NSA Members, Ladies and gentlemen, old and new friends, I am happy and honoured to be here tonight.

## ACCENT

Many of you are now used to my accent. I usually prefer to communicate through my images. Please don't tell me THEY have an accent too.

## INTRO

I'd like to share with you tonight the photography side of a venture called 3Discover. For me, it's been a 10 year adventure that brought me all possible emotions. Happiness and sorrow, joy and pain, hopes and despairs, very often all of them in the same day. But above all, it brought me a lot of fun, doing a very exciting and creative work.

## 3DISCOVER VIEWER

I guess most of you know the 3Discover viewer (**show the viewer**). If you do, you know I am not here to brag about its commercial success. No, it didn't really meet our expectations. But at least we have tried to bring stereo to a very large public and I am still very proud of everything we achieved with this product, especially the stereo photography.

## EXPERT

With my partner Michel Hamel, I started shooting stereo pictures in 1979, with 2 side by side Nikons. One year later, I was an expert! Yes, I was an expert at ruining a 3D shot. I was an expert at making all possible mistakes that make a bad stereo picture. In 27 years, I took many tens of thousands of 3D photos. Sometimes I wonder if I shot more bad ones than good ones. Believe me! I don't really want to know.

## STEREO IS FUN

So we kept shooting and our efforts finally paid off. With time, our pictures quality improved. I want to specify that we were doing this just for FUN. Stereoscopic images are FUN to shoot and FUN to watch. We made

them for our own pleasure, to our own taste. We just wanted to please ourselves.

## LOTTERY WIN

But we soon found the impact of our images on other people. Everybody loved them and, one thing leading to another, in 1993, we found ourselves in a meeting with Wrebbit's president Paul Gallant. He said: "We love your images. We believe there is a business opportunity here! We are ready to invest in a new viewer concept. We will sell it everywhere."

WOW! It was like winning the lottery! Sharing my stereo passion with as many people as possible has always been one of my goals. This was a very creative period. But ironically, I almost stopped shooting for 2 years to work with engineers, industrial designers and movie lab technicians, developing the viewer concept and production techniques.

## TARGET TOURISM

Earlier market studies showed that the tourism industry was very strong and growing fast. So we already had our subject. The 3Discover viewer would target tourists, bringing them the best stereo images ever made of the most popular travel destinations.

## BIG ORDER

Hooo! Quite a big order and a lot of pressure on the 2 photographers. The viewer was to be launched in less than 2 years and no image was shot yet. So it was time to hit the road and start shooting.

## CHOICE OF SUBJECT

People often ask me: how did you choose your subjects? Simple! We had a list of all the main tourists' destination in the world, with the numbers of visitors each year. We just followed it.

## PREPARATION

OK, you are leaving soon for a 4 weeks shooting trip and there is a lot to do: list of subjects; check photo equipment; make travel arrangements. But you are already working days and evening. And people you are working with don't want their work delayed by your absence. So you work harder and harder. When travel time arrives, you're completely exhausted, half dead, as we say in Québec, in French, of course. And you are leaving for a month long marathon, carrying heavy gear on your back.

## PHYSICALLY DEMANDING

Stereo photography, the way we did it, is physically very demanding. A typical team was formed of 2 photographers or one photographer and an assistant. We carried 4 NIKON N90X with an assortment of lenses, 2 tripods, sliding bars, tools, films, batteries, tape, and more. 30 to 40 pounds for each of us. Heavy on the shoulders!

## BEING 2

For the type of stereo we shoot, being two is almost a must. Even if it is just to share the load. But it is also necessary because of the technical limits of our equipment. For instance, our longest twin release cable is 50 feet long. A wider stereobase then needs 2 persons triggering at the same time. For closer subject, two photographers can work simultaneously, using different angles or lenses, saving time.

I did make solo trips. In late November 1996, I went to Mt-Rushmore, St-Louis and Chicago to complete our GREAT AMERICA cassette. I remember well setting my two tripods 50 feet apart, in one foot of fresh snow at the base of Mt-Rushmore, praying for not getting an urgent need for the restrooms. This is down to earth, but it is reality. It may take up to an hour to prepare such a set-up alone. And you cannot leave so much worth of equipment unattended. So even if you

did not shoot a single frame yet, you have to pack everything if you need to leave for a few minutes. Being two makes life a lot easier.

## FLAT PHOTOGRAPHERS

The first move we made when arriving in a new city or a new park was to go to a souvenir shop and check postcards and souvenirs books. It gives an idea of how flat photographers covered the points of interest. We always felt disadvantaged compared to local photographers. They know their region well and can shoot when conditions are perfect. It was totally different for us. Coming to an unknown region, we had to make at least 12 good stereo pictures in a rush lasting only a few days, whatever the conditions may be.

## READY TO SHOOT

So we get to our first subject. Let's say it the Grand Canyon. Impressive place, but how do we shoot it?

## SHOOTING PHILOSOPHY

My shooting philosophy is that the 3D effect should be on the main subject, if possible. If I shoot a tree, I set up for a stereo effect on the tree. If I shoot the Grand Canyon, I set up for a stereo effect on the Canyon. If there's a tree in front of the Canyon, I must decide which one is my main subject. If it is still the Canyon, I will try to avoid the tree and shoot with a very wide stereobase to get a good effect on the canyon.

Of course, this will produce the miniaturization effect. Many people don't like this effect and I respect their opinion. But I noticed that most of the persons surprised, and even bothered by it will become enthusiastic once they learn what causes it.

At the office, we received thousands of letters from customers. To our delight, they all praised the stereo photography. All but one. It was handwritten by a man who wrote: "My wife and I loved your images until we realized you used mock-ups and scaled models in them. If we had known, we would never have bought your product." This letter came right on my desk. I replied, explaining the psychological effect of hyper, but mostly saying that mock-ups with so many details would cost more to built than our shooting trips. I hope he still likes our pictures.

Personally, I love being psychologically surprised by stereo, as long as the images are physiologically comfortable. So I say to all stereo photographers here: GO AHEAD! TRY CRAZY THINGS! SURPRISE ME! SHOCK ME! STORM MY BRAIN WITH SOMETHING I HAVE NEVER SEEN! I LOVE IT! I am very happy right now, because this happened many times during the last few days. Congratulation to all of you, fellow stereo photographers. KEEP UP CLICKING!

## STEREO DANSE

OK, let's get back to shooting.

Finding the right base is the hardest part of hyper stereo photography. Is it going to be 10 feet or one hundred? We used many techniques over the years: tables, calculations, or just simple guess. We finally settled for an obvious technique we can describe as VISUALIZATION OF PARALLAX. But we gave it another name. Let me introduce you to THE STEREO DANCE! First you spot an object in the background and another one in the foreground. Then you move to check their horizontal shifting to one another.

In close shots, you go like this. (Move head and body to one side and to another) For more distant one, you go like this. (Take a few steps left and right). For extreme shots like the Grand Canyon, you're taking a walk. (Walk as far as possible to the left and as far as possible to the right).

I know, I look stupid, I am used to it, and we had to do it all the time. 2 guys moving strangely in front of all other bystanders.

The second step of the stereo dance comes with framing. For the first 3 years of the viewer, all images were optically reproduced. No computer, no correction. So framing had to be very precise at the shooting step. Meaning many more moves from one camera to the other until we got an accurate visual alignment.

## LOCATION DECIDES FOR STEREOBASE

But very often, we did not have much choice. The shape of the shooting spot decided for us. Is it wide enough? Is it clear of poles and wires? Shooting at angle from a straight viewpoint puts a limit to a stereobase. Shooting sideways from a slope, with a camera on the ground and the other one at maximum height of the tripod does the same. Or is it full of the biggest enemy of hyper stereo, a living creature called a TREE?

## CHAINSAW SITUATION

Trees are always in the way. Tips, branches and leaves keep blocking the frame, always too close to be included in the shot. We used to call this a CHAINSAW SITUATION. Of course, we didn't cut trees, but we did bend them and attached branches to get them out of the frame.

## SHOOTING FIRST FRAMES

As soon as the set-up is ready, even if conditions are bad, you immediately shoot a few frames. Because conditions often get worse.

Then you wait... You wait... You wait...

## REASONS TO WAIT

You wait for the right light, for the right number of people, for a delivery truck to leave. Don't forget they all must come together at the same moment.

## MACHINE GUN SITUATION

At very popular attractions, like the Eiffel Tower, or Times Square, there is always too many people. You have to come at weird hours to get your shot. We could not use any shot of the Piazza Espagna, in Rome. It was just too crowded! Very frustrating! We used to call this a MACHINE GUN SITUATION. Don't worry, we said it as a joke. We never carried a machine gun in our bag. It's just too heavy!

There is also a legal side to shooting people. Oops! I mean to photograph people. We couldn't run after 60 persons at a time to have them sign a release form. So we tried to keep them far in the shot, or with their back at us.

On the other hand, having a few persons gives a scale to a hyper image. If there was nobody, we often played models ourselves. I did my best model performance standing before a garbage can just to hide it.

## MAGIC MOMENTS



Those of you who take 3D pictures know that, once in a while, we found ourselves at the right place, at the right moment, with the right camera set-up. When this happens, it's a magic moment, a blessing from heavens and the resulting picture is one of those we could look at forever.

As photographers, our goal is to get ready for those moments and make sure we catch them all on film. But this never happens in real shooting situation. Well, almost never. Most of the time, we watch this magic moment go by while we're loading the cameras, changing our cameras set-up, changing lenses. Or simply because we were tired of waiting and packed everything a minute ago.

### WORK AND PATIENCE

It takes a lot of work and patience to produce good stereo pictures on an INDUSTRIAL basis, especially in places you have never seen before. No matter the conditions, you must bring home good, usable pictures. If it means coming back 3 times at the same spot, you do it. If it means setting up the cameras and wait for 3 hours while the sun is setting, you do it. And this is exactly what we did for a New York City shot. We installed our cameras on 2 tripods, 80 feet apart, in New Jersey, just across the Hudson River. With the sun slowly setting in our back, we stood for 3 hours, taking a shot about every 10 minutes, until the sky turned dark. It was beautiful to see the dissolve from natural to artificial light. We used two of those shots in the New York cassettes.

### SHOOTING APPROACH

My approach to shooting is to cover the obvious, classical angles first, just to get rid of them. When this is done, you know you have usable material. This eases your mind, and you can start being more creative. When you have enough time!!! And time is a precious and rare commodity in a shooting trip. So I often had to leave a subject, frustrated, feeling I did an honest job, but not my best.

### CONTRADICTION

I think you have noticed the contradiction here. We had to rush to make as many shots as possible, but we often waited for hours to get the right light. We had to judge each situation individually. A very important shot deserves a wait. A minor subject doesn't.

## ATTENTION OF TOURISTS

But what happens when you stay a long time around a landmark with a twin camera set-up and a tripod? You draw attention! First, from other tourists. Are you shooting color and black and white at the same time? Panoramic? Stereo? Even if they disturbed a bit our shooting, we were always happy to talk about stereo for a few minutes.

## TOURISTS GRAND CANYON

I remember a shooting at the Grand Canyon. Impressed by the magnificent scenery, we were setting up a shot. A couple of tourists came along. They seemed bored and unhappy, not even looking at the Canyon. How can someone be bored on the rim of the Grand Canyon? We showed them a few stereo images. WOW!, they both said. Their faces changed completely. They were so excited now. They left with a smile on their face. How powerful a stereo image is, to change boredom into excitement and make the day of a person in a few seconds. This kind of story happened many times.

## ATTENTION OF POLICE

Unfortunately, shooting stereo also draw attention of Security Services and Police. This is a bit more touchy. When we shot Paris in 1995, we were right into a wave of terrorism bombing. Two bombs had already exploded in the subway. And we used it every day. All the public garbage cans had their lid welded shut. French Gendarmes were everywhere, searching all big bags and packs. No need to say they searched our bags many times.

## POLICES OF THE WORLD.

We have been questioned and warned by the Italian Carabinieri, the London police and the Chinese police. Stopped and searched at US customs. Checked by the Secret Services and warned by the Capitol Police.

## CAPITOL AND PENTAGONE

The Capitol Police officers told us we could not use a tripod on Capitol Hill, unless we had a special permit. They were a bit aggressive and acted as if a tripod was a threat to security. Two days later we were flying over Washington in a small Cessna plane. We could not fly over the Mall, the White House or the Capitol. But we did fly right over the Pentagon. I remember well thinking to myself: "This is the heart of the American defence and I could drop a bomb on it if I had one, but I can't use a tripod near the Capitol". And this was all before September 11<sup>th</sup>. I am sure many of the aerial shot we made over Washington and New York would be almost impossible to shoot today.

## AERIAL PHOTOGRAPHY

Let's talk more about aerial photography. We usually used a Cessna 172, because we can open the window without having to take the door off. We also used helicopters, but only over the Grand Canyon and San Francisco. They're too expensive. You won't see aerial shots in our Europe and Asia cassettes. It is forbidden to fly over Europe cities and very hard to get authorisations in Asia.

I love flying in small aircrafts with no glass between me and the ground, or with my legs dangling in the air. It is often shaky, sometimes scary. Always exciting!

## JET FIGHTER

Let me tell you another story about aerial photography. In the San Diego bay, there is a peninsula with a famous hotel. The Hotel Del Coronado. We badly wanted to take an air shot of it. But it is very close to a Navy Base with its own airport and a lot of air traffic. Our pilot asked many times the Navy controller the permission to make a low altitude pass near the Hotel. He refused! We were flying as close as possible, hoping to move fast when we would get permission. After about 10 tries, the controller got a bit mad and shouted: "I SAID NO! STOP ASKING!" Less than a minute later, we saw a jet fighter plane taking off. It climbed quickly in a long curve and came directly at us, still climbing. We froze stiff. It seemed a collision course. But the fighter plane was going up so fast that it flew just a few hundred feet over us, in a roaring thunder. The message was clear! Our pilot was impressed, we were scared! Wisely, we decided that a ground shot of the Hotel would be fine.

## MISTAKES

Back on the ground, the rush continues and you get more and more tired. This is when you start making mistakes. Personally, I forgot a few times to load one of the cameras. I dropped a camera from a cliff in Bryce Canyon. I was lucky the 10 feet release cable didn't break and I could fish it back.

I was also renowned for dropping and breaking dozens of filters, especially polarizing filters. Eve-Lucie, my assistant, backed up into a tree with our rented RV.

Fortunately, no one has been injured while shooting for the viewer. I believe security comes first. I prefer to miss a fantastic shot than putting my life at risk. But temptation is very strong sometimes. The best angle always seems to be just a little bit closer to danger.

In some occasions, the danger was different. Night shooting in a big city with nearly 20 thousands dollars worth of equipment is risky. Very often, the best spot for a skyline night shot is a remote, deserted, scary place. We kept a very low profile at all times. Here again, being two may have made a difference.

## RAINY DAYS

On a shooting trip, there's no week-end, no day-off, unless the conditions are very bad. Rainy days were welcome, but just if not too frequent. We could get some rest, take time to eat well. We also used them to locate our next subjects and take notes of angles, so we could shoot faster when the sun came back.

## OTHER SHOOTINGS

This is roughly how we did the tourism cassettes. Our other titles made us work in different ways, making us more versatile. Taking good stereo pictures of animals is very difficult and also requires tons of patience. And it's a challenge to work with very long lenses. Shooting sport action is hard on cameras synchronisation and focus. Working with showbiz artists was very interesting. We attended 3 shows of Celine Dion. Do you know she's from Quebec too? The first day, at the sound test, she welcomed us holding her breast and she said in French "SORRY GUYS, I DON'T HAVE MUCH 3D FOR YOU". She is a very generous woman!

Speaking of breast, the shootings we made for L'ORÉAL Professional hair products were very exciting. Fashion photography is so specialized that we had to team up with another photographer. We prepared everything together; he would shoot in flat first, and stay to help direct the models for the stereo shoot. I shot for l'ORÉAL twice in London, once in New York and Montreal.

## GENEVA

I don't shoot as much nowadays, but I still have the passion. Three months ago, I got a call from Munro Ferguson, an animation filmmaker at the National Film Board of Canada. He works with the SANDDE machine. SANDDE is for Stereo Animation Drawing Device. It allows drawing directly in stereo, with a computer, using a kind of mouse floating in a magnetic field. His film, called EVERTHING, is about the origins of the universe and is going to be released in IMAX 3D. He asked me to shoot in medium format stereo a giant particle detector that scientists are building in Geneva, Switzerland.

A month ago, I was in Geneva, Switzerland, shooting in medium format for the National Film Board of Canada. This was for an animation film that will be released in IMAX 3D.

Knowing me, the director insisted that I used a very small stereobase, because he wants to use the pictures as a 3D background, and needs foreground volume for his drawing. It sure felt strange for me to set-up for a weak stereo effect.

## STEREO

But weak stereo is still stereo.

And I love stereo images more than ever! I deeply feel stereoscopy expands my vision, thus expanding my mind. I believe it is still a very young art form, full of possibilities for the future. I am convinced there is still so much to learn about stereo, so much to explore, so much to experiment. And, if I dare to say, there is still so much to 3DISCOVER.

THANK YOU!

## ALTERNATE CONCLUSION NOT USED FOR ACTUAL MIAMI SPEECH

What is the place of 3D in the future?

Up to now, we have been mostly limited to 2D. Our brain works so well that we can make very good sense of a flat image. TV, books, computers, we spend more and more time using both eyes to see flat surfaces filled with printed images or words.

For me, wondering for the future of stereoscopy is also wondering for the future of our sense of vision. We use our eyes for almost every one of our daily tasks. But globally, our sense of sight has never been so sick. More and more people need eye correction or eye surgery.

We exercise our bodies to keep our health, but we lock our eyes on very close, still flat surfaces, usually for long period of time.

All of you here know that stereoscopy is a good exercise for the eyes. It keeps them moving, converging on different planes and this is good for them. Stereo can even be used to help cure some eyes problems like strabismus, when the eyes do not look at the same place. This is especially true for kids.

So stereo is good for the physiological part of seeing. But for me, the most important part of the vision process takes place inside the brain and the brain does not have the physical limits the eyes have.

For instance, have you ever heard of this experiment in visual perception where some students, who acted as guinea-pigs, had to wear glasses with prism lenses that made them see the world upside down? No? Yes? At first, they were disoriented and unable to walk or use their arms precisely. After a few days, all the students could function normally with the prism glasses on. Their brains

adapted to the new reality and corrected the problem so they felt the visual world was normal.

When they removed the glasses, it took less than a few days to re-adapt to normal vision. The experiments stopped there, but let's imagine they were asked again to put the glasses on, re-doing the experiment again, and again and again. We can suppose that the adapting time, from normal to upside down and back, would get shorter and shorter to the point it becomes instantaneous. What would happen if we then hang one of them by his feet, head down? Could he mentally switch his mind to see normally, as if he was wearing the glasses? Probably! Of course, nobody plans to watch TV hanging head down from the ceiling, so this capacity may be useless here on the ground. But what about a weightless environment like space? I am sure an astronaut would really appreciate being able to read, work and perform some of his tasks whatever his body position may be. Science fiction? Possibly, but for me it is only extrapolation and projection in the future of today's facts.

Here is another example. Many tests have proven that aircraft pilots do not really need binocular vision to do their job well. Inside the cockpit, every control is at arm length, its position very well known by the pilot. Outside the cockpit, the distances are too great and motion parallax replaces stereoscopic vision. Pilots with one eye covered did perform well during long flight, including take off and landing.

The same is true to most of us. Do we really need two eyes to read? To watch TV or work on a computer? Not really I guess. So isn't this a waste of an eye? Can we find a better way to use this useless eye? Could we train our brain to separate the two channels from the eyes and process them individually? Could we read a text with the left eye and at the same time watch a flat image with the right eye, perceiving them both simultaneously? This may sound crazy now, but maybe not so in the future.

As stereo images producers and users, we already have the tools to experiment with these ideas and most of us already did. Putting by mistake two unrelated slides in a stereo viewer will immediately inform you that your brain is not ready for that. But what about little differences in the left and right images of a stereo slide, other than parallax used for 3D. Like a sync problem, when part of a stereo image is a bit different in the left and right eye. How does our brain react? What about pseudo stereo, when the left eye sees the right image and the right eye the left one? How do you react yourself? Is it disturbing, bothering, intriguing,

interesting, fascinating, a lot of fun? Would our brains accept a pseudo stereo sequence in a 3Dmovie, showing how a mentally ill person perceive his world?

OK, I will not go any further on that subject. I do not want you to believe I am this mentally ill person.

And maybe I am, but I can't help loving vision and loving 3D in all their aspects. There is still so much to learn about them. There is still so much to explore. And, if I dare to say, there is still so much to 3Discover.

Thank you!