



The Zen of filming *Life of Pi*

by Camera Operator Lukasz Bielan

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Pi (Suraj Sharma) and Richard Parker (the tiger) contemplate each other.

Life of Pi, a 400-page novel by Yann Martel, won over many hearts when it was published in 2001. It is the magical story of an Indian boy named Pi, a precocious zookeeper's son. Pi's family decides to move from India to Canada, hitching a ride on a freighter. After a shipwreck, Pi finds himself adrift in the Pacific Ocean, accompanied by a hyena, an orangutan, an injured zebra, and a 450 pound Bengal tiger named Richard Parker, all fighting to survive for 227 days.

Directed by Ang Lee, with cinematography by Claudio Miranda ASC, *Life of Pi* is truly a visual spectacle, using 3D technology to bring this adventure masterpiece to the big screen.

Sometimes it's just about getting your feet wet, or keeping your head above the water. Operator Lukasz (occasionally credited as Lucas) Bielan (*Transformers 3*, *Public Enemies*, *Oblivion*) reminisces about capturing fantasy, spirituality, and searching for life's purpose.



Suraj Sharma as Pi Patel

You're hired

I get this phone call from Claudio Miranda, whom I have known for a long time—we worked together on many commercials and I was his “B” camera operator on his first feature film (we do not like to mention this title, although it made money and put Claudio on the map). He calls and says “how about we do a film in Taiwan and India, a bit of Canada, for 6+ months—EASY—you will be on the crane all the time, fun and not too complicated”... Little did I know! It was the most challenging film I have ever worked on – technically, emotionally, and physically!

I came up through the ranks starting as a camera trainee, 2nd AC, then focus puller and operator. I had the great privilege of working with some of the best people in this business, including Sven Nykvist who was my true mentor and a father figure. I worked on 9 of his pictures, which is a fraction of the over 130 films he has made. But we became very close. He taught me a lot about filmmaking and lighting but above all, how to be grateful and understanding—how to be a good person. I believe he was not only an outstanding cinematographer but also an amazing human being. He also always said that the most difficult thing to achieve in one's art, profession, and life is simplicity... We seek for ways to be original, and ways to stand out, by over thinking and over achieving what really is in front of us. The simplicity is so obvious that it frightens us.

In many ways, simplicity is the hardest thing to achieve, and once one achieves it, it's an unbelievable art form. I think

that's what Ang Lee is so masterful at. He knows how to tell the story by means of simplicity.

When I went to film school many years ago, one of the first things I learned was that kids, animals, and water were the most challenging things to work with. We had all three—and 3D on top of it! All my instincts, knowledge of anticipation, and pure feeling for my work as an operator were thrown out the window.

The 3D angle

Life of Pi was a true journey. We took on a story that many thought was unfilmable. Before Ang Lee there were three directors who pursued this project: M. Night Shayamalan (*Sixth Sense*), Alfonso Cuarón (*Children of Men*), and Jean-Pierre Jeunet (*Delicatessen*). Then Ang came on board and decided that the only way to make this movie was in 3D.

I had had some experience with 3D, but never so effective and “by the book.” Those rules gave Ang the opportunity to create a new way of dealing with 3D in editing. He came up with cuts never seen before with this technique.

Claudio was prepared for this movie like no other DP I worked with before. He has always been a technically savvy individual, with all the new toys, gadgets and knowledge of them all. He is kind of like Hitchcock or David Fincher: the film is already made, now you just have to shoot it!

Composition is a key issue in 3D. Take for example “edge violation,” also called “breaking the stereoscopic window” or “breaking the frame.” If the action comes out of the screen

(negative parallax) and the objects are cut off by the screen edges, this causes an edge violation. Contradictory depth cues are sent to the viewer. One cue is saying that the action is in front of the screen and another is saying that the action is behind it. So, I had to compose a close up very differently than in normal 2D filming, and the same with over the shoulder shots.

The right Pi

Ang Lee has a great gift of finding individuals who work well together. It took him months to cast the boy for Pi's character. After auditioning 3000 boys, he chose Suraj—a boy who had never been on a film set, never swam, and never left India. His transformation was something that we as filmmakers have never seen. Within days he became the character, going through emotional and physical changes (including losing 40 lbs). And he performed superbly!

The lens loved him, and during one scene, when Pi was

approximate place that part of the story took place, and meditated with him. Many times Ang was very precise with direction, but sometimes he was just leaving him to be himself, to a point that Suraj asked me, “What am I supposed to do? He did not say anything.” My response to him was, “Exactly!”

On location in Taiwan

We shot most of *Life of Pi* in Taiwan. Ang Lee is a national treasure there, so it was easier to fit the budget of such a difficult movie shooting in Taichung, third largest city of Taiwan. We had an old airport at our disposal with three hangers converted to sound stages. One had a water tank where Pete Zuccerini shot most of the underwater stuff. There was also a hanger built solely for all the animals that were in the movie—4 tigers, a couple of hyenas. (The orangutan and zebra were CGI, and so were the more gruesome tiger and hyena performances.)

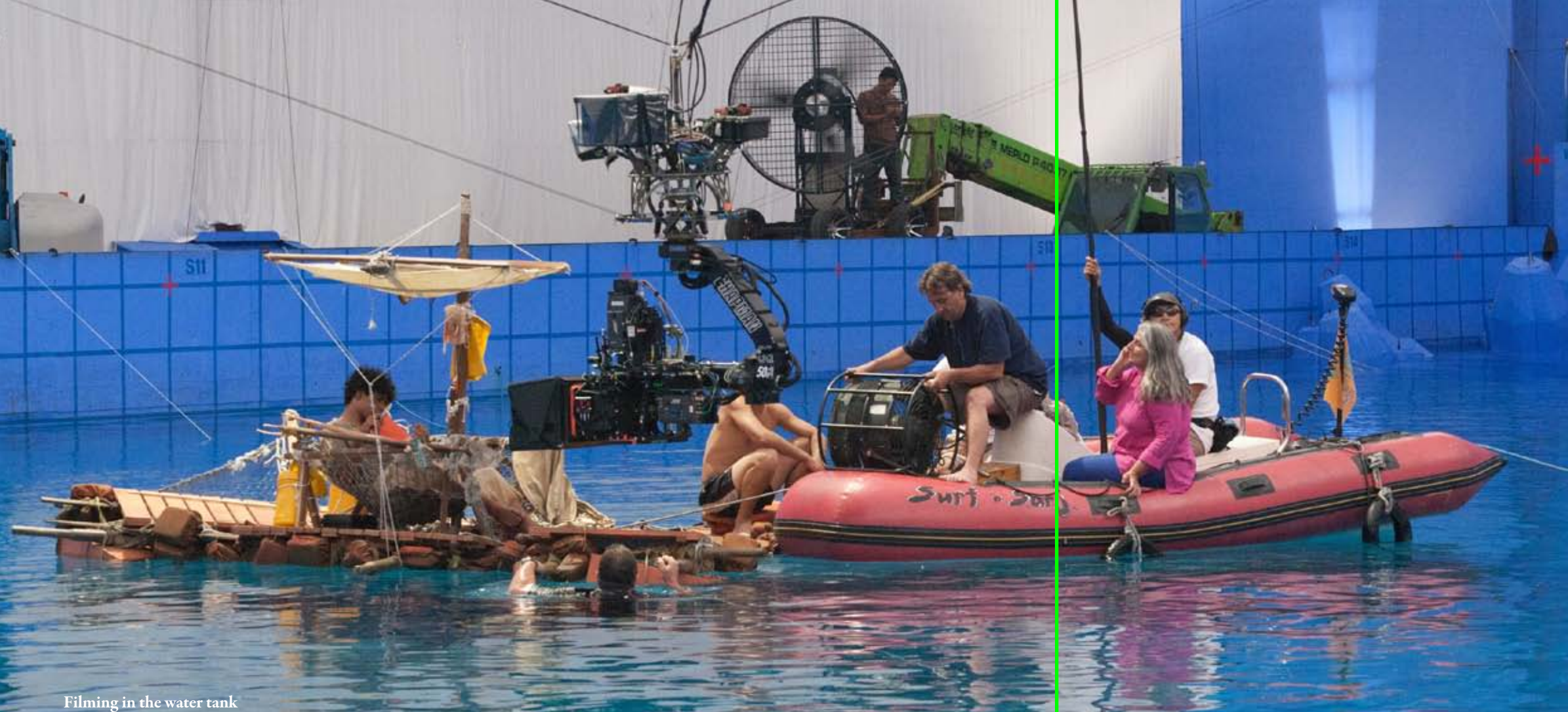


Camera Operator Lukasz Bielan, Director Ang Lee, and Director of Photography Claudia Miranda ASC

going through a very emotional moment, I thought it would be great to push in on him. Well, I was wrong—very wrong. Ang was quite upset, not because I took the liberty of doing a move, but that I spoiled a moment that did not have to be forced by adding a dramatic move. Another lesson learned. He was absolutely right. Why spoon feed the audience, if it is all there! That is why I love this business!

Ang knew how to talk to actors and a boy who was new to this. Before filming he took him out to sea, to the

And then there was our main area of filming—the enormous basin with a state of the art wave making machine. From what I understand, it was the largest tank of its kind in the world. It measured 90 meters by 30 meters [about 300 feet by 100 feet—for comparison, an American football field is 360 by 160 feet] surrounded by dozens of shipping containers which formed an enclosed area from all sides and made way for overhead light control by a pulley system of silks. One side of the area could be opened so that we could



Filming in the water tank

shoot into the sky with no horizon.

Claudio designed a system so that at any given moment he could surround the area with white cloth, blue screen, or negative fill. This allowed him to bounce light onto the set or take it away. Containers nearest to the set were occupied by each department: one for camera and video techs, one for sound, etc. Then there was our container where Ang, Claudio and the producers watched our work on 3D monitors. This is also where I operated. It was a necessity to be inside, because of all the atmospheric conditions that we created for the movie. And that meant I was close to Ang to listen to his directions.

Tools of the trade

Our cameras—two Alexas on Pace rigs—were mounted on a 30 ft hydroscope crane that was then mounted on top of the Chapman Titan crane. Apart from that we also had the spider rig at our disposal for certain high angle and programmed shots.

I must admit that I do not belong to the technically inclined, so learning the new media is something to look forward to every day.

As a camera operator, I know how to adapt to each new project. Every director has a different vision, idea, procedure and personality. For me the great thing of filmmaking is that you always learn, no matter how big the project, be it film,

TV, commercial, or music video. I believe that the moment you stop learning, you must change your occupation because you get stale and lose interest.

Challenging shots

Ang Lee is a very organic director who knows what he wants but lets things happen. He would never have storyboards, but he did have a previsualization, because of the difficulty that lay ahead of us in the logistics of shooting on water with a kid, animals and 3D! Having said that, the previz was more of a guideline, because everything changed the moment we did rehearsals and realized how some shots would not work in that moment, or we would find better ideas. For instance the previz called for a shot of the boy on a raft, revealing by pulling back that the lifeboat was further away. As we looked at the scene we found a great crane shot that starts over the boy, booms down, pulls back, does a 180° and then reveals the boat with the raft in the foreground.

Being on the crane is taking advantage of a great tool and helps finding cool frames, but it also— in the case of this movie—created a huge problem with following the composition. I always love to be behind the camera. I believe that if you do it long enough, the camera becomes a part of you, whether you're operating a fluid head or a geared head. The difficulty with being on the hydroscope that is on the Titan, with a 3D digital camera, and operating over water, is timing,

That's where the whole instinct issue that I mentioned earlier comes into play. Intuition is very important, but because of the minute delay of the video image coming back to the monitors, minute delay of the remote head, the time needed to communicate with the dolly grip and arm operator, and the unpredictability of the water, the said intuition becomes irrelevant, especially when you have a director wanting something very specific, so one can imagine what a stressful time that can be. We did succeed in the end, by fine-tuning the equipment, great concentration and a bit of luck. I must admit that there were shots that we were not proud of, but in the long run they looked very generic and real, so sometimes through mistakes something great happens—another learned lesson.

Our crew was remarkable, and this had merit. Most of the scenes on the water were in various weather conditions, and our rigs were not weatherproof! The rental house did not have any waterproof housings

because it was a new rig and nobody had ever used electronic equipment like that in water. We had the Storm of God—the biggest storm in the movie—where it washes Pi to shore. We had so much water and so much rain that it was a miracle that the camera survived.

Dan Ming (1st AC) and Tucker Korte (2nd AC) became our onset plumbers. They built a special weather bag, equipped with “air blades” that would blow very high pressure air on the front elements of the mirror. 3D cannot take any imperfections on the front element of the lenses—the mirror. With 2D filming you can get away with murder and sometimes it looks great when one sees water on the image. But because of the nature of 3D, this is impossible. So the guys built this system of hoses that blew air from heavy duty compressors that looked like two big armoires! After many trials and errors it worked great, without taking the time out of changing the lenses. We shot most of the water work on Master primes.

The “B” camera AC's were also fantastic: focus puller Jan Ruona, 2nd AC Tobin Oldach.

There was a shot that we had to do with Suraj on a fluid head, where I had to whip tilt from his foot to his face very precisely so as not to cut his head—the 3D thing. With a conventional camera it's not a big deal. With a 3D rig that weighs a ton, is longer in girth and size, and has a different momentum, it was a bit of a challenge. Of course we did it, but I learned a new thing about how to distribute power and how to handle momentum in tilting with a massive camera. Basically, it is practice of tilting with a great 3D beast.

We even had a handheld sequence of kids playing soccer in the schoolyard, with the rig weight over 120 pounds, but I love doing stuff like that. It still makes me feel like a kid playing with his toys. I get a lot of complaints from my peers saying that I should not do that kind of stuff because then it will be expected of them! Weight matters the least for me; it is



Lukasz Biclan films the boys' soccer match with a handheld 120 lb rig.

PETER SOREL



“Richard Parker” the Bengal tiger

various sequences. Our main tiger named King was the hero—his name says it all—majestic, grand and very powerful, above all ferocious—to the point that even his handler had fear of him. At one point Richard Parker (the tiger) was to swim across our water tank. King was trained for that and rehearsed many times. During this shot we were to be prepared to evacuate the area if he decided to take a different route, which of course he did! Immediately most of us left the proximity of the set, as instructed. King kept swimming around the tank,

losing his sense of direction, and slowly losing his strength. The trainer immediately had to take the action into his own hands, not literally, but off a water platform. He hooked the tiger’s head with a lasso and slowly piloted him to shore. Then there was a wonderful tiger named Jonas, not as brilliant as King, but great for close interaction. We had a shot where I was operating the camera from the camera (for a change), and Jonas walked by us. As he passed, he brushed by my body—it was as if a tank drove by. The massiveness of that creature was amazing.

On location in India
India was a magical location—one of the greatest places I have ever visited. We shot in the tea fields of Munnar. From a distance its landscape resembled a gigantic green brain. One of the most beautiful sequences of the India part of the film was shot at a temple during a water tank ceremony. The tank is a square reservoir the size of a soccer field with a series of steps leading to the water. A shrine sits in the center; worshippers carry a statue of Sleeping Vishnu into the water where it is transferred to a raft. The ceremony begins, and the

more about the distribution of it that takes the toll on my body, so sometimes I actually add more things on the camera so it balances properly and the weight is distributed mostly to my core.

And then there was a sequence shot in the ocean... We were composing on the lifeboat coming towards the camera which was in the water and then as the boy jumps in we submerge with him finding his feet that struggle to touch the bottom, and as he gets a grip we come up from under water to find him getting on shore for the first time in over 200 days... a very epic and emotional moment—I may add also a very physical moment for me! We had an underwater rig that weighs as much as the camera rig, so it took four guys helping me to achieve the shot—another one of those times where we have to hurry to have good light as well... It was a handheld shot under and over water. The guys helped me control the camera’s weight and momentum. We were just on the shore of waves breaking.

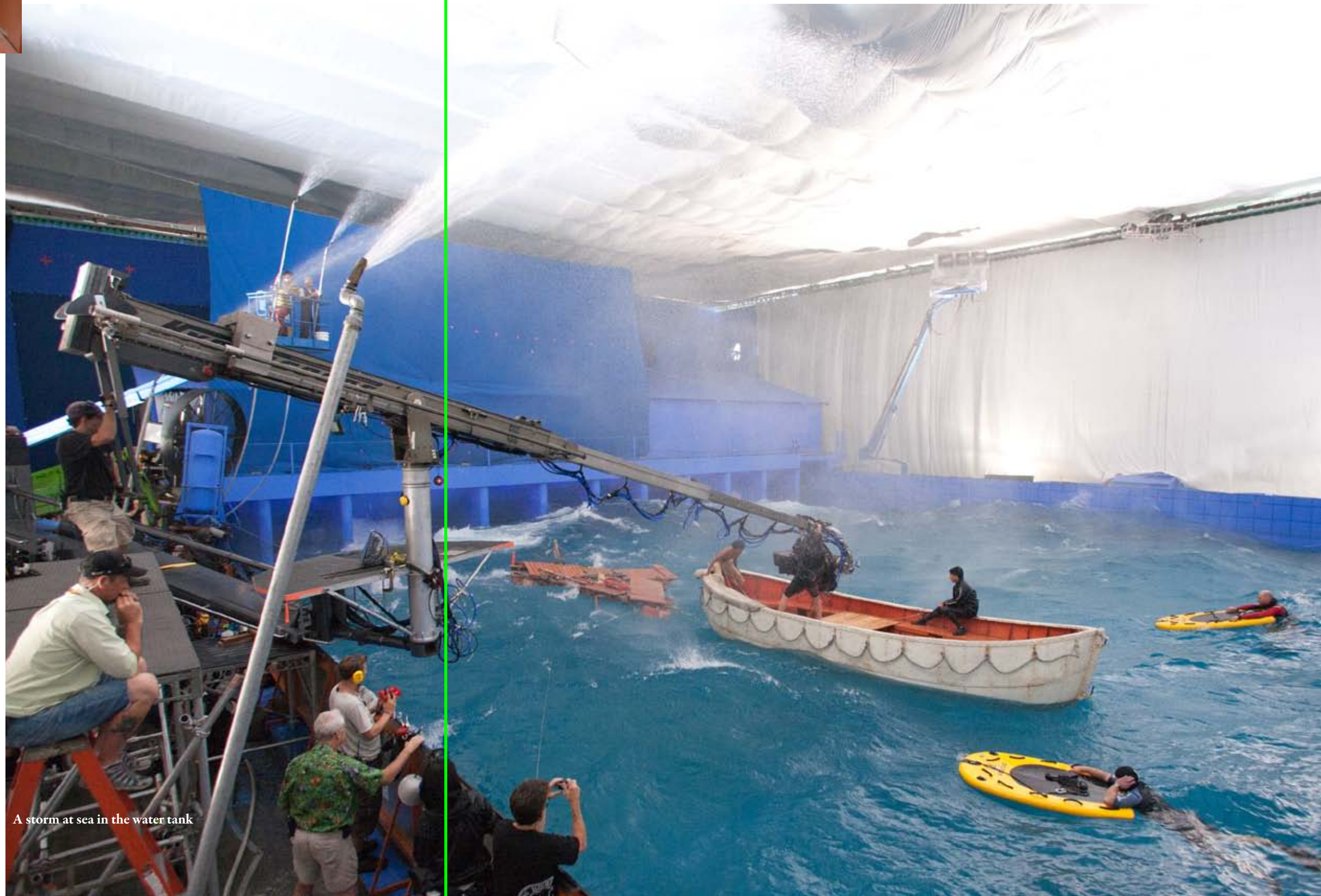
For some sequences in the boat, when we did not have to be in the water, I was able to be physically behind the camera—what a great treat after spending weeks locked up in a container! I could control everything myself! I felt like I got reunited with my dear friend.

Many scenes involved green screen and composing on things that would be added later in postproduction. Composing for flying fish and following them, yet they were not there, a whale jumping up in the air—not there—seemed hard, but during my time on Transformers 2 and 3, [director Michael] Bay taught me how to imagine something that is not there.

Animal Tales

The days in the water tank were sometimes so hard and technically difficult that we thought it would never end. As Murphy’s Law would have it, anything that could go wrong, did go wrong. Wind ripping the silks, wave machine breaking, animals not cooperating—one started to understand why this thought to be a unfilmable movie... But we did succeed, just like Pi did. Life of Pi in many ways was our life. We made the unbelievable become believable.

Working with animals brings a big challenge to the table, because although they are trained and instructed what to do, they are also unpredictable. We had these amazing tigers for



A storm at sea in the water tank

entire place is lit by floating candles—tens of thousands!

We had many extras that night and had to shoot them out. Then at around 2 am it was time to film the boy playing the young Pi. You can only imagine the cooperation of a 5 year old after midnight! I was behind the camera, with Ang next to me directing the young actor. Nothing worked—he was sleepy, mad, pissed off, and there was no way he would follow any directions. We kept rolling, hoping to catch any reaction that Ang was looking for. At one point, Ang completely exhausted, starts walking toward video village, pauses, looks at me and says, “Your turn!” I pulled every trick possible to make the boy react. The 1st AD stood next to me. After a while we caught an expression or two that was needed to tell the story. The boy was not only sleepy but he had the attention span of a fly! We had him in a few different scenes, and with a 5-year-old, it does not get easier with sleep.

The show must go on

That evening we were looking at different camera angles, and I got on top of a roof to see. Coming off it I decided to jump to the ground instead of using a ladder and my knee popped. I thought it was the end for me. I could not straighten my leg. There was so much pain. I did not admit what happened to anyone—I had to finish the movie. Next day was a handheld scene with the 3D rig... I was in tears. Because it was a night shoot, right after wrap I landed at a local hospital in Pondicherry, got an MRI done, saw a great orthopedist, and found out that I had torn my meniscus in a few places. Some cortisone shots helped me through the week. I started to exercise a lot more and it helped. But there was one more huge hurdle in front of us: India's revenge. On my birthday, I spent the entire night and morning in the bathroom. That day about 20 people did not show up for



Lukasz Bielan high on a crane.

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work. Ang was also in bad shape, but the show must go on. I came to the set after lunch, hydrated and drugged up—I could not miss the day. We must have consumed ice from the local water the night before. It was not a pretty sight!

An operator's job

I do believe through years of experience that the natural progression for a camera operator is in fact directing. We are the last humans between the lens and the actors, and actors very often personalize the camera with who is behind it. Many times after getting the thumbs up or down from the director, they will double check with us for reassurance. On occasion, we sometimes whisper to the director about some imperfections of performances that we notice within the scene. We must know about editing, how the scene will or will not cut, and creating a work environment that is suitable for the cast.

However, working with that 5-year-old made me think twice about directing. Of course one day it would be great to be at the helm, but I am still happy doing what I love. I do believe that experience in life makes you a better storyteller in the future, so maybe one day...

Our Own Journey

We spent over six months working on a film that related to the entire international crew—18 different nations. Ang Lee knew how to unite all of us and make us care about not only the work but the journey we all had together as what we became—Pi's family. We sometimes trained with Suraj, to make him comfortable, and told him our stories, which were valuable for a boy who had never left India. We saw a boy transform into a great actor, but most of all we saw a boy become a man. After the film ended and we all went our ways, we formed a group on Facebook called Life after Pi. We still are in touch and trade our stories and life.

It was an experience like no other and Ang drove our boat; he was our Richard Parker (you must read the book or see the movie to understand the analogy).

Life of Pi was a personal journey for me. It's one of those films that will always stick with you.



Ang Lee, Lukasz Bielan, and one way of keeping the camera dry.

PETER SOREL



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