CINEMATOGRAPHY ART

a quarterly Magazine

Setu

Digital Cinema Projection System
UFO/Real Image

Sumit Dutt
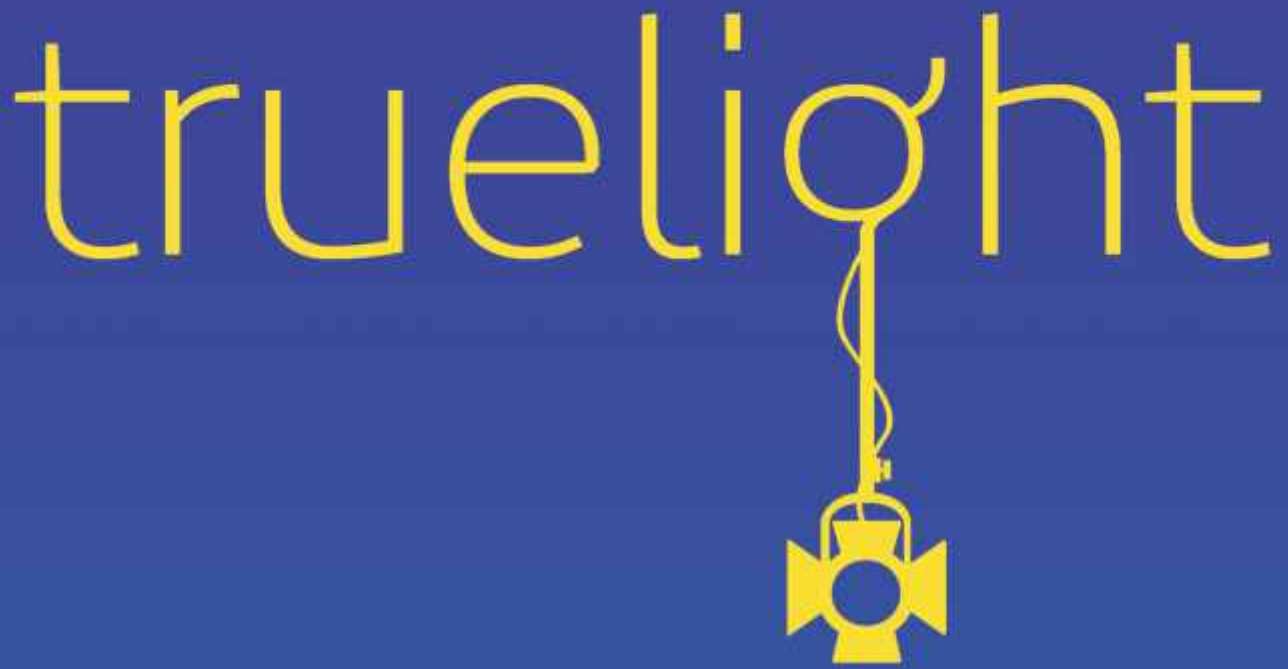**Visual Styling in Bollywood Songs**

Ram Madhvani & Vijay Khambati
Complicated Shot Taking

Kiran Deohans

R M Rao

Center for Research in Art of Film and Television (CRAFT) • Film School • Publication • Event (PSA-CSR) • Production

Editor's Desk

The 2nd issue of Cinematography Art is in your hand. Any Art form evolves and so do - cinematography art ! This time we have introduced few new sections like- "Collaborator" wherein we will try to include film communities like, art director, costume designer, makeup artist and occasionally other professionals - as cinematography is a collaborative effort to create imagery.

Complicated shot taking is another addition where we interviewed Ram Madhvani and Vijay Khambati about " The Adidas commercial " which stills haunts the memory after 15 Years. For this section we solicit your cooperation to send us article or suggest a specific case of any DOP which we could include in forthcoming issues.

Continuing with the 3- regular sections like Master Reflects, Veteran Talks & Exclusive Interview, this edition Feature R.M Rao, Kiran Deohans, and Setu. Besides, we have tried to explore other areas related to cinematography art form. Interview with Sumit Dutt is one such example, who has created a "unique space" of stylized music video in Bollywood Musicals Digital cinema is growing, be it shoot or projection. We have interviewed some important players in the market to find out the future of 4k in India. In the end, we seek your valuable feedback and advice at below email

Cheers!!

Naresh Sharma
naresh.sharma@log2craft.org

R M Rao

The Master Walks Down The Memory Lane

In a career spanning close to five decades, Mr. R.M. Rao has not only been an eyewitness to the history of Indian cinematography in the advertising, documentary and feature film industry, but has also helped shape it . It is a career that has garnered him many accolades and awards in India and abroad — and has added up to a fascinating and demanding life behind the lens of his motion picture camera. R. M. Rao graduated from the prestigious Film and Television Institute of India in 1964. In the nascent days of cinematography in the Indian advertising and film industry,

R. M. Rao was the first to use and introduce the latest equipment and techniques, such as the use of split field lenses, slow motion cinematography, the use of macro lenses for extreme close ups and pre-flashing of film negative to enable filming in acute low light conditions. He demonstrated a flair for innovation and a mastery of technique, which were to become the Rao hallmark across over 4000 advertising films, 200 documentaries, 10 feature films and some highly acclaimed and loved national integration films.

Working with major filmmakers from all streams of film making beginning from the '60's through the first decade of the 21st century, R. M. Rao helped set the trends the industry followed. He continues to do so today which is evident in the lavish cinematography of his last released feature film " Taj Mahal – an eternal love story", and the lyrical visuals of the just released "Phir Mille Sur Mera Tumhara".

R.M. Rao has served as a role model for new generations of cinematographers. He gives academics and hands on experience equal priority and enjoys interacting with young technicians. He finds time to participate in workshops and has been a guest lecturer at the Film and Television Institute of India and various other institutions across the country.

Having achieved overwhelming success in his career, shooting all around the world, R.M. Rao continues to show remarkable energy and enthusiasm for the medium, which he confesses, is his first love. Each film, each location brings its challenges. There are no special favorites, he equally enjoys and cherishes them all - be it the technical precision of advertising films, the intimacy of documentaries and the scale and scope of feature films.

Everyone who has worked with Mr. R.M. Rao – directors, producers, actors and the vast behind-the-camera teams - which are an essential part of any film project – will agree, that five decades have not changed him in one way…. he will not rest until he is satisfied that every frame is worth framing.

INITIAL JOURNEY:

I have been fortunate enough to join the very first batch in 1961 of Film and Television Institute of India. My interest in photography and participation in international exhibitions such as Photokina in Germany led to receiving a small note from one Mr. Laxminarasu saying "Cinematography is an extension of photography". There is going to be a first film institute coming up in Pune, if interested I recommend you to join FTII. That was the time I just completed my graduation from University of Bombay. Mr. Laxminarasu was the first professor of Cinematography before Mr. C.V. Gopal - a well known Cinematographer from Films Division continued as a Head of Department of Cinematography in FTII.

Then my moving into the profession in Cinematography was like a cake walk. The Pope Paul's visit to India in November, 1964 was a big news as he was the first Pope to visit any country out of Vatican , Rome.   This was my first assignment given by Image India Films Pvt. Ltd., the largest documentary and short film making company after the Films Division of India to cover the Pope Paul's visit which was finally subscribed by 130 countries. It was interesting to note a little technical brief that it was my choice to pick up a camera called Eyemo with three lens turret, which runs for 14 seconds running time at each winding. This camera takes 100 feet film day light loading magazine. I used to carry every day for 3 days about 20-25 magazines of film consisting of ASA100 and ASA 250 black and white Kodak film stocks.

ADVERTISING EXPERIENCE:

While shooting advertising commercials I started evolving myself for the special requirement of faster camera movements, sharp and crisp lighting, in camera special effects, extreme close up shots, "day for night" effects , "slow motion and stop block" technique, often required in various commercials . I was fortunate enough to get associated with many prominent advertising film makers, every time I kept on evolving some new performance . At that time there was a demand for good quality post production technique used by the advertising film makers and therefore I started adopting "in camera" dissolve or super imposition without going to the lab. It was my privilege to use a lens called "Split- Field" diaptor. This diaptor is a half lens , half clear glass in semi circle. When you put this diaptor in front of the main taking lens of the camera , it is used to create extra ordinary visuals such as live action on one side of the frame and other side either extreme close up of any object such as pack shot or extreme close up of a product in focus being picked up or placed or pouring a drink in a glass or an ice cube going into a glass. Such shots are very pleasant and effective in commercials. The split- field visuals became very effective and popular and more or less I used to land up using this technique very often in commercials. I

> " Since all Ellora caves are facing west , mirrors were getting direct light from morning till noon so that this mirror light can be carried deep into the caves as a main source of light and disintegrate that mirror light through the reflectors to light up the carvings and sculptures. This way I could film all the sculptures and carvings and the main Kailash temple having 30 pillars in a single structure. "

acquired my first Motion Picture Camera called Arri 2C in 1974, introduced high speed Arri III in 1983 and in 1988 new Arri III with forward and reverse shooting , 130 frames per seconds high speed. I was the first to introduce Video Assist in 1993 in our country. My first Arri 435 Camera arrived in 1996 and may other models followed. All these cameras having lenses such as Zeiss Super Speed , Ultra Primes , Arriscope , Angenieux Zoom

ON FIRST LIRIL COMMERCIAL

The first Liril Ad film was shot in 1974 & it went on for a decade with the same model Karen Lunel. This became a mild stone in advertising and went on for many years with the same girl since the agency could not replace with any other model. The phenomenon of Liril was such that if the model Karen Lunel endorsed any other product the agency felt she was selling more Liril soap so much so that Liril soap was associated with model Karen Lunel for many years. To shoot this commercial in an enclosed

water fall in a forest of Kodaikanal in winter time, we used to have 3 different cameras to get the effect of slow motion shots , in camera dissolves and super impositions by using ARRI 2C, the normal Mitchell `and high speed Mitchell Camera. It was marathon exercise to do this commercial of one minute duration when you required to release 3000 theatrical prints at one time. So if you needed theatrical release in India, you need to have that many prints which was impossible to make with single negative. One could make 120 -130 contact prints from one negative. This means you have to have 10-15 original negatives to make 3000 prints for release all over the country simultaneously. If we need to have 10-12 OK   takes, the model had to give at least 15-20 OK takes under the chilled water. We discovered this water fall because we were looking for a secluded location enclosed to the greenery , this became an adventure for a film unit to go down with such a large equipment every day for three to four days and for many years.

Those days many products which you find today were introduced for the first time four decades ago such as Nescafe Brew coffee , Maggi Noodles, Thums Up, Campa Cola, Campa Orange, Campa Lemon and many such products and many soaps and several cigarette brands . We used to travel all over the country to shoot and constantly discover new locations to keep up glossy , visually appealing and to keep the consistency of the story line with in given duration of one minute commercials keeping in mind the basic requirement of the product. The kind of lights we had to use those days were very bulky and lighting a miniature was always used to be a problem. For many years my style of direct lighting remained, though occasionally indirect lighting such as bounce lighting was also adopted .

Those days the advertising films used to have mainly the models and very comfortable to work with them unlike today they have been replaced by film stars and celebrities. The cigarettes commercials used to be longer than one minute , sometimes up to two and half to three minutes duration. They were all based on the story line. Most of the models selected for the cigarette commercial were non smokers and used to have tough time making them to hold the cigarette in the mouth, properly lighting the cigarette and inhaling and exhaling smoke. The smokes you get to see in such commercials are not accidental; it is always created with subdued background to make it more

> *The most effective "day for night" scenes were shot on Kodak Film 50 ASA, against the light using polarizer filter and a "day for night" filter which is slightly greenish and another filter called 81EF which keeps the skin tone lighter and let other things go dark.*

noticeable. When Charminar cigarette was introduced about 40 years ago with Suresh Oberoi as a main model, in this process of inhaling and exhaling cigarette smoke , Suresh Oberoi fainted because of many retakes in the location of Kashmir.

One of the challenging films that I shot was first launch film of Nescafe in India. In the commercial they wanted to show how coffee is made from coffee beans, the raw beans selected and roasted, while roasting coffee beans steam coming out all the time and dissolved into coffee powder then dissolved coffee decoction. How that decoction crystallized in the form of powder and then poured into a coffee bottle. Whole thing was created on a turn table with various stages and creating a steam all the time to establish freshness. It was quite time consuming , innovative and think how to do it without any reference since this commercial was to be approved in Switzerland were the Nestles headquarters was situated. This was forty years ago.

ON CHALLENGING DOCUMENTARY EXPERIENCES :

Amongst the other documentaries, Air India film directed by Zafar Hai was really a innovative and challenging. It was a 20 minute documentary and the film needed to be shot in many countries. At that time the fastest film was of Kodak-100 ASA. I visualized that this kind of documentary where you need to film various actual locations and real situations and being an airlines film it is to be shot in various airports at odd hours and low light conditions. Filming also needed inside air craft. Again my background of FTII helped me realize that the film can be sensitized to double the speed by a technique called "pre-flash" or "post-flash" and creating a chemical fill-in –light or a chemical boost to the film by which you lower the contrast level. So in the under exposed areas you get a kind of visuals of fill-in-light. This technique is carried in the lab with the series of tests that sensitizes the film with a flash of white light to increase

optimum ASA standard without getting into the fog level.

Pre-flash film stock once you rate it to double the speed say 200 ASA from 100ASA stock and then to optimum increase of processing time, this film stock can be rated comfortably at ASA 250 . This film stock you can use it in the low level light conditions. To support this kind of filming I needed high speed lenses of f/1:1.4 lenses. Carl Zeiss company was making at that time fast lenses for film maker Stanley Kubrick . Till then the lenses were f/2.5 onwards and they were not fast enough lenses. I got an opportunity to acquire these high speed lenses of f/1.4 Zeiss super speed lenses. Combination of high speed lenses and pre-flash film stock , the Air India film became a landmark which was shot in five continents in the year 1982.

My first major experiment in lighting in natural light conditions was again another exciting experience when I was given an assignment to shoot a 20 minute documentary film called "Kalash at

Ellora" in Ellora caves. These caves were situated near Aurangabad unapproachable by any transport other than mere walking.. The caves were itself deep enough having intricate carvings and sculptures to be filmed was a really challenging task since no lights and generator can be moved into that remote mountainous area. After my initial survey for a couple of days at the caves I went back with my unit carrying many 3'x4' mirrors lined up in front of the caves. Since all Ellora caves are facing west , mirrors were getting direct light from morning till noon so that this mirror light can be carried deep into the caves as a main source of light and disintegrate that mirror light through the reflectors to light up the carvings and sculptures. This way I could film all the sculptures and carvings and the main Kailash temple having 30 pillars in a single structure. I had also used a mosquito net over the mirror to diffuse if I had to use mirror light itself. Rest of the afternoon till evening when the light was hitting directly into the caves filming was at ease. This was a black and white film Kodak Plus X 100ASA, double X 250ASA and Tri X 400ASA. This was my major assignment that got many awards in the year 1965 just after a year from the FTII.

LAST FEATURE FILM TAJ MAHAL AN ETERNAL LOVE STORY.

I have shot seven feature films earlier from 1970 onwards including

a Hollywood film called "Monkeys of Bunderpur" and the last one was a monumental period film Taj Mahal an eternal love story by Akbar Khan. This was an elaborate costume and décor and most of the sets were actual locations at Jodhpur in Mahrangarh Fort. It was a tough assignment considering every location sets in Fort has to be lit as natural lights coming inside the Fort. Other situations were we have to show the source of light coming from candles and mashaals, our lighting used to be intricate and tricky as the cables and other fixtures have to go through the roof as the flooring has to be clean and realistic. This film has many "day for night" scenes and many battle scenes with complex camera

positions. The most effective "day for night" scenes were shot on Kodak Film 50 ASA, against the light using polarizer filter and a "day for night" filter which is slightly greenish and another filter called 81EF which keeps the skin tone lighter and let other things go dark. In this film the director never wanted to make it Sepia tone and wanted the costumes , jewellery , etc to appear in natural colours. This film Taj Mahal was one of my best professional achievements.

Though I shot thousands of commercials , hundreds of documentaries and many features, most satisfying and memorable films are Mile Sur Mera Tumhara (1988) , Torch of

Freedom , Desh Raag and Phir Mile Sur Mera Tumhara (2009)

ON DIGITAL ERA:

Well, things have changed now. A number of digital cameras have come into the market. Fortunate enough I have gone through the feel of film look, physically and imagery.

But I must say a cinematographer is going to miss the magic of the film. In past 50 years there were only half a dozen cameras in motion picture but in last 2 years there are around 60 digital cameras. Till today "Film look" is still a myth for the users of digital cameras.

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world's wonder now an epic motion picture

akbar khan's

Taj Mahal

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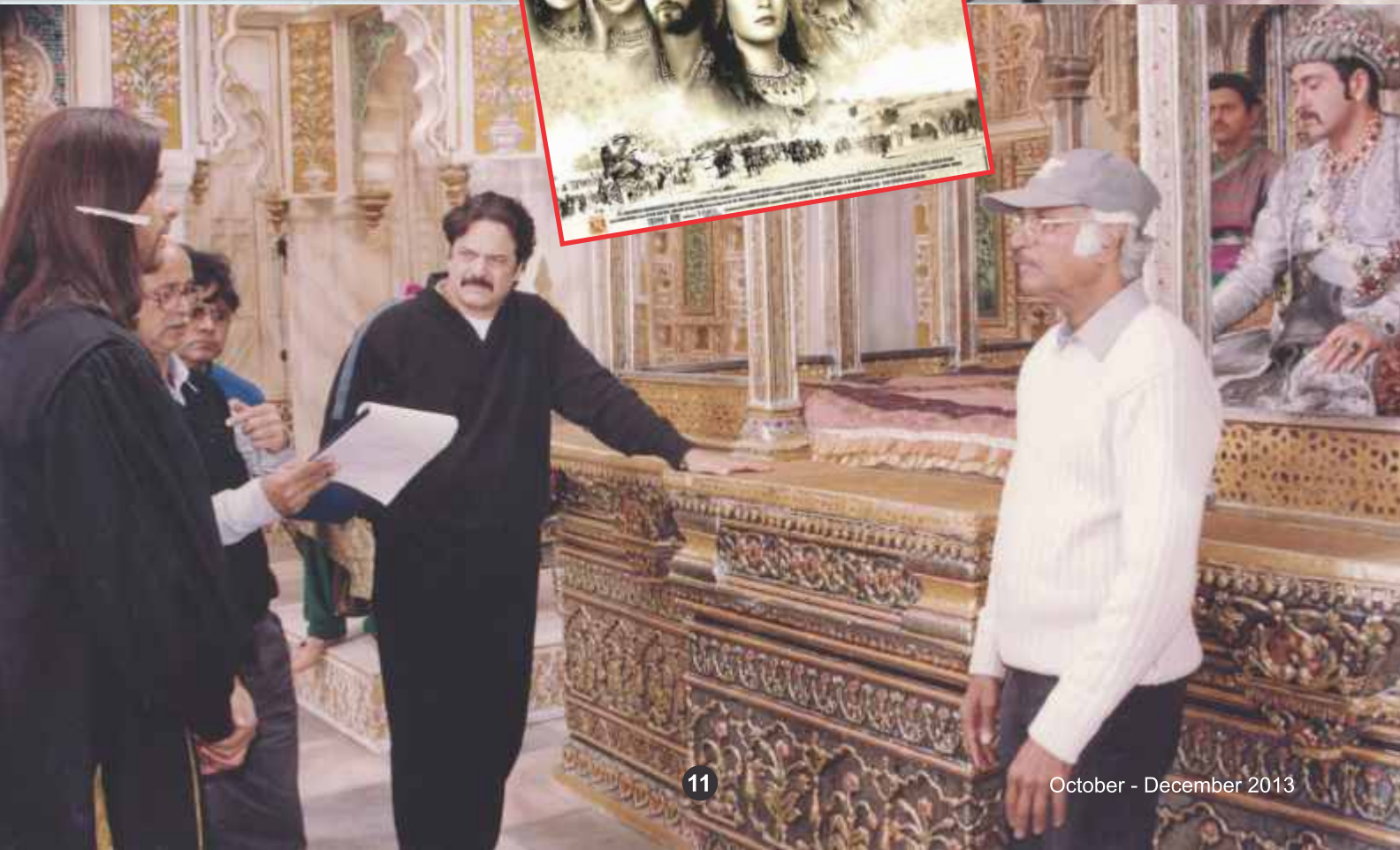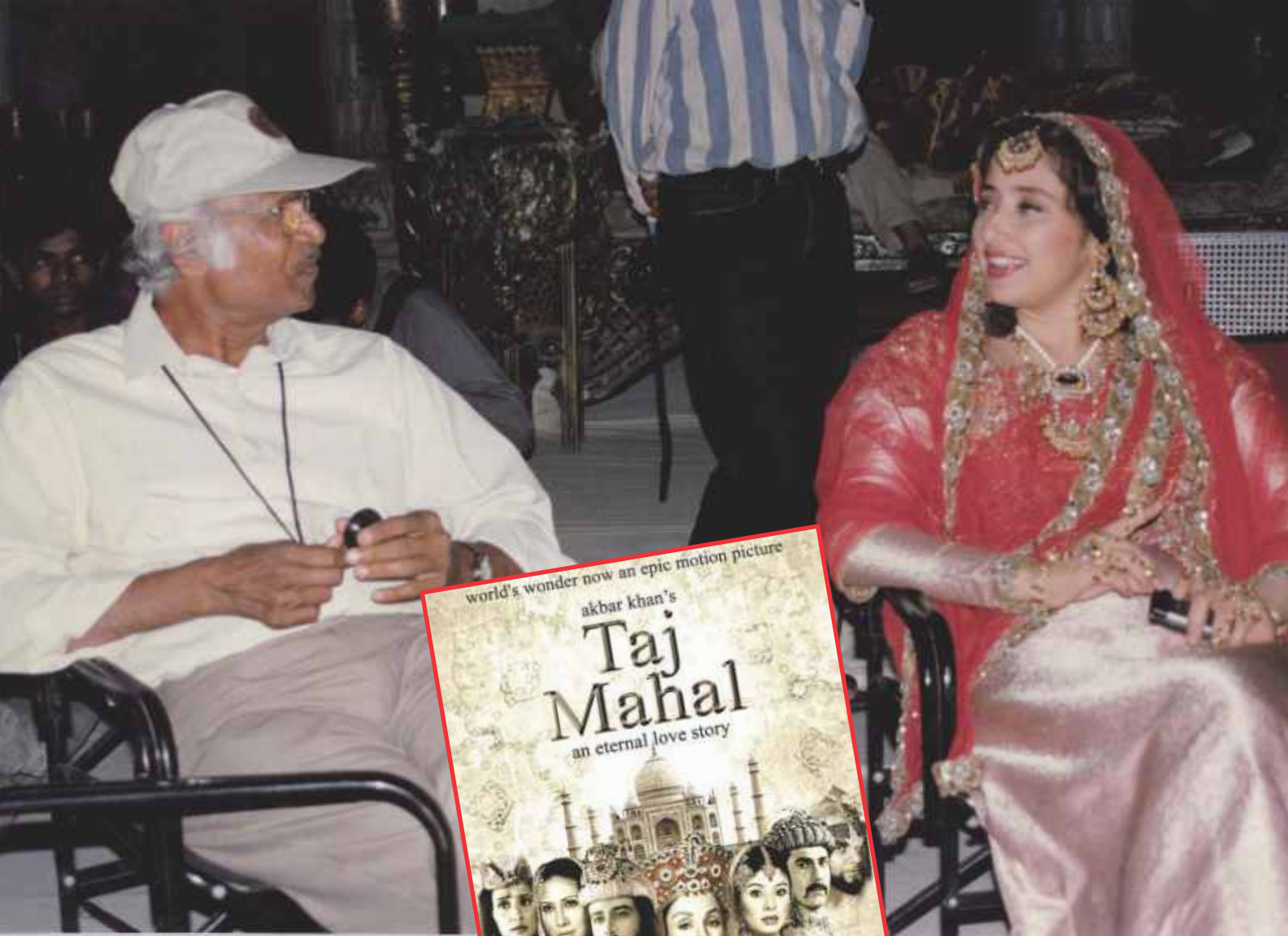
Baylon Fonseca

Interview with sound designer

Sound recording is not a mere technicality with Fonseca...it is a passion that has turned what looks like a stale mechanics into a vibrant aesthetics. Baylon has worked in more than 90 films in various capacities such as designer /supervising sound editor/dialogue editor/sound effects editor. He has won Silver Lotus National Film Award for Best Audiography for Zindagi Na Milegi Dobara Nominated many a times for Technical Excellence category of Sound Recording and Sound Designing, he won Filmfare Award for Rock ON and Zee Cine Award for Shootout at Lokhandwala .His best works include Krrish, Fukarey, Bombay Talkies, Wake Up Sid and Luck by Chance .In this interview, Baylon talks about why DOP & Sound Recordist need to understand each other's requirement.

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When you work on any project as a location sound Recordist , what are the things you discuss with the DOP so that there could be a smooth flow of work?

Film is and always will be an audio-visual medium. When the audience watch a film they pay attention to the performances on screen and what captures their attention is the beauty and vibrancy of the visuals which bring out the drama and emotion. This stimulates or creates the feeling of happiness, sadness, romance and some many more such varied feelings. It is these moods in the visual that inspires me. When the visual has these moods and movements beautifully captured, it becomes an extension of my own feelings that helps me to ideate and create sounds that includes even simple ambience. I believe sound should elevate these feelings and transport the audience right in the middle of what's happening on screen. When tactfully done you end up with a beautiful film in which your audience walk away experiencing something so rich and wonderful.

Coming back to your question, the general opinion is that the Sound Recordist and DOP never get along on

the set.

In my earlier years, when I got an opportunity to work with the senior DOP, I was petrified, how to break the ice between us.

And then, I worked with Hemant Chaturvedi on a short film called 'Positive' directed by Farhan Akhtar. It was one of the sweetest and most memorable experiences I ever had with a DOP. It was at that point in time that I realised this overhyped cold war between a DOP and Recordist were baseless.

It is important for a Recordist to understand the scene being shot vis-a-vis the location of the scene and its blocking with the actors. Once a shot is setup you are paying attention to the frame edge, first mark / last mark of the camera and boom shadows. I feel the AC, the gaffer and the key grip also need to be within your radar since they are the people who help you to sort a lot of the potential problems on set.

When director wants the location sound to be perfect and the sound would not get dubbed later, therefore sound

becomes equally vital as visual. In such crucial situation team work is required and expectation of cooperation with DOP is raised.

We encountered the same situation when we approached Zindagi Na Milegi Dobara. Having worked with Zoya Akhtar earlier I knew her anticipation of the sound track for the film. During preparation, we spent some time discussing the film and the overall plan for the sound of the film both on shoot and in post. This was also my second film with Carlos Catalan and I must say working with him is fun and stress free. He being so acutely tuned into sound and the difficulties we encountered on ZNMD made my life a great deal simpler.

One of the most challenging scenes to shoot was the car scenes in the film. Car scenes are simple when you have them on a low loader. However a car mounted with a camera that is being driven in free run is tougher to manipulate when we have a few pages of

dialogue scripted. Trickier still is when you have two such picture vehicles and your short alternate between one that is rigged and the other that is attached to the low loader. Proper planning and co-ordination with precision always ensured we were never a step behind the production process for the day. All this thanks to super co-ordination by Carlos and his team, of course not leaving out the direction team.

So what we did was very basic, we ensured that we were well prepared, when we knew it would be a tough day to shoot

The scene and shots were discussed to the best of what we knew would happen in the scene minus the actual blocking of the scene.

Apart from the car scenes we had tricky scenes surrounding the sky diving, at the beach, the boys arrival at Pampalona for the bull run, their actual bull run which makes up the climax of the film, the

innumerable bar scenes and my favourite scene where Imraan (Farhan Akhtar) and Arjun (Hrithik Roshan) fight after the cell phone is thrown out of the car. Two scenes that threw up special challenges were the birthday party and the engagement scene, just because of the sheer number of actors in the scene. Some of these scenes were shot as two camera setups and this can drive any Recordist crazy if the lens choose are extremes.

I find that in a good number of films being shot nowadays a DOP is choosing to shot with 2 cameras. Especially if it's a long scene that needs to be completed in a specific time frame, 2 camera setups can wreck havoc on set for a Recordist if the lens chosen is wide apart. I normally always discuss lens in such situations with a DOP and ask the class 101 questions even if it may sound stupid to the ear. Imagine a shot setup for 2 cameras with one having an 18 mm and another having

a 75mm . I recently got told by a DOP that he actually had shot some scenes in a film within similar lens. Thankfully he added to it that it was a pilot track being used in the film.

Do you remember a specific instance where you had no way out because of the complexity created on the set by DOP ?

I don't think film making offers you a situation wherein a problem you encounter cannot be solved. Yes one faces tons of difficult situations but I figure every such situation has a way out.

There are so many stories, like one time I landed up on the set a day before the shoot figuring where we were shooting; it was in a hotel room in a very quiet location. Life seemed so sorted until I figured everyone on the crew forgot to tell me that it was going to be 5 cameras rigged in different spots in the room all hidden from view. So much for Canon 5D's The time we land up in this National Reserve in Spain that is so outstandingly

beautiful but out there in the middle of nowhere with gale winds hitting us through the entire duration of the shoot. At the time we were shooting in Ahmedabad with crowds of locals who had no clue what it meant when everyone was screaming 'silence on set'. The wonderful footnote to all of these situations is that we got some beautiful sounding dialogue recorded that made it to the final print and now remains etched in the history forever.

So yes you are constantly going to be facing problems in the simplest of situations. It all comes down to how prepared you are to move from plan A to plan B to plan C if the need should arise.

Having said, there is one very unique problem I have faced and it still continues to haunt me. When we were shooting on these beautiful designed set years ago, we were rolling regularly two artist scene and started with the wide shot to establish the scene and its location. As we went tighter in the next shot

I was continuously being told that the boom shadow was falling onto the actor's forehead. This happen a couple of times and it leaves me flummoxed. I figured that in order to avoid the boom shadow, my boom position had to be higher than where it was in the wide shot.

So you are saying that in the close up, you could not bring the boom down.

Yes I could not bring the boom down closer to the actors because I was ending up with a shadow on the forehead. Till date, I could not figure why the lighting was not adjusted to suit the shot. I was given an explanation that went "We have a lot of pages to shoot everyday so I cannot keep adjusting the lights for every shot". And that was the end of it. By the end of the shoot I was having nightmares featuring 'boom shadows'.

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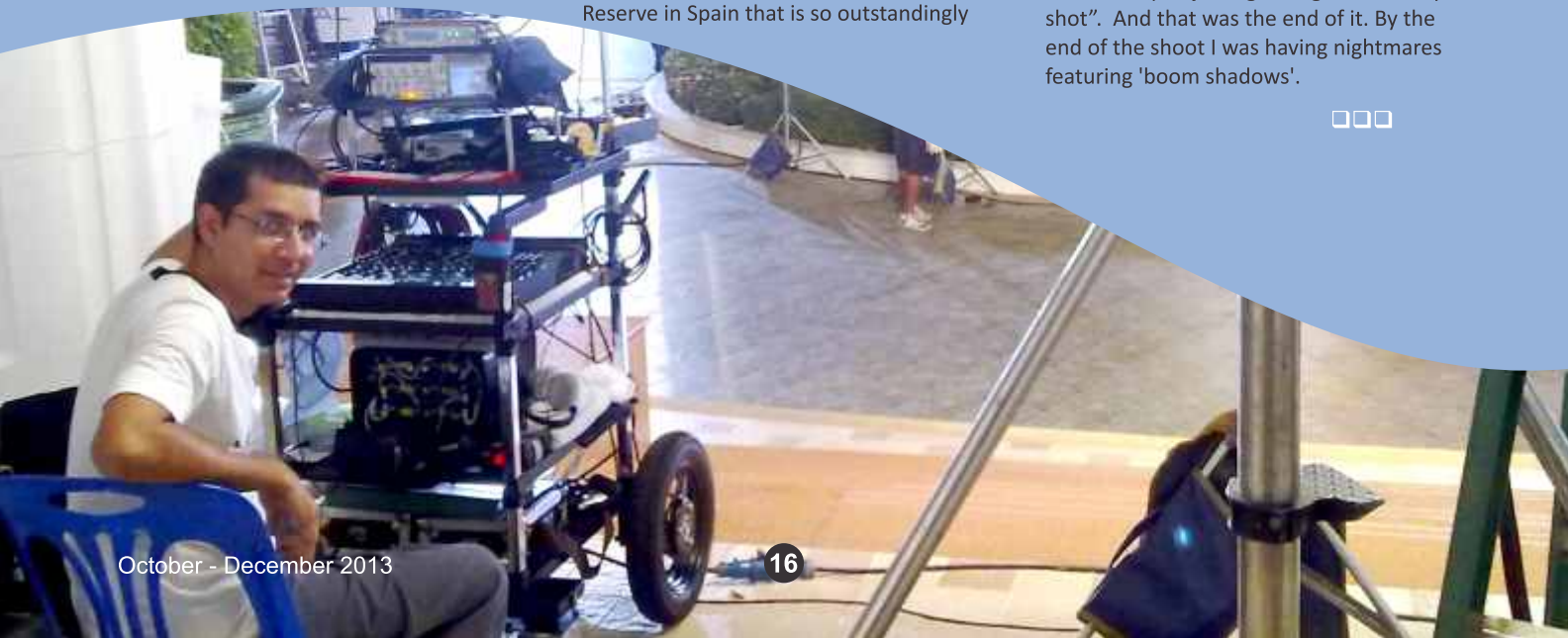
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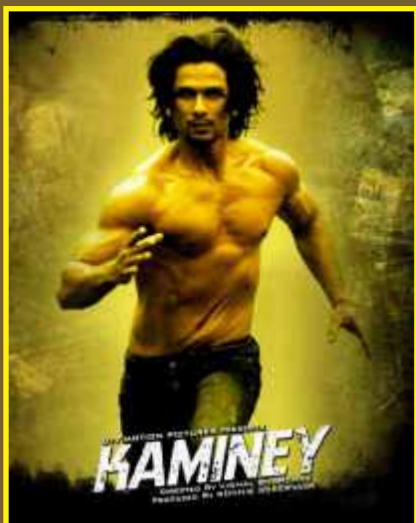
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Subash Sahoo

Interview with *Sound Designer*

Starting his career as an Electronics and Communication engineer, he made his tryst with waves of sound when he quit his job in Bhubaneswar and left for FTII in 1991.

Having worked as a sound engineer and recordist since 1994 with great directors like Shyam Benegal, Sudhir Misra, Revathi, Ketan Mehta, Kundan Shah, Navdeep Singh and Dibakar Banerjee he won Both National Award and Filmfare Award for Vishal Bharadwaj's Omkara.

His work in Kaminey again won him Star Screen Award for best sync sound. He has worked on more than 60 Hindi, Marathi and Oriya films with 40 directors. Manorama Six Feet Under, Khosla Ka Ghosla, and Once Upon a Time in Mumbai are some big ventures he has been associated with.

In this article he describes the importance of mutual understanding between dop and location sound Recordist.

WORKING WITH PIYUSH JHA (KING OF BOLLYWOOD)

When I started my career, at that time dubbing was done but Sync sound was not being used. While shooting of a film, King of Bollywood, directed by Piyush Jha in London, we were facing many problems doing Sync sound. Earlier for dubbing, people used cameras like Arri-2C or Arri-3, and steady cam but Sync sound could be possible only by usage of blimp cameras. So to get the Sync sound we decided to use Arri-BL3 camera which would not add any noise. It is a very heavy camera in comparison to Arri-2c, Arri-3. The steady cam started making noise as it had to bear an additional weight of 10-15 kg. There was a quandary situation as most of the scenes were of Sync sound of around 2 mins 3 mins, and because of heavy weight of camera, mount could not bear it, ultimately it started giving a squeak during panning with a noise which was a typical because that particular frequency was merging with the dialogue frequency of the actor. As we all know that any sound is basically
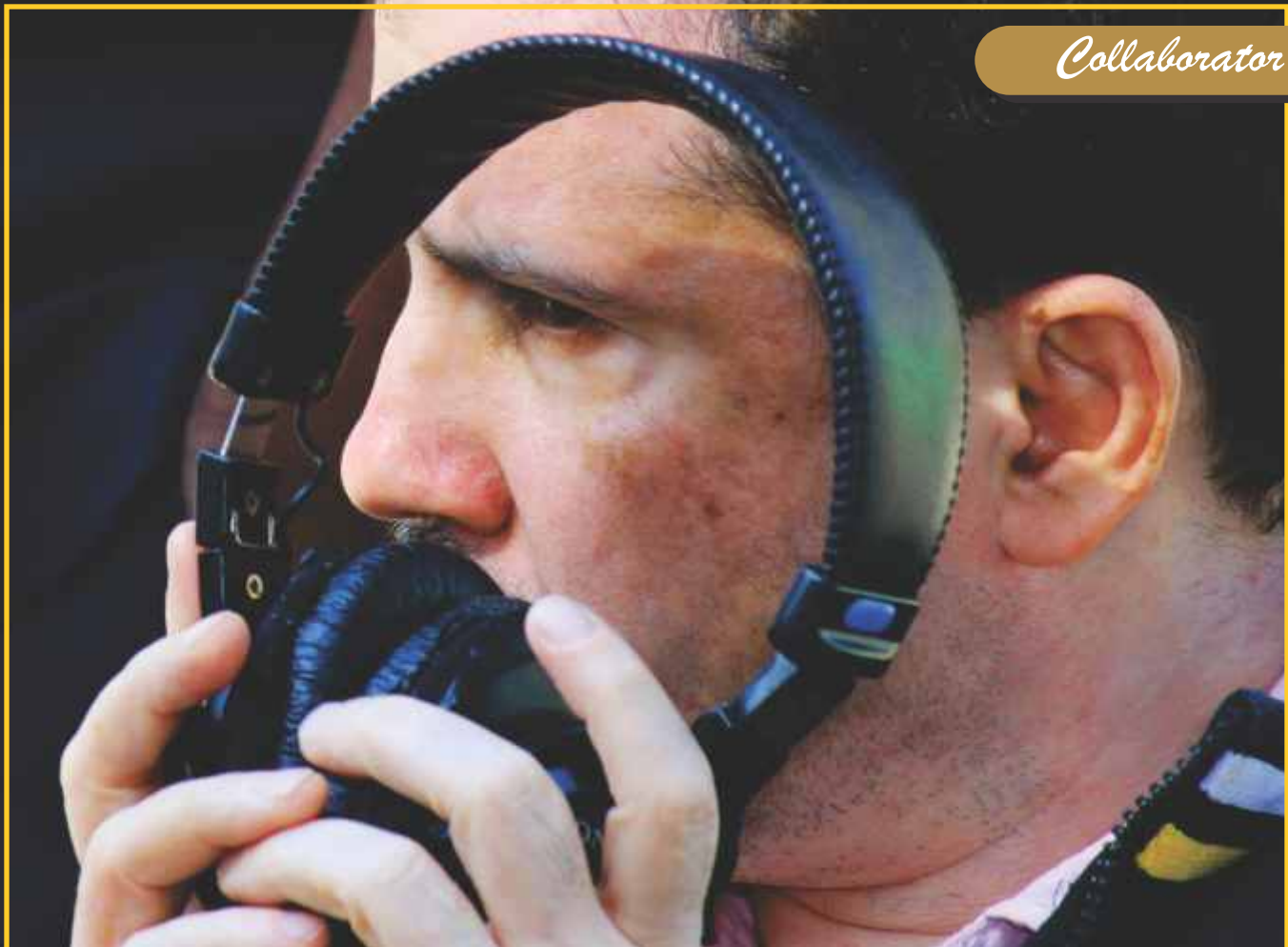
a bandwidth of the frequency and another unwanted sound (If that happens to be the frequency of same bandwidth needs to be removed). It affects the voice quality of the actor. I quickly realized the urgency of the situation that squeak was almost close to the frequency of the voice & and requested Piyush Jha, that we need to rectify this issue.

Hari Nair, a senior graduate from FTII, Cinematographer of the film was very co-operative. He was consulted for the problem aroused. He gave quick solution to the problem by asking steady cam operator to check the ball and grease all the parts again so that noise could be minimized. After doing all this we managed to minimize this noise up to 80%.

After that day we made sure that the camera and its parts were greased daily in the evening so that it can work smoothly without making such noises, after that without any hassles we were successful in recording the clean sound. So, finally we ended the film in a very good note. It is very necessary for a professional to understand the entire department because it is not only one person's film as everyone has contributed to it. We all are there to take directors vision further.

WORKING WITH NAVDEEP SINGH (MANORMA SIX FEET UNDER)

While working with Arvind Kannabiran; DOP, we were shooting in
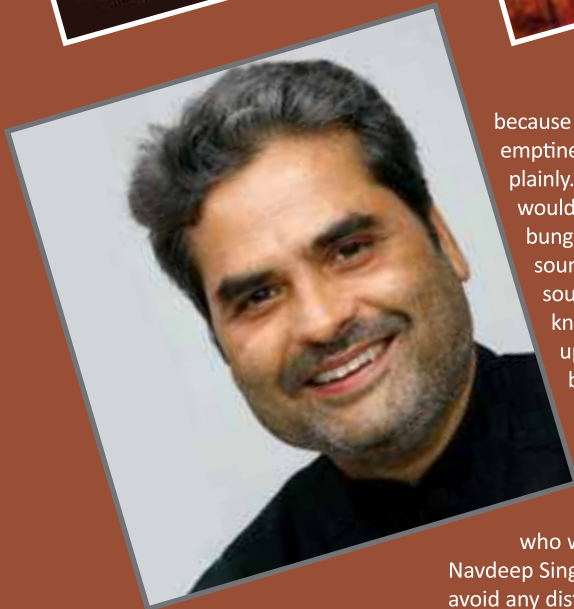
because of isolation & because the emptiness the sound could be heard plainly. He told the production guy would cover the courtyard of that bungalow so that it could become sound proof or at least outside sound could be minimized. He knew it very well that it will add up to his problem of lighting, but voluntarily he had asked production dept. to do it for me.

I am talking about another DOP Hemant, who was supposed to work with Navdeep Singh's next film. In order to avoid any disturbances he told me that though he has checked track trolleys and lights should be noiseless and he even requested me to recheck so that it doesn't create any problem due to his equipments. It is rare to find such DOP who foresees the issue where camera department may cause for sound designer.

WORKING WITH VISHAL BHARDWAJ(OMKARA)

While shooting Omkara with Tassaduq Hussain DOP, it is to be remarked that he is very friendly and a gem of a kind to work with. At any point of time if he sees a problem encountered due to camera department to sound designer, he stops shooting and sorts out the issues even if it is fluttering sound causing due to butter paper on the light in windy weather.

I remember a sequence, when we were doing recce for the Omkara which was not finally shot.

Vishal Bhardwaj wanted on the top of the tree there were supposed to be a machan, where Ajay and Kareena supposed to sleep and a jimmy-jim would go around and take the shot. But for sound engineer it was not practically feasible to go over there and give him a lapel.

Mandva in Rajasthan, I could not go for the first Recce, & Arvind went. He saw whole location and observed something very important for sound as many cinematographers would not have noticed as they are primarily concerned with things which are relevant from camera point of view .

He had an ear for the sound too. When he came back to Bombay and had a meeting of all HOD, he told me that it is a problematic area where this bungalow is located which was like a small government quarter and we are supposed to shoot over there almost like a 8-10 days which was a huge chunk of the film .Almost like a hundred meter from the shooting bungalow there was a power station where major part of Rajasthan gets power supply and in an around say half Acre there are around 30-40 transformers.

When I visited for recce later, I saw that the power supply wires and the transformer created so much of noise

The boom was the only option also if there was a machan on the branch of the trees, how the boom be held. while we were doing recee , I spoke to Vishal Bharadwaj and we decided If we are making machan we also have to make one more machan so that I can put the boom guy on the tree ,where he can comfortably hold the boom from the top. When we disused this idea with DOP, Tassaduq ,to shoot the whole scene in 3-angles and not to use fourth angle, he understood the requirement and immediately agreed, to leave the 4th angle for boom guy. So this kind of collaboration we always expect from a sensible DOP to give space to another technician who is also there for the betterment of the film and not for personal gain.

WORKING WITH SHYAM BENEGAL:
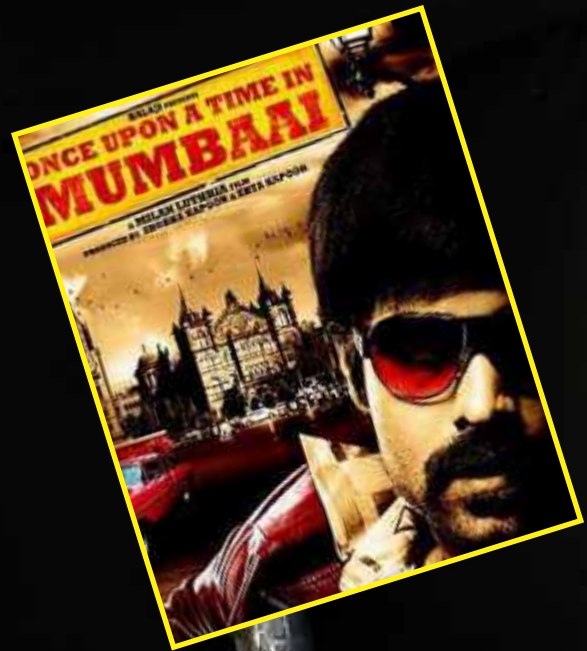
Another example of my earlier days, while working with Shyam Benegal . I was working with another DOP who was colleage in FTII. We were shooting in a small room of 8x8 feet. I saw some 4-5 HMI with booster, creating awkward noise almost like a generator. I requested him could you please take them out or light up in such a way so that one HMI can be inside and four outside. The DOP straightaway refused and despite being a colleague from FTII didn't listen to me. Then i had no option but to call the director Shyam Benegal and request him to sort out the issue. He heard the sound on the headphone and said my goodness all the five HMI are sounding like a generator. He took off the headphone and asked the DOP to light up whatever way he wanted to light, but take the HMI lights outside. All the HMI's were off, and multi- twenty with blue filters came in. The whole day he lit up through "multi twenty", which he could have done much before the director gave him the instructions. ❑❑❑

UJWAL NIRGUDKAR, CHAIRMAN OF THE **SMPTE**, INDIA CHAPTER

Discusses the current scenario of SMPTE standards about **Digital Cinema In India**

Digital Cinema

Although we have heard about various recommended practices from the organization like EBU or DCI, the only authorized body to make standards for Motion Pictures, Television, and Digital Cinema & Audio is SMPTE (Society of Motion Picture & Television Engineers). All the other bodies can recommend what they want to use in the industry but official standard making body is SMPTE for the entire world. SMPTE works with the ISO and also with other organizations like The Science & Technology Council of The Academy in Hollywood. SMPTE is a neutral body, it does not promote any particular product or brand. Many technicians representing various manufacturers' works together to develop common standards for SMPTE, which contributes to the success of SMPTE. All the competitors can come together on one platform to develop a common standard which is used by the entire industry. Making new standards is a continuous evolving process for SMPTE & technicians from around the world participate in it.

SMPTE is in the process of developing about 48 different standards for the digital cinema today. Now as far as Digital standards are concerned we have

various standards being made, in the production sector, post production, packaging, security management, projection, exhibition and reference sector. Some of these are ready & some are being developed. Therefore whenever SMPTE takes a decision to make a standard, they get some recommendation from various standard committees, manufacturers &users . It is a long procedure because they have several meeting of the committees, where they discuss the pros and cons on the industry. It is also crucial to decide when to change standards, as some products are already manufactured & used in the industry before the standardization process. All these factors are taken into consideration before making the standards and it is also done with the consensus of majority of the people working in the industry.

When Film Prints were made in the Laboratory & shown in Film Projectors, the colours were locked in the Laboratory. In case of Digital Cinema, colours are created at every digital projector & may vary depending on the calibration process. Once we start using SMPTE Digital standards, this will bring a revolution as a common quality of

projection will be available not only for the entire country but for the entire world which is very much required nowadays.

Unfortunately digital was started by various manufactures in India so nobody had common platform to discuss what should be a standard. SMPTE-India Section introduced digital standard in the country. We did the standardization for all screens using SMPTE standards used for the projection for the IFFI Goa festival December-2012. The experiment was very successful. This was possible only because of the support of the Information & Broadcasting Ministry, Government of India.

Currently we use DPROVE (Digital Projection Verifier) developed by SMPTE, it is available in the form of a DCP. It is a three minute digital film which is projected through every digital projection.

We measure various parameters like, focus, resolution, aspect ratio, colour & black & white signals, skin tones, chromaticity curves etc. These parameters are measured by a special photometer.

Another good part is that the entire set of readings for each projector can be stored on a laptop connected to the meter. These readings can be printed or E-mailed. Since we have a permanent

record of the standardization process it also helps us in re-checking whether the standardization still exists for a particular projector after a certain period.

SMPTE licenses these DPROVE to theater owners, by charging a small fee annually. After the fees are paid, SMPTE issues KDM, which is valid for a year for a particular projector. There are concessional rates available for Multiple Screens at same location.

So there is a periodical check for SMPTE standards. Typically every three months you should take the readings with professional meters and every week the projector operator should visually check that it is looking the same as it was earlier everyday morning, before starting the first show. We are interested in developing the system for India depending on the requirement of the country. We are trying to collaborate with multiplex owners and have received a good response so far. We expect to cover all digital screens in India very soon.

Whenever we think of standardization from SMPTE anything above 2K is a standard as perSMPTE this typically applies to D-Cinema.

Currently 2K workflow is more popular in India. Depending on industry requirements it can go to 4K. SMPTE has also developed digital 3D standards where left signal &right signal is available separately. So, you can also calibrate the 3D screen with SMPTE standards. SMPTE is soon developing common standard for audio which will be a common for all digital projections. It should be announced around December 2013.

4 K is a costly process. It requires more money, time and storage in terms of digital storage. Also the regional cinema cannot afford the cost of the 4K workflow so many of them are not using this. 4K is four times more information as compared to 2K and it's not double.

Now If you want to have four times information it's definitely goanna cost you more in terms of time for transporting material either through optical fiber pipeline or rendering. It will take more time& will be more costly for post-production process. SMPTE also has a standard ready for post production facility called Digital Leader.

I believe that most of the manufactures will always follow SMPTE standards and also participate in making the standards. The time required to convert from 2K to 4 K, depends on the investment available for the industry. Hollywood is now getting equipped with 4K; it will take some more time in India to convert to 4K. Unfortunately in India, we make our investments for equipments or post production facilities on the basis of dollar price. But our ticket prices are recovered in Rupees, the big ratio gap between dollars to rupee is also a determining factor. Therefore unless we start exporting more movies or start recovering money in dollars, we cannot think of investing heavily for 4K.

SMPTE-Website- www.smpte.org

ujwal.nirgudkar@gmail.com

Interview with
Meghnathan Naidu

Mr. Meghnathan Naidu
Head Digital Cinema Technology
Scrabble Entertainment Ltd.

I would like to know the work flow, when a producer comes to you after his film is over 'DI'is been done and the film is meant for digital projection?

After the producer completes his DI process. We get the files on a hard drive reel wise. every reel will have dpx files tagged and indexed with sequential numbers. Normally we get this Files with RGB LOG colour Space which is common in Indian film industry.

These files are checked for any corruption and then Encoded to encrypted J2K format in this process colours are converted from RGB to XYZ colour space. Encoded files are synced with the Audio which are given separately on CD's or DVD's, If subtitles are required then even they are synced at this point.

Final content is Checked in Our LAB theater by our qualified technicians and the DOP of the film. After the final confirmation from the production team. This final content is cloned on multiple hard drive's for distribution at all the theaters.

Cloned Content which is delivered at the theater's are encrypted and con not be played on any server's. it will need KDM (Key Delivery Message) to decrypt it and play.

KDM's are delivered with the authorization of the Distributors and KDM ensures that the content are played for a particular given time period. On the authorized server's only.

Are these hard drives are some special hard drive or they are just any hard disk?

Hard Drive that we use for distribution are selected keeping lot of factors in mind like speed and reliability which will speedup the Ingestion and duplication process saving time.

Casing that are used are world standard for distribution. Many DCI cinema players are equipped with the enclosure's which can mount these casings directly and ingest the content faster than the external interface of the player.

What is the satellite downloading process?

There are many e-cinema content in the industry which are distributed via satellite using multicast protocol. Where content is showered from a centralized server to multiple cinema servers in the theater. This type of distribution is currently not available for D-Cinema in India as the size of the content compared to E-Cinema is huge. It will be possible in future when the network infrastructure cost becomes cheaper.

What is the resolution difference between HD and DCI format ?

Resolution of a DCI 2Kprojector is 2048X1080 and 4K projector is 4096X2160. All DCI decoders shall decode both 2K and 4K distributions. It is the responsibility of the 4K projector to upres the 2K file. In the case of a 2K decoder and a 4K distribution, the 2K decoder need read only that data necessary to decode a 2K output from the 4K distribution.

The decoder (be it a 2K decoder or a 4K decoder) need not up-sample a 2K image to a 4K projector or down-sample a 4K image to a 2K projector Where as HD content's are decoded with a resolution of 1920X1080

If we are watching a film on HD format and DCI format which is simultaneously projected , will we able to see the difference between them?

Difference will be obvious. DCI being the world standard this is tested and proven.

Why in India people are still using HD format?

HD or E-cinema is a cost effective solution and offers flexibility in content distribution and other services. DCI has to follow the standards for colours, resolution etc. which cannot be changed but being a world standard this gives wider geographical distribution opportunity for a film.

Do you provide the projectors to the theater owners or he has to purchase of his own?

Scrabble Being a deployment entity provides the finance or lease facility for the equipments to the theater's in India and other countries of the world. But if the theater wish to own the equipments they are free to do so.

Is there anything lacking in digital projection system which is not followed in India in comparison to the international standard ?

As explained DCI is a world standard and this technology is followed by every standard cinema in the world hence for D-Cinema projection there is no actual difference this is the reason Hollywood movies are released in India and Bollywood movies are released world wide.

At the time of projection of cinema scope film or FLAT film is it required to change the projector lens?

Same lens can be used for the projection of scope and flat film. Switching between the flat and scope is controlled by a motorized assembly at the click of a button.

Could you briefly Describe about your storage and encoding part of the lab?

When we talk about storage and encoding process Security is the prime concern in the digital LAB and we take it seriously our LAB is equipped with the advanced security systems and devices.

When the source content of a film is received at our LAB we encode the content directly from the source drive and only encrypted content is stored on the centralized storage. Which resides in a secured area with very limited access and this access is further controlled by biometric access control at the doors and monitored by CCTV camera's. we do not copy the raw content in our LAB. Unencrypted contents are created only for advertisements and trailers.

After the encoding process we work on encrypted content only like audio sync, subtitling, editing etc. and then finally transferred to DCI cinema players for quality Check where the final content is experienced in the cinema environment. this process is limited for authorized personals only.

After the final conformation from DOP or the production team of the film. We then clone the encrypted content on multiple hard drive for distribution at the theater.

After the release of the film. The content on the central storage is wiped off and the backup copy of the DCP is stored on the offline storage for any future use.

What is the current scenario of 4k projection system?

4K projection system is not commonly installed in India because of unavailability of 4K content. Only few cinemas in India are equipped with 4K projection system where they want to maintain a very high technical standard for there cinema's.

An Interview With

PRADEEP SHETTY
Sr. VP. Operation, Scrabble Entertainment Ltd.

Give us the brief about how the UFO Technology has enabled the Digital Projection in India?

UFO Moviez India ltd. is the world's largest satellite networked digital Cinema chain. UFO has revolutionized the way films are distributed and exhibited in India. Through its pioneering technology and infrastructure, UFO has become global market leader in its area of operations offering end to end digital cinema solution and delivering films via satellite directly to theaters, ensuring FIRST DAY FIRST SHOW for film distributors and exhibitors across the country.

Scrabble Entertainment Ltd. started their Operations in 2007 and UFO has a controlling stake in Scrabble. India's first and the only 2K Digital Cinema Initiative compliant deploying entity, having VPF (Virtual Print Fee) contract with 6 major Hollywood Studios and the main idea behind it was to convert majority of the Multiplexes and premium single screens in the country to DCI platform.

UFO and Scrabble have more than 5000 screens in India and more than 1300 screens are Digital. Globally it has more than 7000 screens under its banner.

From the distributor's point of view, how does the digital distribution has helped?

Our business is based on the VPF (Virtual Print Fee) model. The aim is to make easy conversions to DCI, thereby replacing physical films with digital content. Partial savings realized by the content providers on the cost of 35mm print, acts as a payment gateway towards Scrabble for funding the equipment.

The need of the hour is to have 2K projection in Tier II & Tier III cities in India. Not only will the people be exposed to the quality that they have never seen before, but also the studios will get the wide reach for their releases which were never possible without Scrabble.

As far as Distributor's point of view is

concerned, saving of print costs, security of content and flexibility to play back any type of content are only some of the striking advantages. The digital cinema experience promises superior image quality, never before 3D experiences and the opportunity to showcase any alternate content.

Overall I think from a distributor's point, when we compare the cost of print which used to be 55,000, you couldn't have a simultaneous release all over the country. Small town had releases two or three weeks after the print was used in Metropolitan cities. Now with the advent of 2K per screening per site cost is only around Rs. 20,000. It gives the Distributor a larger platform to simultaneously release in every cinema which has a Digital setup.

Projector plays an important part in digital cinema. What is your tie up on Projectors Front?

We acquire our projectors from Christie which is one of the world's leading players in the Digital Technology space. With over 8 decades of experience in projection systems, Christie is considered to be a pioneer in providing a variety of display technologies and solutions. Their product range includes DLP Cinema™ projectors, LCD and DLP™ projectors starting from 9000 Lumens to 34000 Lumens, rear screen projection modules, video walls, also revolutionary projection technologies for 3D, virtual reality and simulation.

Their 2K DLP Digital Cinema Projectors not only provide a high quality viewing experience but they are also cost effective. These screens are equipped with 3.0 to 6.0 kW Xenon lamps. They also boast of a one piece compact design for flexible mounting and installation.

Their new projector series known as the Christie Solaria™ Series caters to both exhibition and post production studio demands for 2D and 3D presentations of feature films as well as alternative content. This series is also easily upgradable up to the 4K technology format, making it the fastest and cost effective means to upgrade.

What is the current scenario of 4k content and projection in India?

4K is a greater quality and upgraded version of 2K. Till now in India 4K content is limited. So even if you have 4K Projectors but normally you are running a 2K content on that.

Again as far as their maintenance is concerned, with the 4K Projectors maintenance cost on the higher side also as far as the quality is concerned, it is more than HD quality and range starts from 24000 – 34000 Lumens projectors.

What is penetration status of UFO&Scrabble Screen in India in terms of digital cinema?

Currently, with more than 3300 digital cinema of UFO systems and 1300 DCI screens deployed by Scrabble in India spread in over more than 1300 cities in India.

Scrabble and UFO's penetration in the cinema market, likeall major multiplexes namely PVR, Cinemax, Inox, Cinepolis, DT Cinemas, Satyam Cinemas, Prasad Group, etc. are under us. 80% of multiplexes run on our system. Currently as far as 2K is concerned we are the only one who is taking the lion share of the entire market.

There are two kinds of content- one is 2K and second is non 2K. UFO provides non 2k equipment- though it is a digital. The difference between 2K and Non 2K, besides the pixels you can download this non 2k content via satellite (as MPEG format less than --7 MB) and It gets directly downloaded into the system.

For example movie for a 1K content, UFO download satellite could be about 15 to 20 GB maximum where as 2K content is close to about200 GB. Downloading 200 GB by satellite in today's date becomes next to impossible overnight. We normally deliver 1 TB Hard Drives to sites. Hard Drives are completely encrypted hence piracy isn't possible. One needs to ingest it in the server or system at his theater. we will give him a License Key- it's a Digital Key.

The Key is only made for that particular server registered at that particular site for that screen. Once the KDM (Key Delivery Message) is ingested in the particular server movie on that screen is unlocked. So you can't use that key in any other cinema or another screen.

What is ratio of satellite download vs hard drive delivery and how do you recommend a particular projector for a cinema hall?

Overall there are 1500 Theaters that

are covered under Hard Drive part for 2K content whereas 3500 screens are under satellite download. Before getting into a Projector installation, we follow a normal process:-

● Conduct a site survey and at that point of time we make a checklist.

● We look at the size of the screen, Throw distance , accordingly we calculate the lens size, advise them about the lamps, what kind of Projectors is going to be used because we have got 6 types of projectors.

● Suppose he wants to run a 3D and depending on the type of 3D he want to run, then definitely he has to go with the type of screens – silver or regular

What is UFO Penetrating in terms of distributing Hollywood films in India?

In India Scrabble is the only one who has got contracts with 6 Major Hollywood studios. Content will be delivered from them, so the quality, security everything will be taken care by them. That is one big advantage we have.

What is the primary reason of collaboration of "UFO with scrabble" and what is your current growth rate?

UFO is pioneer in satellite delivery and Scrabble is pioneer in 2K delivery. By the year 2015, it is expected that over 90% of the operating cinemas across the globe would have migrated to digital platform. We believe that analog prints will then cease to exist.

I will give an example; exactly a year ago there were 500- 600 screens. So we added 1000 screens exactly in last one year. Almost every week we are adding about 30 screens all over the country. So by 2015 we are targeting 2500 screens, if Chennai Express is doing 200 crores today I must say that the credit goes to UFO and Scrabble with 3500 screens.

Earlier they were paying 60,000/- per print, today they are only paying around 20,000. The kind of business model that we give to the exhibitor is excellent. Today suppose if PVR got more than 300screens, all the projectors are being deployed by us on rental basis. So with no cost of investment they are getting the returns!!

❑❑❑

BARCO

Visibly yours

Mandar Gupte,

Director Sales - Entrainment Division

Kindly tell me about your Role in Barco?

I look after the business for the entertainment division of Barco in India and neighboring countries which includes digital cinema, business & rental projectors, corporate AV market segment , digital signage , indoor & outdoor LED displays etc.

What is the Barco Market share in terms of cinema hall Projectors and what is the unique feature of Barco Projectors?

Barco actively started promoting2K projectors and solutions around 2007 onwards. As of today we have more than 900 x2K DCI systems already installed in the country. By the end of 2013, we should be crossing the magical figure of 1,000 units in the 2k space only.

Apart from 2k DCI space, there are Barco non 2k systems also installed in the cinema theaters. Since we had started only about 6 years ago in this space , it is a good job done by the Barco team in India along with our partner to have managed to get the maximum market share in our country today.

Barco has an unique advantage which benefits the customers, which is Total Cost of Ownership. All Barco

products are modular, hence facilitate a quick swap at site. There are common spares within a family of projectors, hence one can maintain a common pool of spares.

Customers can choose from a wide range of projectors which are a perfect fit for a particular screen size. India is a special market as compared to the other countries because of different kinds of theater sizes , for e.g. large theaters with balcony.

We can also cater to large screen sizes which are up to 100 ft wide, where high brightness projectors are required . So we have projectors which are a perfect fit for every screen size, without any compromise.

We have DCI products engineered around all the three chip sizes available in the market today, first generation was the 1.2 chip wherein Barco had three models , then came the .98 chip both for 2Kfollowed by 1.38 chip for 4K where we again have three models to choose from . Now we have also introduced .69 chip in 2K where we offer 2 models.

So we have a wide choice of models. We have commonality in lenses in that

particular native chip segment which is also a cost saving for a large exhibitor, that he does not have to buy a lens specific to a particular projector models. They are interchangeable, yes but the lens ratio would differ slightly between the native chip. Barco also offers upgradable projectors, which means certain models of projectors which are presently 2k that in future can be upgraded to 4k. The 4k upgradability is currently available only for the 1.2 chips projectors0nly.

Out of 900 projectors, the B series deployment would be 10 %.Wherein, 4kprojectors are concerned, we have close to about 50 installs in the country which are native 4k resolution. Maximum installs are at Satyam Cinemas in Chennai and I am very proud that Mr. Kiran Ready had taken a step ahead going in for all 4k projectors for his exhibition roll out.

Producers who are investing cores in feature films why do you think that they do not go for 4k work flow as of now?

Well 4k is again "chicken & egg " situation. If you have a 4k workflow then it might as well make sense that you need to have 4k exhibition equipment . Just by the workflow does not really complete

the whole chain . As I mentioned that there are only 50 screens of Barco 4k against 1000 of screens in India which are 2k. So, unless and until there is this pull from the market to have 4k exhibition equipment installed, only then it would make more sense for the producers to come out with the 4K work flow . 4K is still about a single digit percentage in terms of film availability.

It will take some time for the 4K work flow equipment as well as exhibition equipment as both are expensive, this is one factor which is a current limitation but in future it could be different. We can already see, production houses enquiring for 4K post production projectors.

How much investment would be required into the upgrading from 2k to 4k as and when it will be done by Cinema Hall owners?

The upgrade cost is substantial, it could be anywhere between 50 to 60 % , because engine and chip has to be replaced. However, we don't have many cases where people have upgraded 2k to 4k.But, the option is available.

When heavy investment are involved in to equipment like Barco projectors, So what is your after sale service to your customers?

Firstly let me clarify that the investment required to install a Barco projector is comparable to any other projector brand within the similar specification. I am glad you asked this question, because this is where Barco really excels. We are a 100% subsidiary of Barco Belgium and we have 500plus employees in India.

We have a centralized service center at Noida, additionally we have service centres in Mumbai, Bangalore, Chennai etc. As a policy for Digital cinema we prefer to train our partners for service. Barco has a few dozen of certified engineers in the field today who can repair a projector on site.

We would like to share the service knowledge with the partners so that they can actually get to the first level support at the exhibition site. Real Image which is our partner for the Digital Cinema rollout in India already has a large team of Barco certified engineers to handle the service interventions.

What is the future business possibility for Barco Projectors to be Installed in Indian Cinema Halls?

When this digital revolution started, multiplexes were just coming up. Multiplexes then would be with 3-4 screens , now we have 12 plex , 16 plex coming up in India. This has created a need for the content to be managed across the multiplex. It may be on-screen cinema content, digital signage content or informative content; we also have solutions which can cater to these applications.

With the increasing number of screens, it is important to manage the health of the screens from a centralized NOC. Barco today has a major market share for the 3D sound installations in India with our Auro 11.1 solution. We

already have more than 25 screens which are equipped with the Auro 11.1 3D sound system. These are the new business opportunities in future.

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An Interview With:
Harsh Rohatgi
President - Digital Cinema
Real Image Media Tech.

ABOUT THE COMPANY:

Real image is certainly a pioneer in the digital cinema space in this country and is one of the 5-6 companies in the world who has their digital cinema servers certified by Digital Cinema Initiative (DCI), the global body which

sets standards for technology, playout, process, security, etc., for the digital cinema space. We operate on the cutting edge of technology and innovation in the digital cinema not just in India, but across the world. We have had various technological firsts to our name. We were

one of the first to have the high frame rate (HFR) capable servers. We have done some multiple large screens installations in the US which also required a 4K dual projector based installations. We are also one of first to launch an integrated media block(IMB), where the server is housed inside the projector.

ON D-CINEMA & E-CINEMA

Any thing that is DCI Certified is D-cinema and rest is referred to as E-Cinema. In E-cinema, each of the players have their own formats. Where we differ is that our server architecture in E-cinema is similar to the D-cinema server architecture. In terms of overall stability, layout and quality, ours is probably the best.

Our output is in the MPEG-2 format, where a normal film is about 60-70 GB as compared to as low as 7-8 GB which is used by some players. Needless to say, lower file sizes imply a poorer picture quality on the screen. We also provide uncompressed multi-channel sound, which enhances the audio in the theater.

In south India, audiences and cinema owners are sometimes more particular about the quality of the projection and sound, and we have seen that discerning cinema owners prefer to go with our E-cinema format as compared to others.

ON PROJECTORS:

Basically Real Images is a technology company, which has been in the media and entertainment space for over 25years.We continue to develop and bring to the market new products with new features and capabilities. In the DCI space, there are a few manufacturers of projectors in the world, namely Barco, Christie, NEC, Sony, etc. In India, we have a strategic alliance with Barco, and other players in this space work with some other manufacturers.

ON MASTERING AND LAB:

We have our own Mastering and Encoding facilities in Chennai, Mumbai and Hyderabad, and we master all the films released in India for D-Cinema and E-Cinema on QubeMasterPro, a mastering software developed by us. Each movie comes to us in the DPX format from the producers, which is then mastered and encoded, and a quality check conducted along with the director

or DOP of the film, before we release the final DCPs. All D-Cinema files are delivered by HDD, and so is the E-Cinema content. We have the ability to deliver a lower resolution version of E-Cinema by satellite, but we believe that compromises the on-screen quality, so do that only in limited instances.

ON CONTENT DISTRIBUTION SYSTEM AND PRICING :

Process of film distribution continues to be same as earlier. The distributors would take or the producers would send the print reels. The difference is that now that we take care of the content movement. If the distributors have bought a certain territory, say Mumbai city, he has a list of all the screens.

They send us a release order for the screens where the movie is to be released basis their commercial understanding with the exhibitors, and we supply the content where our equipment is installed. For example, if Chennai Express is to be send at x or y screens for three days, five days, one week and so on, we deliver the content and issue the licences as per the distributors' instructions and charge accordingly.

The charges are fixed depending upon the market and language. For example Hindi has a certain rate, where we charge Rs. 395 per show in a cinema hall. But there are different with a rate card for multiplex/single screen. Rate also depends upon whether it is a multiplex, 2K multiplex or it is 2K and E-Cinema both. Our effort has been to provide distributors the maximum flexibility in the charge structure so that they can ensure as wide a release as possible for their films.

ON 4K VS 2K PROJECTION:

Some of the screens are investing in 4K as they are looking into the future. If you buy a projector now as projectors cost a lot of money you may invest it 30-40 lakh, so better to spend a little more and equip the screen for 4K projection, as it is a matter of time when more and more content is available in this format.

FUTURE BUSINESS POSSIBILITY OF SCREEN DIGITIZATION IN INDIA

India has about 9000 active screens. Already more than 8000 have been

digitized between D-cinema and E-cinema.UFO has some 3200, Scrabble around 1000 + and we have between E-cinema and D-cinema about 3400 screens. The other players in the market account for another 800 or so.

This high level of digitization has been enabled by the digital cinema service providers like us, UFO, Scrabble, etc. by realizing that the only way to ensure speedy digitization of this space was by taking on the capital investment in the equipment on to us. This is similar to a long-term lease, which allows the investment to be recovered over a longer time frame

India has a heavily under-screened market. In a country of 1.2 billion people there are 9,000 screens where in USA with a 300 million population it has 35,000 screens. Though the difference is that India has probably one of the highest average seating capacity of about 550 seats as compared to 200 seats or less in the US. This was because the Indian cinema business were driven by the blockbusters, before multiplex came up.

With the advent of multiplexes, with lower seating capacities per screen, allows for greater programming flexibility, and the overall digitization of the ecosystem, also allows for more varied films to be produced and distributed theatrically.

We are seeing the coming of the multiplexes in multiple formats. Whereas there are the big national chains such as PVR, Inox and Fun, the south is seeing a conversion of some of the bigger screens into 2-3 smaller screens. In the north, which was relatively under-screened compared to south India, there are a lot more independent chains coming up such as Stargaze, Glitz, Wave, SRS and Spice. Furthermore, if you go to Ludhiana or Jalandhar, every mall has a multiplex and a lot of them are being run by one of these chains or as standalone plexes.

We are seeing the impact of these developments. Take the Punjabi film industry, which is going through the roof, driven by much wider theatrical releases and collections. All of this is being enabled by the growth of these plexes. Looking at these trends, we believe that doubling the screen count in the next ten years is a distinct possibility.

Kiran Deohans

Veteran Cinematographer Recollects his Journey

Aks, K3G, Qayamat Se Qayamat Tak, Jodha-Akbar all Big movies! Hit movies! One thing you will find common among them is the name: Kiran Deohans.

The FTII Graduate of 1981 batch, Kiran Deohans is among the top 10 Cinematographers of the advertising industry and he has retained that position for the past two decades.

Having worked with almost all big ad-film makers of Mumbai, He also runs an Ad production house with wife Aban Deohans called Candid Creations.

He had won the Filmfare Award for Best Cinematographer for his work in his very first film Qayamat Se Qayamat Tak. His work in Aks and Jodha-Akbar was nominated for Screen Weekly Awards and Asia Pacific Screen Award respectively.

In this article , Kiran Deohans looks back into his cinematographic journey and reflects upon his lighting approach on various feature films and some of the challenging moments during ad film making.

ON THE BASIC APPROACH TO LIGHTING:

When a director is ready with his script, he has a certain cast in mind...actors whom he feels would do justice to the role. Similarly he also casts his crew...his DOP, his editor, sound engineer etc; crew that he feels would do justice to his vision.

So when a director tells you that he would love you to shoot his next film, it means something in your work matches his vision. So when he narrates the script, as a creative person you already start visualizing the look and feel and the visual palette of the film. And when this matches with what the Director has in mind and is looking for in his film, you know you are on the same page.

Setting the frame, lighting it, and planning camera movements are the DOPs responsibility. How creatively this is done is where your skill lies. Of course every DOP has his own way of working and over the years you develop a certain style. But ultimately it's the script that controls the look and feel.

The process starts from listening to the script, and understanding it's feel. So right from deciding the look of the film, to taking a call of what kind of camera movements are required (would the film need a lot of camera movement or what part of the film would need a steady shot or a kinetic shot or whether it would involve the use of dolly or jimmy Jib or hand held) to the lighting mood - all depends on the story and script .

There is a certain format, which is understood and followed by HODs so working becomes smooth. E.g The set first belongs to the Production Designer. Once he is absolutely ready, the Director discusses the scene with his DOP, and then he takes over for rehearsing with his actors. Once actor movements are blocked the set belongs to the DOP for lighting. After a couple of camera rehearsals, the director rehearses with his actors with camera movements and then you ready to take the shot.

A DOP will listen well to his Director because what he explains about the scene will give the DOP an indication of the mood and feel required for that particular scene...So even if your basic look for the film is locked the treatment varies from scene to scene.

ON FIRST FEATURE FILM EXPERIENCE - QYAMAT SE QYAMAT TAK

I know Mansoor from his advertising days. He had a company called Mobius, and I would shoot most of the Ad films for Sanjeev Sharma, who was director at Mobius and who is now the owner of 'Optimystix'. I was hence Mansoor's first choice for DOP for his first film QSQT. He was familiar with my work and he was also keen to work with new people. Mansoor was bubbling with fresh new ideas as he had just returned from the US. He wanted to introduce a lot of new things into his film- making - not just in terms of story telling, but also in terms of shot taking, performance and music.

We went for location hunts for a couple of months and hence had enough time to discuss the script and the look and feel. FTII had given me huge exposure to international cinema - and I had observed work done by celebrated DOPs like Sven Nykvist, Raoul Coutard Gordon Willis and Shubruto Mitra from India, etc. So naturally, one had subliminally absorbed and learnt from the Masters and I was eager to use it all in my first film. QSQT was 'Romeo and Juliet', but how different we would make it was the challenge. At that time there used to be no post-production facilities like DI and CG, so all the visual magic had to be created during the shoot itself. There was a song, Akele Hain To Kya Gum Hai, which I wanted to shoot a little differently. So I used a fog filter, in-fact I bought a personal filter, shot some footage and showed it to Mansoor to explain how it was going to look.

It may not have been very stylized work but we achieved a different look, glossy but without losing out on simplicity and freshness and it really worked for us.

I must give you an anecdote... Before we started the film, Juhi and Aamir's screen test was going on at Mansoor's bungalow and Nasir Sahib happened to drop by. In one of the shots where Juhi was in the garden, the sun was behind her, she was backlit; so I placed a white satin cloth to fill her face and began to shoot. I heard later that Nasir Sahib was really very concerned after seeing this as normally he was used to seeing the sun hit the actor's face directly and he was wondering what kind of lighting I was doing. But when Nasir Sahib viewed the test, he was convinced and was fully supportive after that. Besides my Director was very happy with my work so I was happy. Of course we've had creative differences sometimes but I believe if you know your job and you are convinced about what you doing, and of course if it doesn't clash with the Director's vision, the Director will understand and give in to you. After all, that is why a Director hires you, so that you give him your best!

ON WORKING WITH RAKEYSH OMPRAKASH MEHRA

After QSQT I quit doing feature films for almost 10 to 12 years, as I got very busy with shooting and directing advertising films. Seniors like Barun Da and R M Rao sir had already paved the way for DOPs, in the sense that they had established that visuals were very important in advertising. Experiments with out- of- focus shots, playing with contrast, compositions, camera movement, shutter speed etc...was amazing. A lot of new equipment, new stock was being introduced and it was an exciting period. There were cases where Ad films were given to Producers only if they had dates of a good DOP. So a DOP was given huge importance . So I stayed with advertising for 10 years. During that time, I met a whole lot of creative people in different fields; art directors, creative heads from agencies, and learnt a lot from them. A new framing sense developed, scene layout and the way they do pack shots; something I hadn't learnt at FTII.

Pack shots were very important. So it was necessary to make the product

look good, be it a mouth watering ice-cream, or a sleek car, whatever the product; you had to make it look fabulous.

But then there is always a saturation point, when you feel you are doing the same thing again and again...and that's when Aks happened.

I knew Rakeysh Mehra from the days he had a Production company called Flicks. I used to shoot ad films for him. And then one day I got a call from him saying he was doing a feature and wanted me as his DOP. He narrated the basic one line concept and I loved it...the script was a DOP's dream. It had scope to do so much in terms of lighting and I was full of ideas from my experiments in advertising.

I was ready to shift now from 30 secs to 2 hours and this was the perfect opportunity. I feel I really pushed the envelope on this one. And Rakyesh was completely okay with me experimenting and pushing the bar higher in terms of visual styling. I played with the latitude of the film, experimented with lenses , de-saturating images. For eg., if you remember a sequence in the film where Mr. Bachchan is traveling and then he stops over a bridge. It was in Prague. We almost had to cancel the shoot because I wanted a 1000 mm lens, and that was not available. Anyway, I shot with canon 800 mm compressing the field as much as possible to make it look a little mysterious.

Since I was also directing my own Ad films, I used to work a lot in post-production. That additional knowledge was a huge help, eg., it helped to know how much contrast I could play with later, in post, if I didn't put diffusion at the time of shoot. This helped a lot whilst shooting 'Aks'. Rakeysh didn't compromise at all in terms of getting the best technology. He got Paul Sims from London for shooting the title sequence. Also the time-slice sequence in the end, was the first time ever in Hindi cinema. Technically, Aks was a very evolved film.

During prep I carried out a lot of tests with Amitji and Manoj, as lighting was critical in this movie. Manoj Bajpayee plays evil in the movie and Amitji plays the good guy. Good and evil; two sides of a coin. So when Amitji transforms from Good to Evil, the lighting had to be the same as what I had designed for Manoj as he transforms into Manoj's character.   In fact at times when Amitji would transform from good to evil in the shot itself, I would change my lighting as well in the midst of the shot.

So once again, the key word here is script and story ...whatever we do, we do to take the story ahead and help the characters evolve.

About song Visualization, particularly Aaja Gufaon Mein - it was a theatrical song and therefore the lighting was also theatrical. It is almost operatic. In fact we were looking for some exotic locations to shoot that song, but finally decided to put up a set. Both Samir Chanda and I pulled out references and a set was put up at Mehboob Studio. The

backdrop was painted and to create the effect of the lightning in the sky, we got six lightning machines and I placed them behind the backdrop, and keep flashing them at random to avoid expensive special effects.

The actress, Raveena had to look stunning and sensual and could not be all the time in the shadows so a careful and controlled play of shadow and light was designed. The final effect was that of a stylized song, visually in terms of color, shadows, and light and, of course, dynamic camera angles and movement and some great choreography by Raju Sundaram.

In 'Aks' an interesting thing was, that a lot of close ups were shot with slightly high speed and with normal florescent tube lights, especially the scenes at Topaz bar where Raveena danced and the upstairs area where Manoj lived. I let the flicker happen in the shot, it was very subtle, almost like breathing, but that heightened the sense of drama and unease.

In films like 'Aks,' having low-key lighting areas, minimum use of light for very dramatic sequences actually helps the actor. It doesn't intrude in their area of movement. I used tungsten film with the tube light, which gave a little blue cast, which I corrected later in post to a certain extent. It gave a fantastic look for Raghavan's character, as he was cold and un-predictable and almost evil. I used a mix of neon lights, tube lights and gelatin papers on light to create that eerie feeling which Raghavan's character evoked.

ON WORKING WITH KARAN JOHAR

K3G-(Kabhi Khushi Kabhi Gam)- happened almost back to back after 'Aks'. Amitji called to tell me that Karan Johar was looking for a DOP and he had recommended my name. I met Karan and the way he narrated his script to me, amazed me. He narrated the film to me ad verbatim, without looking at his 200-page script. He said, "Take whatever liberty you wish whilst lighting, but give me a lot of gloss and my actors have to look great.'

I will say at this point, that frankly it is easier to do a film like 'Aks' as you can experiment with lighting a lot -- you can go dark, overexpose, and stylize the film. But for a film like K3G, the challenge was to create stunning bright visuals and yet retain mood and feel. There were approximately nine huge sets, there were several songs and every song had around a hundred artists. It was like a big fat Indian wedding with all the members playing important roles.

The 'Laija laija " song had a huge set built on a platform and it was lit from underneath. I wanted the kind of lights that I had seen in the making of 'Amadeus'. But Space Lights were not available then. Nor was Moon Light. I mentioned this to Yashji, and he was such a wonderful Producer that we got these lights made. I made acrylic boxes so that I could place my multi-20s in them so that whenever the shot was required my ambient was always ready; all I needed was to place lights for the faces and I would be set.
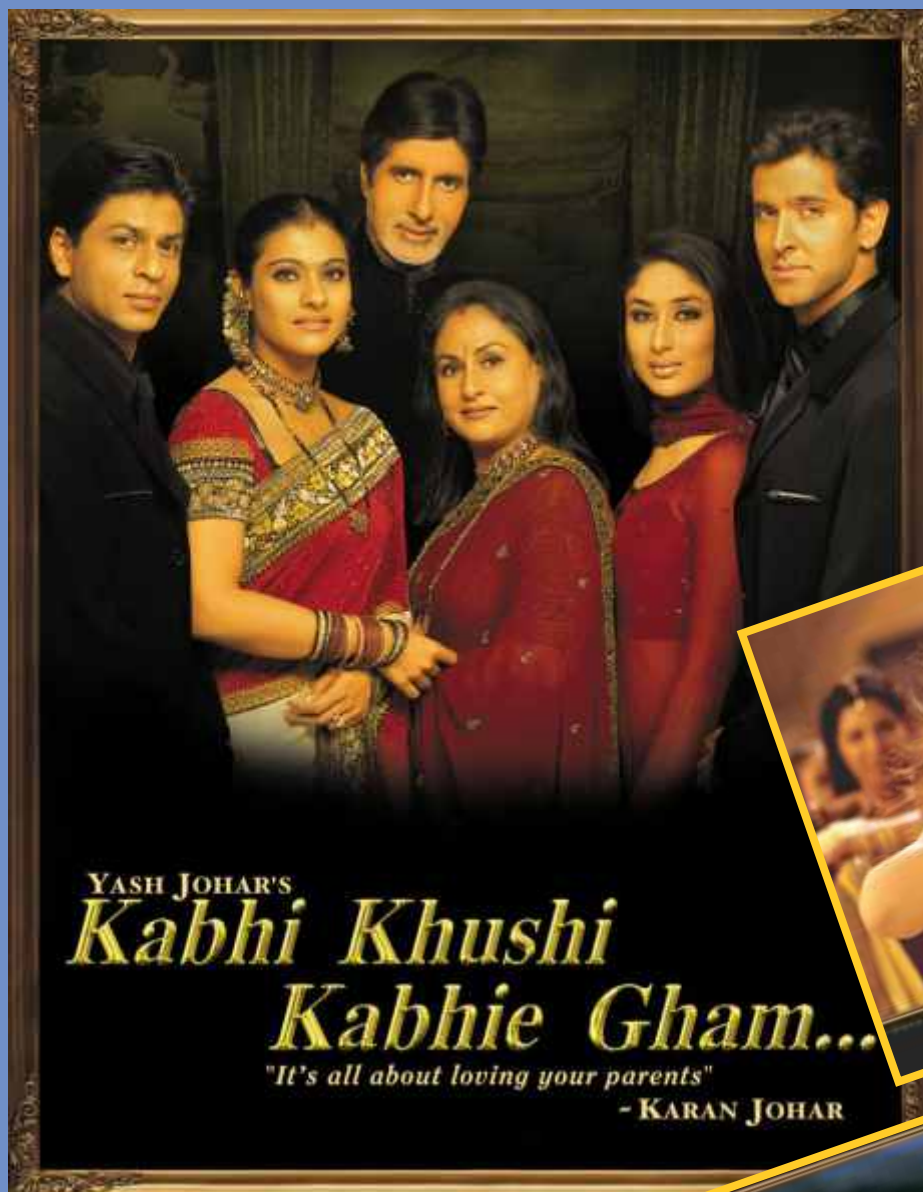
So I discussed with Karan if we could start early morning at 7 am and wrap up shoot at 10.30 am and then once again resume shoot after 4pm till daylight ended. Karan was very cool with it but was wondering how Kajol would react, as she would need to be up way early to be ready for a 7am shoot. The hotel was an hour away from the location, so she had to get up at 4.30 to get her make-up finished by 6:00. I asked her if she would do it and she immediately agreed. That song looks visually so different and stunning and Kajol looks like a million bucks.
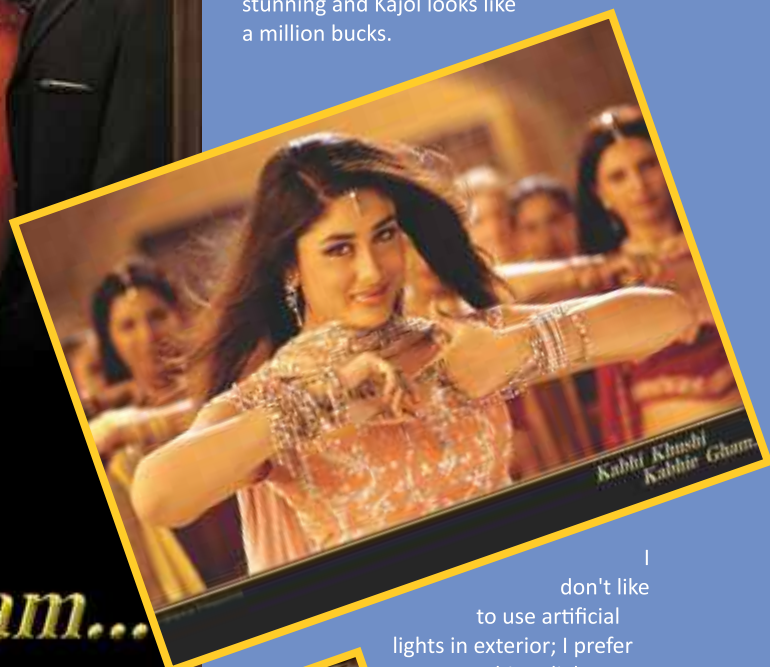
I don't like to use artificial lights in exterior; I prefer to use ambient light. I control the top light so that faces look pretty for close-ups. Maintaining your continuity is very important and becomes a challenge in outdoors because the sun is continuously shifting. Right in the morning you have to decide, if you want to shoot the sequence in sun or overcast. The script may have a beautiful sunny day, but typically when you are on location, it might end up being

Karan had made a huge set of Chandni Chowk, were Kajol lived. We wanted to make it moonlit but we did not have a helium balloon at that time. So Yashji agreed to get a 10 by 12 feet box of acrylic made in which I placed my HMIs. That had to be suspended on the set to get the ambient moon lit feel and since it was too huge we had to get an industrial crane for that.

The song 'Suraj Hua Maddham" was shot in Egypt. There, by 11 am there would be top light and the sun would remain like that till 4pm. The song was a romantic song and that kind of light would kill the feel.
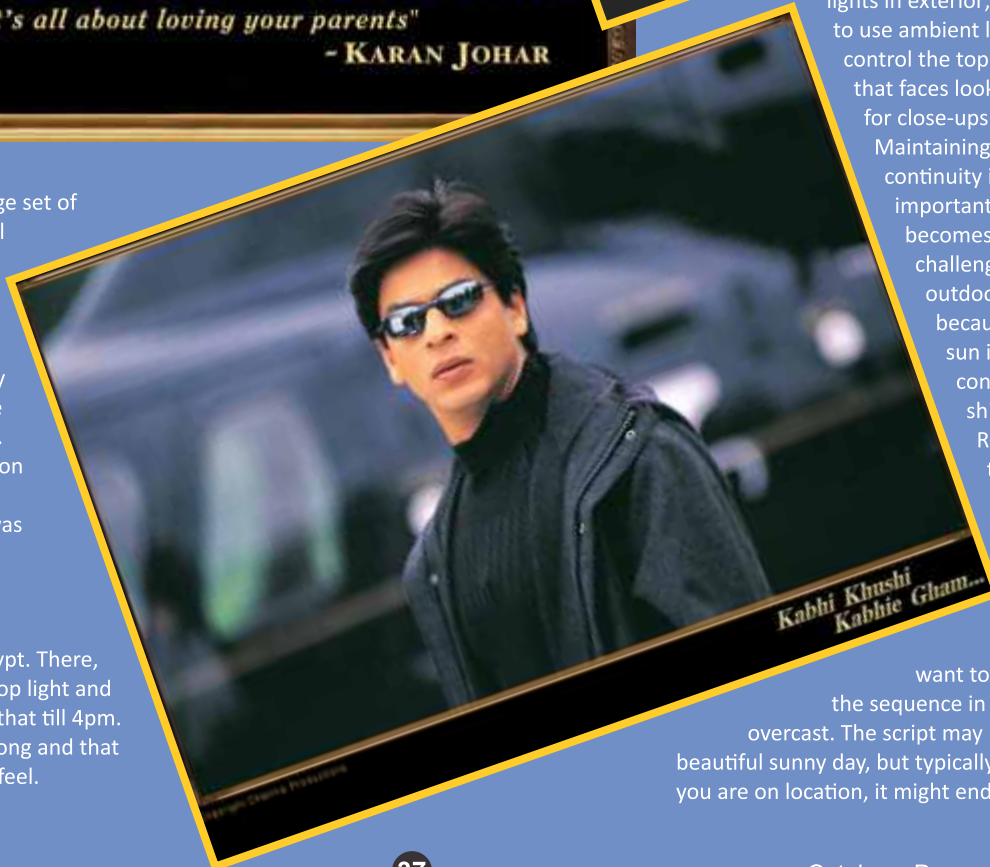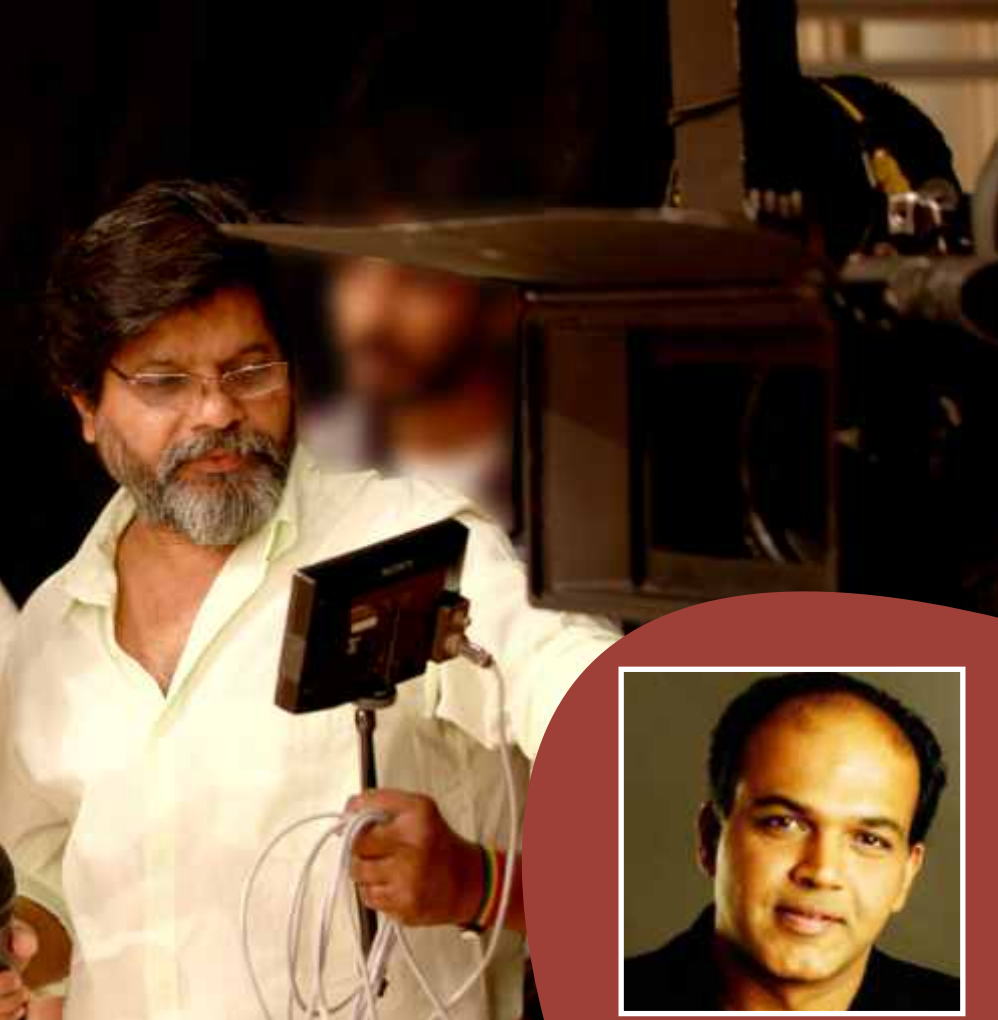
very important. You can tell your art director to make certain sections movable, and make certain sections of the wall that can be removed for the shot and placed back again.

And of course, there are times when the mood of the scene on the set is happy and times it is sad. This is done with placement of light and quality of light and at times switching off couple of lights. I think once you are done with the high key, low key is very easy. High key is more time consuming, more lights and gadgets more cutting lights here and there.

ON WORKING WITH ASHUTOSH GOWARIKAR

It is a rare case normally that you already visualize a world as soon as you hear a script, but the moment I heard 'Jodha Akbar' that world came to my mind even before I even got to reading the script. Regarding the approach to this film, there was no possibility of giving a present day look to it. Ashutosh initially wanted to have different palettes and give different looks. So we saw many films like 'Gladiator', 'Mughal-e-Azam'

cloudy all day...you have to be flexible enough to use what light is available and make it right for your scene.

COLLABORATION WITH PRODUCTION DESIGNER.

I work very closely with the production designer. When a set is

designed I sit with my production designer right from the time the set is a miniature and incorporate various 'practical' lights in the set design itself so we can use those practical lights to light up the set and characters That helps a lot. But if you get into the set after the set is ready then it's of no use, so prep time is

care of. So it was very challenging and tricky to handle Aishwarya's face without make up.

But what I got in the bargain was a rare look of Aishwarya, which was very fresh, and glowing and she really radiated that regal charm of Jodha, looking like a princess in some fairy tale. The costumes and the jewellery gave her an earthy and organic image.
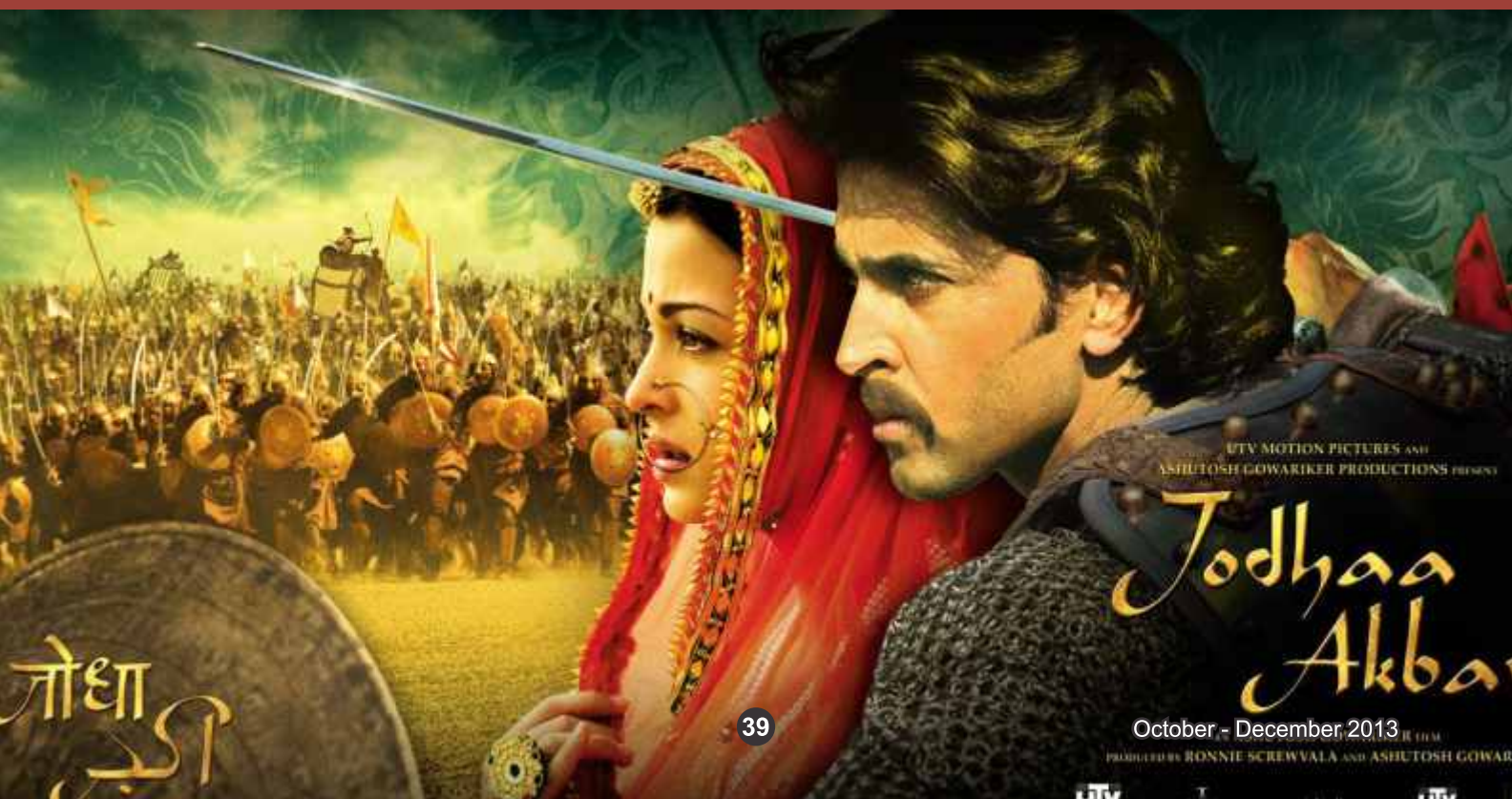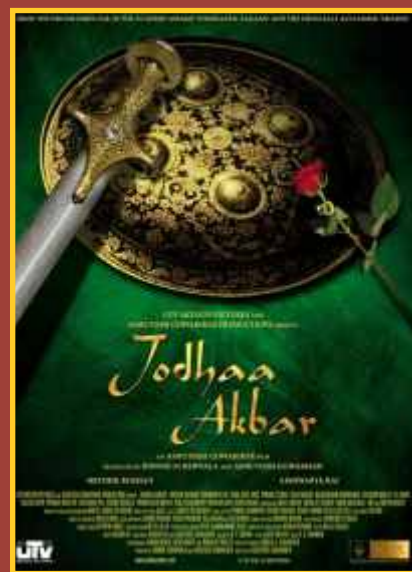
The battle sequence in Dhaolgaon was extremely challenging. The location had hills on one side. I realized that the sun went down at 4:00 pm and after that there was skylight but no contrast! So if the army was standing in platoons, once the contrast dropped, the separation was not visible. We had about 500 people and we had to multiply to show a lac. So we had to shoot one group and then shift them to the next block. But if we did not finish this fast then the sunlight would change and the jump in lighting would happen. It was like a stop block. So having to multiply crowds and handle animals like elephants and horses, in the given time- all this was a huge challenge, but ultimately everything went very smoothly, largely also due to Ashutosh's planning and patience.

in Jodha Akbar. He is totally focused and knows exactly what he wants and it didn't seem like he was a first time director. We

and many other war films. But finally he wanted a bright 'Indian sun and heat' look which we got in Rajasthan. So we decided not to use the soft European kind of look. Another call, which Ashutosh took, which I thought was very good was having a no make-up look for Jodha. Aishwarya is a very beautiful woman, but if you don't do make up, then even the minutest flaws on the face gets blown up on camera, so I had to very careful whilst lighting her face specially in the scenes where she and Hrithik were together because Hrithik was with make-up and she wasn't. The moment you do not have an eye shadow and blush on, the face starts looking flat. So that had to be taken

WORKING WITH KARAN MALHOTRA ON AGNEEPATH

Working with Karan on Agneepath was a great experience. I knew him from when he was Chief Assistant to Ashutosh

had a tough shoot schedule as we were shooting in Diu in the heat of summer and the set of the village was placed on a hill. It was hot and humid and a very difficult terrain to work.

The night sequences at Kancha's den, Mandwa, were planned as night- for- night shoot. Normally night lighting is exciting for any DOP as its creative but after seeing the practical problems involved, I realized it would be way too expensive and time consuming to light up the set. So I advised Karan to go for Day- for- Night. He was hesitant at first but got totally convinced after I showed him a test, which I carried out with the help of Prasad, the Head of Post Prod at Pixion. Day for Night is extremely challenging as it is, and this one had mashaals and rain and lightening.

The song Chikni Chameli was to be shot on the set at Diu, which was open to the sky. But Karan wanted it to look glossy and sensual which wasn't possible if we were to shoot on location. So I suggested we put up a set in a studio in Mumbai so I can have total control over lighting. This was an expensive proposition, as the set at Diu would have to be brought down and re-constructed in the studio. This call would be taken by Karan Johar, but knowing Dhrama and their production values, they agreed and a huge set was put up.

WORKING ON A FEW CHALLENGING COMMERCIALS:

I have done loads of commercials but I remember the Maruti 1000 Car ad that we did years back. Those days post-production was not what it is now, so a lot of innovation had to happen during the shoot it-self. Namita Roy and Subir Chatterjee were the directors and White-light Pictures Company was the Production House.

I was shown a BMW commercial shot in Australia. It was fabulous. But they had the equipment to pull it off and we didn't.

We were shooting at Raj Kamal studio. I had placed on top of the car a skimmer or rather a cyclorama, which was 40x60 feet and created almost like sky overcast. I wanted the light to reveal the car. However, I couldn't get the movement of the light. The BMW had the liquid highlight traveling and slowly the car was revealed part by part. We tried using large 10x12 cutters but they were coming in frame. I really wished at that time that we had the right equipment available in India. Then that day during lunch break I was checking my still camera, when something interesting happened. Raj Kamal studios had motorized shutters, which were slowly closing. Now the car was in the studio and as we turned off the studio light only the skylight from outside was seeping in. - almost 20 feet by 20 feet - was closing. Inside it was pitch black and I saw the highlight slowly creeping over the body of the car and going like a wave. This was it!!! I called for a video assist and we shot the car with the traveling highlight and then showed it to Nomita. She was thrilled. This was exactly what they needed.

I remember shooting a Dukes Lemonade commercial for Ram Madhwani. Atul Kasbekar was acting in that commercial. It had a simple theme. A photographer was playing basketball and he is losing the game. Suddenly he goes into flashback and sees his coach advising him. He regains his confidence and finally scores.

Now Ram Madhwani liked to experiment and he wanted me to handle the 85mm lens. So although I was prepared for a 400 asa, maximum what I could get was " 2.8 plus" aperture. I couldn't get the exposure for the focus puller and it was difficult for him to get focus without focused images. So I asked Ram if we could shoot at 20 FPS, as we could get more exposure and in that case we could get the sharper images but just some part of the body would remain blurred.

He said that would work for him very well in-fact and if I could give him sharp images of the face, I could let the other body parts go blurred. He loved the final outcome. So the idea is to keep innovating...even after doing a lot of prep, you have to be open to improvisation.

I also remember shooting a "Milk food 100 percent ice-cream" commercial for Sanjeev Sharma. We shot it with actual ice cream, which got me a tabletop photography award. The agency brief was to have the ice-cream look soft and melting and mouth watering and have sharp images at the same time.

The agency also wanted the actual ice cream to be shot. I shot with minimum lights as heavy lights would generate too much heat and the ice cream would instantly melt. Pack shot is not just about great lighting but also understanding the character of that pack. The pack shot needs to be shot in such a way that whoever is watching it should feel like possessing it, and if it is edible, should feel like eating it.

WORKING WITH PRABHUDEVA

Prabhudeva is amazing! He works at such speed that one has to be on ones toes all the while. He is a master of improvisation and his film-making grammar is brilliant. He is also very clear in what he wants and doesn't waste time in re-takes.

PERSONAL CHOICE OF CAMERA:

Among Sony, Arri, Canon and Red today, I would say that Sony f-65 has an edge over other cameras. Though Arri and Sony f-65 are comparable, but what I really like about Sony f-65 is the detail that I get with it, even in low lit areas.

Currently I am shooting a thriller directed by Prabhudeva with Ajay Devgun and Sonakshi Sinha with f-65 since the thriller has many night sequences. Secondly the kind of rich look that I get with f-65 is closer to the overall look of the film.

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Ram Madhvani
on shooting of adidas Commercial with Sachin Tendulkar

The winner of Teachers Achievement Award, a Bronze and a Silver lion at Cannes, the Asia Pacific awards for Best Director, Best Film and Best Production Design, Ram Madhvani is One of the most respected Ad film makers in India as well as abroad. Having an experience of more than 20 years in the Advertising industry, Mr. Madhvani has worked with every important ad agency and cinematographer in the country. His ad film company EQUINOX   has produced numerous commercials for all important Agencies. In 2007 he was listed amongst the top 10 Directors in the Asia Pacific region. In 2011 Ram was President of the Jury for Film Craft at Adfest Bangkok. Two commercials (Happydent and LMN) directed by Ram were included among the Top 20 of the last twenty years in the Shots Magazine which had the Best of Asia Pacific .Ram has made his mark as a director outside of advertising also. His debut feature film Let's Talk was premiered at the Locarno Film Festival.

His Adidas ad film with Sachin Tendulkar haunts our memory even after 15 years. Naresh Sharma takes Ram Madhvani down the memory lane to make him recollect the complexities of making this great commercial.
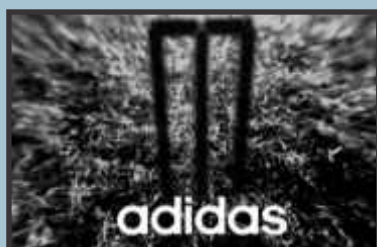
Everything comes from concept because directing is not just shot taking. The zoom lens, trolley, crane and all other techniques are your armouries and when and how to use them depends on your target. Then you use any of these to hit that target but first you have to know what your target is. If you don't know where you are going all roads will take you there! When the Adidas script came to me it was - Sachin Tendulkar's last ball of the match, a kind of a cliché. He is facing the last ball of the match and everybody is in anticipation. Will he hit the six and win the match? The entire script is based on suspense, as an audience I want to know what is going to happen on that last shot. This means you are holding your breath, you are on pause and at the edge of your seat. Therefore it was a challenge to visualize as there was very little in the script.

Around that time I read an article in American Cinematographer that Dayton Taylor had invented time slice called "Virtual camera movement" with many still cameras. This became my armour for this film. The idea of using the camera to freeze a moment to heighten the dramatic pause. The Matrix film was not even on the horizon, it happened years after Adidas. I discussed the concept with my post production expert Parminder Singh Chadda and cinematographer Vijay Khambhati and realized that we needed around 40-50 cameras. (Later I was told

that the entire industry shut down on the day of our shoot since all the cameras were on our shoot) . Since we had two months to prepare, we carried out many tests. We decided to do it in black and white because colour matching 40 cameras was nearly impossible. Also the cameras needed to be at the same height. Hence we decided to build a wooden platform for the cameras.

We could only afford a 180 degree circle to shoot since the number of cameras could only accommodate a 180 degree field of view but we had to have a 360 degree shot. Now in order to capture the other side I had to put a fielder on the last camera as a wipe. Then Sachin went to the other side of the pitch and it became a 360 degree continuous shot. We shot the audience later separately which we then multiplied in post. On the day of shooting it took 8 hours to set up the cameras from 7.00 am and by 2.00pm and we finished the shot till 5: 30 pm. Sachin suggested certain kinds of strokes that allowed him to get his feet go off the ground, so we could freeze him in mid air dramatically. When we finished all the shots and reviewed them, everybody was happy. But then the client came and said"do you think Sachin's feet should have been off the ground a little more ". I said fine let's ask Sachin, we asked him and he said "Yes It can be". So I said ok we would do it again tomorrow.

The next day, when we went back to the stadium we had to set up only the

cameras on the tripod, as cameras were taken away leaving the cabling and other equipment there overnight. The next day when we were ready to shoot with Sachin after setting up the cameras around 10:30 a.m, it started raining and did not stop. For the next two months Sachin's dates were not available. When I was walking out of the field everybody was calculating the loss that we would incur in this film because I was the producer and director of that film and we had no weather day cost in the budget.

I firmly believe that the "Gods of Cinema" are there to protect you and your film if you are doing it passionately. In those two months we edited what we had shot and we realized two most important things that neither the light nor the angle were dramatic enough . A lot of these things were pointed out to me by Vijay and Parminder. Now we needed to improve upon it. We shot more tests and that's when we realized that actually it made a dramatic difference, if the cameras were lower. Parminder was there editing all the shots considering them as rushes, to find out what works, from our first day of shoot.

Two months later we re-setup and re-shot. This time the light was better and so was the camera angle, and Sachin's feet were more dramatically off the ground. Eventually, it's not about what is being said, or how it's being said. It's really about how and what the audience should feel and that is the essence of the

Rasa theory. What the actor is feeling is one thing and other is what the audience is feeling, that has to be transmitted. When I am making any film I am not much worried about what I am doing or what the actors are doing. My most important concern is what the audience is feeling when they are watching it. You have to move that objective from what is happening, to what is being felt. The use of time slash as a conceptually relevant technique made the audience feel the dramatic pause and the suspense of the last ball . So the technique of Time Slash was the right one to hit the target we needed.

Of course the film was about a dramatic pause, but when you were using this kind of technology, you also want to have a "sense of wonder". The audience should feel this "Sense of Wonder" and say Wow this is amazing! If you don't get that response, then the shot is no good. I could have done anything but this response needed to be there. A shot needs belief in your approach, which requires a collective belief of your team members. In Indian cinema, unfortunately we support the narrative but don't support the visual as much. I think that in this commercial because of the "Gods of Cinema" and the incredible, non compromising team I had we could use the right technique to get conceptually and emotionally the right shot and make this Ad film memorable.

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Vijay Khambati

on shooting of adidas Commercial with Ram Madhvani

When Ram Madhvani discussed the concept of the Adidas commercial I was very excited. The idea we needed to execute was called time slice- which was not attempted before in India. We knew it had been done abroad with still cameras. So that's the route we tried to follow initially. We went about looking for someone who could guarantee that all the still cameras we use would trigger at the same time. Despite assurances from many quarters, Ram and I were not entirely convinced about it. So we decided to do the time slice with video cameras.

WE RAN A LOT OF TESTS BEFORE THE SHOOT.

Our first challenge was to ascertain the uniform distance needed between the cameras—the inter-camera distance—to achieve a smooth, continuous trolley kind of feel. We knew that the cameras should be as close to each other as possible. If the gap was too much, the visuals would jump. I did a lot of tests and we finally arrived at an optimum inter-camera distance of ten inches.

We also decided on the widest focal length we would use and the distance of the cameras from the center point. The circumference of the arc of cameras depended on the magnification of the lens. A wide angle lens would naturally entail a smaller arc and a telephoto lens would facilitate a longer arc. By considering the field-of-view (FOV) of the selected lens, we arrived at the maximum arc of cameras possible before the last camera started to appear in the field-of-view of the first camera. The circumference of the arc was then divided by 10 inches (inter-camera distance) to get the number of cameras needed for the shot. All through this time, the production team wanted to know how many cameras had to be booked. I remember all of us heaving a sigh of relief when finally everyone knew that 40 cameras would be needed for the shoot!!

We decided to take an eye level shot. This would enable us to adjust the heights of the cameras comfortably since all the cameras would be on tripods. We were shooting at a cricket stadium where the ground is soft. To avoid the risk of the tripod sinking into the ground, we built a platform.

All the cameras had to be aligned to the same center point. We devised our own 3-D globe that would serve as a common center spot for all the cameras in the arc. We also used a visual mixer to align the cameras.

Since the arc of cameras could not be moved, we had to constantly change the orientation of the cricket pitch for the various shots that we had planned.
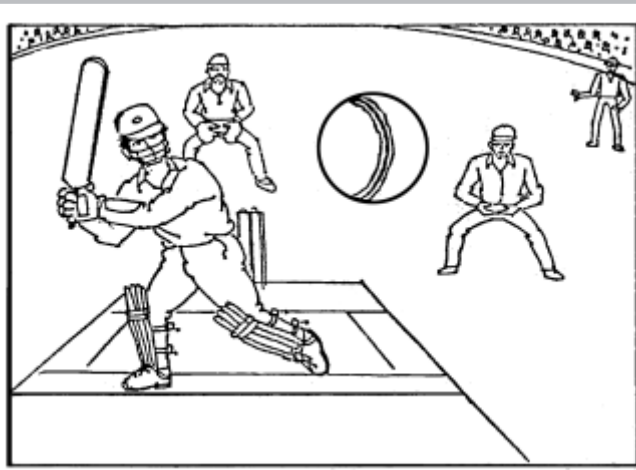
Also, for one shot, Ram wanted a 360 degree movement around Sachin Tendulkar. We achieved it by joining two shots : the first shot ended with a fielder in the foreground blocking the view of the 39th & 40th cameras…..and the second shot started with the same fielder in the foreground of the 1st & 2nd cameras with altered orientation of the playing pitch.

On the day of the shoot I started setting up the cameras at 6 in the morning. It took a major part of the day to set it all up. By the time we were ready to roll, the sun had dipped and we had long shadows of the cameras coming into our frame. Ram and I thought it was better to shoot the next morning. But the camera attendants had a different point of view. They refused to leave their equipment overnight on the ground.

We somehow managed to convince the 120 attendants to take away their cameras but to leave the tripods in position. Late at night I got a call from Ram asking me to go out to the balcony of my house and look up at the skies. I told him I was already outside looking at the rain that was softly descending down!!

The next morning when we reached the stadium it was still drizzling. We went ahead with our process of setting up the cameras hoping that the clouds would clear. But the rain was in no mood to relent. By afternoon the drizzle had transformed into a steady downpour. Ram and I walked up to Sachin Tendulkar to discuss our further course of action. Sachin said that he was quite sure that the rain would not stop. He said that cricketers had a nose for predicting the weather. I said that DOPs also have a similar nose but at times we have to keep working against all hope, just in case…..

The worse news was that Mr. Tendulkar was slated to travel out of the country that evening for a cricket tournament and would therefore not be available the next day for the shoot.

We thus had to dismantle the entire set-up and reschedule it for a later available date.

This extra time gave us a chance to rethink our shots. Ram and I both found the eye level shot to be too boring so we decided to go in for a dramatic low angle. This decision brought forth a new set of logistics. Since the "patlas" available with the suppliers are not of uniform height, we made our own plywood squares of various thicknesses ---1/8th,1/4th , ½, 1 and 2 inches---and fixed each camera on them on a high hat. This helped us achieve a uniform height on all cameras for the low angle shot.

Rain, which played spoilsport on the first schedule, had given us the opportunity to add value to the shots & we ended up with a very satisfying result.
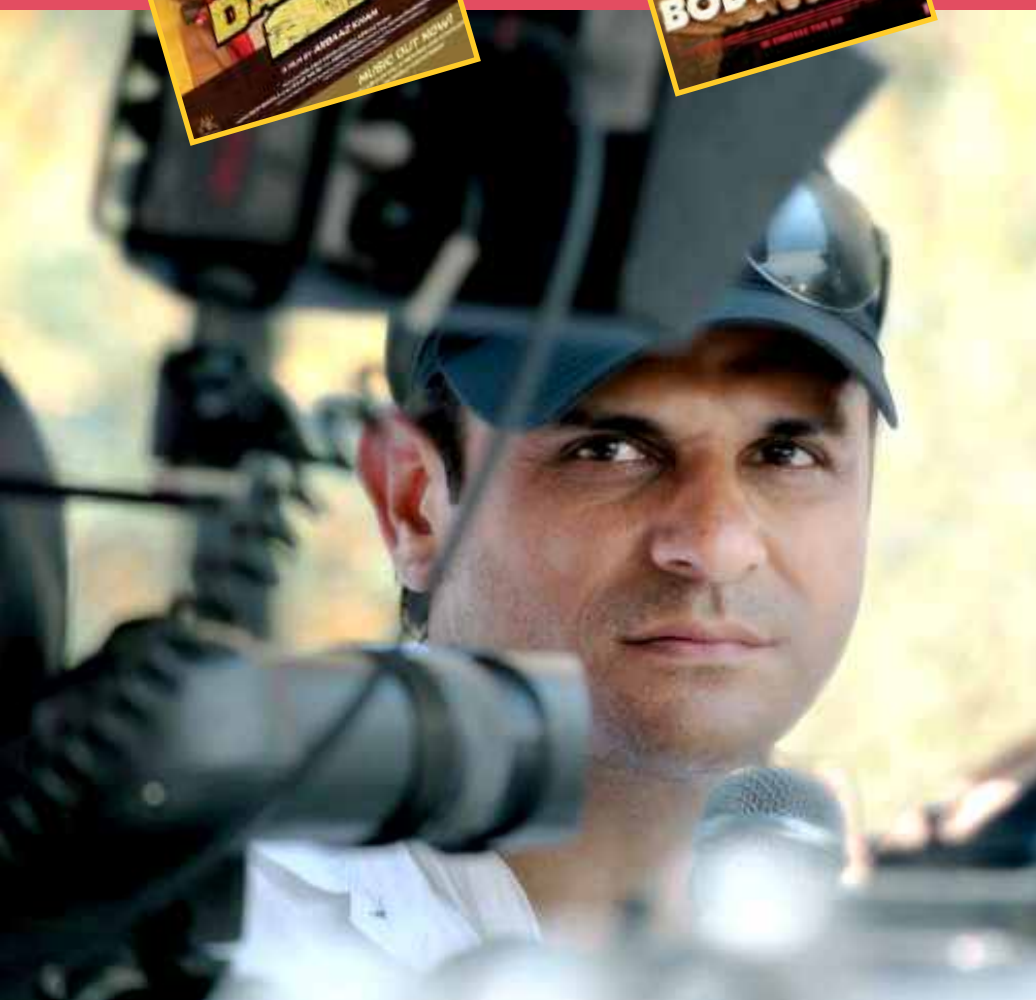
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Tribute to an Inspiration

ASHOK MEHTA

Visual Stylist of Bollywood Songs

SUMIT DUTT

Dhinka Chika with Salman Khan and Character Dheela with Zarine Khan, Sumit Dutt is al-Ready a much sought after name in Bollywood to direct songs for feature films. A New York Film School pass out ,Sumit Dutt specializes as music video director and created a niche for himself as a "visual stylist" for Bollywood songs.

Being a Fine Arts Graduate and Ad film maker , Sumit has developed a deep understanding for visual and Music. He had a dream success in films with his songs like Dhinka Chika and Character Dheela. With his song Desi Beats from Bodyguard, Sumit has shown how songs can be made visually rich and more entertaining. His latest work is- Party all night - in Boss with Sonakshi Sinha and Akshya Kumar.

In this article Sumit talks about the importance of DOP in creating a Stylized visual.

What motivates today for the feature film industry to specifically engage you to direct those songs in high budgeted star cast value film like Ready, Bodyguard or Boss?

Today as we all know Bollywood Industry is rising, this industry is becoming a new world industry. The stakes are rising higher, marketing approach is changing. Today we go with the immense mass media campaigns. We try to capture maximum eyeballs as we can and electrify people before the film releases. Gone are the days when film used to stay on the screen for months and people used to celebrate its silver jubilee. The life span of films is now very short. Even 4 days at cinema hall giving a big opening is good enough. It has become very intense competitive market.

Music is the most essential part as it derives the Bollywood films. It is always said that we make musicals, yes our films contains lots of music which is the most crucial element. Hence the visual treatment of the music is becoming even more important. Music Industry has developed itself as a new market. Songs nowadays are innovatively being used as

a way of curtain raiser for the film. Music and songs have become imperative for the film because sometimes it is the songs that drag audience to the screen. While developing the music of the film, it is to be kept in mind that the entertainment quotient persists and the true flavor of the story is maintained. For example, a popular song like"Munnibadnaam"starts, we can easily make out what the film is all about. Same is the case with the song "Dhinka Chika" from the movie Ready, the moment you see this song, one can make out this movie is a comedy and a complete family entertainer. It is just not about the song or the visual. It is a technique adopted to deliver the concept of the film in combination of both. A four minute song in the theater is at a much later stage. Before that 30 second cut of the song needs to excite people.

When it comes to"Dhinka Chika" it again sounds like very entertaining, absolutely for every body.I used very loud colors. When you watch such a 30 second promo filled with many colors having a designed scheme, many eyeballs are immediately attracted before the dancing

starts. Itis again a visual concept. It is all about the color palette I used in the song.

Same with "Character Dheela", I used four different types of looks in the song, Raj Kapoor look, Sholay look which made it more appealing. Dancing with a great visual style, wherein a film star looks absolutely stunning is an icing on the cake. A regular great dancing but a dull visual & no concept do not work at all.

Both the songs"Character Dheela" &"Dhinka Chika" were earlier shot in Bangkok with the same choreographer. But when you watch both the songs which I directed, you can experience the difference and will realize the importance of the director's vision about "visuals and concept".

After listening to the songs how do you decide about the style and look of the song?

This is a very tricky question as the whole life's experience comes into it. While visualizing the song one has to keep certain things in mind. Firstly the thorough knowledge of your own product; secondly who is your target

audience. I believe it is all about how good you are in conceptualizing and its realization. The commercial success of any song depends upon how you present the concept and engage your target audience. It requires experience, sensibility and aesthetics sense. While giving the final look I also keep in mind the marketing strategies to be adopted for promotion.

You worked as an Associate Director (Visuals) for the Film Dabangg 2, how did you contribute to the film in terms of your expertise?

Ans: The visual angle in the Hindi film Industry is becoming crucial today. As a Associate Director (Visuals), it is very

important to know the minutest detail of the script. It helps you visualizing the scenes and cinematographic treatment required for the film."Dabangg 2"had a typical rustic feel of U.P. Along with the Director, you look at the script and accordingly worked out the detail visual aspects required for each scene, be it an old mill fight sequence in the beginning or an action sequence during the climax in an old temple. I feel any good story without great visuals is incomplete. Now it is no more about just telling good stories, but telling visually great stories. In today's advertising world packaging is an integral part of the film. I would rather read a book and imagine my own visuals. But if I am watching a film on the screen,

I need some one to paint the picture for me and enhance the effect of that particular thought.

When you are working for a film, you work as a team. On the set you are prominently associated to the Director of the film and then comes the DOP, Production Designer and Costume Designer.

What is your brief given to the DOP for shooting Bollywood songs and what are your expectations from him?

DOP is the Director's Eye. He adds a lot of value to your thought. A mind can think but somebody has to execute. Just knowing the frame is not enough. I think
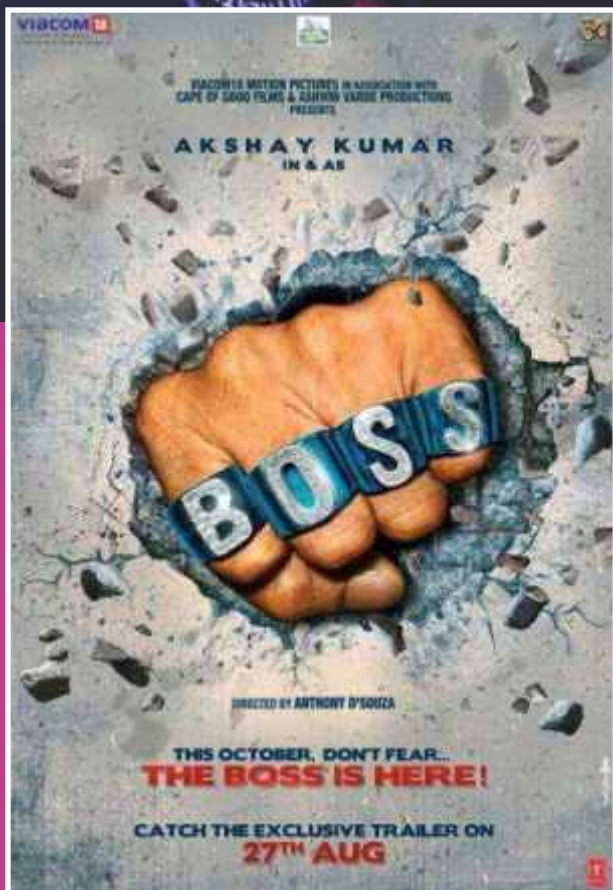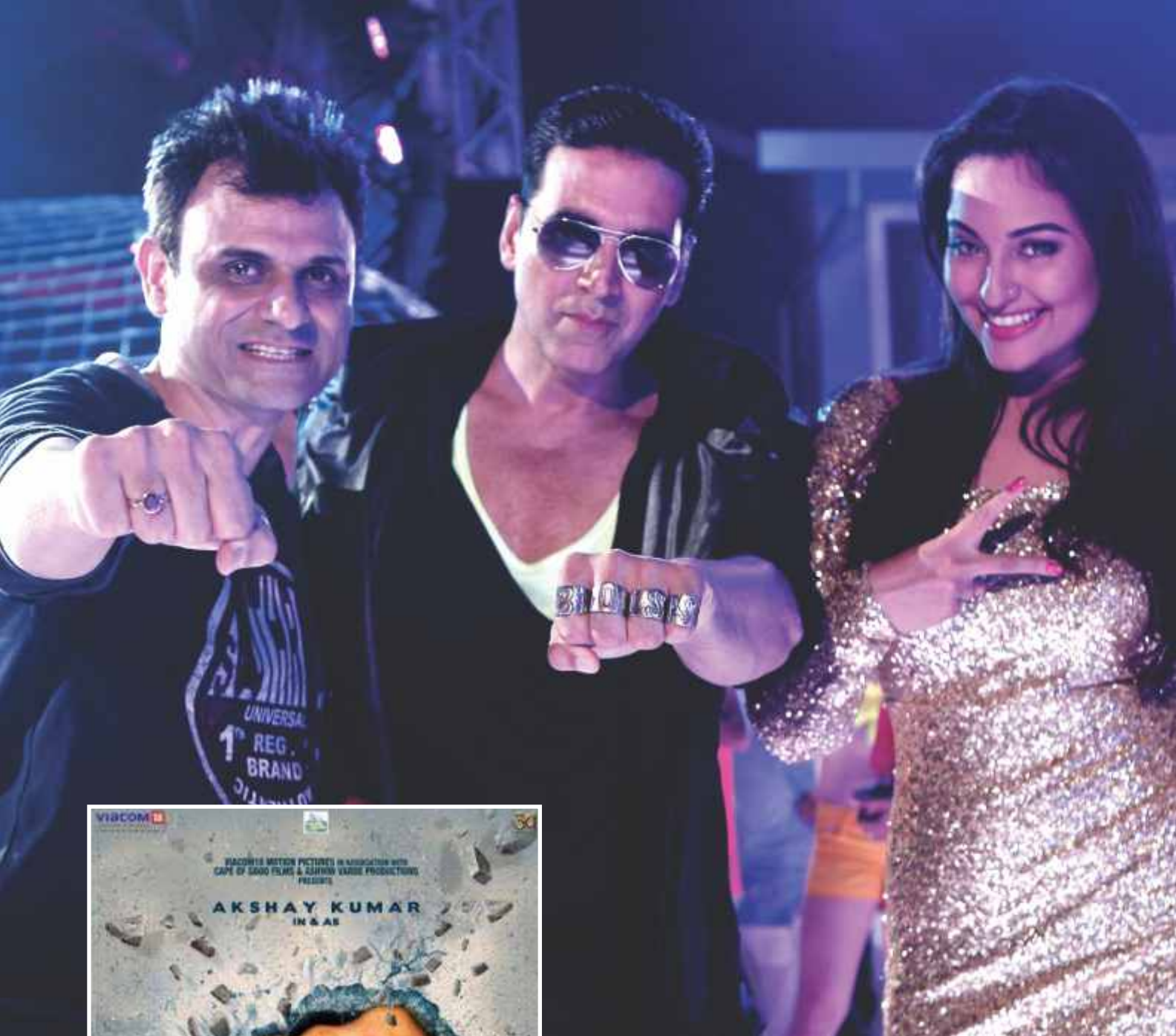
the DOP has lots of responsibility. A thought can be communicated in basic way or in an effective way. When you are a visual person, I think using the visuals to the core to communicate is the most important thing. Good DOP brings aesthetic to your thought. I have a lot of appreciation and regards for DOP as I understand their capabilities in helping the Director creating visuals. I always like to work with new and different people from the industry. But yes, while shooting for few special songs I do take precautions. A good idea gets killed if the DOP is bad. If DOP do not cooperate, your work gets ruined. After a certain point with a good DOP there is a kind of Wifi system that starts working. It is a beautiful relationship when you regard each other's capability and talent.

What is so unique about the club song that you have Directed in the film Boss?

Boss is Akshay Kumar's next film going to be released in October. It is a very ambitious project of Akshay. He is extremely excited about it. In this film there is one club song which they wanted to shoot with a special song Director. They had many concepts and choices in terms

of choreographer and director. When I was approached, I heard the track and really liked it. It is a Haryanvi Rap of Honey Singh. I evolved the concept for the song and they liked it. So the whole excitement took off from there and after the first shooting schedule it has all been put in the media network that it is going to be biggest club song of the year. Akshay has given an outstanding performance. I had never seen Akshay like this before on the screen in terms of his energy and expressions.

I believe the magic of the director is not just capturing the right shots but also getting the right atmosphere on the set for everybody. We had a blast while shooting and I am sure that this song is going to hit high on the charts. In this profession you are as good as your last job and one just cannot go on repeating things. Every time it's a new challenge and something fresh needs to be presented which people can watch and enjoy.

When it comes to this song, it has again been a challenging task while lighting the

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co-producer NIKHIL NAMIT   music HIMESH RESHAMMIYA & PRITAM   lyrics SHABBIR AHMED & NEELESH MISRA

club. Generally clubs are a dark zone and our mainstream commercial cinema does not reflect that darkness on screen. Somehow within the darkness you have to play with strong visuals, which cuts through and still does not gives you a scary feel. Hence lighting is equally crucial in the club due to limited space at a real club location. Rishi has done a fantastic job because lighting was a very tricky task in this. When you see the song on the screen you will understand that it's an absolutely outstanding job. The whole idea was not to make it look too dark and at the same time not to lose the feel of

53

the club and to make it look open and bright. It is very well balanced. We used variety of lights of particular color family with a concept in mind.

We shot this song with Red-Epic camera because it has night shots and the underwater sequence with 35mm camera. Underwater is a very small part in the song. It is a pool party sequence where people are jumping into the swimming pool. It was shot in a real swimming pool at the location. We had a separate crew and equipments and Priya Seth was the

underwater DOP. We got some awesome underwater shots.

In last two decades "Stylization of lighting"has become very popular. Many directors expect from DOP to Stylize, what is your idea about styling in lighting?

I am strongly inclined towards the stylization of lighting. Even in the Boss Club song, U.V lights are mixed with the colored lights so as to create a neon light feel. Lighting plays a very important role in my work. In the song "Dhinka Chika" we have played with the lights. Even during broad day-light we have put some park lights on that is purely a style which won't hurt your eyes but at the same time it will give you some hotspot in the visual. We do lot of tricky things and we break lot of rules. I think that's what brings in the excitement. In the song "Character Dheela", the black and White Nargis and Raj Kapoor look, we made a vinyl background and are backlit to get the glow. It makes me feel proud seeing a DOP doing a great job. These things happen with a lot of homework and putting your heart and soul into it. In fact the execution happens before the shoot and that's where lighting, look and the feel is planned.

❏❏❏

Setu *(Satyajit Pande)*

Satyajit Pande's work was first noticed in Tigmanshu Dhulia's Charas. Since then he has never looked back. He has been shooting various ad films, documentaries and "video art" projects. The FTII Graduate of 1999 batch, Setu has established himself as one of the most sought after young cinematographers in Bollywood.

He was the DOP for Aamir Khan's block-buster Taare Zameen Par. His unique style of Cinematography was highly appreciated in Sujoy Ghosh's Kahaani and got him highly Coveted Filmfare Award.

His work as DOP for Raj Kumar Gupta's Ghanchakkar added another feather in his cap. He is currently busy shooting Dedh Ishqiya for Abhishek Chaubey .

Setu narrates about his lighting approach ,various challenges he faced during different kinds of shoots.

While lighting up a scene in a feature film the first thing I try and understand is the context of the scene , where it's coming in the film, what it is doing , how is the story being impacted, what the scene should achieve. This happens as I read the script and make notes. Also affecting this is the scene that has come just before this and the scene that it leads to. A thematic continuity or graph is something I work out when I'm reading the script and in my discussions with the director and when I'm shooting the scene I check if the treatment is in line with the larger picture. All this decides the staging, blocking, lighting ,movement, compositions etc. Also the long fiction/feature format allows you to lay

ground and build up and gradually create the mood etc. unfolding the mood as the script unfolds.

In an ad film the approach is quite different .The biggest difference for me is that in a feature film i sit and work out the visual treatment with the director. In an ad film, there are other factors that need to be considered. Product visibility, the colour of the product, rival product colours, market research findings, etc are some of the factors that may not have a connection to the story but affect the visual course. Also the condensed time requires one to accentuate specific elements so that they stand out. When lighting up a shot in an ad film, I understand from the director what the

purpose of the shot is i.e. the element the shot is trying to emphasize on. Everything else is built around that element i.e. the lighting composition etc.

It begins with the script reading. I try and read the script at least twice before I start thinking of any ideas. I lay it out in my head and see the overall picture - what the overall look and feel should be, the visual graph. It's a basic impression of the entire script laid out visually without any detailing. Then I sit down with the director and go through a reading or sometimes it could be a basic discussion, sometimes a detailed reading. If the director is visually inclined, then he can tell me specifically what he' s looking at, if not, we go through photographs, net refs, film refs, literary refs of mood. The basic idea of this exercise is to know how we are seeing the film. Directors live with the script for quite some time before it goes on the floors. As a cinematographer I bring a new approach to the entire setup - it's important for both views to be shared. From here on it's a back and forth between the director and me till we have a clear understanding of what the film should look like. The art, costume, make up and other departments who contribute to the final image are all a part of the larger discussion. As a cinematographer it's important for me that everyone's on the same page and knows where things are headed as far as

the visuals are concerned. As a famous cinematographer once said "All the money spent on production passes through the camera gate!" Once the creative call has been taken and locked then the execution takes over - location scouting s, set design, time of year, time of day, light, colours are all discussed etc. For the camera dept specifically, type of cam, lenses, lights, filters, lab etc.

As I have mentioned earlier, once there is clarity on the visual treatment of the film then we sit down and figure out the mood of each scene, what it's doing and how it should unfold. It's at this stage that the lighting ,blocking , time of shooting, time taken to shoot etc. of a scene is discussed .

Since i try and use natural light I recee a location a no of times at different

times of day to observe the changing light . Also being at the actual location throws up a lot of ideas in terms of blocking.

While preparing for Kahaani we recee several guest houses where Mrs. Bagchi (Vidya Balan) would stay . I wanted something more closed and darker and edgier but we finally settled for the Mona Lisa guest house because it opened up onto the busy main road and the connect with the city in Puja celebration being more apparent - Mrs. Bagchi dark world could be contrasted with the festivities outside. While deciding the look of the guest house room, I wanted something that would be cold inside as compared to the warmth of the exterior. so we added warm bulbs outside the room and lit the interior with tube lights balanced for 6500K which created a strong colour contrast. We also painted the walls a cold aqua blue- green.

Sujoy wanted the film to have an available, documentary (a much abused term in mainstream Bollywood) feel. We went around the pandals at night choosing ones which were adequately lit and visually engaging. Since both SG and I had grown up in Kol we were familiar with the ambience of the Puja. I think the key between the director and cinematographer is communication - the ability to get your ideas across with max clarity. Communication can happen in many forms - some directors are visually inclined and technically informed and some are not. It helps if the director is tech as he) understands the attributes, limitations and problems of the medium.

While shooting TZP, a fair amount of the shoot was in Ishan's boarding school classroom of which one side was on a hillside but that side had all the windows from which the light would come in and was the only side from which I could simulate the daylight source . On TZP I

was following light sources For example if there was a window-lamp in frame then the light had to come from the window-lamp only, not anywhere else. I tried to stick to this throughout the film. This was done to keep a realistic feel. It was difficult to put lights on rostrums but the gaffer (Ramesh Sadrani) with his team did a great job of putting up rostrums on the hill side after fastening them with cables. That was ok for the usual shooting but for the song we decided to have a 360° Steadicam shot . That meant we couldn't place any lights in the room or any other stands. Since I was following source lighting, I didn't want to add any lights from the ceiling since it doesn't go with the scheme .

The lights needed to come from a slight height otherwise they would be in frame but the windows were lower . I told the director (Aamir Khan) about this problem . The director, production dept

and I sat down and discussed the issue. We realised that the only way to solve this problem was to create an opening in the wall above the windows. That would mean breaking the wall! So we took the permission of the School authorities and broke the wall roughly 10 feet above the existing windows so that light could be simulated. A fairly large opening was created and made into a window subsequently!

On my first feature film (Charas) I had to light up a mountain village at night for a wedding seq. This was in Himachal and it was the month of nov and hence quite cold . We started lighting up 2 days & nights before the seq. we had to position 5 generators across the mountain in all directions. Lots of cables were laid out and rostrums positioned.

The camera was positioned on top of the village so the entire village was in frame from a height. On the day of the shoot a severe storm struck and there was lighting and thunder at night and the rostrums were swaying like blades of grass. My main concern was safety of the crew. It started raining heavily and all the lights and cables got wet. We couldn't shoot that night as the entire village was dripping wet. We had to switch the lights off and carry them inside. We started again the next day from scratch...

Kahaani had different kind of problems. I was shooting a lot of available light specially nights. For the main Puja climax scene a lot of coordination was required between the people managing the local lights and any other light to supplement it. That's a squire difficult as the crowds attending the Puja were huge and movement and coordination was chaotic. There was so much noise that we couldn't hear each other on the phone or on the walkie talkie. On the first day we were completely lost. On the second day we realised what we were up against. We positioned light men, local people and assistants near the crucial lights. We devised a signal with lights to communicate (1 for hard , 2 for soft, 3 for diffusion etc.) and that's how we managed to shoot in the Pujas.

The difference in lighting comes from the script and situation . For example both Kahaani and Ghanchakkar had night interior torchlit sequences where the protagonist (s) break into a interior space to find something. Both seq have very little ambience and are

quite dark. In Kahaani Vidya and Rana break into an old office to look for a file. They use torches as the source of light. The information which I had to convey was That it was an old office so I gave a sense of old dusty files, old cupboards filing cabinets just on the toe of the curve so you could get a sense of it but without offering much detail. The only objects that were clearly visible were those illuminated by the torch.

In Ghanchakkar there was a similar situation where Sanju (Emraan Hashmi) finds a clue and lands up in a place late at night. In the script, we don't know where he's gone. So I did not light up the space at all. There was no detail of the surrounding space and once again the only illumination is by torch light and bounce light. It's only when he 's spent some time there that you know why he went there. I wanted to keep that suspense up so didn't reveal more information.

So in one seq I revealed something about the nature of the space by giving a

Amol Gupte,
Screen Play Writer,
Taare Zameen par

sense of old files, filing cabinets etc while in the other I didn't reveal anything till the end as I wanted to retain an air of mystery. Both these situation were dealt with as per the script and after discussing the visual treatment with the director.

The color correction process is an important tool in arriving towards the final image as pre - visualised.

I try and achieve whatever possible on shoot in terms of colour specially when it comes to ambience, skin tone etc. This is done by using filters on lights and camera. I find it more crucial when I'm shooting on the digital medium.

Sometimes while shooting it is not feasible to correct each and every light given the constraint of time or due to the changing light, I make a note of this and do it in post.

Also while shooting , we perceive a scene differently but after the edit, it has a different emotional resonance. While grading sometimes we feel that a little difference to the skin tone or a slight shift in overall colour suits the story better .

Colour theory, colour systems and their limitations are something a cinematographer should be aware of. These are tools in visual story telling. Our job as cinematographers is not done till the final print comes out so knowledge of digital colour correction is a

must. How we choose to use it is subject to the colorist and our relationship with them.

On Ghanchakkar I spoke to the colorist (Makrand Surte) before i went for the shoot and told him how i saw the visual graph of the film. I shot some tests and we sat on the grading using the different techniques. After the shoot is done, I first show the Colorist the edit and seek his inputs. We discuss the edit in terms of story emotions - where the scenes are going, what needs to be highlighted, suppressed in order to tell the story effectively etc. The digital colour correction is a means to take the story telling forward.

My work with film maker / video artist Kabir Mohanty is something I hold very dear and has been a huge learning experience. I have been working with Kabir for 8-9 years now. Working with him has been a very different experience as his approach to the moving image is unique. The basis of creating an image is the need to communicate a feeling, an emotion or inner thought to invoke. There is no script or plot but an emotional time line. A lot of time is spent researching how to best bring this about.

For one sequence, we went to a lens making factory and made a concavo-convex lens. We arrived at the radius and nature after a process of trial and error. Then we coated one side of it with 10 % reflective material on the edges so that it would reflect what was behind the camera as well. The center of the lens was not coated with reflective material so as not to reflect the camera. This lens weighing 1.5 kg was then mounted in a special rig about six inches from the cam lens so that the final image constituted what was in front of the cam as well as behind it!

I had problems on almost all my films - it's part of being a cinematographer. We need to be resilient and get to the root of the problem. The problems listed below are not in any way a comment on the post production houses where they occurred . In most cases the post prod houses tried their best and offered solutions.

On Ghanchakkar - after the colour correction was over we noticed that the grade after the mastering to DCP was not matching the grade in the grading theatre I.e. the film was not looking as intended by me and the colorist . The highlights had no detail and were looking chalky and the skin was looking washes out. On the print there were artifacts between the highlight and the shadow areas. A lot of effort was made to deliver the product as intended and in due time a solution was found.

On Kahaani, the DCP of one reel of the film was not matching the image in the grading theater. It is practically not possible for just one reel to go off as the mastering of each half happens together so all the reels should be equally affected but it happened. It was corrected by creating an offset. On TZP while recording the DI negative, the negative was scratched for about a 100ft. That part had to be re recorded and reprocessed but because they were developed differently, a slight shift in colour took place.

The biggest problem I face in post is that different content packaging houses have different ways of mastering the image files and that results in an image which looks different across the board. I feel some kind of international standards like SMPTE should be strictly followed in India & there should be technical regulatory committee so that the each cinematographic art work could be shown as intended by the film makers. ❑❑❑

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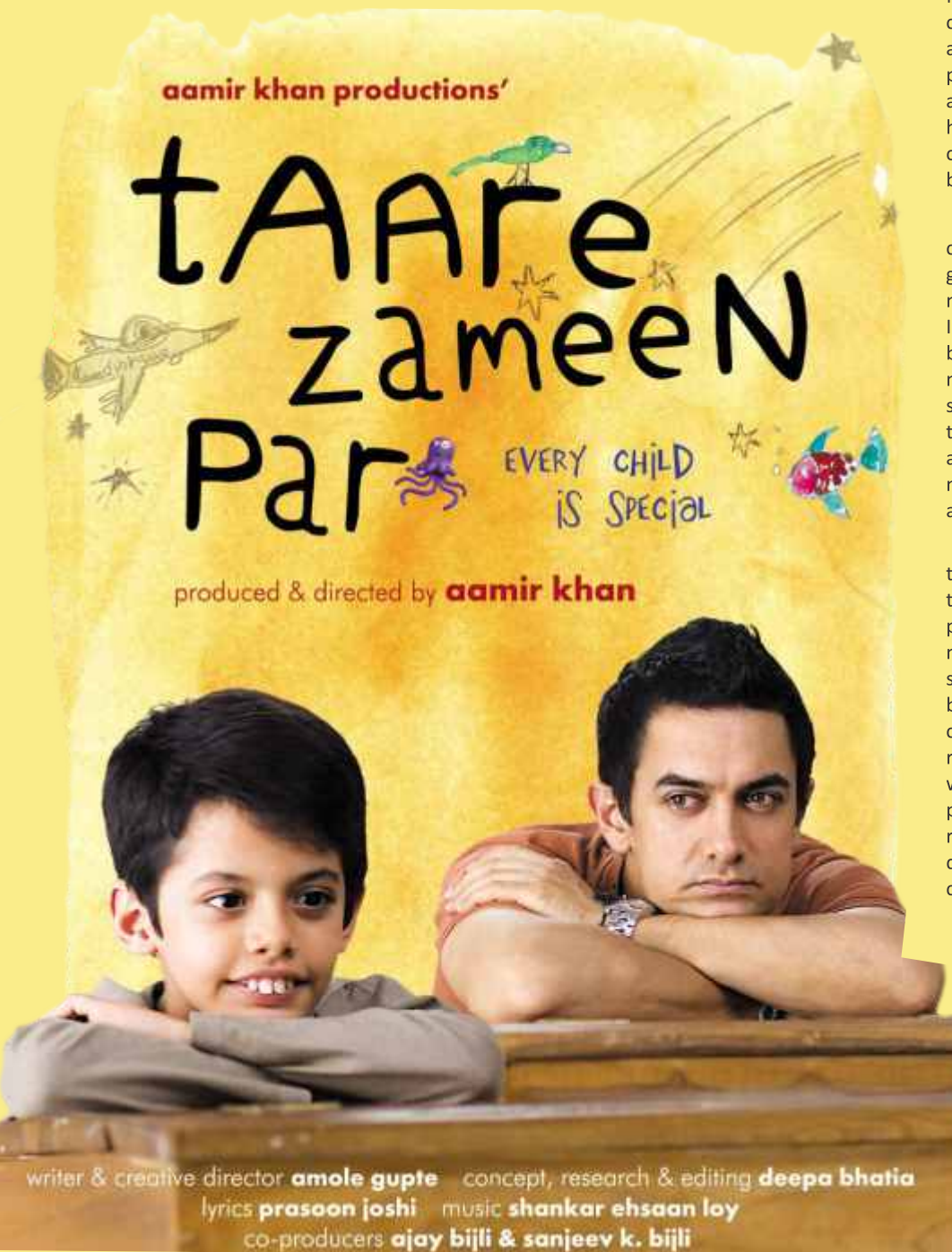
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