

MACGILLIVRAY FREEMAN'S

ARABIA 3D

Experience the Extraordinary Culture, History and Religion of Arabia

A Film for IMAX[®] Theatres and IMAX 3D Theatres

PRODUCTION NOTES

Arabia 3D is produced and distributed by MacGillivray Freeman Films and presented in association with the Royal Geographical Society (with IBG), the Oxford Centre for Islamic Studies, and the King Faisal Center for Research and Islamic Studies.

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ARABIA 3D

About The Story

*“Knowledge is light,
and all who contribute bring light to our world.”*
-- Bedouin Proverb

It is a land precious few outsiders will ever visit, a world cloaked in myth, mystery and misinformation. Frequently in the headlines yet rarely captured by cameras, it sparks endless curiosity. Now, at last, audiences around the world will have a chance to set out on an intimate, visually stunning, three-dimensional journey into the heart of the history-laden Arabian peninsula – to cross sand dunes in a camel caravan, to dive into the reefs of the shipwreck-laced Red Sea, to excavate the towering tombs of a dazzling lost city, to witness the moving spiritual journey of the *Hajj* and, most of all, to meet the Arabians who are forging new paths in a contemporary moment of historic transformation.

All of this – the mystique of a hidden culture, the legends of a storied history and the intrigue of a diverse modern society grappling with rapid change – come to the fore in MacGillivray Freeman’s latest giant-screen adventure: the eye-opening and thought-provoking *ARABIA 3D*, narrated by Academy Award-winning actress Helen Mirren and opening in select IMAX Theatres and IMAX 3D Theatres beginning February 12, 2010. Shot over the course of two years at more than twenty locations across Saudi Arabia, *ARABIA 3D* is the first major film production filmed entirely in Saudi Arabia. Combining contemporary scenes of everyday life in today’s Saudi Arabia with Hollywood-style recreations of the Arabian past and computer-generated, 3D special effects, the film probes the roots of a culture that continues to be of profound complexity and importance.

The film poses a series of questions many have wondered about: *What is life really like in this land of perpetual paradoxes, of deeply-held ancient traditions and driving modern ambitions? How did vibrant, hyper-modern cities arise in a realm of vast, bone-dry deserts? And what do the secrets of the Arabian past, and the present realities, reveal about its potential in the coming century?*

The result is a stirring and often surprising portrait of the three Golden Ages of Arabia: the age of the sophisticated, enterprising Nabataean Empire, which set the stage for a culture based around global trade; the Islamic Age of unbounded scientific discovery, which helped lay the foundation for the Renaissance and helped to forge our high-tech, modern world; and the current age of vast wealth, technological growth and booming young populations. It is a portrait of a culture built not just on shifting sands, but on the power of seeking out knowledge and contact with other peoples in order to continually adapt and innovate, while holding steadfastly to ancient and valued traditions.

Two-time Academy Award[®]-nominated producer/director Greg MacGillivray comes to *ARABIA 3D* having delivered IMAX cameras to the top of Mt. Everest and ferried them to the bottom of the Grand Canyon in search of fresh and revealing experiences for film audiences. But he says this may be his most exotic and challenging journey yet, into a region many others have found impenetrable. Guided by a diverse cast of characters – including a passionate, young Saudi film student, a young Saudi Arabian woman and a world-renowned archaeologist – anxious to reveal the unseen treasures of their country, *ARABIA 3D* takes a trip into realms few have witnessed let alone filmed, from the fabled Bedouin desert camps to the streets of Riyadh and Jeddah.

States MacGillivray: “With *ARABIA 3D*, we have an exciting opportunity to take audiences on another journey into a world they’ve never seen – as well as build a bridge of understanding between the West and the Middle East. Our greatest hope is that the film can transcend the myths and misperceptions that limit vital communication between us. Nothing else can give audiences such a personal and ‘inside’ experience of different cultures as well as IMAX Theatre films, so this is an ideal medium to begin exploring the vital tale of Arabia’s past and future in an accessible way.”

He continues: “I hope people will be moved by a fresh portrait of a culture based on strong family ties, love of education and deep faith – and a people struggling to find a balance between staying true to their valued traditions and finding their own modern way of life. It’s a journey of many surprises but the most surprising part of all may be just how many similarities we share.”

ARABIA 3D’s mix of modern and ancient elements is especially exciting to historian and film consultant Robert Lacey, author of the acclaimed and influential book about Saudi Arabia, The Kingdom, and the just-released update, Inside The Kingdom. Lacey says: “This film is a wonderful way of presenting Arabia, evoking all the extraordinary colors and textures of the place, the feeling of being surrounded by history and at the same time the palpable sense of change. I think 3D does particular justice to it, because you get the sense of a vast landscape that stretches to the horizon, and a vivid, knock-out picture of a proud, rooted culture in both its spiritual and practical dimensions.”

The time-traveling story of *ARABIA 3D*, which spans 21 centuries of Arabian history, begins in present-day America, with the dreams of Hamzah Jamjoom, the first-ever Saudi Arabian film student at Chicago’s DePaul University. Full of passion and optimism, Hamzah aims to make movies that, in an age rife with conflict and stereotypes, will reveal to the world both the beautiful traditions and social change that lie at the heart of his country. On the streets of Jeddah, he begins by peering into the lives of young Arabian men and women as they really are – full of exciting challenges.

Hamzah then sets out on a cross-country trek in search of the lost history of Arabian culture – and to personally experience the broad scope of the region’s cultural and geographical diversity. He starts by entering the private world of the Bedouins, the famously generous nomadic people of the desert who live in remote camps with their families and herds of camels. In the huge expanse of the

desert, he will also train in the ancient Arabian art of falconry, teaching birds to hunt. Back at the coast, Hamzah next literally dives headlong into another unseen realm of Arabia -- plunging under the uniquely salty Red Sea in search of century-old shipwrecks, floating fields of ancient relics, and an array of marine life not seen anywhere else in the world.

On the trail of his ancestors, Hamzah will then trek to the ancient ruins of the 2,000 year-old stone city at Madain Saleh, roaming amidst its maze-like tombs and lingering questions. Here, he will meet another of the film's major characters: leading Arabian archaeologist Dr. Daifallah Al-Talhi, whose excavations are rewriting the pages of history, linking Arabia to the Roman Empire. Dr. Al-Talhi and Hamzah hurtle back through time to the first millennium BC, and the First Golden Age of Arabia, when the Nabataeans – a still-mysterious desert tribe – left nomadic life behind to become the cultural forbearers of modern Arabia. For 300 years, the Nabataeans made Madain Saleh a center devoted to learning, literacy, art and commerce (Madain Saleh was a southern outpost of the Nabataean capital, Petra) – garnering wealth and ideas as they carried frankincense and spices to the Romans and other far-away cultures across pioneering trade routes.

Speeding forward in history, Hamzah will make another stop in the Second Golden Age of Arabia, which began in the Middle Ages. While Europe languished in the so-called Dark Ages, a vast Islamic empire, stretching from Arabia into Asia and Africa, turned its focus to intellectual discovery, which led to a remarkable chain of physical, astronomical, mathematical, medical and philosophical discoveries that paved the way for modern science and technology. Over a period of 500 years, the Golden Age of Islam lit up the world, developing such staples of our lives today as algebra, optics, hospitals and the scientific method.

Looking to the origins of his own era, Hamzah peers back to the Arabia of 1932 and the founding of its largest country, the Kingdom of Saudi Arabia, as Abdul Azziz Al-Saud and his caravans of camel-riding warriors unite quarreling tribes into a cohesive modern nation. This precedes the discovery of massive oil reserves a few years later, which will, in just a few decades, bestow unprecedented economic prosperity and political power on the region.

Fittingly, the film's final expedition is to the *Hajj*, one of the most spiritually-charged annual events on the planet, when three million Muslim pilgrims from dozens of nations come to Arabia's holy city of Makkah (Mecca) to reaffirm their faith. An emotional experience of deep human communion rarely seen by outsiders, Hamzah calls the Hajj "the most moving moments" of his life.

From nomads in the desert to young Saudis in the cities, from thrilling Red Sea dives to a poignant spiritual pilgrimage, *ARABIA 3D*'s journey reveals Arabia in an illuminating new light – no longer as a hidden land of insoluble mystery and inscrutable ways, but a diverse nation and devout culture long built on a foundation of pursuing knowledge and cooperation – and now faced with profound questions about how to define its future.

ARABIA 3D

The Making Of

“Only through understanding each other, and seeing inside each other’s lives, can we make any progress towards greater peace and tolerance. ARABIA 3D was made in that spirit.”

-- Greg MacGillivray

Of all the wild, far-flung and extreme places that MacGillivray Freeman Films (MFF) has trekked in search of amazing educational experiences for IMAX Theatre-goers, the Arabian peninsula stands out as the singularly most unusual and surprise-filled challenge the team has yet faced. Greg MacGillivray – one of today’s leading naturalist filmmakers and giant-screen storytellers – and his highly experienced team of adventurers have long thrived on the kinds of rugged, mettle-testing shoots that are filled with perilous terrain and unpredictable conditions. But if MFF thought they’d confronted every known filmmaking challenge in such death-defying realms as raging rivers and high-altitude mountains, the making of ***ARABIA 3D*** made them think again. On the Arabian peninsula, they were about to encounter a whole host of intriguing filmmaking obstacles and revelations – cultural, social and logistical – they could not have previously imagined.

As it turned out, shooting in Saudi Arabia meant not only crossing a great cultural divide; not only braving sweltering, sand-whipped desert locales in 125°F temperatures; and not only penetrating a veil of secrecy, controversy and myth. It also meant serving as true pioneers. In a country with zero film production infrastructure or protocol, MFF was breaking new ground. No one had ever attempted to film the country from end-to-end with the sole purpose of capturing its diversity and history for a Western audience. Indeed, few people other than an occasional broadcast news crew had ever filmed there at all. This meant that the MFF team had to essentially *invent* the elements of a Saudi Arabian film industry, from the ground up, as they made the movie. Simultaneously, they were aiming to capture the Saudi Arabian world they were so privileged to enter with clear eyes and open minds.

The resulting journey was completely perspective-changing. Says Greg MacGillivray: “This was certainly one of our most challenging filmmaking experiences but it was also one of our most rewarding. We went to Saudi Arabia with our own preconceptions of what we would find. Yet, we left there with a whole new view, having made wonderful friends and having been moved by a culture that, at heart, cares deeply about all the same things that we care most about: family, education, faith, respect and leading a meaningful life.”

He continues: “It was never easy. At times, the Saudis were actually creating brand new protocols just to keep up with our requests! But there was always a sense of cooperation and a feeling

that the people we met wanted to share their world generously and honestly so Western audiences could better understand the reality of their lives.”

For MacGillivray, the production began with an open question: *would it truly be possible to shoot an entertaining, exciting yet truthful film in Arabia?* Having never been there before, he wasn't sure what to expect, and like most Westerners, his primary exposure to the region was through news blurbs about oil prices or extremists or the battle for women's rights. So, to kick things off, MacGillivray sent a scouting duo to Saudi Arabia – his long-time associate and accomplished cinematographer Brad Ohlund and the peripatetic screenwriter Jack Stephens – simply to see what they would find.

For Stephens, the trip, though rife with uncertainty, was also highly anticipated. “When I first got the call about writing *ARABIA*, I said ‘I don't know anything about Arabia and I'm your man because I want to know much more,’” Stephens recalls. “I live eight blocks from Ground Zero in New York City and I felt I really didn't know enough about the Middle East. I've always believed that if the world is going to be a more peaceful place we have to find ways to understand each other, so I took the trip in that spirit. Meanwhile, I dove into research, starting with Robert Lacey's wonderful book, The Kingdom, which really opened my eyes. I knew we were in for something unexpected.”

Scouting *ARABIA*: The First Journey

When Brad Ohlund and Jack Stephens arrived as green newcomers to the Kingdom of Saudi Arabia, they did what any pair of explorers would do in unexplored territory: they took a road trip, driving from one side of the peninsula to the other. As they did, Ohlund was increasingly struck by the cinematic nature of the landscape and culture. “You realize immediately that you're in a place full of amazing history,” he says. “One minute you think ‘OK, this could be Arizona’ and the next you feel like you're in some antiquated village in ancient times. What starts to dawn on you is how much of the human story has transpired in this region.”

There were other surprises as well. “It was the screaming hot summer when we went over so that was a bit of a shock, but that was just the start,” notes Stephens. “One of the first things that happened that I didn't expect is that the guide we were given was a woman, who was very smart, highly educated and extremely well-spoken. She did not wear the traditional black robe, known as the *abaya*, except in certain places and she was not at all what I would have guessed.”

Perhaps, most surprising of all was the sense of being in a place at once futuristic and ancient, where high-tech and couture co-exist with *muezzin* calls and veils. Ohlund and Stephens soon discovered that the Arabian region contains a far broader range of people and ideas than one might think, and that lifestyles vary widely, even from city to city. “Riyadh is a bustling, jarring city that is

very modern and full of distinctive architecture but has a more traditional culture, whereas Jeddah is like the San Francisco of Saudi Arabia, very cosmopolitan, where you don't see as many veils and you see more fashion-oriented, form-fitting *abayas*," Ohlund observes. "We learned that, although we may see it all as one, Arabia is filled with incredibly different types of people and also many very different cultures."

Adds Stephens: "You see a fascinating mix between the very modern and the very traditional. We went to a private club in Jeddah where women were riding jet-skis in bikinis, yet elsewhere we saw women wearing the full *burqa*, with only a slit for their eyes."

The more people they met, the more Ohlund and Stephens became convinced that shooting a film there might be conceivable – if only because of the legendary warmth and hospitality for which the region is so renowned. "Everyone was so gracious and generous," says Ohlund. "When you got to know them, they were really just like people everywhere: they love to laugh, they want to be friends and the most important thing to them is making a better world for their children."

That first trip also took Ohlund and Stephens to a significant Arabian locale that would blow them away and become a centerpiece of the **ARABIA 3D** production: Madain Saleh, site of perhaps the greatest Arabian historical treasures, yet an astonishingly unvisited archeological wonder. On a par with the world's most illuminating ancient ruins, Madain Saleh provides a rare window into Arabian history and particularly, into the unsolved mysteries of the Nabataean civilization that was its forebear. Like its sister site in Jordan, the far more famous Petra, Madain Saleh is a 2,000 year-old city hewed out of soaring sandstone rocks, featuring hundreds of intricately carved tombs and chambers. In 2008, UNESCO designated Madain Saleh as Saudi Arabia's first World Heritage Site.

But none of those accolades prepared the MFF team for the emotions that would hit them when they got there. "Seeing Madain Saleh for the first time was one of the most amazing experiences of my life," says Ohlund, who has traveled much of the globe. "Just as amazing as the fact that we were surrounded by some of the most remarkable and authentic ruins you'll ever see anywhere in the world, was the reality that we were completely alone, with no one else there. It felt like we had just discovered this place for the first time. I think I said instantly: 'this is an IMAX image waiting to happen. It's a scene so unexpected and beautiful it belongs on film.'"

Back in Riyadh, preparing to return to the U.S., Ohlund and Stephens had another unique experience, roaming a city that has grown from a population of 60,000 in 1950 to nearly 5 million, predominantly youthful people experiencing unprecedented prosperity today. Both men agreed they were witnessing a society on the precipice of unforeseeable transformations. "The feeling of change is palpable in the cities," says Ohlund. "Whether you're on the street, in your hotel or in a place of business, you really can feel from the energy that this is a society on the move."

By the time they'd completed their journey, the duo were fully convinced that the answer to Greg MacGillivray's question was *yes*, a giant-screen film in the MFF tradition of innovative educational adventures not only could but *should* be filmed on the Arabian peninsula.

"Just being there for us was a larger-than-life experience and it was clear that 3D IMAX cinematography could play a powerful role in conveying the full visual and emotional experience of an area that's so misunderstood," says Ohlund. "With our style of filmmaking, we have the ability to transport people from the Arabia of 2,000 years ago all the way to the modern day, to draw them not only into ruins and deserts but into the remarkable cities so few have seen. We told Greg that we had a chance to give people a surprising experience and a unique perspective and he was very excited by those ideas."

A Woman's Journey into Arabia: Barbara MacGillivray Joins Husband Greg for a Second Trip

With Brad Ohlund and Jack Stephens invigorated by their trip to Saudi Arabia, Greg MacGillivray was ready to take his own scouting journey in preparation for directing the film. He notes: "Brad and Jack came back so full of enthusiasm for what they'd seen that it really inspired me as well. I was ready to make a film that would strip away myths and provide a thought-provoking introduction to a culture most people will never experience first hand."

MacGillivray made his first trip with his wife Barbara, his long-time collaborator who served as a researcher for the screenplay. She also became the first woman from the filmmaking team to head to Arabia, a distinction that at first, she admits, was a bit nerve-wracking. "I was worried I'd have to spend my days in the hotel," Barbara confesses, "and I had no idea what I was going to wear. But I also thought, 'I'll deal with it' because I was fascinated by the prospect of seeing what life is really like, especially for Arab women. It is an aspect of Arabian culture that I think many people are curious about."

As it turned out, Barbara's worst fears were quickly laid to rest, and in their place came a feeling of welcome and a much wider view of Arabian life that defied stereotypes. "The people I met were delightful," she comments. "It's definitely a very different culture than ours, but I found that there are many educated, sophisticated women who share a lot in common with us. Once you move past the extra layers of complication that come with adhering to their religious and cultural standards, we had a lot to talk about. There was a powerful feeling on both sides of wanting to improve relations between Arabs and Westerners."

While Barbara did, like all Saudi women, have to enter through a special door in restaurants and sit in "family areas" walled off from other patrons, she found that as a Western woman she was afforded greater freedoms. For example, she did not have to wear the full-length *abaya* on a daily

basis, and when visiting private homes, she was often in a unique position. She explains: “I got lucky because I was allowed to move in both worlds. I was often invited to sit with the men, but I could also sit with the women. So I had a kind of double entrée into the culture that our male crew didn’t have. I saw things from both sides and witnessed the deep bonds that develop within and between genders.”

In talking to so many women, Barbara also uncovered a remarkably wide range of opinions. “As in America, there’s no one way of seeing things,” she notes. “Some women I met were really progressive and modern in their ideas while others said very clearly they didn’t want to see change.”

She continues: “One of the biggest issues of course is driving rights for women because it is simply a pain to have to wait for someone to drive you just to go out to the market. Imagine having to do that! What I found fascinating, though, is how they have their own ways for managing within all the rules – and how there is a constant push and pull between wanting progress and yet also desiring to integrate their cherished cultural traditions into that progress.”

Since that first journey, Barbara has gone back several times and always comes away with an even deeper respect for the rich subtleties and largely invisible complexities of both women’s and men’s lives across Arabia. As part of her in-depth research into the region, she has read more than 50 books, from historical tomes to modern travelogues, giving her an even broader perspective on the political, religious and cultural forces that have forged Arabian societies – and this perspective has also imbued her with hope.

“For me personally, this has been the most exciting film project we’ve ever done,” Barbara concludes. “It’s an epic journey like all of the others, but this story is also something special that I hope will have a very positive impact on the world.”

Young Arabians: The Film’s Characters

Upon returning from Saudi Arabia, the filmmakers at MFF were awash in ideas and emotions that would inspire the structuring and themes of the film. Says Brad Ohlund: “We felt very strongly that we wanted to dispel all the rumors and at the same time convey the honest realities, both wonderful and challenging, of what we saw. We also knew we wanted to tell a larger story – that of the historic contributions the Arabs and Islamic culture have brought to the world.”

Continues Jack Stephens: “I had the idea of telling the story through the eyes of young people coming of age in this time when Arabia is in the middle of a baby boom and becoming increasingly globalized. It felt like an accessible approach and would raise an intriguing question: how can a young person become a dynamic world citizen while staying true to his Arab identity?”

That strand of the screenplay really came to life when Greg MacGillivray discovered just such a young man to become one of the story's guides: Hamzah Jamjoom, the youthful, fun-loving Saudi Arabian film student who invites the audience to see the world of Arabia through his POV. "He's a spirited, positive guy whose perspective really represents the young people who make up two thirds of Arabia's population and are creating the future of the region," says the director.

Co-producer Shaun MacGillivray was especially overjoyed about Hamzah's inclusion in the story. "Hamzah's about eight years younger than I am, so I was really interested in his perspective," he recalls. "We hit it off right away. Through him, I was able to get a great idea of what it's like to be young in Saudi Arabia – what it's like to grow up, go to school, even date in Saudi Arabia. I think people will really identify with him, as I did. He is embraced by his Western friends but at the same time, he sticks strongly to his roots and his culture. I love his dream of starting a film industry in Saudi Arabia, and if anyone can do it, it's Hamzah."

To provide some much needed perspective from an accomplished, young Arabian woman, the filmmakers next recruited another intriguing guide: Nimah Nawwab, a youth leader, women's activist, writer and photographer, who is also the first Saudi Arabian women poet to be published in English. "Nimah's beautiful way of expressing herself, her spiritual devotion and her dreams for her country make her a great part of the modern story of *ARABIA*," says Greg MacGillivray.

Like Hamzah, Nimah grew up in Saudi Arabia, but received an MBA from the Harvard Kennedy School of Government and has traveled extensively, giving her a glimpse into the potential for building bridges of cultural understanding among young people of all nations. She hopes that her participation in the film will help in that effort, and also allow Western audiences a chance to see that there is no such thing as a "typical Arabian woman." "We are, just like women all over the world, shaped by the individual nature of our faith, family, education, friends, careers and perspectives," she explains.

Rounding out the film's main characters is a man who is able to view the dynamic Arabian present through the prism of its secret and still-emerging past: Dr. Dhaifallah Al-Talhi, one of the country's leading archeologists and head of research and survey at the Saudi Department of Antiquities at the National Museum in Riyadh. Dr. Al-Talhi's two decades of digging into Nabataean history at Madain Saleh give him a multifaceted perspective on where his country has come from, even as Hamzah explores where it is going. He says: "I love digging into the hidden past of a lost people. Our discoveries will help rewrite history."

With the film's characters in place, Jack Stephens began the more in-depth portion of his research, elucidating each of the three historic periods in which Arabia bloomed on the world scene: the ancient Nabataean empire which thrived on camel caravans, bold sea-faring and an early form of international trade that inspired them with ideas from around the globe; the great Islamic renaissance,

from the the 7th to the 13th Centuries when a veritable army of Islamic scholars unleashed one of the most amazing scientific revolutions the world has ever seen – making huge advances in physics, chemistry, medicine, engineering, industry, the arts and more; and finally, the current era of burgeoning oil wealth and modern cities increasingly lured into the global world.

Says Stephens: “The story of **ARABIA** is the story of how people turn resources – whether it’s frankincense or libraries or oil – into wealth, connection and ideas.”

Stephens found himself particularly caught up in the history of the Islamic Renaissance. He points out: “If you Google phrases such as ‘Father of Science’ or ‘Father of Medicine’ it often leads you to an Arab person who lived in the Islamic Golden Age. This was astonishing to me. We owe a great debt of gratitude to the Arabs for keeping the search for knowledge alive at a time of darkness for the rest of the world – and most people aren’t even aware of it. I wanted to bring that alive in the film. The Arabs have been great pioneers and innovators and that’s a part of their culture we haven’t seen.”

An invaluable resource for Stephens became Robert Lacey, the British historian, world-renowned author and Saudi Arabian resident who became one of the film’s cultural advisors. “There was always more to learn,” says Stephens, “and Robert was a fantastic consultant to the production, letting us in on his extensive knowledge and cultural insight and answering a wide range of questions.”

Lacey was excited to do so. “Part of why I love living in Saudi Arabia is the feeling of being surrounded by history in motion,” he says. “So I was humbled and thrilled by the idea of the film. It seemed that the most important thing was to find a balance in the storytelling, so that it would be equally about the past and present, and balanced between the spiritual life of Arabia and the everyday world people live in.”

One of the myths Lacey expects the film will shatter is that Arabia is a stagnant world. “It’s the very reverse,” he notes. “It’s a place that’s whirling and changing, moving forward and slipping back. It’s a place that’s trying to marry the old with the young and new -- but it’s also not rushing into the modern future headlong. They are looking for ways to hold on to their traditional values as they modernize. And they don’t equate modernization with Westernization. They are embracing technological progress because it is in the great tradition of Arab science. But they are aiming at something different, their own vision of a modern society, and that’s what makes it so fascinating.”

Lacey hopes the film will impart that sense of fascination and have a resonating impact on audiences. “I hope most of all it will diminish fear,” he says. “This is a warm and friendly society once you break into it. You can walk out into a warm, dark night with the moon and the stars above and feel no sense of danger; only a deep sense of inquiry and mystery.”

Preparing for Arabia

With the shoot approaching, the film's producers knew they were about to have the experience of their lives – preparing to shoot a film in a country where filmmaking is pretty much unknown. “If filmmaking in Saudi Arabia is rare, *the kind of filmmaking we do* is just completely out of this world over there,” explains producer Mark Krenzien. “Some of the real staples of large-format filmmaking, such as aerial shots, turned out to be massive challenges because there is no civil aviation at all and we had get help from the Royal Saudi Air Force just to find a helicopter. “

He continues: “The hard part was that we were dealing with all that along with discovering a whole new culture. Part of our strategy was to find young Saudis interested in filmmaking, from which we could build local crews who were really excited to be learning production skills and, at the same time, gave us invaluable cultural insights. Ultimately, we were thrilled to be able to hire such intelligent, enthusiastic people, including a number of women. There was plenty of culture shock and surprises -- but the reason all of us became filmmakers in the first place was to explore and make connections with other cultures so that was always the driving force behind everything we did.”

Brad Ohlund notes that there weren't really any of the usual logistical production snags – because there weren't any of the usual logistics at all! “We were starting from scratch with most of our requests,” he explains. But he kept up his sense of humor. “We were thinking at one time of renaming the film ‘The Man With The Key Will Be There in 15 Minutes,’ because we heard that an awful lot, and sometimes the key never showed,” laughs Ohlund. “But although we were making a film without any infrastructure for doing so, the excitement of the local people made all the difference.”

“It was all about perseverance and getting a little lucky now and again,” says co-producer Shaun MacGillivray. “Preparations that would normally take a couple of months took over a year to make. Nothing was simple – finding trucks, transporting people and equipment, there was no process for allowing any of it so we had to invent our own ways. We had a very ambitious shoot full of historical recreations and major amounts of art direction all to be shot in 3D meaning we had to haul around thousands of pounds of cameras. The whole thing was way outside our usual way of doing things and it all came down to people on the ground making it happen.”

Making it happen also meant allowing the natural rhythms of Arabian life to prevail. “Even things we take for granted, like ‘doing another take,’ were completely foreign to the local people we were working with,” says Krenzien. “And yet, at the same time, there was something truly liberating about realizing we couldn't plan too much, that we had to let things develop and adapt to the situation. It opened our eyes even more to this different world and allowed us to be part of it.”

Diving into Arabia: Shooting the Red Sea

After all the highs and lows of preparation, production began in earnest at the Red Sea, an inlet of the Indian Ocean which borders Saudi Arabia's western coast. One of the saltiest oceans on earth, at 41% salinity, the Red Sea is home to many unique life forms, including over 250 species of coral that are found nowhere else on earth. Those same coral reefs have, for centuries, been the bane of sea traders, sinking numerous ships, and turning the coastline into a veritable museum of rusty hulls and artifacts of Arabian history, including amphorae jugs that date back to the Roman Empire and the time of the Nabataeans.

It seemed fitting that the shoot would begin with a deep dive into history, and in a place few divers have ever dipped their fins. While the Red Sea has been extensively filmed in Israel, Jordan and Egypt, it's rarely been seen from Saudi Arabia. Indeed, much of the Red Sea on the Saudi side remains uncharted waters. "It's exciting to be able to give our audience the truly unique experience of swimming in an uncharted place," says Greg MacGillivray. "Tourists can't just go over there and do the dives we did, at least not currently. It took a lot of work to get the permits and to procure boats that could carry the 2,000 pounds of Solido 3D IMAX camera into the sea, but it was entirely worth it."

Continues Mark Krenzien: "Ultimately, we wound up with a whole MacGillivray Freeman armada on the Red Sea. We found a tugboat that was solely devoted to the 3D camera and then we had other boats that slept the crew and ferried equipment. We also discovered that Saudi Arabia has a niche diving community and we hired as many local divers as we could."

Ohlund was especially pleased that the shoot would have at the helm one of the world's most skilled and adventurous underwater photographers, Howard Hall, who has worked on several MacGillivray Freeman productions, including *Coral Reef Adventure*. "We felt very lucky to have Howard Hall and his crew – who are the best in the world at this kind of shooting – leading the way," says Ohlund. "I've been fascinated by the Red Sea all my life and it lived up to all my expectations."

Once under the water, the crew discovered just how visually rich the shoot would be, as they found themselves in a realm bursting with wild colors and creatures. "We saw fantastic sea life," notes Ohlund, "including a sting ray feeding, something not witnessed often, and the exotic Lion Fish. Then, we dived on a number of shipwrecks and came upon a sprawling field of ancient pottery, broken and scattered across the ocean floor. Being in the presence of that kind of antiquity, your imagination just runs away. We were excited to convey the emotions of that to the audience."

One of the final challenges of the Red Sea shoot was taking novice diver Hamzah Jamjoom out into the uncharted depths -- which meant first he had to get scuba certified. For Hamzah, that was the easy part. The tough stuff came when he discovered just how seasick a person can get sitting on a

rocking boat while filming all day at sea. “I would have done anything to be on solid land those first few days,” he laughs, “but as soon as I got used to it, I loved it.”

“Hamzah’s such a great, open-hearted guy that he learned to dive for our movie,” says Krenzien. “Two weeks after dive school, there he was 80 feet under the Red Sea in waters few people have explored. It was the start of what became a real theme of the production: asking people to do things they’d never done before, and getting enthusiastic responses.”

A Lost City of Arabia: Filming Madain Saleh

From the Red Sea, the crew headed inland to the striking pink and yellow sandstone cliffs of the Al Madina region in the high northwest region of Saudi Arabia. Here, in an area redolent with mystique – an area that has been inhabited by different peoples since Neolithic times – lie the carved rock tombs left behind by the Nabataeans at the site of their second-largest city: Madain Saleh. These spectacular final resting places were created not for high royalty but for local families, yet on a wondrously grand scale, featuring sky-high entrances topped by carved figurines of sphinxes, serpents, lions, flowers, and even human faces.

International teams of archaeologists are still piecing together the puzzle of the Nabataeans and their buried sandstone cities near the towering tombs, but what has emerged so far from the excavations is a portrait of a people whose great wealth, gleaned from an early form of international trade in frankincense, myrrh and exotic spices gave way to an innovative, vibrant society with a polyglot of Roman, Egyptian, Greek and Assyrian influences – and its own distinctive culture. Standing at the mid-point between Petra and Makkah, Madain Saleh was once the crossroads of many Arabian caravan routes, providing water and shelter for travelers and absorbing ideas and stories that forged a sophisticated and enlightened society in a remote desert oasis.

Nearly lost to time, the monumental ruins were first written about in the late 1880s by the intrepid British explorer Charles Doughty, but remained largely unknown to the world at large for a century. But it wasn’t until the last few decades that the Saudi Arabian government opened the amazingly well-preserved area to archeological study. One of the first to start excavating there was a young archeology student, *ARABIA 3D*’s Dr. Daifallah Al-Talhi, whose aim is to assure the ruins will be a treasure for future generations.

Dr. Al-Talhi explains that part of the excitement of Madain Saleh is that it is a dynamic situation, with new discoveries about the Nabataeans, their daily lives and their close relations with the Roman Empire emerging on a regular basis. “We are still making many discoveries about how the Nabataeans lived, what their houses and economy were like,” he says. “There are long hours of work ahead but I believe many secrets are buried in the sediment. In 2003, we discovered a Latin inscription from the times of Marcus Aurelius. We are finding out much about the relationship

between the Nabataeans and Romans and what kind of trading took place as well as how massive their kingdom was. We also hope to find a city plan and important lost buildings. It seems the more we find, the more questions we have.”

While experts like Al-Talhi painstakingly sift through sand for answers, visitors to the site are struck with sheer awe. Producer/director Greg MacGillivray notes: “The beauty of Madain Saleh is indescribable until you see it and then you start to see the amazing ways Nabataeans adapted to this harsh environment, blending in ideas from other cultures they encountered on their trade routes to create their own society. A big part of the story of Arabia is about the resilience and adaptability of the people – and that story is something you can see and feel when you visit Madain Saleh.”

The MFF crew were especially inspired to be the first ever to capture the overwhelming atmosphere of Madain Saleh for Western film audiences. “Visiting Madain Saleh, you feel like you’re one of the first to discover it and we knew we had a chance to give audiences this once-in-a-lifetime experience. It’s a place very few tourists have seen and that not even people in Saudi Arabia usually see,” says Shaun MacGillivray. “It is going to be really fun to be able to share the fascination and emotions we felt there in such an immediate way with 3D filmmaking.”

Adds Mark Krenzien: “Madain Saleh is one of the most unexpected places I’ve ever seen in my travels. It’s like a cross between Yosemite and Stonehenge, if both had been left undiscovered until recently. You are surrounded by lush groves and red cliffs and it is truly transporting just to the human eye alone, let alone to the IMAX camera. There’s history everywhere you look, so it was a constant inspiration to all of us.”

The MFF team not only had the chance to reveal Madain Saleh as it appears today but to recreate a colorful moment from 2,000 years ago by recreating the march of a camel caravan through the ruins. “There were a lot of firsts going on at Madain Saleh – including the first camel caravan recreations ever shot in this area,” says Shaun MacGillivray. “It made the place feel so alive.”

Camels – the so-called “ships of the desert,” whose strong backs and desert survival skills allowed the merchant cultures of the desert to thrive – became frequent cast members of the shoot, so another new experience for the crew was learning about their notorious quirks. “You don’t realize how hard it is to create a camel caravan until you try,” laughs Krenzien. “The camels were challenging at times but for all their reputation for being grumbling and nasty, we never had a serious problem with them. They’re a lot of talk and no action.”

Hollywood in Arabia: Recreating the Nabataean Past

From the beginning, the filmmakers knew that one of the most monumental tasks facing the production would be some of *ARABIA 3D*’s most illuminating and action-packed scenes: the

historical re-creations that transport audiences back through time to the rise of the Nabataean culture and the first Golden age of Arabia in the First Millennium BC.

It was one thing to shoot footage of contemporary Saudi Arabia, without any film infrastructure, but quite another to forge lavish Hollywood-style sets, craft detailed period costumes and direct an entire cast of local Bedouins who had no concept of an IMAX Theatre movie, all in a sequence focused on historical authenticity. “It was essentially a gamble,” says Greg MacGillivray, “but we decided to go for it and brought over two skilled production designers, Libby Woolems and Phil Clark, to oversee this unprecedented task, and they did an amazing job.”

Woolems and Clark would ultimately recreate a series of historical environments for the film, including: a lively Nabataean trading village; a camel caravan carrying precious frankincense past the sacred tombs at Madain Saleh; a Bedouin camp circa 1,000 AD; and the mounted camel cavalry of Abdul Aziz, who united the tribes of Saudi Arabia.

The designers began by doing as much historical research on the Nabateans as they could – and were instantly fascinated. “The time of the Nabataeans was quite incredible. In an astonishingly short period the culture moved from Bedouins living in tents to the rise of beautiful, complicated cities doing extensive trade with far-away countries,” says Woolems. “You see how the foundation of Arabian societies developed out of open-minded contact with others. It’s also amazing how many ancient traditions that emerged from the Nabataeans remain in place today.”

The history was compelling -- but visual information was scarce. “There’s slim pickings in terms of any pictorial evidence of what people wore and what places looked like in those times,” notes Woolems. “The Saudis themselves have only recently started to really embrace preserving their historical past so a lot of the evidence has been lost, or not yet discovered.”

There was however, the more extensive Nabataean site at Petra in Jordan, which provided lots of information and inspiration. “You get a pretty good idea of who the Nabataeans were at Petra and we made assumptions that this would translate into the costumes and lifestyles that would be seen at Madain Saleh,” Woolems explains. “We also know that the Nabataeans did a lot of trade with the Roman Empire, and were heavily influenced by them, so we looked to that history as well. We even looked at the HBO series *Rome*, which recreated the era visually in a fun and believable way.”

Another invaluable resource was archeologist and central film character Dr. Al-Talhi. “He’s the primary expert on the area and we asked him endless questions,” says Woolems. “Since there are still a lot of riddles and mysteries, we were authentic whenever we could be and filled in the rest with educated guesses.”

In March 2008, Woolems made her first trip to Saudi Arabia. Like other women who traveled with the filmmaking team, she was unsure what to expect – and then won over by her hosts. “For me, it was an entirely positive experience,” she says. “I did wear an *abaya*, but I never felt

threatened or restricted in my job. There was some concern in the beginning that I might have to get a note from my husband giving me permission to work there on my own, but that never happened. And one time, the religious police stopped me to say I should be wearing a head-scarf, but even then, people told me that I didn't have to take it too seriously. It was really a once-in-a-lifetime chance to lead a completely different kind of life for awhile, and I wouldn't have missed it for anything."

She continues: "Everyone we encountered seemed to be really interested in mutual engagement and in sharing their beliefs with us. I was very moved by the hospitality element in the culture and how woven it is into daily life – people are so gracious in every situation."

That easy-going grace however was something the design team, accustomed to fast-moving film and television productions, had to learn to handle. "Nothing ever happens in a hurry, and that is the total opposite from the film industry!" Woolems laughs.

The production put down roots in Al Ula, the sparsely populated, picturesque town that serves as a gateway to several historic sites around it, including the ruins of Madain Saleh and the remains of the Hejaz Railway, which the Ottomans built to ferry pilgrims from Damascus to Makkah, and which was later destroyed during an Arab uprising. Here, surrounded by a range of dramatically wind-sculpted sandstone towers, arches and monoliths, Woolems and Clark soon settled into the rhythm and pace of Arabian life, but faced a plethora of problems needing solutions.

"The biggest question on our minds was: where are we going to find the stuff we need to build high quality sets and costumes?" recalls Woolems. "We discovered there was no formula for how to do it. It was all about talking to people and figuring out who could find what. We got a lot of help from our driver, Hussein, who turned out to be one of those guys who always knows someone who knows someone who might have what you need. We approached it as one big creative problem-solving process, and along the way we formed bonds that will last a lifetime."

Fabrics were a special challenge. "Cotton is almost impossible to find there, everything is polyester," Woolems explains. "We discovered, though, that there is an Ikea in Saudi Arabia and that's where we found cotton draperies and bedding that we used to make our wardrobe!"

When it came to building the backgrounds, the design team had help. "The government is in the midst of restoring this mud village at Madein Saleh, so we had builders at our disposal who already knew what they were doing," says Woolems. "That was a big help. The town made the most wonderful backdrop because it is like a big maze. It was designed very cleverly to enhance air flow. The only problem was that we would often get lost going from one end to the other."

The team used local craftsmen whenever possible, for example, hiring an Egyptian potter living in Saudi Arabia to craft some 2,000 Nabataean butter lamps. Also key to pulling off the recreations of the Nabataean village were some unlikely film stars: several dozen local Bedouins who had never seen an IMAX Theatre movie, let alone been in one. Despite their nomadic, traditional

lifestyle, they seemed to take to acting readily – at least when it came to portraying their ancestors. “The Bedouins got into their Nabataean costumes and suddenly they had it all figured out. Totally independent of us, they started preparing little skits to do on camera and they really got into it,” recalls Brad Ohlund. Even after the cameras were turned off, the scene remained starkly poetic. “The Bedouins camping around the set in their tents at night was a striking sight,” says Krenzien.

Bedouins also helped the design team craft several goatskin tents to approximate an ancient Bedouin camp. While today only 10% of Bedouins remain nomadic, those who participated in the film were drawn to the chance to momentarily journey back to a past they are devoted to preserving.

Bedouins further assisted in another carefully designed recreation: a twentieth century camel cavalry charge, which Clark and Woolems brought to life from the famous William Henry Shakespeare photograph of the period when the future king of Saudi Arabia, Abdul Aziz, was leading the Arab revolt against the Ottoman Empire.

Like the rest of the crew, Woolems was initiated into the vast stores of Arabian knowledge on camels. “I learned all kinds of interesting things about camels,” Woolems offers. “For example, there are milk-and-meat camels, which are small and dark, and then there are racing camels which are the actual camel-colored ones we are used to. Fortunately, we found a man who races camels who was able to put together packs with all the correct dress and saddles. The thrill of 60 to 70 camels in costumes charging across the desert is something you don’t see every day,”

Harder to procure were the rifles Abdul Aziz’s men carried on the backs of their camels. “They have very strict gun control in the Kingdom of Saudi Arabia so guns are hard to find,” notes Woolems. “At last we were able to get three vintage rifles from the 30s that were a pretty good match, and we supplemented those with some cigarette lighters we found that actually looked a little like guns. We did some work on them and used those only in wide angle shots.”

In all of their work, Woolems and Clark had to keep in mind the very unique requirements of shooting in 3D. “There are certain things you really have to watch for – especially contrast and palette – because in large-format 3D you’re working from foreground to background. And of course, if you make a mistake, it will be a five-story high mistake instead of just a little one!” Woolems notes. “You have to adjust your creative thinking so that you’re always thinking about scope, scope, scope.”

Spiritual Heart of Arabia: The Hajj

Some of the most stirring and rare footage comes at the climax of *ARABIA 3D* as Nimah Nawwab, along with her husband and the IMAX cameras, make the pilgrimage of the Hajj, the yearly trek to Makkah, which all devout Muslims aspire to complete at least once in a lifetime. Shot by a bare-bones crew with the utmost respect for religious traditions, this revelation of the Hajj in giant-

screen dimensions captures something vital to the film's overall theme: a powerful sensation of the spirituality and human communion that lie at the heart of both the history and modern life of Arabia.

The Hajj takes place each year during the last month of the Islamic calendar, and in 2008 some three million people from dozens of countries around the world braved 100-plus degree temperatures and participated in massive processions to perform a series of rituals, including walking seven times in a counter-clockwise direction around the *Ka'ba*, the cube-shaped building which Muslims believe was built by Abraham, and kissing the Black Stone in the corner of the *Ka'ba*. The pilgrims wear only *ihram*, a white, unhemmed garment that makes everyone, rich or poor and from whatever nationality, appear entirely equal, one of many.

Although there have been tragic deadly incidents at the Hajj due to the extreme size of the crowd, a 2008 study by the John F. Kennedy School of Government found that participation in the Hajj “increases belief in equality and harmony among ethnic groups and Islamic sects and leads to more favorable attitudes toward women, including greater acceptance of female education and employment. Increased unity within the Islamic world is not accompanied by antipathy toward non-Muslims. Instead, Hajjis show increased belief in peace, and in equality and harmony among adherents of different religions.”

“The Hajj is one of the most sacred events on earth and we wanted to capture it with the greatest respect for what it means to millions of people,” says screenwriter Jack Stephens. “What makes it especially moving is that it's an international event where every single person who is participating is seen as equal under the eyes of God. It's an event in which millions of humans are focused entirely on their souls and have come together in a spirit of love. People make long journeys to get there, and when they return they are heroes in their villages. It's one of those things that no matter who you are, it heightens your sense of mystery and connection.”

The Hajj was especially meaningful to Nimah who says: “The Hajj is a life-long dream, a journey of a lifetime, which brings spiritual rejuvenation and serves as reminder of the equality of all regardless of color, race, social stature in the eyes of God.”

The intensity, beauty and peacefulness of the Hajj seemed to be a perfect wrapping up point for a production that had uncovered all of these qualities amidst the people of Arabia – even though the crew went into it without really being sure of what they would find.

Sums up Mark Krenzien: “The production of this movie really speaks to the tenacity and devotion of Greg MacGillivray and MacGillivray Freeman Films. We discovered things we had no idea were true, did things we didn't think we could do and came back with more incredible footage than we ever expected. Greg was really tested out there working in sandstorms with camels and Bedouins in 100-degree heat, and facing cultural and technical obstacles, yet he made it look easy.

When you put it all together – the environment, the culture, the people we met – it was one of the most fulfilling journeys we’ve ever had; and I think it will be equally fascinating for the audience.”

The Magic of Arabia: How Maps and Medieval Worlds Come To Life Through ARABIA 3D’s Digital Effects

While Greg MacGillivray was able to capture much of the spicy, diverse flavor of the Arabian peninsula through the film’s compelling characters, IMAX cinematography, and Hollywood-style historical recreations, he wanted something more.

He wanted a touch of magic and artistry, reflecting the wonderment that Arabia has long represented to the rest of the world. Hoping to transport audiences into the heart of a lost past, he turned to a couple of leading digital effects artists to give audiences a fun, stylish, high-tech ride into worlds that no longer exist: VFX Producer Alan Markowitz and his company Visceral Image Productions and stereoscopic 3D pioneer Tim Sassoon, and his company Sassoon Film Design.

Markowitz and Visceral Image Productions joined the team in order to create a series of 3D sequences in which maps of Arabia burst into animated life before the audiences’ eyes. Explains Markowitz: “Our mission for the film was to take audiences on a thrilling ride through some of the historical highlights of the Arabian world, in a fun, entertaining and educational way.”

He continues: “We wanted parts of the film to feel like you are turning the pages of an ancient manuscript -- and that you are being invited to come inside that world. You’ll see animals and landscape features moving in a cut-out style that is unique for a large-format film and creates a kind of world-within-a-world.”

Markowitz’s team also created the opening credits as an entrée to the film’s distinctive style and themes. “The idea was to right away draw people into an Arabesque realm through images and patterns symbolic of Arabian culture, geography and history. There’s almost a ‘pop-up book’ feeling to it, with volcanoes that burst through the map and animals that suddenly trample across it,” says Markowitz.

They also crafted four additional kinetic maps that revivify Arabian history: a map that reveals how, 25 million years ago, the Arabian peninsula split off from Africa, creating the Red Sea; another that takes the audience on a journey along the frankincense route of the Nabataeans, moving into a 3D camel caravan; a third that illustrates the spread of Islam in the Middle Ages from Makkah to points beyond in Asia, Africa and Europe; and a map that time-travels back to 1932 when King Abdul Aziz founded the Kingdom of Saudi Arabia.

To create these maps, Markowitz and his team had to take an educational journey of their own. “We did a lot of research!” he confesses. “After 15 years of working on large-format films, that’s still one of my favorite parts. I do a lot of reading and research and talk to cultural and

scientific advisors. For these sequences, I had to learn not only about Arabian history, but Arabian architecture, clothing styles, animals and more. The designs we do are more abstract and creative, but we still want them to be authentic.”

Once he was up to speed on Arabian history and culture, Markowitz collaborated with Greg MacGillivray to come up with just the right stylistic feel for these unique moving maps. “It was something very special we were looking for,” he notes. “We wanted it to be respectful and historically truthful but also fun and playful for family audiences. We came up with something that isn’t at all cartoonish but isn’t quite realism either. It’s stylized, whimsical and yet sophisticated. I think audiences will really enjoy it. When I see kids in the theatre reaching out to touch what they’re seeing and thrilled to learn about a place they know all too little about, that makes it all worthwhile.”

The biggest challenge was integrating these visually imaginative, computer-generated sequences into a film full of carefully documented reality. “You have a lot of creative liberty when you are in a computer-generated world,” Markowitz observes, “but integrating that into the film’s photographic footage takes some doing. One of our most important goals was to link these computer-generated scenes directly to the authentic vision of Arabia Greg has so beautifully captured in this film.”

This was also a key goal of visual effects supervisor Tim Sassoon, who was recently dubbed one of *Variety’s* “10 Innovators to Watch” for his leading edge work in digital 3D for both large-format and feature films. It was to Sassoon whom Greg MacGillivray turned to bring alive – in multiple, eye-popping dimensions – the spirit of discovery that fueled the Islamic Golden Age. In an exhilarating sequence right at the center of the movie, 3D animation introduces the audience to some of the great scientists and forward-thinking inventions that catapulted Arabia into an enlightened age that would help forge our modern world.

“Our mission,” explains Sassoon, “was to create an animated, 3D, CGI fly-through of the Islamic Golden Age in a beautiful, painterly style that looks like a living, breathing water color painting.”

Sassoon worked closely with his Head Designer, Chie Yoshii, to create a look that audiences have never experienced before. “Chie is a brilliant artist and painter in her own right and with her eye for beauty we were able to create lush, impressionistic sequences that I hope really give a flavor of the scientists and inventions that made the Golden Age of Islam so vital to the entire world,” he continues. “The facts are reality based but the visuals are lyrical and fantastical. It’s informative but also fun and artistic. Real efforts were made to be sensitive to culture issues and to be historically accurate while at the same time aiming for a more direct experience of the era’s beauty and excitement. Our true intent is always a greater degree of immersion into the heart of the story.”

As the Sassoon team, too, delved into intensive research, they found that they had to use ample imagination to fill in for the missing visual record of Medieval times. “One of the big challenges for us was that no one really knows what most of the Golden Age’s scientists actually looked like. So we had to try to get to know these characters and who they were in order to animate them in a respectful and believable way.”

To render the characters even more life-like, as well as to streamline production, Sassoon shot live actors performing the actions of the animated scientists in HD video, then developed the 3D character animation from those images.

Sassoon’s team also designed an entire environment for these characters – a fantasia on an authentic Arabian building, replete with accurate Arabian architecture and hand-crafted rooms filled with wondrous treasures and newfangled inventions for each scientist. “The challenge of CGI is that you are creating whole worlds from scratch,” notes Sassoon. “We added to that the complexity of moving through a water color painting environment, and it was quite tricky to work at this high level of illustration, keeping the look and feel of each scientist’s room consistent. In the end, I think it’s a gorgeous sequence that audiences will remember.”

In addition to the Golden Age 3D sequence, Sassoon Film Design also composited the giant sand storm that threatens a group of Bedouins and provided 3D conversion for all of the film footage that couldn’t be shot in 3D. The latter is not an entirely technical process, Tim Sassoon explains.

“3D conversion is really an artistic process, an attempt to replicate how the human eye sees, rather than how a camera sees,” sums up Sassoon. “Even though MacGillivray Freeman’s large format photography gets very close to the way the human eye takes in the world, there is still a distortion there. With the 3D conversion process, what we try to do is create something more naturalistic. It involves cheating the space a bit – for example, using stronger stereo in the background than in the foreground. The intent is always to get closer to real, direct human experience through a constant mix of technique, artistry and invention.”

Sounds of Arabia: The Challenge of *ARABIA 3D*’s Musical Score

The composer Steve Wood, a long-time collaborator on MacGillivray Freeman’s film adventures, has been around the world, musically speaking. From New Orleans funk to Greek vocals, his specialty has always been weaving authentic elements into emotionally engaging music that tells a story. But, like all involved in *ARABIA 3D*, he would face fresh challenges in trying to bring an Arabian flavor to a score that also had to be accessible and true to the film’s dynamic, youthful style.

At first, Wood admits he was confronted by a problem that seems to come with the territory of the Arabian world: stereotypes. “We all have heard the clichés of Arabian music from old Hollywood movies and that’s really all we know,” he explains. “In part this is because the authentic

music of the area can be quite hard for a Western ear to process – the scales and the instrumentation are so different that they can sound strange, and even out-of-tune, to us.”

He continues: “So what I tried to do was to find a middle ground: to reflect some of the musical elements of the Arabian peninsula – the unique percussion and instrumentation -- but to also create a sound that will be engaging to Western audiences. The music, like the story of the film, became more about what we share in common, rather than emphasizing what is different or what is exotic. I worked with a variety of musicians to share and mix ideas from both parts of the world. The making of the score turned out to be an example of what the movie talks about: the idea that we can come together around the many things we have in common -- in this case, a passion for music.”

Wood started his journey with a kind of shopping list of traditional Arabian instruments, many of which he had never seen or heard, and began researching their sounds and history -- a process that he says “was like learning another language completely unlike your own.”

Arabian music developed in its own distinctive fashion, in sync with the nomadic lifestyle of the desert tribes. “The Bedouin nomads needed light, compact instruments, so that they could carry their music with them wherever they went,” notes Wood. “After all, you can’t very well put a piano on the back of a camel!”

Thus, they crafted small reed instruments such as the bamboo flute, the *ney*, and simple stringed instruments such as the skinny-necked *rababa*. “They also developed all kinds of hand drums and percussion instruments,” Wood adds. “Percussion really defines the music of the area, and you also hear some African influence from trade across the straits, emphasizing the cultural exchange that is so much a part of Arabia. The rhythms have an unusual lope that gives them a completely different feel from Western music. They are nearly impossible to fully grasp and understand unless you have grown up in that world.”

In modern Arabia, music is a source of controversy, considered sinful by some Muslims. Yet, music is still enormously popular throughout the Arabian peninsula, even if in the form of underground bands and concerts in those countries that disallow public performances. Rock and pop fusions that blend Middle Eastern traditions with Western beats have flourished into electrifying, urban sounds. “Over time, our forms of music have come closer to each other,” says Wood, “but Arabian pop is still full of their traditions and their own interpretations of what Western music sounds like. It has a real national character to it.”

For the *ARABIA 3D* score, Wood didn’t want to simply provide a second-hand imitation of Arabian pop or to staunchly attempt to recreate traditional Arabian sounds in a documentary fashion. Rather, he was in search of the special magic that comes from blending cultural influences across borderlines. Following the train of Greg MacGillivray’s storytelling, he looked for inspiration in his personal encounters with musicians from around the entire region of Arabia and the Middle East.

Ultimately, after scouring the U.S. music scene for those few musicians steeped in Arabian musical history, he began to work closely with Naser Musa, a renowned player of the *Oud*, a strung wooden instrument similar to a Western lute. Nasa might be based in Los Angeles, but he is a rare expert on the *khaliji* style of music that is native to the Gulf States. Wood also collaborated with the master Arabian percussionist Faisal Zaidan, who brought his own deep understanding of the complexities of Middle Eastern rhythms to the table.

“It was a great blend,” says Wood. “I’d bring them a Western musical idea and they would just naturally make it more Eastern – and the result is something that is quite tasty and exciting.”

As he recorded the musicians, Wood put the focus not on strict authenticity but more on connections and fusions, remaining open to whatever might develop in the moment. “We would take a particular theme and record many variations on it – I’d ask the musicians to play it slowly, then quickly, then sweetly, then sadly; and I used all of this to build the score and its major themes,” he explains. “The more open you are in the creative world, the more interesting ideas develop, which is something the film talks about happening during the Islamic Golden Age. We tried a lot of different things, but, in the end, I always followed Greg’s instincts on what would work best to tell the story of the movie.”

For Wood, the excitement of discovering the “new language” of Arabian music is something he says will continue to inspire him. He sums up: “This score really was a big adventure for me and I learned an enormous amount, made a lot of really cool friends, and I hope we created music that is passionate, spicy and invites the audience to explore a different culture very openly.”

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ARABIA 3D

Q&A With Director Greg MacGillivray

Q: You've directed giant-screen films in some of the most adventurous places in the world – and yet ARABIA feels especially daring and unusual. How did you decide to make this movie at this timely moment in history?

It was really quite fortuitous because we were approached by a group of Arab-American business people who were looking to make an impact on relations between our two cultures. They suggested the topic but our first reaction was: “Sounds interesting, but we really don’t know much about it.” Like most Americans, we came at it pre-conditioned with certain ideas about Islam and the extremism we’ve seen in the news and the cultural differences between us. But that only made us more interested to dig below our assumptions and see what we would find.

So we decided to take a little exploratory journey. We sent a scouting team to Saudi Arabia – made up of our writer Jack Stephens and our long-time director of photography Brad Ohlund – and by the time they came back, their unhesitating enthusiasm had completely won me over. Suddenly, my wife Barbara and I started immersing ourselves in research, too, and it was so compelling that we never looked back. Next thing we knew, Barbara and I were on our way there.

Q: What did you discover that made you think, “THIS is a subject for an IMAX adventure?”

The key element I love in filmmaking, and that I think sets our films apart, is surprise – showing people something they didn’t expect or telling people a story they’ve never before heard. I’m always looking for stories that take you somewhere different and new, and *ARABIA 3D* had that quality in spades – because when you brush away all the myths and stereotypes about Arabian life, you find a culture and a religion and a history that is not only fascinating but, shockingly, as it turns out, not so different from our own. Telling *that* story was really exciting to us.

Also once we were there, we very quickly fell in love with the Arabian culture – the richness of the community life; the emphasis on leading a good, meaningful existence; the contrasting beauty of the cities’ architecture and the desert landscapes. We have our differences, of course, and we have to be honest about that, but the things that really stood out were things we could strongly relate to: the emphasis on loyalty, hospitality and on family responsibility.

During our trips there, we got to know upwards of 100 families and we were struck by the many ways in which our lives are alike and in which they aren’t. There was a very strong feeling of wanting to share these eye-opening revelations with a wider audience. It seemed we had a chance to use our medium to help move the world towards greater peace and tolerance.

Q: What challenges and obstacles did you see in your path at the outset?

Nothing at all about this film has been easy! We understood pretty quickly that they never had made any kind of film of this scale on the Arabian peninsula before so there was a serious logistical learning curve we had to navigate. We learned that there really is no movie industry in Saudi Arabia and there are no public movie theatres. So we had to be pioneers, pushing the country to put in place filming protocols that had never even been thought about before.

The permitting process alone was a massive undertaking. Finding the proper equipment there was nearly impossible and bringing in equipment from elsewhere was fraught with bureaucratic snafus. There's also no such thing as a 10-minute meeting, everything took hours and dozens of cups of coffee and tea. And yet, there was also a spirit of cooperation and, with patience and time, eventually we were able to do an amazing amount of what we set out to do.

In the end, we were very moved by how things are done in Saudi Arabia, where the priority is always on getting together with family and friends and telling stories over tea. Things happen through a refreshing mix of community, consensus and compromise.

Q: Given all that, what kind of experience did you have once production began in earnest?

What really stood out is that we had a crew made up of dozens of nationalities from across the Middle East and we all got along beautifully together. There were some exciting moments – at one point some of our Lebanese crew had to hole up in a hotel because they couldn't go home due to political instability – but that's part of the intrigue of making a movie in the Middle East. We always make friends wherever we go, but we made some life-long friendships on this film that I think really highlight how much our cultures can share.

Q: You mentioned that most Americans associate Saudi Arabia with certain images that are prevalent in the media right now. How do you break through those impressions to show what we don't see?

There are so many stories from the past and present-day Saudi Arabia that most Americans have never heard that we knew we would be able to create an exciting movie-going experience. At the same time, it was very important to us from the beginning that *ARABIA* be very truthful, to show Arabian society honestly, with all its fascinating history and achievements, but also some of the problems that exist with women's rights and political and religious extremism.

Great care was taken to find the right point-of view – we went through more than 50 drafts of the script and everything has been vetted with religious and historical experts.

In addition, we see this movie as part of an entire educational program that will include speaker programs, teaching guides, a companion book and more that will provide an even broader perspective on topics including not only history and culture but women's rights and Islamic beliefs.

The point of view we've taken is that it's only through understanding each other, and seeing each other clearly, that we can make any progress towards greater peace. The film was made in that spirit and I hope that comes across in the storytelling.

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ARABIA 3D

MEET YOUR GUIDES

HAMZAH JAMJOOM

Hamzah Jamjoom is a passionate young Saudi Arabian film student who returns to his home country in **ARABIA 3D** to take an eye-opening journey through its past and present. Born and raised in Jeddah, Hamzah came to the U.S. at the age of 17, accompanying his college-age sister. Now 25, and approaching the end of his own graduate film studies at Chicago's DePaul University, his driving dream is to join a youthful generation of scientists, thinkers and innovators in Saudi Arabia who he believes will fulfill on the potential for a new Golden Age for his country.

NIMAH NAWWAB

Nimah Ismail Nawwab, a Saudi female activist, youth leader, writer, poet, photographer and lecturer, provides a rich perspective on women in modern-day Arabia in **ARABIA 3D**. Dubbed a “voice for Arab women,” she is engaged with critical and emerging issues relating to women and youth empowerment.

Nimah descends from a long line of scholars from Makkah. Educated in Saudi Arabia, she is considered a trailblazing writer and poet who seeks to build bridges of understanding. In 2008 she obtained an executive MBA from the Harvard Kennedy School of Government in Leadership and Public Policy for the 21st Century. Nimah is currently working on an initiative for a multifaceted, wholesome approach to youth empowerment, networking and development.

She is a Young Global Leader of the Young Global Leaders Forum, an affiliate of the World Economic Forum (WEF), and has been an initiator, speaker and organizer of youth forums in various countries. Nimah has been a keynote speaker, panelist, and lecturer at various venues ranging from world forums to universities. She has presented at the World Economic Forum on the Middle East several times, Japan Expo 2006, The UN pavilion, the Smithsonian Anthropology Department, The American University, Baker Hall- Rice, Ghalib Academy in India and the School of Oriental and African Studies (SOAS)-London University among others.

Nimah's writing has been featured in numerous magazines, including *Newsweek International*, *BBC-World News*, *MSNBC*, *AP*, *The Washington Post*, the *LA Times*, *BBC-Persia*, *Asian Age*, and many more. Her widely-read academic articles and essays have been translated into Japanese, Chinese, Portuguese and Arabic. She served as a reviewer for the globally circulated *Saudi Aramco World Magazine* for 14 years and continues to edit work and contribute to several English publications. Her poetry has been translated into numerous languages, included in anthologies and taught at schools and colleges in Arabia, the U.S, Canada, Singapore, Japan, India and others. She is also a poetry judge and facilitator of poetry sessions and workshops in several countries.

The first Saudi Arab woman poet to be published in the United States, her pioneering work includes a historic, first-of-its-kind public booksigning in Arabia and another in Washington D.C.

DR. DHAIFALLAH AL-TALHI

The leading Arabian archeologist, Dr. Dhaifallah Al-Talhi, becomes the film's guide into the rich history of the Arabian past, revealing the hidden stories of the impressive Nabataean civilization and the Golden Age of Islam.

Dr. Al-Talhi currently serves as Director General for Survey and Research at the Saudi Commission for Tourism and Antiquities. He received his PhD from the University of Southampton in 2000. As a specialist in the Nabataean period, he is the head archaeologist on the Saudi Arabian Team in the international excavations at Madain Saleh.

A renowned expert on Nabataean society and its foundations in trade routes, Al-Talhi has spent more than two decades sifting through the layers of the Madain Saleh ruins, surveying, analyzing and interpreting the findings. He has discovered key links between Madain Saleh and the Roman Empire that suggest greater cooperation between the two.

ARABIA 3D

Q&A WITH HAMZAH JAMJOOM

Q: How did you come to be one of three central characters in the story of ARABIA 3D?

I'm not entirely sure how I got so lucky! I learned that MacGillivray Freeman Films was making this IMAX Theatre movie called *ARABIA* and they were looking for Saudis to be characters in the film so that the audience could have a chance to see the country through their eyes -- and I was really excited about that idea. It was a long process where first they interviewed me and then I created a video for them, and ultimately, I guess, for some reason they liked me. For me, it was an incredible opportunity – not just to be in a movie! – but to explore my own culture much more deeply than I ever had before. Right away, I was really impressed with Greg MacGillivray because he took the time to truly study our history and culture and it was clear he wanted to do everything he could to present it in a true and natural way. We definitely shared these goals.

Q: What is *ARABIA 3D* about to you?

It's about me, of course! Seriously, it is about three important things to me. First, it's an introduction to the cultures that define the Arabian Peninsula. This is not just about religion, but about Islamic ways of life that define our whole existence and who we are – and I think that's very beautifully explained in the film.

Secondly, it's about Arabian history – going back through time, in a way only a movie can take you, to see how this great culture arose through its foundations in trade and hospitality.

And finally, it is about a society in transformation – this current phase in Saudi history when I believe we are coming into an exciting new cycle.

Q: You've lived most of your life in your home country – but traveling to different locations with the film crew, did you learn things you never knew about your home?

In fact, I was constantly amazed and surprised by all that I saw and learned. I visited places I've never been, time-traveled back into our history and the best part was that I got a chance to experience in person how incredibly diverse my country really is. I grew up knowing one life in the city, in Jeddah, but it's a whole different culture out in the desert with the Bedouins and it was great moving with the film crew from one place to the next getting to meet so many different people with different backgrounds, yet all Arabians.

Q: You moved to Chicago as a teenager and had to jump into a very different lifestyle at a tough age. What was that experience like?

To be honest, the culture shock was insane. When I came to Chicago, I didn't even speak English. All I knew how to say was "Hello" and "Where's McDonald's?" I had been an 'A' student in Jeddah and suddenly I was failing all my classes because I couldn't understand what the teachers were saying. I felt like an alien on another planet. But within two years, I was

speaking English and I got accepted to DePaul, where I started college, so things started to change.

Along the way, people became very curious about me and would ask a lot of questions – “how do you eat at home?” “how do you dress in Saudi?” and on and on – and I realized they knew very little so I enjoyed telling them about my culture. Then 9/11 happened and it just shattered everything. It was a very hard time for everyone.

Because of all this, I feel a responsibility to be careful of what I say yet also a responsibility to speak my heart. I think it’s more important than ever to share the dream of what the younger generation in Arabia is trying to achieve.

Q: As a young filmmaker, do you think that films – and particularly this film -- can help to bring people of different cultures together?

Very much so. One thing I see a lot of is that Americans have had a very limited picture of Saudi. It’s usually seen in the media as this exotic kingdom that’s very wealthy and very extreme -- and that’s not at all the way it really is. There’s actually all kinds of people in Saudi: young people, old people, rich people, poor people, highly educated people, businessmen and artists.

One of the great things *ARABIA* does is, in a very fun way, reveal the lives of ordinary Saudi Arabian people – you get to meet the people in the deserts, the people in the cities, and see the diversity and the humanity that we all share.

There are so many myths and so much misinformation out there about Saudi Arabia. People in America have watched these old movies about harems and think that’s what we’re like. But of course we’re not. What you don’t really get to see is our strong family connections, and how women are respected and run our families with skill and love, how education is a must for both sexes. Most people don’t realize that the very word *Islam* means peace and that is the foundation of our religion and culture.

So I think that audiences will be quite astonished by what they see in *ARABIA*. Of course, there will always be some people who simply don’t want to change their minds, but I hope kids and adults who see the movie, and learn a little of what Saudi Arabia is really like, will share what they experienced and spread the message around.

Q: What was the production experience like for you?

100% fun. It was the biggest set I’d ever been on so, as a film student, it was just one big, amazing learning experience for me. Plus we had this multi-national crew of people from 17 different countries and cultures who all got along fantastically well together. I’ve heard the horror stories about Hollywood productions, but the difference between Hollywood and MacGillivray Freeman I think must be *politeness*. Everyone was so nice during this production, no one was ever on edge, and to be quite honest, we spent an enormous amount of our time laughing.

Q: Do you have a favorite moment from the filming?

Scuba diving in the Red Sea. It was a real challenge because first, before I could even go, I had to get re-certified and then I was getting terribly sea sick in the boat 24 hours a day – once I even swam to an island just to be on something that wasn't moving! -- but finally, I got used to it. And then it was incredible, seeing all these shipwrecks and the magnificent fish and experiencing the geographical diversity of Saudi Arabia as I never have before.

I also loved driving over the sand dunes and camping out in the desert. My family visited the desert once in a while so I'd been there before, but I never had a chance to spend 20 days there hunting to find birds and animals and meeting Bedouins. It was a chance to get to know more of the beauty of my country, of the people and the land.

Q: One of the themes touched on in *ARABIA* is that Saudi Arabia may be on the cusp of another Golden Age. As a young Saudi, is that something you see happening?

Saudi is changing in an extremely rapid way – and every time I go there, I feel like it has transformed even more and people have become more liberal, tolerant and open-minded. I can see the changes even in the differences between myself, and the way I was raised in a very strict atmosphere, and my younger sister who has even more freedoms.

Of course, sometimes it seems change is happening so fast that it is scary. There are people who are falling behind and people who are getting lost. There are those who are tempted to move so fast they forget their own culture and there are those who are holding tightly to the recent past. But most people are finding the balance.

Q: Given all those challenges, what is your vision of the Saudi future?

For the future, I look to the past. One of the things that you see in *ARABIA* is that Arabian culture was modern long before the rest of the world – it was a culture centered around the ideas of science and modern thinking. Now, it's the dream of many in my generation to go back to those "good old times."

In the U.S. people are very focused on the future, but in Arabia we look back at a great time when there was freedom found through religion, when there was a love of invention, when our culture was founded upon generosity and a joy in ideas. Through time and war and outside influences, we became very strict and inwardly focused. But I think the cycle is breaking and we are ready for a return to something like those times.

I believe our generation will make real changes. You just watch.

ARABIA 3D

Q&A WITH NIMAH NAWWAB

Q: What drew you to want to become a part of *ARABIA 3D*?

What made me decide to get involved is the rich range of topics featured in the film, in terms of history, archaeology, and documenting the many splendors of my country past and present. In addition, I was drawn by the widely renowned reputation of IMAX filmmaking -- with its special type of breathtaking shots that leave a visual imprint on our minds for many, many years. I recalled the impact of IMAX Theatre films on me as a teenager for example, and how the images still live in my memory.

Q: What do you hope Western audiences take away from this unique journey into Arabia?

I hope they will see the diversity that is Saudi Arabia – its many historical, cultural and societal facets. Also, I hope audiences will get a sense of the evolution of time and how it continues to bring forth new dimensions in all aspects of daily life, from the professional to the economic, social, cultural and religious.

Q: You represent a very special perspective in *ARABIA 3D* as a woman. Is this important to you? What is the one thing you think people most misunderstand about women's lives in Saudi Arabia? What do you hope audiences will learn about Saudi Arabian women?

First of all, there is no such thing as a typical Saudi woman, per se. We, like other women all over the globe, are shaped by our circumstances and by our faith, family, friends, education, professional lives, self-development and individual perspectives.

It is vital to understand that each woman is an individual, yet at the same time Saudi women – as with other Middle Eastern women – are considered part of a beehive, interconnected to all. As such, the idea of ‘independence’ – in the way it is understood by much of the world nowadays – differs in our country and society. I believe both women and men are an irrefutable reflection of their family and society and so the challenges we and our daughters and sons face are numerous.

Q: You are also a writer and poet - is that unusual for a woman in Saudi Arabia? What inspired you to pursue the creative arts?

I am the first Saudi female poet to publish in English and have been one of the early English feature writers as well, with published work that includes articles, essays, op-eds and academic contributions on numerous themes.

We do have many women poets who write in Arabic, and there are references even to pre-Islamic women poets in our literary heritage – female poets we are very proud of and who are quoted in a society that has a long-held, rich and historic oral poetic tradition.

Poetry here holds a very high place in a land that in the past held poetry competitions, such as the famed *suq ukaz*, which drew poets from various parts of the world. Poetry is still a part of the fabric of

our society as it is cited and recited on all types of occasions, formal and informal, such as inaugurations and weddings, and quoted even in day-to-day speech in some instances.

As for pursuing the arts, I am a very firm believer in combining the arts, and do so by combining my poetry with music and writing with photography in addition to mentoring and nurturing emerging artists in various creative fields. I also encourage artistic works that will stand the test of time.

Something that continues to inspire me is the idea of documenting the evolution of societies on a global scale from a humanitarian perspective. So I write about poverty, faith, challenges, social issues, the environment, politics, illnesses, joy and darkness, the corporate world and the world of youth and women -- a very wide range of subjects that continues to expand.

The journey of an artist, be it a poet, musician, writer or filmmaker is an exciting, lively one filled with creativity and energy and that is a major motivator for many who have trodden this path.

Q: One of the themes of *ARABIA 3D* is that this is a moment of transformation in Saudi Arabia -- as valued traditions are balanced with modern issues. Do you see things changing around you? What do you think the future holds for the young people of today?

Transition in the Kingdom has accelerated to a degree that we can barely catch our breath. As a writer, I have been documenting this change, but we still have a very long way to go, as we are still an infant nation in a sense, and have only been unified for 70 years as one nation.

As for the future that our youth will inherit, that is a tremendous challenge due to us having the highest population growth in the world, higher than China and India, with 65 percent below the age of 15. As a youth empowerment activist, addressing the needs of our youth is a concern as well as a mission, with regards to education, talents, career advice, unemployment and in connection with matters that touch them directly in terms of their identities and sense of self-worth.

Q: In the film, you will help to guide audiences as they experience the Hajj. Can you explain why this annual event is so meaningful to you?

The Hajj is a dream for Muslims around the world and has been for centuries. It is the ultimate dream of connecting with God and reaching a spiritual height that rejuvenates the spirit, mind and heart. There are many levels in this journey of a lifetime, as it has been called. Another aspect is that it is a reminder of the equality of all regardless of color, race, social stature, in the eyes of the Lord.

On a personal level, it fulfills the elements of connecting with God as well as spiritual rejuvenation, and also helps on another scale – that of forming lasting bonds of sisterhood and brotherhood with fellow pilgrims from all nations, ties which often last for years as we unite in a common bond.

Q: Is there anything else you'd like to share with film audiences about life in Arabia?

We are still an evolving nation, and elements such as identity, society and families still play a major role and form an intricate part of our lives. We have a fascinating journey ahead of us in terms of evolution and change. It will be a fascinating story to watch and participate in as the years pass by.

THE MYSTERY OF *ARABIA 3D*: **Who Were The Nabataeans?**

ARABIA 3D introduces audiences to a captivating “lost civilization” few have ever been exposed to before: the ancient Nabataeans, who founded a grand, cosmopolitan empire that traversed the Arabian peninsula some 2,000 years ago and ushered in Arabia’s first Golden Age – before much of their storied advances were lost to the ravages of time.

Who were the Nabataeans? Their origins remain steeped in mystery but it is believed the culture arose from nomadic Arab merchant tribes in the Negev Desert who began to settle in a vast swath of what is now modern-day Jordan, Saudi Arabia, Syria and Yemen in the 6th century BCE. They became skilled traders, dominating the local perfume and spice trade, and developing relations with countries as far away as China, Rome and India. As the Nabataeans amassed unusual wealth, the society flourished, entering a period of wondrous innovation in architecture, engineering and art.

At the center of their kingdom’s success lay their ability to capitalize on the sweet frankincense oil that could be tapped from local *Boswellia* trees. This fragrant substance was, at the time, the equivalent of pure gold – sought after by the Romans and Hellenistic Empires who desired it for religious, medicinal and cosmetic purposes.

The Nabataeans set up extensive trade routes on which their camel caravans set out to transport not only precious frankincense but also pepper, cinnamon and ginger. It may seem incredible today that such a high price was placed on items we now stroll past in the grocery aisles but at a time when spices and perfumes were a new way to increase the pleasure and meaning of everyday life, many were willing to pay handsomely to access them from the Middle East. At its height, the Nabataean trade moved over 3,000 tons of incense each year, braving the risks of bandits and sandstorms as they crossed the hot, lonely deserts between oases and towns.

The Roman writer Pliny the Elder wrote of the Nabataean camel caravans that they consisted of some 65 stages divided by rests and water stops for the weary camels. Along the way, the Nabataean pilgrims engaged in far more than trade – they participated in an open exchange of ideas that expanded their knowledge and wisdom, and became a missing link between the Eastern and Western civilizations of the world.

Romans were in awe of some of the Nabataean technological advances, especially their cleverly engineered, subterranean water collection systems, farming hydrology and advanced aqueducts. Having abandoned their nomadic life to build unique cities adapted to the harsh conditions of the deserts, they also developed a reputation as skilled artisans and stonemasons.

Some of the best remaining evidence of the Nabataean culture and sculpted-rock architecture exists today at Petra, the glittering Nabataean capital sometimes known as the Eighth Wonder of the World. Today it is Jordan's most popular tourist site and has been seen worldwide in such films as *Indiana Jones and The Last Crusade*.

But Petra's sister city, Madain Saleh, built in an oasis in what is now northwestern Saudi Arabia, is equally compelling if still unknown to most of the world. Unlike Petra, Madain Saleh was never colonized by the Romans, remaining free until its demise in the 2nd Century AD, likely due to the expansion of Roman sea trade which shifted trade routes to the ports of the Red Sea. The filmmakers of **ARABIA 3D** were thrilled to be able to capture on film this world-class historic site, featuring some 111 monumental Nabataean tombs carved into the sandstone mountains as well as dwellings and sophisticated water wells.

Says Dr. Al-Talhi, one of the film's central characters and the leading archeologist at Madain Saleh: "The Nabataeans were amazingly advanced and did a lot with very little resources. After 20 years of digging here, many new mysteries are still emerging. We want to know more about how the town and the Nabataean civilization declined – was it a natural disaster, a world superpower or economics? I think we will find out much more."

Hopefully, **ARABIA 3D's** stunning images, along with the fact that UNESCO has proclaimed Madain Saleh Saudi Arabia's first-ever World Heritage Site, and Dr. Al-Talhi's work will help to bring far more attention to this archaeological marvel that still holds many secrets of the Arabian past.

ARABIA 3D ENTERS THE HOUSE OF WISDOM: Scientific Accomplishments of the Islamic Golden Age

While Europe was in the midst of the so-called Dark Ages, the Arabian peninsula and the Islamic world at large flourished, becoming a driving force of human progress with a series of innovations and inventions that would forge the beginnings of our modern, high-tech world. Yet, today, few know about the extraordinary Arab contributions to the development of advanced science and the arts – which is why Greg MacGillivray wanted to bring them to the fore through one of *ARABIA 3D*'s most entertaining sequences.

From 622, when Muhammad migrated to Medina, until the fall of Baghdad in 1258, the Islamic world rapidly expanded across Arabia, Asia, Africa and parts of Europe, all governed by a single Muslim government that was devoted to enrichment and education. Great cities teeming with artists, merchants and scholars dotted the Islamic map. During this fertile period of unbridled human inquiry and discovery, the Islamic world became the unrivalled center of intellectual achievement in every field known to humankind, from math and physics to engineering and navigation, from medicine and law to music, art and literature.

This intellectual revolution got a boost from an intriguing institution at the heart of the Islamic Empire: the House of Wisdom, established in 830 by the caliph Al-Ma'mun in Baghdad. A cross between one of the world's great libraries and a vast research academy, the House of Wisdom assembled a veritable army of scholars and gave them an incredible mission: to amass all the wisdom in the world and put it to good use. They collected and synthesized knowledge from Rome, China, Greece, Byzantium and other civilizations – and added remarkable advances of their own. Here are just a few of the advances made by learned Muslim thinkers and tinkerers during the Islamic Golden Age:

- ❖ The 8th century mathematician Muhammad al-Fazari invented the **first brass astrolabe**, an early form of computer used to determine the earth's position in relation to the stars, sun and moon, which advanced navigation and sparked deeper understanding of astronomy
- ❖ Islamic entrepreneurs turned the secret Chinese art of papermaking into a major industry, creating the **first industrial paper mills** in the 8th century, which in turn fueled increased literacy and the rise of libraries.
- ❖ The 8th century saw the life of Jabir ibn Hayyan, known as the **father of modern chemistry**, who emphasized rigorous experimentation, invented numerous instruments still used in chemistry labs today, and discovered such vital processes as distillation and crystallization.
- ❖ In the year 805, Harun al-Rashid founded the **first clean, modern hospital** in Baghdad. The world's **first medical schools** would soon follow in Egypt, Islamic Spain and Persia.
- ❖ Between 813 and 833, Al-Khwarizmi became the **father of Algebra**, introducing the decimal number system to the Western world and pioneering the use of the powerful concept of zero.

- ❖ In 850, a band of three brothers known as the Banu Musu published a large work called *The Book of Ingenious Devices*, which included such inventions as the gas mask, the float valve and an automatic flute believed to be the world's first programmable instrument.
- ❖ **Coffee was first produced** in the 9th century by Khalid in Kaffa, Ethiopia. Meanwhile, the Islamic world's newly invented sugar refineries, powered by newly invented windmills, inspired the creation of the planet's **first consumer confectionaries**.
- ❖ Abbas Ibn Firnas invented the **first primitive parachute** in 9th Century Islamic Spain and soon after built the **first known hang glider**.
- ❖ The 9th century also sees the invention of the **kerosene lamp** by Muhammad ibn Zakariya Razi.
- ❖ In 970, the **first university** in the world is founded in Cairo.
- ❖ **Early forms of capitalism** and market economies start to flourish in the Islamic world as early as the 8th century – introducing the world to such ideas as trading companies, credit cards and limited partnerships.
- ❖ In the 9th century, Thabit Ibn Qurrah produces some **70 original works in mathematics**, astronomy, astrology, physics, medicine, philosophy and more – and the works he translated and wrote continue to be studied today.
- ❖ The 9th century sees the introduction of the **first public lending libraries** in cities of North Africa and the Middle East.
- ❖ In the late 10th century, Ibn Al-Haytham, a pioneer of experimental physics, is the **first to codify the scientific method**. He also writes the *Book of Optics*, which will revolutionize the **science of seeing light** and ultimately lead to such inventions as the camera.
- ❖ The epic and influential work of literature, *The Book of One Thousand and One Nights*, emerges in the 10th century, introducing many elements of modern fantasy including magic carpets and genies.
- ❖ The **earliest restaurants** come into existence in the 10th century Islamic world, predating 11th century Chinese restaurants.
- ❖ The Andalusian physician Abul Qasim Khalaf ibn al-Abbas al-Zahrawi is born in 936 and writes a 30-volume encyclopedia of medical practices known as *Kitab al-Tasrif*. He is now considered the **father of modern surgery**, having pioneered the use of inhalant anesthesia, plaster and adhesive bandages, as well as a wide variety of surgical instruments.
- ❖ In the 12th century, Syrians create the **first central heating system** using pipes under the floor.
- ❖ In 1206, the prolific inventor Al-Jazari invents **the crankshaft and the “castle clock,”** a water-powered astronomical clock considered to be a precursor to the analog computer. Eleven feet high, it offers multiple functions on top of timekeeping, keeping track of the Zodiac and solar and lunar orbits.

ARABIA: **Just the Facts**

- ❖ The Arabian Peninsula comprises the modern countries of Saudi Arabia, Yemen, Oman, the United Arab Emirates (UAE), Qatar, Bahrain and Kuwait. The peninsula's northernmost reaches also take in portions of desert belonging to Jordan and Iraq.
- ❖ Desert is the primary geographic feature of the Arabian peninsula; in fact, Saudi Arabia, the largest Arabian country, also contains the largest quartz sand desert in the world, the Rub Al-Khali or Empty Quarter, which contains some 550,000 square feet of sand.
- ❖ In Southwest Arabia, there are also coastal mountain ranges that soar above 9,000 feet. The highest mountain on the peninsula is Jabal Al-Nabi Sho'aib in Yemen.
- ❖ The peninsula contains the world's largest oil reserves; Saudi Arabia alone holds 25% of the world's oil reserves. (source: CIA World Fact Book)
- ❖ The population of the peninsula is about 79 million people. However, many countries in Arabia have large populations of foreign nationals. The United Arab Emirates' population is made up of only 15%-20% national citizens, while Saudi Arabia's is 20% non-national. (source: U.S. Department of State)
- ❖ The peninsula is very youthful. Nearly half the population of Yemen is under age 15 (source: United Nations) while as much as 60% of the population of Saudi Arabia may be under 20. (source: "International Spotlight on Saudi Arabia," Washington Post)
- ❖ The Arabian peninsula has a high fertility rate, with an average of 6 children born to each woman in Saudi Arabia, and 7 to each woman in Yemen. (source: CIA World Fact Book)
- ❖ At the same time, women are making great strides across the peninsula. In Saudi Arabia, 58% of women are university graduates (source: UNESCO). In Oman, 46% of students registered in post-graduate studies at Sultan Qaboos University were women (source: Ministry of National Economy Year Book 2006). And this year, Kuwait elected four women to the country's Parliament. (source: Middle East News, May, 2009)
- ❖ As of 2008, there were 6 million internet users in Saudi Arabia, 900,000 in Kuwait, 300,000 in Oman, 350,000 in Qatar and 2 million in the United Arab Emirates (source: Internet World Statistics).
- ❖ A first-of-its-kind IMAX Theatre recently opened in Al Khobar, Saudi Arabia, on the Persian Gulf, at the Sultan bin Abdul Azziz Science and Technology Center.

ABOUT ISLAM: **Common Myths & Surprising Realities**

▶ **MYTH: All Muslims are Arabs**

▶ **REALITY:** Only 20% of the world's 1.2 billion Muslims are Arabs, with the largest Muslim populations found in Asian and African countries such as Indonesia, Bangladesh, India, Pakistan, Iran, Turkey, and Nigeria.

▶ **MYTH: All Arabs are Muslims**

▶ **REALITY:** Although the majority of people on the Arabian peninsula are Muslim, there are Christian Arabs in Lebanon, Palestine and Egypt, and Jewish Arabs in Iraq, Yemen and Morocco. People of Arab descent practice a wide range of other religions as well.

▶ **MYTH: Islam Is Anti-Women**

▶ **REALITY:** The reality is complex. Many Islamic scholars point out that much of the repression of women in Muslim countries is rooted in local traditions and cultures rather than in the religion itself, noting that the Quran says little about curtailing women's rights and freedoms. In some countries, such as Saudi Arabia, women are highly educated and powerful within their families – and yet, they lack basic opportunities we take for granted, such as voting, driving and working without their husband's permission. Many Islamic countries, including Saudi Arabia, still penalize women for not wearing head-coverings and in several Islamic countries, women are still put to death or beaten for offenses such as infidelity. At the same time, several Islamic countries, including Saudi Arabia and Iran, now have broadly-based reform movements seeking to gain additional rights for women. Change has been slow, but there are women moving into politics, science, management and other male-dominated fields in all of the Arabian countries.

▶ **MYTH: Islam Is Inherently Violent**

▶ **REALITY:** There is nothing inherently violent about Islam. The Quran, like many other religious texts, both supports the use of violence in certain cases and condemns it in others. While some fundamentalists have used the Islamic religion to defend acts of terrorism and war, they are the exception rather than the rule, and generally not supported by the mainstream. While the news necessarily focuses on the worrisome rise of Muslim fundamentalism there are also many Muslims working for peace in the world. Indeed, three of the last six Nobel Peace Prize winners were Muslim: economist Muhammad Yunis, atomic inspector Mohamad El Bareidi and human rights lawyer Sherin Ebadi.

WOMEN IN ARABIA: **Finding A Balance Between Traditions and Reform**

ARABIA 3D explores a major theme that has marked centuries of Arabian history: the constant interplay between honoring tradition and adapting to modernization. Nowhere has this been more visible than in women's lives. For although most of the 140 million Arab women in the world adhere to conservative rules of dress and conduct, they also have embraced education and engagement with the contemporary world and are increasingly entering new positions in business, medicine, law, education and even government.

For many Westerners, the question of women's rights in Arabian countries is one of great controversy and even consternation. Without a doubt, women have far fewer freedoms in Arabian nations than they do in Western nations – and there is ample evidence that discrimination, oppression and violence against women exists throughout the peninsula. It is true, for example, that women can be arrested simply for sitting next to a man (source: “Religious Police in Saudi Arabia Arrest Mother for Sitting Next to Man,” *Times Online*, February 2008) and that rape victims are sometimes punished (source: Human Rights Watch). And it is also true that in Saudi Arabia women cannot vote or drive.

But, often lost in the story is the bigger picture – the complex, richly textured inner lives of Arabian women that are rarely seen behind the headlines and stereotypical imagery.

Although *ARABIA 3D* is not intended to address the large and complex topic of women's rights, the MacGillivray Freeman team wanted to take this opportunity to reveal an array of eye-opening images of Arabian women that would shatter some of the myths, while reflecting the honest situation at hand. The film's inclusion of a female guide and narrator – the highly educated and accomplished writer and youth leader Nimah Nawwab – opens a new view into the often surprising reality of Arabian women's lives.

“The film isn't about Arabian women but we wanted to give people a chance to meet some of the wonderful, dynamic women we met,” says Barbara MacGillivray. “You don't realize what a wide diversity of women and viewpoints there are in the country until you are there.”

Adds historian and film consultant Robert Lacey: “I don't want to be an apologist, but when it comes to women, we in the West tend to see only part of the picture. There's far more balance among the sexes than people might imagine. There are so many dynamic women who are getting things done. There's still a long way to go, but strides are being made.”

Taking Saudi Arabia as an example, the lives of Arabian women defy easy description. Powerful forces in their households and families, 21st Century Saudi Arabian women are also

often highly educated (more than 50% of college graduates in Saudi Arabia are women), and women are increasingly busting through barriers to explore unusual careers. One of the country's top cancer researchers, Amal al-Hazzaa, is a woman; Lubna Olayan, the chief executive of Olayan Financial, was recently listed as one of the 100 most influential people in the world by *Time Magazine*; and Thoraya Ahmed Obaid became the first Saudi woman to head a United Nations agency. *The New York Times* even recently reported on an all-girl rock band in Saudi Arabia who, though they cannot perform in public, have a hit underground single.

In practice, much of daily life is relatively equal but entirely separate. There is an entire private, invisible, "women-only" world – women-only gyms, women-only travel agencies, women-only malls, even women-only hotels – that allows for greater social interaction and more vibrant lives than many in the West realize.

Popular opinions on women's rights in Saudi Arabia vary broadly – ranging from women clamoring for new rights to women who strongly believe any changes will threaten the cultural and religious foundations of the nation. But a 2007 Gallup poll found that 79% of Saudi women and 67% of Saudi men believe that men and women should be accorded equal rights; and furthermore, 82% of Saudi women and 75% of Saudi men believe that women should be able to hold any job for which they are qualified.

The history of Arabian women is equally complicated. Largely unknown is the fact that the emancipation of women was important to the Prophet Mohammed, and the Quran gave women the progressive rights of inheritance and divorce centuries before Western women gained these rights. Islamic culture also abolished the notion that women were property and even allowed women to retain control of their property after marriage (source: *What Everyone Needs to Know About Islam*, by John Esposito). Most profoundly, the Quran also asserts that men and women are equal before God with identical duties and responsibilities (*Quran 33:35*).

Still, most Westerners associate women in Arabia with a singular, daunting image: that of their archaic-looking, restrictive clothing – the *abayas* which cover head and body in a shapeless, dark cloak and which may or may not be accompanied by a *niqab*, or veil, which shields the entire face, with only a slit for the eyes. Though only given a brief mention in the Quran, this ancient custom of covering oneself was taken up by Arabia's nomadic tribes centuries ago to guard women's modesty and is now the widespread law of the land.

However, today some urban women don "designer" *abayas*, available in a multitude of colors and fashionable embroideries (source: "Designer Labels Give the Abaya a Makeover" by Jenny Barchfield, *Associated Press*), and some women wear Western clothing and makeup underneath their robes, in their private homes or when they are alone with other women.

Work is another area where myths abound. For example, women in Saudi Arabia are not forbidden from working; but they are forbidden from working without their husband's permission or from working in a mixed-sex workplace. Due to these severe restrictions, women make up only about 5% of the overall Saudi Arabian workforce (source: U.S. Department of State). However, they do run about 40% of family-owned firms. (source: *Middle East News*, April, 2007). In addition, women-only businesses are flourishing, including women-only car salesrooms and women-only factories. (source: "Saudi Women Join the Workforce, But Limits Remain Strict," by Dan Murphy, *Christian Science Monitor*.)

So are women on the verge of a rights revolution? The answer is not straightforward. Some changes are certainly coming but at their own pace and in small, often non-linear steps, and thus it is hard to foresee what consequences they will have over time.

Perhaps one of the restrictions that most effects modern Saudi Arabian women is the prohibition against driving which necessitates that women rely on chauffeurs, husbands or family members to drive them to appointments or even the grocery store. This ban was established in 1932 as part of the foundational values of the new Saudi Arabian nation, but has long been debated. Today, Saudi Arabia is the only country in the world that still bans women drivers. Since the 1990s, women have publicly protested the driving ban and some have even secretly taken to the streets in their cars. In 2008, Saudi officials hinted that they might drop the driving ban (source: "Saudi Women See a Brighter Road on Rights," by Faiza Saleh Ambah, *Washington Post*, January, 2008), but women continue to be arrested for getting behind the wheel in 2009 (source: "Saudi Arabian Woman Driver Arrested," BBC News, March, 2009).

Other prohibitions are easing up – for example, this year, a new royal decree allows women to check into hotels and rent apartments without a male guardian. (source: "Saudi Women See a Brighter Road on Rights," by Faiza Saleh Ambah, *Washington Post*, January, 2008). Also new is Saudi Arabia's first civil society dedicated to serving women's rights, Ansar Al-Marah (Champion of Women), an organization comprised of 21 men and women who include researchers, educators, activists and academics. (Source: *Arab News*, January, 2008).

The road ahead for women activists across Arabia remains long and bumpy, but reform may be inevitable in any society so enmeshed in the lightning-fast pace of modern technologies and economies. Regardless of how a balance is struck between tradition, values and human rights, there is no denying that Arabian women see themselves as stakeholders in the future of their families, communities and societies.

ARABIAN HISTORY: An Abbreviated Timeline

5000 B.C.: The first agricultural settlements arise on the Arabian Peninsula

1500 B.C.: The camel is saddled by Arabian desert tribes, and trained to carry heavy loads, expanding horizons and forging a culture based on trade with the world

1st Century B.C.: The sophisticated Nabataean kingdom expands through Northern Arabia and modern-day Jordan all the way to Yemen. Gaining vast wealth and knowledge from trade in incense, they initiate a first Golden Age of Arabian innovation

196 A.D.: A Roman legion captures and destroys the Nabataean capital of Petra, the beginning of the end of their empire

570 A.D.: The Prophet Mohammed, founder of Islam, is born in Makkah

622 A.D.: Mohammed moves with his followers to Madinah; the Muslim calendar begins

630 A.D.: Mohammed returns to Makkah with an army, conquering the city and expanding Islam throughout Arabia and northwards, beginning the Islamic Era

632 A.D.: Mohammed dies and a series of four Caliphs, known as the Rightly Guided, succeed him. The Arabs now rule over Syria, Palestine, Egypt, Iraq and Iran

661-750 A.D.: Power transfers from Arabia's Makkah to Damascus and then to Baghdad, but Makkah and Madinah remain the holiest cities of the Islamic world

750-1258 A.D.: A second Golden Age of Arabic-Islamic innovation begins, driven by extensive, world-changing advances in the arts, science, mathematics, economics, architecture, engineering, law, literature, navigation, agriculture, technology, philosophy, music and more

15th Century: The Saud Dynasty of tribal chiefs is founded in Riyadh

1517: Ottoman Turks conquer Egypt and take control of portions of the Arabian Peninsula

1740: Abd I-Wahab establishes the fundamentalist Wahabi movement, which calls for a return to "pure" Islam and forges an alliance with tribal chief Muhammad Al Saud, creating a religious-political alliance that continues to exist in Saudi Arabia to this day

1811: The Ottoman Sultan orders his troops to crush the kingdom of Saud and retake the holy cities of Makkah and Madinah

1902: The 20 year-old Saud leader Abul al-Aziz Al Saud (also known as Ibn Saud) recaptures Riyadh and, with the help of a Bedouin army and Wahhabi warriors known as the Ikwhan, continues conquests eastward, regaining all the Arabian peninsula, and ultimately subduing the rebellious Ikwhan

1932: Abdul Aziz unites the tribes of the peninsula into a modern state, which he names Saudi Arabia. He becomes the king of the newly established monarchy.

1930s: Huge oil reserves are discovered in Saudi Arabia, once again leading to an era of wealth and trade. The country soon becomes the world's number one petroleum exporter.

1939: World War II begins, increasing the global demand for oil to unprecedented levels

1945: King Abdul Aziz meets with US President Franklin Roosevelt and signs a secret oil-for-security pact, uniting the fates of the two nations

1960: Saudi Arabia and Kuwait become founding members of OPEC, joined later by Qatar and the United Arab Emirates

1960 and 70s: Modernization in Arabia leads to improvements in key areas of infrastructure, education and economic development

1979: The Soviet Union invades Afghanistan and thousands of Arabian men go to fight alongside the mujahideen. One of them is Osama Bin Laden.

1991: Saudi Arabian women enter the news when they stage a public demonstration demanding the right to drive, but the ban remains in place

1990s: Satellite television comes to Arabia, allowing citizens a more global view of the world

2001: Terrorists fly two commercial planes into the World Trade Center in New York. It is revealed that 15 of the 19 hijackers were Saudi Arabian citizens. Saudi leaders assist the U.S. in tracing and stopping funds to the Al Queda terrorist faction led by Osama Bin Laden

2009 -?: Arabian societies face the extraordinary challenge of trying to balance rapid-fire progress and modern ambitions with ancient traditions and religious values as they face another on-coming age of change

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ARABIA 3D

About The Narrators

HELEN MIRREN is one of the best known and most respected actors with an international career spanning stage, screen and television. She is renowned for tackling challenging roles and has received numerous awards for her powerful and versatile performances, including an Academy Award for her work in *The Queen*.

This fall, Mirren will star in Miramax's *The Debt*, directed by John Madden. She plays an Israeli Mossad agent whose pursuit of a Nazi war criminal comes back to haunt her 30 years later.

Mirren's most recent role was in Sony Pictures Classics' *The Last Station*. She played Sofya, the wife of Russian writer Leo Tolstoy during the tumultuous last year of his life. The role garnered her Best Actress nominations from the Golden Globes, Screen Actors Guild, Film Independent Spirit and Academy Awards.

Mirren also recently completed principal photography on a quartet of films. She stars in Taylor Hackford's *Love Ranch*, a film inspired by the story of the first legalized brothel in Nevada. It will be the first film collaboration with Hackford (who is also her husband) since *White Knights* in 1985. She just wrapped on Summit Entertainment's *Red*, an espionage thriller based on the WildStorm/DC comic book. She plays the lethal associate of a retired CIA agent. In Julie Taymor's *The Tempest*, Mirren stars as Prospera, in a gender twist on the classic character. In a new version of the 1947 classic *Brighton Rock* (adapted from the Graham Greene novel), Mirren stars as Ida, a café owner and amateur detective determined to bring a gangland killer to justice.

Mirren launched her career in London at the National Youth Theatre, playing Cleopatra. She went on to star in a number of esteemed productions, including *Troilus* and *Cressida* and *Macbeth*, for the Royal Shakespeare Company. In 1972, she joined the renowned director Peter Brook's theatre company and toured the world.

Mirren's film career began with Michael Powell's *Age of Consent*, but her breakthrough role was in John Mackenzie's *The Long Good Friday*, opposite Bob Hoskins.

She has starred in such acclaimed films as John Boorman's *Excalibur* and Neil Jordan's Irish thriller *Cal*, for which she received the Best Actress Award at the Cannes Film Festival. She continued to push boundaries in Peter Weir's *The Mosquito Coast*, Peter Greenaway's *The Cook, the Thief, his Wife and her Lover* and Terry George's *Some Mother's Son*, which she also co-produced.

Mirren earned her first Academy Award nomination for her performance as Queen Charlotte in *The Madness of King George*, a role that won her another Best Actress Award from the Cannes Film Festival. She earned her second Oscar nomination for her role as the housekeeper in Robert Altman's *Gosford Park*. Additional film credits include *Calendar Girls*, *The Clearing* and *State of Play*.

Her most celebrated role was as Elizabeth II in Stephen Frear's *The Queen*, for which she won the Academy Award for Best Actress along with a Golden Globe, BAFTA, SAG and numerous other awards from around the world.

In television, Mirren starred in the award-winning PBS series *Prime Suspect* as Detective Chief Inspector Jane Tennison. *The Final Chapter - Prime Suspect 7* was released in 2006, bringing this iconic role to its conclusion after an unprecedented total of two Emmy Awards and six nominations, one Golden Globe nomination (which she lost to herself for her role in *Elizabeth I*), three BAFTA Awards and six nominations and a TCA nomination.

Her other television credits include *The Passion of Ayn Rand*, (Emmy and a Golden Globe nominations), *Losing Chase* (Golden Globe Best Actress), *Door to Door* (Golden Globe, Emmy and Screen Actors Guild nominations), *The Roman Spring of Mrs. Stone* (Golden Globe, Emmy and Screen Actors Guild nominations) and her most recent television *Elizabeth I* (Emmy and a Golden Globe for Best Actress), in which she gave a tour de force performance as another English queen.

Mirren's more recent stage credits include *Phedre* at the National Theatre, London and New Shakespeare Theatre, Washington D.C., *A Month in the Country*, for which she received a Tony nomination, *The Dance of Death* on Broadway opposite Sir Ian McKellan, and *Mourning Becomes Electra* at the National Theatre, for which she was nominated for an Olivier Best Actress Award.

Mirren became a Dame of the British Empire in 2003.

ROBERT LACEY is a distinguished British journalist and historian and the author of the bestselling books *Majesty*, the definitive biography of Queen Elizabeth II, and *Ford: The Men and the Machine*, among many others. In 1979, he moved with his family to Saudi Arabia for eighteen months to research his bestselling book, *The Kingdom*, a penetrating study of the country's complex and often paradoxical culture. For the past three years, Robert has split his time between Saudi Arabia and London, gathering material for the sequel, *Inside The Kingdom: Kings, Clerics, Modernists, Terrorists, and the Struggle for Saudi Arabia*, published by Viking last year. In 2009, Robert partnered with the PBS program "NOW" for a documentary about Saudi Arabia's government-sponsored program for rehabilitating terrorists called "Rehab for Terrorists." Robert also served as an academic advisor for *Arabia 3D*.

ARABIA 3D

About The Filmmakers

GREG MACGILLIVRAY (Producer, Director) is one of the world's foremost producers and directors of giant-screen films. With a film career that spans more than 40 years, he has shot more 70mm film than anyone in cinema history. His company MacGillivray Freeman Films has been dedicated to the giant-screen motion picture format since the production of their first IMAX Theatre film, *To Fly!*, which he co-produced and directed with his partner, the late Jim Freeman in 1976. MacGillivray also worked in Hollywood, directing and photographing for Stanley Kubrick's *The Shining*, and filming for the Academy Award-nominated *Jonathan Livingston Seagull* and the Oscar-winning *The Towering Inferno*. MacGillivray is also well-known in the industry for his artistic and technical innovations for the giant-screen film format. He has initiated the development of two cameras for the IMAX format -- the high-speed (slow-motion) camera, and the industry's first lightweight and "all-weather" camera used during filming on Mount Everest.

MacGillivray and his company have received numerous international film awards and industry accolades. MacGillivray was first nominated for an Academy Award® in 1995 for *The Living Sea* (Best Documentary Short Subject). He was nominated in the same category again for *Dolphins* in 2000. In 1998, the company's dramatic film about climbing the world's tallest peak, *Everest*, became the first large-format film ever to reach *Variety's* top 10 box office chart. In 1996, the company's first IMAX Theatre classic, *To Fly!*, was selected by the Library of Congress for inclusion in America's film archives. The first large format film to receive this honor, *To Fly!* joined such cinema greats as *Gone With the Wind*, *Star Wars* and *Citizen Kane* as one of the most important films in filmmaking history. In 2001, *To Fly!* was inducted into the IMAX Hall of Fame, followed by *The Living Sea* in 2006 and *Everest* in 2009. In September 2002, the Giant Screen Theatre Association honored MacGillivray as one of five most important contributors to the success of the large format industry over the last twenty-five years. Two months later, MacGillivray accepted the Bradford Washburn Award, the highest honor bestowed by the Museum of Science, Boston, for his contribution to science education. He joins an illustrious group of previous honorees that includes Jacques Cousteau, Walter Cronkite, Sylvia Earle, Jane Goodall and Carl Sagan. MacGillivray most recently directed *Grand Canyon Adventure 3D*. He is currently producing and directing *To The Arctic 3D*.

MARK KRENZIEN (Producer) has enjoyed a diverse film and television career for more than thirty years. Beginning as an Emmy-winning film editor, and then as a documentary and music video cinematographer, Mark's credits include *Making Michael Jackson's Thriller*, as well as videos for numerous international pop stars. Krenzien has written, produced, and directed documentaries for ABC, HBO, Showtime, and Discovery. In mid-career, Mark turned to screenwriting, creating scripts for Universal and Paramount as well as the award-winning drama, *The Letters From Moab*, which he also directed.

Above all, Krenzien is drawn to the challenge of filmmaking in far-flung locations and has written or produced, six giant-screen IMAX Theatre films, including MacGillivray Freeman's *Adventures in Wild California*, *Top Speed*, and *Mystery of the Nile*. Most recently, he produced MacGillivray Freeman's *The Alps* and *Grand Canyon Adventure*.

SHAUN MACGILLIVRAY (Co-Producer) made his debut as a giant-screen film producer with *Grand Canyon Adventure* in 2008 and followed that with the forthcoming MacGillivray Freeman film *To The Arctic*. Shaun began his career in large-format filmmaking in 1996. He has been instrumental in a number of MacGillivray Freeman “Making Of” films, producing and directing the *Making of The Alps* and the *Making of Hurricane on the Bayou*, and producing and editing the *Making of Coral Reef Adventure* and the *Making of Greece: Secrets of the Past*. He also served as a script researcher on *Mystery of the Nile* and *Greece: Secrets of the Past*.

Shaun graduated from Emory University Magna Cum Laude with a degree in Economics, then went on to receive a Graduate MFA degree in Film Production from USC. While at USC, he specialized in editing, directing and producing documentaries. In addition to his distinguished academic work, Shaun has received hands-on training from his father, Academy Award-nominated director Greg MacGillivray.

NEAL ALLEN (Line Producer/Production Manager/First Assistant Director) has more than fifty production credits to his name and more than eighteen years of experience in media production. He has spent the last decade managing giant-screen IMAX Theatre film projects across the globe from India and Saudi Arabia to the Commonwealth of the Bahamas and domestically in the United States. He has worked for such world-renowned giant-screen filmmakers as MacGillivray Freeman Films, National Geographic and IMAX Corporation. Along with his unique background managing film productions in challenging locations, Neal has particular specialization in large-format ‘3D’ production as well as underwater and aerial filming.

Additionally, Neal has written five full-length feature scripts including *Endangered* starring Martin Kove and Sandra Hess and was recently awarded Best Screenplay for *Valley of the Jin* at the Thrill/Spy International Film Festival.

JACK STEPHENS (Writer) is a screenwriter, poet, novelist and travel and outdoor journalist. A poet-generalist with a science background, Jack has a gift for underscoring the beauty and wonder of science while rendering the complex and arcane in easily graspable terms. For MacGillivray Freeman Films, he has written and consulted on *Journey Into Amazing Caves*, *The Magic of Flight*, *Adventures in Wild California*, *Top Speed*, and *Coral Reef Adventure*, for which he also penned the companion book, *Living Mirrors: A Coral Reef Adventure*, and *Grand Canyon Adventure*.

As a long-time water enthusiast, he has dived and fly fished the oceans, rivers and lakes of North and Central America, Europe, Southeast Asia, and the South Pacific. He has contributed poetry, fiction and articles on travel, outdoor sports and connoisseurship to magazines as diverse as *American Poetry Review*, *Sports Afield*, *Travel & Leisure* and *Men’s Journal*. His 1990 novel *Triangulation* was praised by the *Los Angeles Times* for being “what you hope a first novel will be, and hardly ever is.”

STEPHEN JUDSON (Editor) has directed five giant-screen films including, most recently, *The Alps*, and has co-directed and/or co-written several others including *Everest*, *Dolphins*, *Journey into Amazing Caves* and *Coral Reef Adventure*. In 2005, he edited and served as script consultant on *Mystery of the Nile*. Judson has edited all but two of MacGillivray Freeman's giant-screen films, making him the most experienced editor in the giant-screen field. He also served as a writer and editor on *Hurricane on the Bayou* and on *Grand Canyon Adventure*.

Before joining the MacGillivray Freeman team, Judson worked as a writer/director/editor at a number of production companies in Hollywood, including long stints at ABC and Universal Studios. Judson is a graduate of Yale University and holds an M.A. from the USC cinema school. He is a member of the Director's Guild of America, the Writer's Guild of America, and the Academy of Motion Picture Arts and Sciences.

BRAD OHLUND (Director of Photography) has worked in the giant-screen industry for 25 years. His films with MacGillivray Freeman Films include *Dolphins*, *Adventures in Wild California*, *Journey Into Amazing Caves*, *Coral Reef Adventure*, *Mystery of the Nile*, *Greece: Secrets of the Past*, *Hurricane on the Bayou* and *Grand Canyon Adventure*. After attending Brooks Institute of Photography in Santa Barbara, California, Ohlund began his career with the classic film *To Fly!* Since then, his broad and varied assignments have included filming underwater reefs in the South Pacific and primitive tribes in New Guinea and Borneo. He has filmed from a plane through the eye of a hurricane and captured on IMAX film the fury of an approaching tornado.

In 1996 Ohlund was a key member of the MacGillivray Freeman Films *Everest* expedition. During that three-month expedition, he served as the Photographic and Technical Consultant to the climbing camera team. He was also responsible for filming numerous scenes including the exciting and dramatic avalanche and blizzard sequences – and was directly involved in the rescue efforts during those tragic and historic days in May.

STEVE WOOD (Composer) has been scoring films with Greg MacGillivray since Greg's surfing cult classic *Five Summer Stories* in 1975. Since then, he has worked on over a dozen IMAX Theatre films including *The Living Sea*, *Discoverers*, *To Fly!*, *The Magic of Flight*, *Everest*, *Dolphins*, *Adventures in Wild California* *Greece: Secrets of the Past* and, most recently, *Hurricane on the Bayou*, *The Alps* and *Grand Canyon Adventure* with Dave Matthews Band. He worked with Sting on both *The Living Sea* and *Dolphins* and George Harrison on *Everest*.

Wood was Kenny Loggins' musical director for 9 years and has written many songs with Loggins including "If You Believe." He composed the instrumental interludes for Loggins' "Return to Pooh Corner." He has played with artists such as The Pointer Sisters, Michael McDonald, David Crosby, and Graham Nash. Woods' music has also appeared in other films such as *Why Me?* starring Christopher Lloyd, *Boiling Point* starring Wesley Snipes and Dennis Hopper, and *Greedy* starring Kirk Douglas. He also worked with Stevie Wonder on a Clio-award winning television spot for Hansen's Soda.

Scoring giant-screen films has allowed Wood to develop his interest in and knowledge of diverse ethnic music including Indonesian, Caribbean, Chinese, Tibetan, and Irish styles. He has also recorded folk music in Fijian locations. For the last several years, Wood has produced music extensively for Sony Classical, including two CDS of music with Mario Frangoulis and a CD with opera legends Salvatore Licitra and Marcelo Alvarez.

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