



Imax

at

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**An Interview
with
Graeme Ferguson**

All photos courtesy of Imax Corp.

**Roman Kroitor's
*We Are Born of Stars***



From left: Stephen Low's *Titanica*; Roman Kroitor's *Circus World*; Graeme Ferguson's *The Dream is Alive*.

"Our idea of a horizontal 70mm format with 15- or 16-perf pull across was really figured out by us in the first few minutes."

The Imax story is one of inventiveness, experimentation and success. Conceived by freelance cinematographer Graeme Ferguson and National Film Board producer and director Roman Kroitor in the fall of 1967—their goal was to create the world's most sophisticated film projection system. Today the Imax Corporation has grown to 136 theatres in 20 countries, with a backlog of 45 theatres scheduled to open during the next few years. The Sony IMAX Theater in New York is one the highest grossing screens in the United States, and Sony will be opening IMAX 3-D theatres in Tokyo, San Francisco and Berlin. Cineplex is adding an Imax screen in Chicago and Famous Players has announced plans to open Canada's first state-of-the-art IMAX 3-D theatre as part of a downtown Toronto entertainment complex which would include 14 conventional 35mm screens. This level of corporate success has been a long time coming and what started out as a very clever idea to revolutionize film projection became a 25-year struggle to attain financial security. With that goal finally achieved, it is now just a matter of time before Imax theatres will be found in every major market worldwide, just as Ferguson and Kroitor dreamed of 30 years ago. *Take One* interviewed Graeme Ferguson when it was announced that the Imax Corporation had been given its long overdue Academy Award for Scientific and Technical

Achievement this past spring. Ferguson not only co-founded the company, he has also been responsible for producing and directing some of its most successful films: *North of Superior* (produced, directed, photographed, edited, 71), *Man Belongs to the Earth* (directed, produced with Roman Kroitor, 74), *Ocean* (produced and directed, 77), *Hail Columbia!* (directed and photographed, produced with Roman Kroitor, 82), *The Dream is Alive* (produced and directed, 85), *Blue Planet* (produced, 91), *Destiny in Space* (produced, 94), *Into the Deep* (produced, 94). **Wyndham Wise**

GF When I was a student there were essentially very few ways of learning filmmaking. The Film Board set up a very good program in which they went across the country each year and chose about a dozen students in Canadian universities who came and worked at the Board for the summer. I was at the University of Toronto and was chosen as a summer student in 1951. I was chosen for the camera department. One of the other summer students in the department was Michel Brault and in the production department, the summer students included Roman Kroitor, who later became my brother-in-law. The other tie to all of this was in my high school days in Galt, Ontario. One of my classmates was Wolf Koenig. Wolf and I had been enthusiastic

about photography as high school students and Wolf had the good luck of being pulled off a tractor and sent to the Film Board. He started at the bottom as a splicer and ended up as one of its finest filmmakers.

WW You were in New York in the mid-1960s as a freelance cameraman on *Rooftops of New York*, which actually got an Academy award nomination for best short in 1960. How did you come to work on *Polar Life for Expo 67*?

Roman had asked me to consult for a day or two on *Labyrinth* when he was first conceiving that film. I had done a fair amount of filming in the Arctic and Alaska and so it wasn't a startling idea, but I had nothing particularly to show the committee, so I showed them *The Love Goddesses*. Based on *The Love Goddesses*, which couldn't be a more remote film from what they were asking me to do, they said okay, "we'll hire you to go and wander around the Arctic, but give us a film on the polar life." I hadn't worked in 3-D, but I thought it would be kind of nice to do the Arctic in 3-D for Expo. They were designing Expo 67 at the same time that the New York World's Fair was going on, which had some wonderful examples of multi-image and multiscreen and, of course, there was a whole tradition of that going back through the Expos in Europe and the



American exhibit in Moscow. A lot of people had been working on this idea. It really goes back to the beginning of cinema.

When and where was the idea for Imax hatched?

It was right after Expo. I was up in Montreal in August and Expo was very popular. It was obvious to us that there was a big audience for what we were doing. And it wasn't just because it was multiscreen. It was because we had made the screens bigger as well as multi-image. I was at Roman's house one afternoon and he and I started discussing the fact that this was a very successful but a very cumbersome way to make the films. We asked each other, wouldn't it be better to have had or been able to have a single, large-format projector filling a large screen? Obviously the next step was to have a large film format, larger than anything that had ever been done. So we talked for about an hour and sketched out the screen size that could be served and the film format that would be capable of filling the screen. Our idea of a horizontal 70mm format with 15- or 16-perf pull across was really figured out by us in the first few minutes. We said, "let's invent this new medium." To do that we needed a company. When I made *Polar Life*, I chose a very experienced businessman, an old high school colleague named Robert Kerr. He

printed all the reserved-seat tickets for Maple Leaf Gardens in those days. He was also the mayor of Galt. When I was going to make *Polar Life*, I said Robert, will you come and be my business partner? He had never made films before but he was my business partner through *Polar Life*. It was not only a very popular film, but we actually made it for less than the budget, so we made a little money out of it. I called Robert and about a week or two later we met in my office in New York one evening. The three of us sat down and we decided to set up a company. Robert was in Galt, Roman was in Montreal and I was in New York. We didn't even have one headquarter. We started out with three people in three different places. We agreed to set it up as a Canadian company, and so Robert went back to Galt and set the company up. I think if you look up the incorporation date, it would be September 1967. We did that all within a few weeks. So the 30th anniversary is actually September.

Where did the name Imax come from?

That was a year or two later. We first called the company Multiscreen Corporation because that was what people knew us as. But the main thing was that we called the system Multivision, because we saw it as a large-screen way of showing multi-image films. It was

multi-image that we had a great success in, and we thought that was the central thing to do. Not the only thing; but the central thing. After about a year, our attorney informed us that we could never copyright or trademark Multivision. It was too generic. It was a descriptive word. The words that you can copyright are words like Kleenex, Xerox and Coke. If the name is descriptive you can't trademark it so you have to make up a word. We were sitting at lunch one day in a Hungarian restaurant in Montreal and we worked out the name on a placemat on which we wrote all the possible names we could think of. We kept working with the idea of maximum image until we turned it around and made it IMAX.

How did you transform your idea into a working model?

Although neither Roman, Robert nor I were engineers or even very technically oriented or skilled, we knew what technology we would need. One of the things we knew was that you couldn't take a standard movie projector and just scale the whole thing up and run a big film. We knew that we would need to find a new projector movement. Roman and I went out to Los Angeles to look at a movement that was being used in some high-speed printers. One evening we went to dinner with my old friend Jean-Philippe Carson.



From left: Graeme Ferguson's *North of Superior*; Stephen Low filming *The Last Buffalo*; Rolling Stones at the Max.

Jean-Philippe and I had worked together in film in my freelance days, and now he was running the Eclair Corporation of America. He said that he had read a little, one paragraph extract in a publication that described a new film movement that had just been invented in Australia. We said this looks interesting, why don't we find out about it. Jean-Philippe and Robert called Ron Jones, the inventor, in Brisbane. I think Ron was essentially a man who serviced projectors; a very bright man. We called him up and said, "Have you sold this yet?" He said, "No, I've had a couple of expressions of interest, but I haven't actually sold the rights." Jean-Philippe and Robert flew to Brisbane, met with Ron, and acquired the patent rights to his invention. We didn't have very much money, so we paid for it over time. He had a set amount that he wanted, I don't remember the exact dollars, but it was rather an odd number and we said, "Why do you want that?" He said, "I want to build a little house up in the hills and that is what it will cost me to build it." He was in his 60s by then and wanted to retire. He continued as a consultant, helping us with his invention, which was called the Rolling Loop.

Now you had the idea and the patent. How did you actually build this projector with its Rolling Loop?

We were not terribly smart and we thought we would just find somebody to build this projector for us. After thinking about it for a couple of weeks, we became more astute and we knew we needed an engineer. And who was the best engineer? That was Bill Shaw. Bill had been in the same high school class as Robert Kerr and me in Galt and Bill was the chief engineer for CCM, which in those days was the principal builder of sports equipment in this country. Robert and I went to see him. We asked him to quit his job and come work with us. We had no money, but we had an idea for the world's most sophisticated motion picture projector and the most sophisticated camera. And this would be a challenge. He quit his job and came over to us in 1968. The interesting thing is that we were all in our 40s and what has been commented on since is that we would never have done this earlier or later. Each of us had had a successful career and we were confident in our abilities. But if that career went on for the rest of our lives, it would not be so interesting. When you get someone in his 40s, it's a very good time to try something new, if you have been successful. For us, it was a very good moment. Bill had never been in a projection booth when we hired him, but this was a big advantage because he had no preconceived notions of how a projector

should work. Bill knew that McMaster University [in Hamilton, Ontario] had a program to support industry. If a company wanted to develop something new it could be done at McMaster in conjunction with the engineering faculty. They took us under their wing and gave us a lab and a supervising professor, and the first projector was built at McMaster University. That projector went to Osaka for the World's Fair in 1970 and came back to Ontario Place

Ontario Place was built on the waterfront in Toronto directly after Expo, with its geodesic dome and large-screen theatre.

Money had come from Fuji in Japan for the World's Fair, which helped build the projector, and we received a small amount of money from the federal government. But we were very short of money. We could see that we would have difficulty meeting the payroll very soon. I went to Chris Chapman [the Toronto filmmaker who had made *A Place to Stand* for the Ontario pavilion at Expo] and said, "Chris, I don't know what to do. We are in serious trouble and we may go under." And Chris said, "There is something going on that you may not know about but might be helpful. The Ontario government is going to build an entity called Ontario Place. The architect is Ed Zeidler. They



"For the first time the audience felt immersed in the film. Wherever the camera was, the audience felt 'in' it."

haven't figured out exactly what they are going to show in there, but they do want a large-screen theatre." So he set up a meeting for me with Jim Ramsay, who was the civil servant who oversaw the building of the Ontario pavilion at Expo 67, and he was now overseeing the building of Ontario Place. When I went to see Jim, he agreed to put the Imax projector into this theatre in Ontario Place. We would bring the projector back from Japan and have a wide-angle lens designed for it. That theatre, in fact, would become the prototype for all Imax theatres today, with its deep-sloped seats and surround sound. Not only did Ramsay buy the projector from us, but he commissioned the first Imax film for Ontario Place. He was commissioning films from various Ontario filmmakers for various parts of the province. He had divided the province up in his mind and each filmmaker was given a section. He said to me, "Okay, you can have from Wawa to the Manitoba border and up to, but not including Hudson's Bay coast," because he had given that to another filmmaker. I had never been given a film with less detailed instructions, which is great for a filmmaker, because the less detail you get, the more freedom you have.

North of Superior was basically your film, wasn't it?

I produced, directed, shot and edited it.

It set a standard, creating a new way of experiencing cinema and was hugely popular.

The reason was that for the first time the audience felt immersed in the film. Wherever the camera was, the audience felt 'in' it. And to this day that remains one of the dominant characteristics of Imax, to be able to put the audience in the picture. The use we primarily conceived for Imax, for multi-images, didn't put the audience in the picture. Instead, what it did was to present cinema in a metaphorical way. You could see two or more images and your mind would combine those two images to create, in a poetic sense, a new whole out of the two parts. Intellectually, what we were trying to do was more interesting, and certainly was interesting if you go back and look at those Expo films. They worked dramatically and intellectually. They were very stimulating. What we did with *North of Superior* was to go back to a less intellectual, more gut reaction, to go back to what had been done in the days of Cinerama.

The motion of swooping off the cliff, everyone remembers that. You fly down over the cliff and drop.

In the days of Cinerama that was called a kinesthetic effect. I knew that I had that tool to use, because Robert Gaffney, who I had gone to for advice on building the camera, had done extremely successful work on *Fortress of Peace* and *Sky Over Holland*. He had taken a 70mm camera and put it in the nose of an airplane and made people airsick. We knew we had a tool that we could use. However, the reaction time to anything new is always longer than the inventor can ever imagine. You think you might have built the better mousetrap and the world will come to your door the next morning, but they will beat the way to your door about five years later. That's really how the world works. There are many inventions, like Xerography, which took many, many years between the invention and its widespread use. The film industry did not go to Osaka to see what was going on, but once we got to Ontario Place, they began to come—lots of exhibitors, film producers and directors—to see what we had and whether they could use it. We had many discussions with studios and filmmakers and most were initially promising, but it would always bog down over the time it would take to build enough theatres.

"It's only with Stephen's *The Last Buffalo* that it really dawned on us that IMAX 3-D is a major element in our future."

Stephen Low's *Super Speedway*.



If Ontario Place was beginning to look like a one-shot thing, and you didn't have the capital to pop these theatres across the countryside, what kept you in business?

It was a deep searching look into ourselves. Within about a couple of years, a few people came along and said they wanted to use Imax. One of the first was the U.S. government which wanted to put it into Expo 74 in Spokane, Washington. Roman and I produced a film which I directed called *Man Belongs to the Earth* with Chief Dan George. Again, the film was successful. Earlier, Roman had made a film about Paul Anka called *Lonely Boy*, and Anka's manager had subsequently become the owner of Ringling Bros. Barnum & Bailey Circus. Roman persuaded him to put an Imax theatre in Circus World [a theme park] and he commissioned Roman to make a film called *Circus World* in 1974. We had a couple of things like that which kept us going, but the money kept getting thinner and thinner and we finally had to face the fact we had failed in our efforts to get a big financier. In the spring of 1974 we said, we have got to change the company's strategy. The decision was that the company had to start marketing. That meant we were going to go out and find customers one by one who could put our projectors in theatres as Ontario Place and Circus World had done; places that didn't rely on a chain. Essentially for the next several years the company was in the business of marketing theatres one by one. The second thing we were trying to do was to make films that explored the medium. For example, somewhere in the early 1980s we got interested in taking the camera into space.

You have produced a series of four Imax space films: Hail Columbia!, The Dream is Alive, Blue Planet and Destiny in Space.

It's just about exploring what the medium can do. If you look at Roman's films and my films, you'll see that it's a common thread to try and do different things with the medium. People kept telling us nobody would sit still for 90 minutes and watch an Imax film. We were told that endlessly, and of course our original concept was to make feature films. We'd never get a breakthrough into feature films if people kept thinking that you can't sit for 90 minutes. So we made two feature-length films, if not traditional features. One was *Rolling Stones at the Max* and the other was *Titanica*, both 90-minute films. One is a concert film and one is a docudrama that

Graeme Ferguson's *Blue Planet*. "It's about exploring what the medium can do."

Steve Low made. If you go back in docudrama, one of the first was *Circus World* in which Roman had lots of dialogue.

Is making features the realization of your dream?

The term feature has got to be put in quotation marks, because what has happened, although we have done two 90-minute films, is that our theatres mostly want 40-minute films. Originally this came from Planetarium screenings which turned around on a quicker cycle. Even when we are in feature-length theatres like the one in Lincoln Center in New York or the Edwards Theaters in Los Angeles, they are very fond of the 40-minute turnaround. They find they can attract a family audience all day, which they can't in their regular theatres, some of which don't run during the day. But the Imax theatre can be run all morning, afternoon and evening. And they love that business of turning family audiences around in 40 minutes. Instead of seeing one 90-minute film, they will stay to see two 40-minute films. This will change, but right now, in our industry, those 40-minute films are widely shown and we call them 'features.'

I want to talk about selling your business to U.S. interests. Was this your only choice?

If you go back to 1967, 30 years ago, we understood from the beginning that we must make films that would appeal to audiences worldwide. Very early we had the idea of making what critics tend to pegoratively call crossover films, and a crossover film meant one that could play just about anywhere. So from day one, it was never our intent to make the medium for Canada alone. However, we probably have the greatest penetration in Canada than anywhere in the world. There are more theatres per capita in Canada, but we always saw ourselves as an international company. But by the late 1980s we still had no significant financing. We were still the owners and we were all about to turn 60. We said we've got to turn this company over to a new generation of management, ideally an owner-manager. We set up a serious search for someone to move the company into its next phase. We explored Canada, Japan and the United States. Brad Wechsler and Richard Gelfond were different from the others we looked at. They were quite a bit younger. They had some motion picture background; Brad was on the board of

MGM, but their main background was in finance. They worked on Wall Street and they could bring the enthusiasm of youth. They had the drive, maybe the original drive we had. It worked out with Brad and Rich and with Douglas Trumbull [the special-effects wizard]. Within weeks they had gone out and got major debt financing, so for the first time there was money in the bank. We never had money in the bank. They put money in the bank immediately and took the company public on the Nasdaq and Toronto Stock Exchange, all within six or seven months. When people ask me if I made the right decision, I say if I had to make it over again today, I would make the same decision. We didn't have any alternative. After all those years there were not a lot of people beating down the door. The company has not left Canada, but it was high time it became a public company. My guess is in five years Imax will still be a company functioning in Canada and it will be owned on the stock exchanges. I would disagree that we sold our technology to the Americans. I would say we have international funding, which we should have had from day one.

What do you see for the future of the process you set in motion 30 years ago?

It was only when Stephen Low, Colin's son, made *The Last Buffalo* for Expo 90, that it really dawned on us that IMAX 3-D was a major element in our future. With that one film, theatres began to convert to 3-D. I was quite surprised how fast they converted, and to this day we are building more 3-D theatres than 2-D and the trajectory seems to be that way. One of the challenges for the company right now is to get more 3-D films into production, so we can supply films for those theatres. I think for the next few years, 3-D will be a major part in the company's growth. And, of course, we are all moving inevitably much faster toward computer generated images than we ever imagined. ■

IMAX

