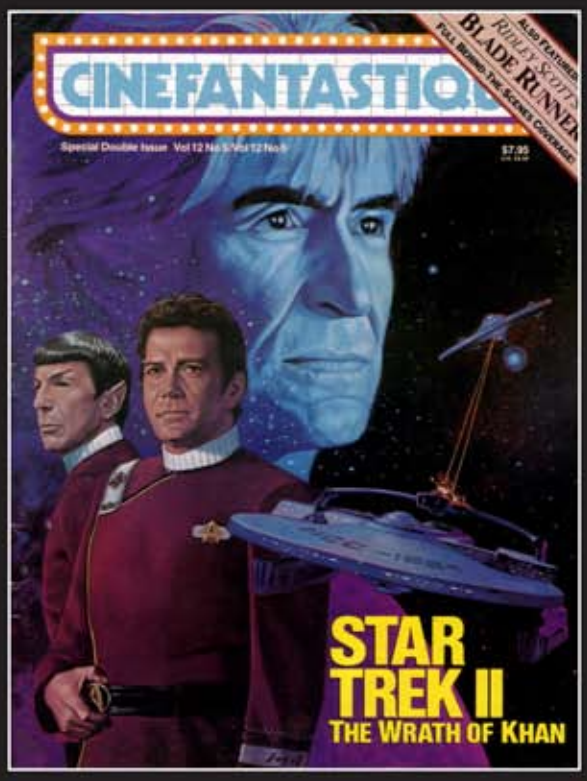
THE
BLADE RUNNER
PRINT ARCHIVE



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by Paul M. Sammon

The Making Of BLADE RUNNER

Article by Paul M. Sammon

In a giant, empty, decaying building which had once housed thousands, a single TV set hawked its wares to an uninhabited room.

The ownerless ruin had, before World War Terminus, been tended and maintained. Here had been the suburbs of San Francisco, a short ride by monorail rapid transit; the entire peninsula had chattered like a bird tree with life and opinions and complaints, and now the watchful owners had either died or migrated to a colony world. Mostly the former; it had been a costly war . . .

—from ***Do Androids Dream of Electric Sheep?*** **by Philip K. Dick**

In Philip K. Dick's bleak vision of the near-future, the world's cities have become decaying hulks, all but abandoned by those who have survived "World War Terminus" in favor of off-world colonies.

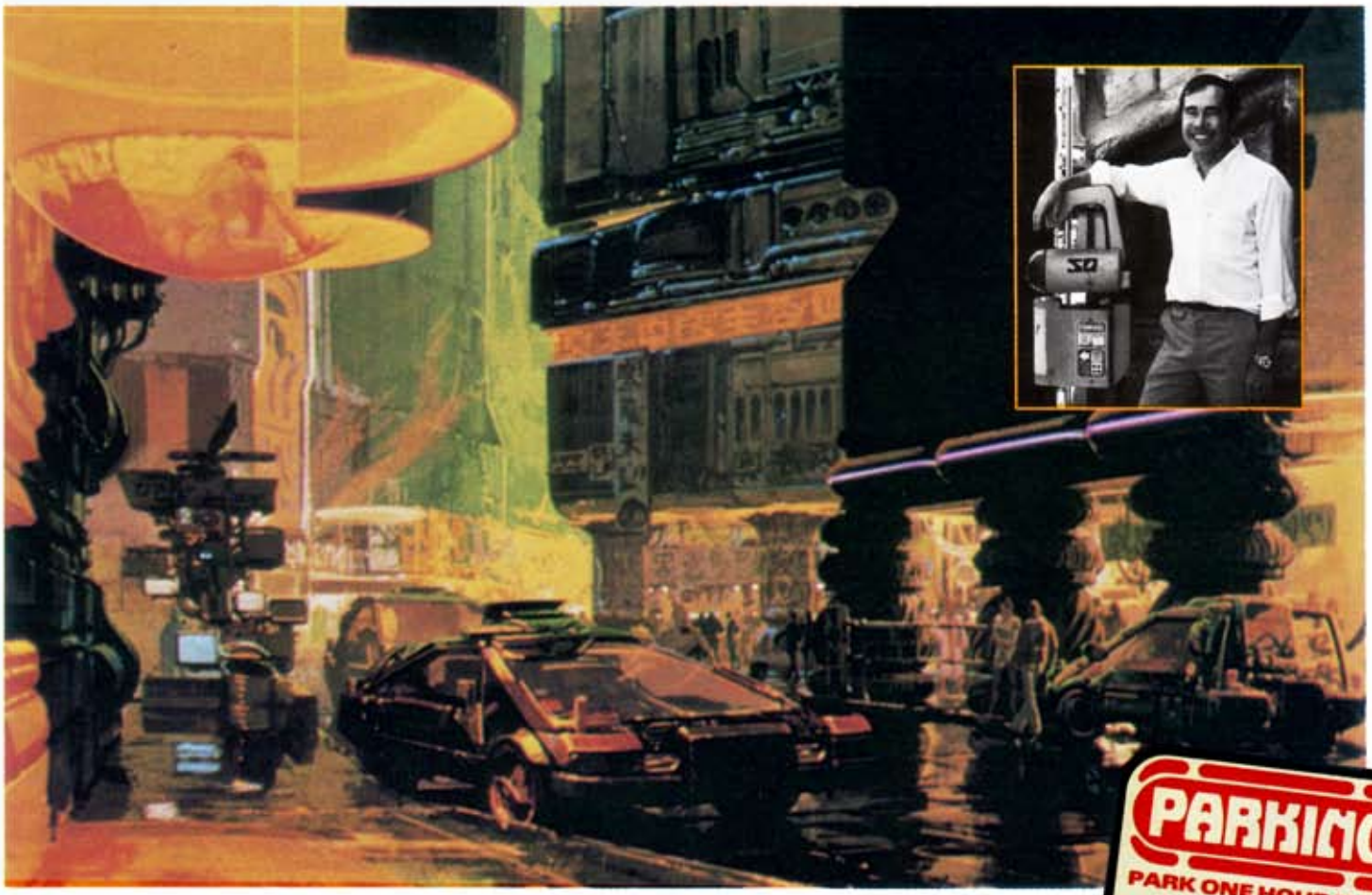
However, in 70mm and six-track stereo, an empty city is just so much glass and concrete. So director Ridley Scott and a staff of designers created their own version of the near-future: dark, garish, crowded, and hectic. It's probably the most brilliantly- and completely-realized future society ever captured on film. The crew playfully dubbed it "Ridleyville," in honor of its "father."

While Ridley Scott drastically altered the specifics of the book's setting, the flavor of Dick's San Francisco has been remarkably preserved in "Ridleyville". In both the novel and the film, the cities are literally falling apart as the technological infrastructure crumbles away. Dick called the resulting debris "kibble"; the crew of BLADE RUNNER called it "retro-trash."

At press time, it was still too early to even guess at BLADE RUNNER's critical reception. But at the very least, the film is a visual feast, a tribute to Scott, production designer Lawrence Paull and effects director Douglas Trumbull, and the talented crews who worked for each of them.

The film will also serve as a final tribute to the late Philip Dick, who died just weeks before a final print was completed. It was Dick's dystopian vision that started it all, of course. Sadly, it was a vision the author never had a chance to see recreated on film.

This incredible industrial complex—known as the "Hades Landscape," and dubbed "Ridley's Inferno" by the crew—was actually a 13'x18' table-top miniature built and photographed at Douglas Trumbull's EEG effects studio. Shooting the internally-lit brass and foam miniature through mineral oil-vapor "smoke" gives the tremendous illusion of depth. The huge buildings in the background are supposed to be 700 stories tall; in actuality, they were small, self-lit transparencies attached to the miniature. For the final composite (inset right), additional elements were added, including front-projected flames; double-exposed smoke; and a flying car, which itself required several motion-control passes to photograph.



Above: A color rendering of "The City," circa 2019, by designer Syd Mead (inset, posing with a futuristic parking meter). The illustration features many elements recreated in the film's sets, including two of his vehicle designs, electronic traffic indicators (far left), store displays that overhang the sidewalk, signs lettered in Japanese, and huge "barley-shaped" columns. The unusual X-shaped intersection is based on the huge New York Street set on the back lot of The Burbank Studios. Right: Although Mead designed the parking meter, the shocking warning label was the work of illustrator Tom Southwell.

THE NOVEL

Philip K. Dick's novel, *Do Androids Dream of Electric Sheep?*, was definitely a child of its times. First published in 1968, during the very height of the Vietnam war, it detailed the adventures of Rick Deckard, a futuristic bounty hunter tracking down a cadre of murderous androids; at a further remove, the book was an impassioned examination of modern mankind's emotional sterility. "It was written," the late author recalled, "during a time when I thought we had become as bad as the enemy."

Philip K. Dick was born in Chicago in 1928. He lived most of his life in California, holding down a variety of odd jobs (including a classical music disc jockey) while developing his writing career. Dick was nothing if not prolific. His first story, "Beyond Lies the Wub," was published in *Planet Stories* in July 1952. The next year, 28 stories appeared with the Dick byline, and 1954 saw him publish an additional 28. By 1955, Dick had cut back on short stories (he ultimately wrote 110 of them) to author *Solar Lottery*, his first novel, which is still in print and which remains one of his best selling titles.

Dick was nearly as prolific when it came to novels—he wrote more than 40. From 1964 to 1969, for example (a period many experts consider Dick's finest literary stretch), no fewer than 16 of his books were published, titles which included *Dr. Bloodmoney: Or How We Got Along After The Bomb*, *Galactic Pot Healer*, *Clans of the Alphane Moon*, and, of course, *Do Androids Dream of Electric Sheep?*

Despite his productivity, Dick's output was far from hackwork. *The Man in the High Castle*, a story of an alternate universe where the Japanese and Germans won World War II and split America down the middle as booty, won the Hugo award in 1972. *Flow My Tears, The Policeman Said* garnered the John W. Campbell Memorial Award for best novel of 1974.

No one wrote quite like Philip K. Dick. Although most of his stories were set in a world recognizably our own, his viewpoint was so skewed by existential observation and idiosyncratic insight that anyone sampling his work over any period of time found their perceptions of reality irrevocably altered. Not only was he devastatingly unique, he jogged his readership's gray cells as well.

Dick achieved his first great crossover success from the science fiction ghetto into the literary mainstream in the 1960s, with the counter-culture's enthusiastic embracing of such works as *Faith of Our Fathers* (in which God is not dead, just insane), *Ubik* and *The Three Stigmata of Palmer Eldritch* (thought by many to be *the* LSD novel).

But the drugs that were so much a part of the counter-culture movement had made inroads into Dick's habits. Although he had been virtually drug free in recent years, his earlier experiments with LSD and reliance on large doses of amphetamines ultimately may have helped destroy his health and led to his untimely death. "I took so much speed," Dick admitted, "because I had to support myself by writing fiction. The only way I could do that was to write a lot of it."

Dick, however, lived long enough to enjoy a measure of his success. Lauded in Europe, and the subject of numerous articles here in his own country (including a revealing, highly recommended *Rolling Stone* cover story a few years ago), Dick was one of the handful of American science fiction writers to be highly praised by mainstream critics for his literary abilities. And one of the highest points of his career was *Do Androids Dream of Electric Sheep?*

"It's one of my favorite novels," Dick said. "Although it's essentially a dramatic novel, the moral and philosophical ambiguities it dealt with are really very profound. The book stemmed from my basic interest in the problem of differentiating the authentic human being from the reflexive machine, which I called an android. In my mind, 'android' is a metaphor for people who are physiologically human,

but who behave in a non-human way."

Dick first became interested in this problem while doing research for *The Man in the High Castle*. Given access to original Gestapo documents at the closed stacks of the University of California at Berkeley, Dick discovered diaries by SS men stationed in Poland. One sentence in particular had a profound affect on the author.

"The sentence read, 'We are kept awake at night by the cries of starving children,'" Dick explained. "There was obviously something wrong with the man who wrote that. I later realized that, with the Nazis, what we were essentially dealing with was a defective group mind, a mind so emotionally defective that the word *human* could not be applied to them.

"Worse," Dick continued, "I felt that this was not necessarily a solely German trait. This deficiency had been exported into the world after World War II and could be picked up by people anywhere at any time. I wrote *Do Androids Dream of Electric Sheep?* during the Vietnam war. At the time, I was revolutionary and existential enough to believe that these android personalities were so lethal, so dangerous to human beings, that it ultimately might become necessary to fight them. The problem in killing them would then be: 'Would we not become like the androids in our very effort to wipe them out?'"

Enter Hollywood.

In 1969, struck by the novel's visual and moral landscape, director Martin Scorsese and critic Jay Cocks showed interest in transforming the book into celluloid, although the book was never formally optioned. In 1974, however, Dick was approached by the man who, six years later, would become the prime mover and shaker behind the book's eventual film adaptation—Hampton Fancher.

Born in 1938, ex-husband of actress Sue Lyon (LOLITA), and a former actor himself with 10 feature films and over a hundred TV credits (including "The Burning Girl" on ONE STEP BEYOND), Fancher had been writing scripts since he was a teenager. He had also made a series of 8mm and 16mm films, culminating in a prize-winning 35mm short, BEACH PARKING. But Francher was not a big science fiction buff. In fact, he had only read two novels in the genre: Alfred Bester's *The Stars My Destination* and Dick's *Do Androids Dream of Electric Sheep?*

"When I read Dick's novel, STAR WARS wasn't even a gleam in George Lucas' eye," Francher said. "But at the same time there was the smell of science fiction in Hollywood. After I'd finished Phil's book I realized that if there was ever going to be a serious film in this trend, I had just read the source material. So with the few dollars I had left in my pocket at the time, I took a stab at optioning the book."

AUTHOR PHILIP K. DICK

> *"I was revolutionary and existential enough to believe that these 'android' personalities were so lethal, so dangerous to human beings, that it ultimately might become necessary to fight them."*

However, Fancher couldn't seem to locate Dick. No one—not even Dick's literary agents—seemed to know where to locate him. Fortunately, a chance encounter with Ray Bradbury (who happened to be carrying an address book with Dick's phone number in it) brought Fancher and the author together.

Their first meeting was amiable, as were subsequent encounters. Yet in the process, Fancher realized that his dream of optioning Dick's novel had become sidetracked. "Although we got along very well, I had the feeling that Phil thought I was some sort of Hollywood hustler," Fancher explained. "I got the impression that Dick was not only reluctant to get involved, but also increasingly reluctant to have that particular book done as a film."

"I don't think Hampton realized I was as naive about Hollywood as he was," Dick later recalled. "I don't think he ever understood that when it came to Hollywood, I cringed. I had an automatic flinch reaction. Putting it on an anthropological basis, I represent the tribe of novelists and short story writers, while Hollywood represents the tribe that makes movies. I looked at their tribe, and their customs completely baffled me. I'm sure they looked on me with the same confusion."

Discouraged, Fancher decided to abandon the project. What the ex-actor had not known was that the book had *already* been optioned, by Herb Jaffe Associates. Robert Jaffe would, in fact, be the first person to actually write a screenplay of the novel—a scenario that Dick loathed.

"He took the novel and turned it into a comedy spoof, something along the lines of GET SMART," Dick said. "He even wrote it under a pen name. It was so terribly done I couldn't believe it was a shooting script." Perhaps realizing their approach was hardly appropriate, Jaffe Associates let the book's option drop in 1977.

The prospect of turning Dick's novel into a motion picture seemed doomed. Then, suddenly, in 1978, Fancher found himself back in the picture. "I was about to go on a long trip, when I ran into an actor friend of mine, Brian Kelly, who had ambitions of becoming a producer. Remembering my experience with Dick, I told him, 'Why don't you try optioning this Philip K. Dick book?'"

Encouraged, Kelly proceeded to do just that. He first took the novel to producer Michael Deeley, a man who had cut his cinematic teeth editing the old British-made ROBIN HOOD television series, before moving on to become head of EMI and the Oscar-winning producer of such films a THE DEER HUNTER. The first time Kelly approached him, Deeley said no thanks, because he felt Dick's complex concepts would not easily translate to film.

However, Fancher and Kelly tried again. Fancher wrote an eight-page treatment which so impressed Deeley that he encouraged the two to come up with a working screenplay. "I hadn't ever intended to write the screenplay myself," Fancher explained, "but my girlfriend at the time convinced me that this was the only way to get the project off the ground. It took me nearly a year to write, but when I was finished Kelly took the script back to Deeley and he loved it."

DOWNTOWN L.A. in 2019 (below) is a dirty, crowded mob scene, as conceptualized by director Ridley Scott, production designer Lawrence Paull and illustrator Syd Mead. It's also wet (thanks to the constant acid-rain), which accounts for the umbrellas. Inset: Scott positions two of the punkish extras.

FADE IN:

EXT. HADES

We are MOV
vast plain
horizon, s
the sky th
a window
is sittin
down

THE SCRIPT

With Michael Deeley on board the project was given a tentative go-ahead: Fancher would write the script and, along with Kelly, serve as executive producer. As Deeley began shopping the project (tenatively titled THE ANDROID) around to a number of studios, Fancher completed several screenplay drafts, each version drifting farther and farther away from Dick's original story.

In Dick's novel, set in 1992, Deckard is a bounty hunter with the San Francisco police force, tracking down renegade androids illegally on Earth. His job is complicated by the newest model, the "Nexus-6", which looks and acts just like a real person. Eight of these top of the line models are on the loose; Deckard's superior killed two before being seriously wounded by a third. Deckard must destroy the remainder, as well as contend with his new-found romantic feelings for Rachael, herself an android.

Although the android love-interest and the concept of the "Nexus-6" androids were retained, other crucial concepts of Dick's work were scrapped by Fancher, including the preoccupation with real animals.

"It was never intended, except in the first draft, to stay close to the novel," explained Fancher. "The book was really only a jumping off point, and the various drafts of my scripts eventually took on lives of their own. Besides, the whole point of *my* interpretation of the book was of a man who had discovered his conscience in the course of his search for these androids. I also thought of it in terms of a love story, the growing bond between Deckard and Rachael. In the final analysis, there was very little of Dick's book in my screenplay."

By the time Fancher had completed his screenplay, Dick's philosophical treatise had evolved into what director Ridley Scott later dubbed "a dark mystery." The story is set 40 years in the future, but life in the year 2019 is still much like our own period—albeit somewhat dirtier, more crowded and much more dangerous. Off-planet colonization is encouraged, and genetic engineering has advanced to the point where actual "people" (complete with implanted, artificial memories) are capable of being *manufactured* by corporations.

These artificial humans aren't robots in the traditional sense, but genetic constructs whose sole difference from humans is verifiable only through a series of psychological tests employing a polygraph-type device called the Voight-Kampff machine. The only other difference is a "factory-installed" disease that kills the androids after a four-year life span.

The androids are used for high-risk jobs on planetary colonies or as futuristic soldiers. Although equipped with heightened physical and mental capabilities, they are the second-class citizens of their times, and they occasionally attempt to escape their servitude and blend in with humanity. When they do, specially trained cops—like Rick Deckard—are relied on to "retire" the "skin-jobs."

Fancher's script details Deckard's search for the renegades, a quest on which he encounters Tyrell (whose massive corporation produced the artificial humans), Sebastian (an eccentric genius who, significantly, is afflicted with a *natural* aging disease), and with a not-so-hostile android, Rachael, who becomes his mistress.

Ultimately, Deckard uncovers the mystery and terminates the androids, but not before his moral conscience has been stirred by the quandry of his profession. But what about the girl? In Fancher's version of the screenplay, she kills herself rather than face her inevitable four-year death sentence. It would be one of many story points that would change before filming was completed.

In March 1980, on the strength of Fancher's screenplay, Deeley was able to entice Ridley Scott to join the project (now titled DANGEROUS DAYS) as its director. With Scott's track record (ALIEN returned about $100 million in rentals), Deeley was able to negotiate $5 million worth of backing from Filmways Pictures. Unfortunately, no one thought to give the good news to the book's author.

"I got a call from Robert Jaffe one day," recalled Philip Dick, "and the first thing he told me was 'Congratulations!' I said, 'For what?' It turned out that Jaffe had read about it in the trades, but no one from the production company had taken the trouble to inform me of the fact.

"A bit later I was having dinner with Ray Bradbury—it's funny how Ray kept popping up in odd places during the beginning of this thing—and I mentioned that someone was making a movie out of my book, but I'd heard the news only by reading about it in the trades. Ray started shouting and waving his arms—he thought that this was totally unacceptable behavior. I just smiled and finished my drink. But as time went on, that, and other things, began to gnaw on me."

This initial snub was to be only the first in a series of conflicts between Dick and the BLADE RUNNER company, an on-going feud—that soon became public—which ended only a short time before the writer's death.

For one thing, Dick was upset with the callous way he felt the production company was treating him. "They haven't talked to me at all," he complained during preproduction. "On the other hand, I haven't tried to get in touch with them either!" As for Fancher, Dick had not spoken with him since the first attempt to option the book. But Dick *had* finally read Fancher's script. And he wasn't happy.

"I read two drafts of Fancher's screenplay, and it was terrible—corny and extremely maladroit throughout," Dick said. "They were on the level of PHILIP MARLOWE MEETS THE STEPFORD WIVES. I did not approve of what it tried to do, and I don't think it accomplished what it tried todo. In other words, they aimed low and failed at what they aimed at.

"Fancher had concentrated on a lurid collision between human and android. I wasn't angered by what had been cut from my novel, because I know you can't can transfer everything to the screen. What was bad was the *execution* of the script. Fancher had over-relied on the cliche-ridden Chandleresque figure, and his script opened with a hoary voice-over, like: *'It was a dirty town. It was a dirty job. Somebody had to do it. I was that somebody. My name's Deckard.'* I mean, My God!

"The ending had that awful

When six replicants are discovered loose in Los Angeles, Gaff (Edward James Olmos) and an unidentified uniformed officer recruit the services of retired "blade-runner" Rick Deckard (Harrison Ford), who'd much rather eat his bowl of noodles.

Cast & Credits

A Warner Bros Pictures release [The Ladd Co.], 6/82, 114 mins. In Color, scope, 70mm and Dolby stereo. *Directed by* Ridley Scott. *Produced by* Michael Deeley. *Screenplay by* Hampton Fancher, David Peoples. *Based on the novel "Do Androids Dream of Electric Sheep?" by* Philip K. Dick. *Cinematographer,* Jordan Cronenweth. *Production designer,* Lawrence G. Paull. *Associate producer,* Ivor Powell. *Music by* Vangelis. *Supervising editor,* Terry Rawlings. *Executive producers,* Brian Kelly, Hampton Fancher. *Special photographic effects supervisors,* Douglas Trumbull, Richard Yuricich, David Dryer. *Production executive,* Katherine Haber. *Unit production manager,* John W. Rogers. *1st assistant directors,* Newton Arnold, Peter Cornberg. *Costumes by* Charles Knode, Michael Kaplan. *Art director,* David Snyder. *Visual futurist,* Syd Mead. *Casting by* Mike Fenton, Jane Feinberg. *Script supervisor,* Anna Maria Quintana. *Production coordinator,* Vickie Alper. *Location manager,* Michael Neale. *Sound mixer,* Bud Alper. *Set decorators,* Linda DeScenna, Tom Roysden, Leslie Frankenheimer. *Production illustrators,* Sherman Labby, Mentor Huebner, Tom Southwell. *Assistant art director,* Stephen Dane. *Set designers,* Tom Duffield, Bill Skinner, Greg Pickrell, Charles Breen, Louis Mann, David Klasson. *Property master,* Terry Lewis. *Makeup artist,* Marvin Westmore. *Special floor effects supervisor,* Terry Frazee. *Special effects technicians,* Steve Galich, Logan Frazee, William G. Curtis. *Gaffer,* Dick Hart. *Best boy,* Joseph W. Cardoza Jr. *Key grip,* Carey Griffith. *Construction coordinator,* James F. Orendorf. *Stunt coordinator,* Gary Combs. *Action props,* Mike Fink, Linda Fleisher. *Still photographer,* Stephen Vaughan. *Production assistant,* Bryan Haynes. *Editor,* Marsha Nakashima. *Assistant editor,* William Zabala. *English crew: First assistant editor,* Les Healey. *Sound editor,* Peter Pennell. *Dialogue editor,* Michael Hopkins. *Dubbing mixers,* Graham V. Hartsone (Pinewood), Gerry Humphries (Twickenham). *Visual displays by* Dream Quest Inc. *Electron Microscope photographs by* David Schral. *Esper sequence,* Filmfex & Lodge/Cheesman. *Titles by* Intralink Film Graphic Design.

***Special photographic effects by* EEG. *Director of photography,* Dave Stewart. *Optical photography supervisor,* Robert Hall. *Cameramen,* Don Baker, Rupert Benson, Glen Campbell, Charles Cowles, David Hardberger, Ronald Longo, Timothy McHugh, John Seay. *Matte artist,* Matthew Yuricich. *Additional matte artist,* Rocco Gioffre. *Assistant matte artist,* Michele Moen. *Matte photography by,* Robert Bailey, Tama Takahashi, Don Jarel. *Special camera technician,* Alan Harding. *Optical line up,* Philip Barberio, Richard Ripple. *Animation and graphics,* John Wash. *Effects illustrator,* Tom Cranham. *Special projects consultant,* Wayne Smith. *Miniature technician,* Bob Spurlock. *Assistant effects editor,* Michael Bakauskas. *Chief modelmaker,* Mark Stetson. *Modelmakers,* Jerry Allen, Sean Casey, Paul Curley, Leslie Ekker, Thomas Field, Vance Frederick, William George, Kristopher Gregg, Robert Johnston, Michael McMillian, Thomas Phak, Christopher Ross, Robert Wilcox. *Cinetechnician,* George Polkinghorne. *Still lab,* Virgil Mirano. *Electronic and mechanical design by,* Evans Wetmore. *Electronic engineering by,* Greg McMurry. *Computer engineering by,* Richard Hollander. *Special engineering consultants,* Bud Elam, David Grafton. *Assistant to David Dryer,* Leora Glass.**

Deckard	Harrison Ford
Batty	Rutger Hauer
Rachael	Sean Young
Gaff	Edward James Olmos
Bryant	M. Emmet Walsh
Pris	Daryl Hannah
Sebastian	William Sanderson
Leon	Brion James
Tyrell	Joe Turkell
Zhora	Joanna Cassidy
Chew	James Hong
Holden	Morgan Paull
Bear	Kevin Thompson
Kaiser	John Edward Allen
Taffey Lewis	Hy Pyke
Cambodian Lady	Kimiro Hiroshige
Sushi Master	Robert Okazaki
Saleslady	Carolyn DeMirjian

What the best dressed folks will wear in 2019

Charles Knode and Michael Kaplan avoid the old cliche of streamlined jump suits, and recall the flavor of the 1940s.

Since tastes in fashions are so cyclical, Ridley Scott didn't want the residents of Ridleyville to be wearing anything too exotic or obviously "sci-fi." Instead, costume designers Charles Knode and Michael Kaplan went after a nostalgic mood, with just enough unusual design elements to suggest the near-future.

The most obvious '40s touches in BLADE RUNNER are Harrison Ford's Bogart-esque trenchcoat and Sean Young's broad-shouldered business suit. Other elements were more contemporary in origin, including Rutger Hauer's black leather coat and Ford's eclectic wardrobe (Ford quipped that Deckard dresses like "a middle-aged Elivs Costello").

The film's costumes give subtle clues as to the nature of 2019's society. Knode and Kaplan dressed many of the Oriental extras in tatters to denote their working-class status, while the well-to-do wore lavish outfits of fur, or with fur-trim, an obvious status symbol when there are no wild animals left on the planet.

But perhaps the most intriguing costumes are the punk/new wave outfits worn by many of the extras on the New York Street set. According to Lawrence Paull, the DEVO look began with an art department Christmas party.

"There were presents scattered everywhere," Paull recalled. "One was a wonderful calendar of stylized air-brushed portraits of new wave fashions—heavy rouge, different hair colors, and everything heavily accented. Sometime later Ridley stumbled across the calender and it wasn't long before he had his head together with Charles Knode and the punk look became the style for Pris [Daryl Hannah] and some of the folks on the street."

BLADE RUNNER's costumes ran the gamut from the broad-shouldered look of the 1940s (Sean Young, top left), to the up-to-the minute punk look (Daryl Hannah, right; two extras, top center), to this very opulent oriental-style fur wrap (top right).

Below: Harrison Ford as "a middle-aged Elvis Costello," sporting patterned shirt and narrow tie. Right: costumes sketches for Sebastian (l), a "street girl," and a heavily-armored police officer.

> *"I can't emphasize enough that Ridley Scott is really the author of BLADE RUNNER. Other people had their input, too. Phil Dick probably didn't understand just how much of a collaborative art filmmaking is."*

CO-SCREENWRITER DAVID PEOPLES

thing where Rachael mercifully, for everyone's sake, does herself in, at which point Deckard grows in stature from the experience," Dick added. "'Grows in stature' is just a sobriquet for the fact that he's really grown infinitely more cynical, which is apparently how these Hollywood people mature."

In an article published in the February 15, 1981 issue of the Los Angeles *Select TV Guide*, Dick lashed out at the deficiencies he saw in the BLADE RUNNER script. He also went one step farther, attacking Scott's ALIEN saying, "a monster is a monster, a spaceship is a spaceship, and the only thing that saves this is its special effects."

It wasn't long before Dick's article got back to the studios—in fact, Dick sent it to them. "After not hearing from anyone for all that time," Dick said, "I suddenly got an obnoxious call from them one afternoon, wherein they immediately said that they were angry that I had a copy of the script and demanded to know just where I had got it! They were so hostile that I was tempted to tell them that I'd floated over the studio in a helium balloon, bored through the ceiling, lowered a string and a piece of chewing gum and lifted the script off the nearest desk."

Of course, Dick received the script through normal channels, from producer Michael Deeley's lawyers. "Jesus Christ! I'm the author of the novel on which this property is based!" Dick exclaimed. "Is is so strange that I should have a copy of the script? They also told me that I shouldn't be using the word 'android,' that this was dangerous talk [Ridley Scott detested the term because he felt it was too cliched]. At that point I wondered whether I was talking to a studio or the Mafia. So I told them, 'Shucks fellas, I am *so* sorry I titled my book *Do* ***Androids*** *Dream of Electric Sheep?* But you know, gosh . . . now I'm sort of committed to it.'"

Dick's frontal assault on BLADE RUNNER had come shortly after the production had shifted from Filmways to The Ladd Company. To Dick's relief, the change in management was accompanied with a pleasant change in the way he was treated, due in part to the arrival of a second screenwriter, David Peoples.

Peoples had co-written and co-edited the Oscar-winning documentary THE DAY AFTER TRINITY, and had written the Oscar-nominated short ARTHUR AND LILLY. He was also involved in a rewrite of REVENGE OF THE JEDI when he was tapped to rewrite Fancher's screenplay. The timing might indicate that Peoples was brought in to satisfy Dick. More likely, Fancher was dumped because of conflicts with director Ridley Scott.

"Somewhere along the way, Ridley seemed to forget that I was not simply a hired writer on the project," Fancher said, "but that I was also a producer and part owner of the film. We had finally come to the point where we just weren't getting anywhere. Scott had some points that he wanted incorporated into the script, ideas that I actively resisted. I was only adding those things that I felt were worthwhile.

"Finally, in November of 1980, David Peoples was brought in," Fancher continued. "Surprisingly, the things I felt that couldn't be put into the script—the things Scott had wanted—were incorporated by Peoples in tight, original, admirable ways. I really liked what he did with my script. I had little to do with it after Peoples came on, just a quick touch-up to two minor scenes."

Peoples' changes to Fancher's scenario also met with Dick's enthusiastic approval. "Peoples did a first-class piece of work," Dick said. "He smoothed out the dialogue and reworked certain scenes. And the whole idea of the replicants being infused with pyrogeria, or premature aging, was a new twist. By inserting this angle, by dropping Rachael's suicide, by rethinking the final confrontation as a wonderful moving sequence, and by any other number of touches, Peoples transformed the screenplay into a beautiful, symmetrical reinforcement of my original work."

Peoples insisted that his contribution was overstated by the author. "I can't emphasize enough that Ridley Scott is *really* the author of BLADE RUNNER," he said. "Scott's ideas and thrust were the motive force of the film. For instance, he always felt strongly about Dick's original animal theme, that a holocaust had wiped most of the real animals out and that it was an incredible status symbol to have one. But we just never licked that, other than inserting the short Animoid Row scene, and the bit about the owl in Tyrell's office.

"Other people had their input into the revised script too," Peoples added. "Dick probably didn't understand just how much of a collaborative art filmmaking is. For example, Harrison Ford and Rutgar Hauer contributed some very nice ideas concerning their dialogue. As for Fancher—well, I think he's been unfairly depicted as the heavy. I don't know which version of the script Dick first saw, but the one I read was just terrific.

"I gather from Dick's reaction that he felt my work had turned the script back towards his novel," Peoples said. "Well, that's really just the force of the original ideas in his book turning everybody back. And let's face it—scripts are always changing. But even that draft had changed by the final days of shooting."

Although he endorsed the new script, Dick still had cause to battle the BLADE RUNNER brass. "I was offered a great deal of money, and a cut in the merchandising rights, if I would do a novelization of the screenplay, or if I would let someone like Alan Dean Foster come in and do it," Dick explained. "My agent figured that I would make about $400,000 from the deal.

"But part of this package required the suppression of my original novel, and I said no," Dick added. "They got nasty again. They began to threaten to withdraw the logo rights—we wouldn't be able to say that my book was the novel on which BLADE RUNNER was based, and we'd be unable to use any stills from the film. We remained adamant, though, and stuck to our guns, and they eventually caved in. In re-releasing the original novel I only made about $12,500. But I kept my integrity. And my book."

The "feud" between Dick and the BLADE RUNNER production was finally settled shortly before Christmas of 1981. At that time—much to the author's surprise—Scott invited Dick to the studio for a personal meeting, and a screening of 20 minutes of the film. "When I met Ridley—finally—I kept thinking of how I had continuously sniped at ALIEN. As he looked at me and I looked at him, I *knew* he had to be thinking about this. I thought, 'It may well be that Scott will pop me one for this right here.' But he was very cordial. During the screening, Scott even sat behind me to explain the continuity of each sequence he ran on the projector."

Director Ridley Scott, a graduate of an English art school, influenced the look of the film with hundreds of tiny thumbnail sketches, as well as several larger line drawings (below). It's no coincidence that Scott's style is somewhat reminiscent of Jean "Moebius" Giraud—Scott is a big fan of the noted French fantasy illustrator.

After the screening, Dick and Scott had their first face to face discussion. "It was very frank," Dick explained. "I expressed certain ideas that I hoped would be in the film, and then he said they would not be in the film. Yet he was very friendly, very honest, and very open in what he said. Even though we openly disagreed on a number of points, the air of cordiality was always maintained."

According to Dick, the main source of contention was a basic difference in what the book and film were all about. "To me, the replicants are deplorable," Dick said. "They are cruel, cold, and heartless. They have no empathy—which is how the Voight-Kampff test catches them—and don't care about what happens to other creatures. They are essentially *less* than human.

"Scott, on the other hand, said he regarded them as supermen who couldn't fly. He said they were smarter, stronger and had faster reflexes than humans. His attitude was quite a divergence from my original point of view, since the theme of my book is that Deckard is dehumanized through tracking down the androids. When I told him this, Scott said that he considered it an intellectual idea, and added that he was not interested in making an esoteric film.

"But I think that Harrison Ford realized the ambiguities of Deckard's character," Dick added. "I'm sure Ford will show just how distasteful his job is for him. I have faith in that."

THE NEW YORK STREET SET on the Warner Bros. back lot was transformed into the bustling metropolis of Ridleyville over a three month period of construction and set dressing. Large corrugated pipes, electrical conduits and other signs of "retrofitting" were attached to the brick and plaster facades (above, inset top). In addition, store displays were added which protruded over the concrete sidewalks. The set was built to feature different "neighborhoods," including the sordid nightclub district (center). The Japanese-style neon signs were built for the film by American Neon, based on designs by illustrator Tom Southwell (above left).

DIRECTOR

Ridley Scott first saw the screenplay for BLADE RUNNER while on ALIEN. He had to pass on the script, but he always kept it in mind. A year and a half later, the script was still up for grabs. Scott grabbed.

"I accepted the film for two reasons," Scott explained. "First, I knew Michael Deeley well, and knew I could work with him. The second reason was the screenplay—I hadn't been able to get it out of my head since I first read it, even though I'd initially passed on the idea. Re-reading it, I decided it was an extraordinary piece of work, and it seemed to lend itself to some marvelous design possibilities."

That Scott saw BLADE RUNNER in terms of its design is not surprising. As a young man (he's now 45), he attended England's Royal College of Arts to study painting and drawing, interests which had followed him from childhood. Scott still draws, a talent he feels is invaluable to the filmmaking process. "A sketch," Scott said, "is infinitely more useful than the best two-hour story conference."

While at Royal College, Scott found an old 16mm Bolex in a school cupboard, and cinema soon supplanted painting as his primary concern. Scott's first film was BOY ON A BICYCLE, a short which he wrote, directed and photographed himself on a budget of £65 (about $125). After a screening at the British Film Institute, the BFI was impressed enough to give Scott another £250 to "refine" the project. Scott was on his way.

A stint at the BBC followed, first as a designer, and then as a director on such popular English programs as Z-CARS. Crossing over into advertising, Scott founded his own production company (an ongoing concern today), where he personally supervised the direction of more than 2,000 commercials.

THE DUELLISTS, released in 1977, was Scott's first feature film. Scott so loaded the film with pictoral effects that he immediately became a "name" to reckon with. Critics called the film—the story of a long-running feud between two French officers during the Napoleonic Wars—"masterful," "a classic," and "staggeringly beautiful."

Although THE DUELLISTS went on to win a Special Jury Prize at the Cannes Film Festival, it was poorly distributed in this country, an oversight which still pains Scott. "The film was misunderstood," Scott said. "Contrary to what many thought, and how the critics approached it, THE DUELLISTS was *not* an art film. While I was shooting it, I thought of it as a western. Yet it was booked on the art-house circuit anyway. Consequently, it never reached the large-scale audience it was intended for."

There were no doubts that Scott's next film reached its audience. ALIEN was one of 1979's top-grossing films, a project which has since brought in over $100 million in rentals. Despite the huge success of ALIEN, Scott was once again put out by the general critical reaction to the film.

"I wanted to back off the hard-core blood and gore, and I think we managed to do that," Scott said. "If I wanted to, I *could* probably make a $500,000 horror film—I know exactly what to do and how to manipulate. And manipulation is a dangerous word, a vicious word. Which is why I was so angry that someone wrote that ALIEN was a manipulative piece of blood and gore moviemaking with no redeeming features whatsoever. I was very angry about that because I had deliberately set out *not* to do that.

"Except for the chest-burster sequence, ALIEN is almost totally devoid of blood and gore," Scott added. "What these critics completely missed was the total environment of the film, how artists like H.R. Giger and Ron Cobb had contributed to an environment which had been very carefully designed and thought out. To a large extent, that environment was a statement, and, I think, a great piece of art work."

Though Scott insists ALIEN was not manipulative, he admits his background in directing commercials taught him how to hook an audience. "Commercial advertising teaches you all sorts of things that you don't really learn about when you're in school," Scott explained. "Film schools tend to deal only with very esoteric subjects. People seem to forget that the end result has got to somehow communicate with the audience."

With his background as an artist, Scott believes that a film's design can be just as important—and in some cases, perhaps more so—than the actual narrative. As such, he tends to closely control as many of the visual elements as possible, preferring *not* to simply turn a film over to a production designer and effects director.

"I think there's a great tendency for a director to walk in and never be involved with his art department or his camera crew," Scott said. "He's only involved with the actor and the script, but that's only half the job. After I'd finished with ALIEN, I had a fairly thorough grounding in certain effects areas, and a naivete about others. Working with Douglas Trumbull's EEG crew has helped me to shade in some of those previously blank areas. This was an absolutely necessary education for me: the film director of the '80s and the '90s will have to be able to do *everything*, and special effects and computers are going to become as much of a tool as the Mitchell camera."

For Scott, control over the filmmaking process includes such seemingly mundane tasks as actually operating his camera, which he has done for his thousands of commercials, as well as his previous features. But BLADE RUNNER was shot in Hollywood, and the local cameraman's union does not look kindly to directors getting too involved with the camera crew.

"This is the first film I've shot in the United States, and overall I enjoy Los Angeles very much," Scott said. "But I must say that I encountered a certain amount of frustration in dealing with certain Hollywood union regulations. One of the rules here in America—which has no equivalent in Britain—is that an American director cannot operate his own camera. Even more than being a director, I am a camera operator. That's how I've always worked. Having my camera taken away from me is illogical, like taking Arnold Palmer's golf clubs away from him. It's also inefficient."

THE VID-PHON is Ridleyville's updated version of the Picturephone. Featured prominently in the film—Harrison Ford is seen here talking to Rachael (Sean Young)—the Vid-Phon evolved from a Syd Mead illustration, and included "retrofitted" details from Japanese model kits for extra texture. Unlike the Spinner's display screens, whose graphics were added in postproduction, the VidPhon's video image was prerecorded and piped onto the small screen during principal photography. The VidPhon's graphics were the work of Tom Southwell, who also designed Deckard's VidPhon credit card, shown actual size below.

DESIGN

"There are certain moments in movies where the background can be as important as the actor," said director Ridley Scott. "The design of a film *is* the script."

For Scott—first and always an artist and graphic designer—determining the look of BLADE RUNNER was the most important task he had to face. Perhaps no other director is as concerned with the background of a scene than Scott, who builds a dense, kaleidoscopic accretion of detailing within every set in a process he calls "layering." Just as top record producer Phil Spector created his famous "Wall of Sound" by overdubbing countless singers and instruments, Scott takes a set and crams it with information, adding and adding props and details until the audience is overwhelmed by the sum of the parts.

"To me," Scott said, "a film is like a 700-layer cake."

(In ALIEN, Scott's passion for detailing extended to stenciling the words "Weylan/Yutani" on the Sigourney Weaver's underwear. The name is also seen on a beer can in the ship's mess hall. The words were the name of the corporation for which the crew of the *Nostromo* worked).

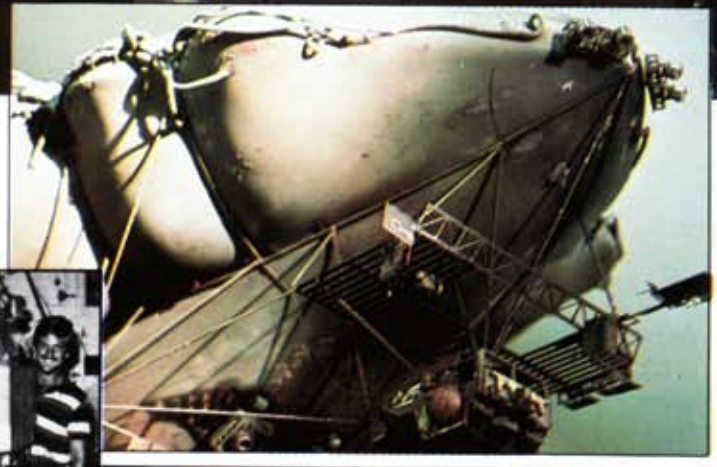
Early in preproduction, Scott went over the script with production designer Lawrence Paull line by line, letting the words and action suggest visual possibilities, and letting proposed visuals shape the screenplay in turn. "Most films depict the future as pristine, austere and colorless," Scott said. "We were determined to avoid shiny buildings, underpopulated streets and silver suits with diagonal zippers. This is a tangible future not too exotic to be believed."

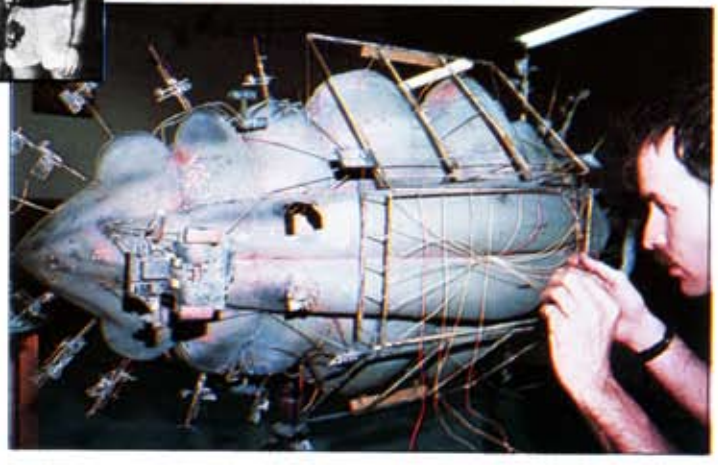
The emphasis on design is more than merely decorative—Scott felt it was essential to the film, and he demanded logical answers to the problems of urban design circa 2019. "The nightmare in my mind was that this look would merely become an intelligent speculation concerning a city 40 years in the future, and nothing more," Scott said. "Believe me, designing BLADE RUNNER was more of a challenge than ALIEN, simply because it's much easier to create the environment for a space film than a film that details life on Earth in the future. In outer space, everything just has to look technical. And once you get above a certain level, that becomes relatively easy.

"I insisted that BLADE RUNNER's final look be *authentic*, not just speculative," Scott continued. "Take clothes and cars, for instance. If you could take someone from 40 years ago and whisk him to Times Square today, he wouldn't have that many shocks in store for him, especially as far as clothing is concerned, since we're seeing something of a resurgence in '40s fashions right now. The only shock they're going to have will concern the sleekness of our automobiles."

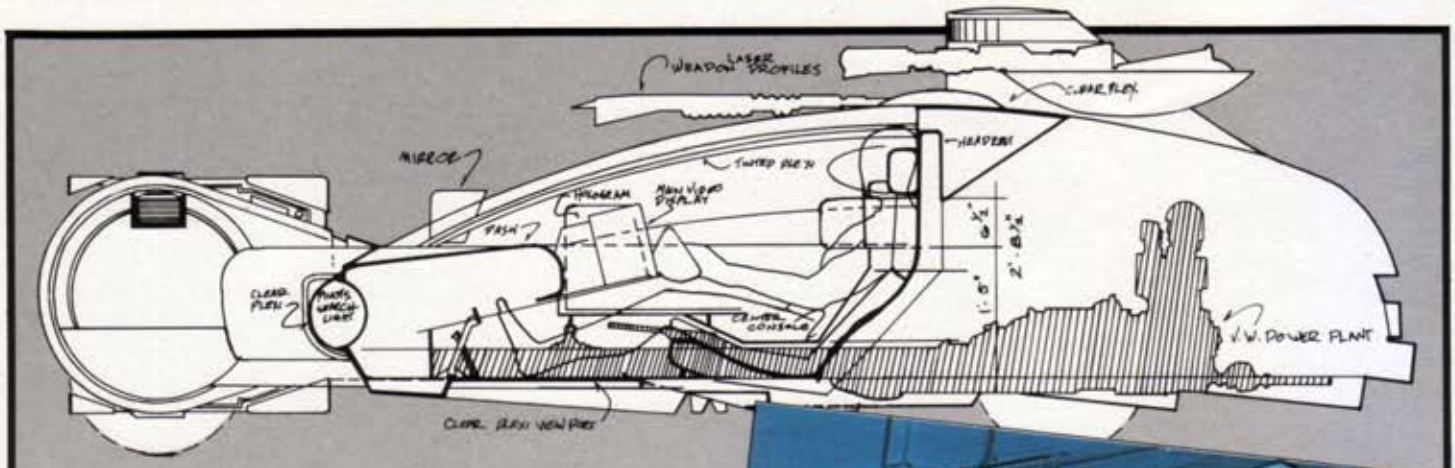
Scott continually walked the tightrope between elements that were too futuristic and those that were too reminiscent of current urban environments. "You go through rather frightening process everytime you made a design decision," Scott said. "Whether it's a telephone, a bar, or the shoes a character will wear, once it's been designed it must be lumped in with everything else in the film, for better or worse."

Scott's extremely complex stylis-





THE BLIMP that floats over the city (above)—bombarding residents with commercial messages—was one of the more unusual features of Ridleyville, and one of the most difficult to conceptualize. At least three variations of the Blimp were scrapped (including the beige version with a catwalk, shown top right), until modelmaker Bill George (inset, holding the final, four-foot model) came up with the plumpy look that Scott wanted. George worked with modelers Mike McMillian and Rick Guttierrez to create a web of antennas, tiny billboards and assorted protrusions to give the Blimp its proper scale. Bottom Right: Mike McMillian wires up the Blimp's lighting fixtures, which included several small "billboards" backlit with tiny florescent tubes, twinkling fiber optics, and tiny bulbs the size of a pinhead (normally used inside wristwatches) at the end of each antenna. The commercials that play on the two large screens were projected in 35mm during a second in-camera pass onto squares of silk placed over the Blimp's semi-transparent screens. The resulting double exposure makes the image appear almost holographic. The bars of light which pulse around the screens were bundled strands of fiber-optics, lit through a color wheel and shot during a separate motion-control pass.



A (Flying) Car Is Born

Auto customizer Gene Winfield builds the first two dozen vehicles of the 2019 model year.

To build the futuristic autos of Ridleyville, Ridley Scott turned to car customizer Gene Winfield, perhaps best known for building the full-size *Galileo* shuttlecraft for the STAR TREK television series.

With a crew of 35, Winfield created more than two dozen full-size vehicles. The cars featured fiberglass bodies and a VW chassis, except for the larger vehicles, which were built on the frame of Dodge vans.

"Originally they suggested that I use the engine and frame of a Camaro," said Winfield. "But I recommended Volkswagons because they're air cooled—you don't have to worry about a radiator—and because they're rear-engine. It would be a tremendous problem getting the Camaro's large engine within the needed body shapes."

Winfield's greatest challenge involved the building of four full-scale Spinners, including two that could be driven like regular cars, and one that could to appear to take off. Although Winfield's Spinners didn't really have to fly, their odd shape and mechanical requirements—including hydraulically-operated doors that lifted up and away—required a sizeable portion of his $800,000 budget.

Construction began with blueprints (top), which had been prepared for the miniature makers. From the plans, a full-scale wooden mock-up was assembled, from which molds were taken to create the fiberglass body pieces.

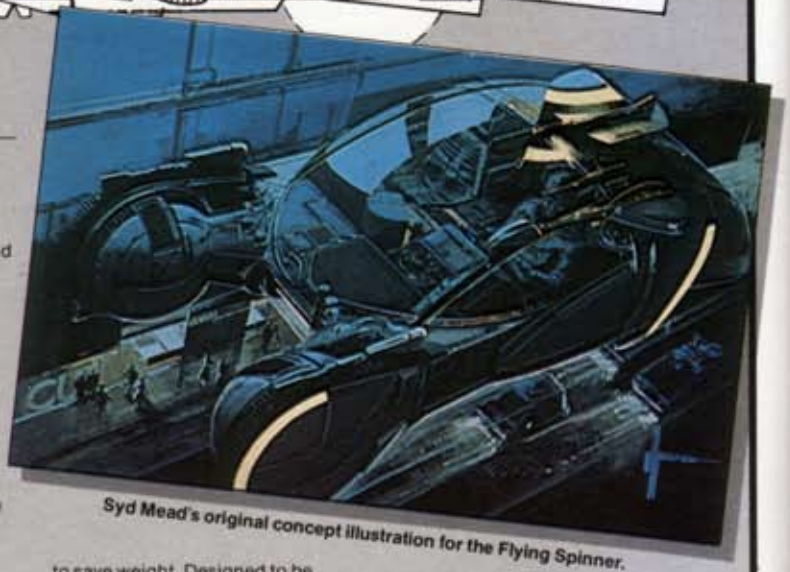
It took about four weeks to completely assemble each car, including the installation of the necessary hydraulics. The "street" Spinners used a standard VW engine and rear suspension, with a custom tubular steel chassis up front.

The "flying" Spinner was built from scratch over an all-aluminum frame to save weight. Designed to be picked up by a crane to simulate flight, extra hydraulics were installed to match the capabilities of the miniatures: the front wheels folded into the car, flaps dropped into place and moveable body sections channeled out jets of steam and carbon-dioxide.

"We also heavily detailed the bottom with tubes, lines and other paraphernalia so it would be interesting to look at," Winfield said.

All of Winfield's cars were freshly painted and (except for the flying Spinner) ready to drive when they left his Canoga Park workshop. They looked so good, in fact, that the art department often had to "dirty down" the cars, adding dents, grime and rust to make them appear older.

"You hate to see that sort of thing happen," Winfield said, "but I understood. They just wanted them to look as realistic as possible."



Syd Mead's original concept illustration for the Flying Spinner.

Right: Len Hokel finishes up the detailing in the cockpit of a Police Spinner. Two wooden boards prop open the hydraulic doors. Below: The completed Spinner as it looked when it left Gene Winfield's workshop. Art department crews later covered the vehicle with decals, extra hardware and dirt (see photo, page 35).

The Flying Spinner featured a custom-made aluminum frame (top right) and sophisticated hydraulic controls. Based on blueprints originally prepared for the miniature crew, a full-size wooden mock-up was built (center right), from which the finished fiberglass pieces were molded. Body panels were then individually bolted onto the chassis (bottom right).

tic sense was influenced by a number of sources, including Edward Hopper's haunting painting *Nighthawks*, which depicts a group of urban survivors frozen in silent meditation in the stark light of an all-night diner. "I was constantly waving a reproduction of this painting under the noses of the production team to illustrate the look and mood I was after," Scott said.

Further "atmosphere" filtered through Scott in the form of '30s photographs, Hogarth engravings, and, most importantly, the hallucinatory, skewed look of *Heavy Metal*. "I've always been a fan of that magazine, which I think deals with what I term 'half-fantasy,'" Scott said. "I particularly enjoy the work of Moebius [Jean Girard]. You can certainly see a *Heavy Metal* influence throughout BLADE RUNNER; Chew's costume, for instance, is pure Moebius. And we originally had a segment, subsequently cut, when Deckard visits a replicant's hotel, which is run by an old man with this incredible series of pipes running from his lungs into his mouth. This was supposed to be our version of a man with heavy-duty emphysema—a nicely surrealistic *Heavy Metal* touch." A similarly-bizarre image—a gorilla in a business suit used as a bouncer in a seedy hotel—was also storyboarded, but never filmed.

While designing his films, Scott often relies on a process he dubs "pictorial reference," involving the assembling of large numbers of pictures, comics and art books, and poring through them in a search for interesting artists and imagery. While engaged in such a reference binge, Scott stumbled across *Sentinel*, a 1979 art collection by industrial designer Syd Mead. The director was captivated. "A lot of the art in *Sentinel* was a bit too futuristic for what I had in mind for BLADE RUNNER," Scott said, "but I had the feeling Syd would be able to place his visions within our film's time period. I was specifically impressed with his automotive designs, and since Fancher's script placed emphasis on certain futuristic vehicles, I felt I might be on to something."

Mead was called in April 1980 by the film's production manager, John Rogers, and asked to meet with Scott. The 49-year-old artist brought with him a set of impressive credentials.

Mead began his career at Ford Motor Company's Advanced Vehicle Studio in Dearborn, Michigan. Two years later, Mead was hired by the Chicago-based Hansen Company, designing promotional booklets for such clients as U.S. Steel and Sony. In 1970, he formed his own design company, providing the concept for a Carribean Cruiseliner, working on mass transit projects, designing jumbo jet interiors and helping to build the supersonic Concorde airliner.

VISUAL CONSULTANT SYD MEAD

"I invented a social theory for each car—why it looked and acted the way it did. The theory rested on the projection that the city was in bad shape—that the consumer/exchange system had broken down."

Although his clients were all based in the present, Mead's primary concerns lay in future studies. "My futuristic interests were actually why Ford hired me in the first place," Mead explained. "Not only could I come up with advanced designs that weren't impossible, but I could also project them into a complete imaginary scenario, as opposed to an isolated rendering of a single car on a white board."

BLADE RUNNER was not Mead's first brush with Hollywood. In 1979, he had been hired to conceptualize the mammoth alien, V'Ger for STAR TREK—THE MOTION PICTURE, working with John Dykstra's Apogee group on the exteriors, and with Douglas Trumbull's effects team on the V'Ger interior. In addition, Mead contributed designs to Disney's new science fiction film, TRON.

Another Mead design—albeit uncredited—found its way into THE EMPIRE STRIKES BACK. The armored Snow Walker, credited to Joe Johnston of ILM, was based in part, on a 1967 illustration Mead prepared for U. S. Steel and reprinted in *Sentinel*. "I came up with what I thought would have made an excellent multi-terrain vehicle for the Army," Mead said. "Lucasfilm later admitted that the feet of the Snow Walkers were based on my designs."

As for BLADE RUNNER, Mead's first assignment was designing the futuristic, but recognizable, automobiles. "I first invented a social theory for each car I designed—why each auto looked and acted as it did," Mead said. "Basically, that theory rested on the projection that the city these cars moved about in—and by inference, the city's society as well—was in bad shape.

"The character of the city in the film came about, in my opinion, because the consumer exchange system had broken down," Mead continued. "You wouldn't buy a new car, you'd chop holes in the dash, add new anti-pollution devices or install high-speed air conditioning by modifying or replacing the existing units. This illustrates Ridley's ideas of *retrofitting*, a concept that permeates the film. Therefore, most of the film's cars have an accumulated, lumpy, added-on look."

Mead's role quickly expanded to include illustrations of streets, storefronts and props. "I picked up a general feeling of how they were going to slant the film in terms of scenery, lighting and so forth," Mead explained. "I incorporated these feelings to encircle the vehicles, which Ridley liked very much. Being able to help design the sets insured that my cars would seen in appropriate surroundings."

Although Mead's drawings have been reprinted extensively, the final word on the film's design was still that of Scott and production designer Lawrence Paull. "I was involved with the director on every aspect of the project that involved the look of the film," explained Paull, whose features credits include BLUE COLLAR, THE HIRED HAND, and LITTLE FAUSS AND BIG HALSEY. "That's what a production designer does: coordinate, approve and contribute to every set, prop, costume and color on the film. A *lot* of people were responsible for the final look of BLADE RUNNER, and there was a lot of creative input from all of them. On a show of this scale and scope, no one person could have possibly done it all.

"For example, my assistant art director, Stephan Dane, not only designed three large trucks and a bus, but also physically picked out a lot of our retrofit material, which consisted of cast-off mechanical parts, trash, foam, and so on. I sent Dane to the Monthan Air Force Base in Tuscon, Arizona and he rummaged around the salvage yards there, coming back with truckloads of the stuff."

Other key members of Paull's staff included art director David Snyder and set dresser Linda DeScenna. Five set designers were also hired. In addition, Sherman Labby and Mentor Huebner were brought on as production illustrators, serving up storyboards and concept sketches. "Labby worked very tightly with Scott on the continuity drawings," Paull recalled. "But it was somewhat frustrating. Scott is such a good artist—with a beautiful continuous-line style—that he's as good at storyboards as Sherman is. In fact, Ridley was responsible for hundreds of drawings throughout the film. We ended up calling these little 1½"x3" sketches, 'Ridleygrams.' They were visual telegrams indicating his ideas and showing us what he wanted. By the end of the show we had a bulging package full of them."

Paull frequently mentions the "team" approach to production design employed on BLADE RUNNER. When asked if these comments were a veiled reaction to the media spotlight focused on Mead

Right: Chew (James Hong) works in his icy genetic design lab, growing eyes for replicants. The set was built in a huge meat locker, where temperatures were kept below zero. Below: Ridley Scott (l) and producer Michael Deeley try to keep warm on the set.

Left: The Pyramid during assembly in an EEG smoke room. Paul Curley reaches over to position one of the towers as Mike McMillian (rear) and Mark Steton (right) size up the model. Right: The fully-assembled Pyramid is inspected by (l-r) modelmakers Mike McMillian, Tom Field, Kris Gregg, Chris Ross, Bill George and Mark Stetson, and effects supervisors Doug Trumbull and Richard Yuricich. The model was only enclosed on three sides; note exposed edges in lower left corner. Inset: The tiny window lights were the work of Trumbull's son, John Vidor, who spent days scraping paint off the acrylic wall panels.

—who, after all, was hired as a consultant and not a production designer—Paull paused for a moment. "Frankly, yes," he answered. "Syd was initially brought in to design cars and hardware, and he did a good job. But those cars didn't magically bloom overnight. It took more than three months to evolve those designs before Ridley and I were satisfied with them.

"I'm not trying to be snide about Syd here," Paull continued. "My point is that I used the futurist in Mead the same way I used Moebius' *Heavy Metal* work or Frank Lloyd Wright's architecture—as the best source of research in the world. I used all of the textural elements of this input as an *approach* to BLADE RUNNER's final design."

Pressed further on his feelings toward the Mead media blitz—including articles in *Omni* and several mass market film magazines—Paull admitted that he feels he and his crew have been overlooked in favor of Mead, who received his usual fee of $1,500 day—somewhat higher than union scale for set designers.

"It made me mad that articles were written about Mead indicating that, besides the cars and hardware, he had also designed all the sets and street scenes," Paull said. "He made considerable contributions in that area, as did I, but this was a *group* effort. You can see that by merely comparing the final look of the streets to Syd's preproduction paintings of them.

"Besides, the whole look of the film is ultimately Scott's," Paull added. "His is the unifying eye behind this project."

Scott wanted a look that was dark, crowded and foreboding; futuristic, yet at the same time somewhat nostalgic for the seedy urban centers of 40 years ago. "The feel of BLADE RUNNER is one of vast spaces that, paradoxically, are also claustrophobic and very heavy," Paull explained. "The look of the film is complex, yet at the same time it's basically an example of old architectural styles co-existing with the new ones. BLADE RUNNER is *film noir*; it all takes place at night. So I started to think of those late '40s, early '50s films which always starred a dark, brooding city, and then extended that look 40 years past our time.

"Another concept was that a lot of the environmental necessities of this city—plumbing, air conditioning and so one—are starting to malfunction. So how are these breakdowns handled? By 'retrofitting,' putting huge conduits and piping on the sides of buildings and sidewalks to provide the necessary services. Since the inner systems weren't functioning and the time and money weren't available to rip them out of the walls, it would be easier to merely service them from the outside of the buildings.

"The term retrofitting got a little out of hand, really," Paull admitted. "I've since been questioned about retro-deco, retro-trash and retro-chic. Although most of these terms were used on-set, they're just not that important. They were jokes, really, an additive layer to the overall architecture of the film."

"The theory behind retrofitting was basically 'organized clutter,'" Mead noted. "Another offshoot of this was something we humorously called 'trash-chic.' Deckard's apartment reflects this, because many of the furnishings, although obviously fairly new, have a strange, recycled quality to them. But I think 'retrofitting' helped to give the entire film a cohesive atmosphere and style, a direction that could be used to help the other designers pattern their work after."

The design for the future metropolis worked out by Mead, Paull and Scott features huge skyscrapers (up to 700 stories tall) supported on mammoth pylons half a block long and 60 stories tall. Current buildings would exist, in a modified form, converted into plumbing and delivery ducts, air-conditioning plants, storage areas, and service accesses to the mega-structures. Only the privileged classes would live above these 60th floor demarcation points. For those below, BLADE RUNNER's city gives a literal twist to the idea of "low-lifes."

Nowhere was Scott's fascination with "layering" more tangibly evident than on the set of this future megalopolis, built on the famous New York Street set on the Warner's backlot. Texture was everywhere; the street even *smelled* like a sleazy metropolis, with the ever present aroma of burnt coffee, wet trash and boiling noodles. Although the look is somewhat reminescent of Hong Kong, New York, Picadilly Circus and Tokyo's Ginza Strip, the City is clearly the original design of Mead, Paull and Scott, faithfully created in three dimensions. For lack of a better name, the crew dubbed it "Ridleyville."

Great wet clumps of paper (retro-trash) lay everywhere; thick corrugated pipes snailed up from the sidewalks and writhed across and through the facades of the buildings. Over the babble of shouted instructions from electricians and grips, Scott's new wave/punk extras (some of them carrying umbrellas with lighted handles, yet another odd visual touch) were nearly engulfed by the larger crowd of Oriental stand-ins wearing old, threadbare, quilted pajama suits—an indication of their lowly status. All in all, a seedy, striking *mileu*.

PROD. DESIGNER LAWRENCE PAULL

"Syd Mead was brought in to design the cars, and he did a good job. But those cars didn't magically bloom overnight. It took more than three months to evolve the designs before Ridley Scott and I were satisfied."

One of the film's design elements reflected the extreme overcrowding predicted for the giant, Asian-dominated metropolis, conceived to be two huge cities which had grown together. (Mead had the New York skyline in mind when designing the cityscapes, although the final print identifies the city as Los Angeles.) With a shortage of space, many of the arcades and shops in Ridleyville extend out *into* the street. Cylindrical bubbles on the second floor of a club called *The Snake Pit* extrude four feet out in the air; the bubbles hold mannikins wearing kinky S&M leather outfits, and oversized stuffed pythons.

Ridleyville was also conceived to be one giant advertisement, with huge commercial screens on the sides of buildings, a surreal blimp floating overhead with numerous billboards and two huge screens flashing commercials, and garish neon signs crowding the street level. Some signs advertised familiar products: Atari, Jim Beam, Trident, Michelob and Shakey's; others were for products as yet undreamt of; still others were elaborately lettered in Japanese. The largest neon billboard featured the garish image of a girl wearing a cowboy hat, whose left leg continuously moved in wanton invitation.

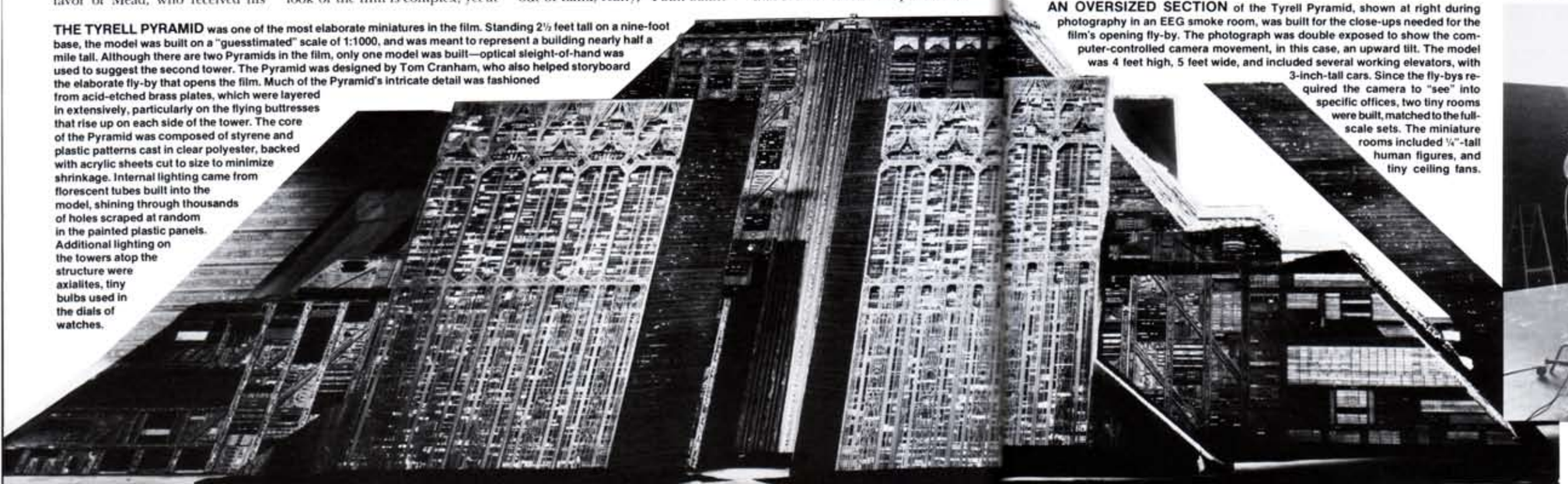
"We promoted nearly 50 bits of neon from various companies for the film," said Paull. "These companies didn't actually donate them, but were kind enough to give us the money to make them. All of the signs which we had specifically constructed for BLADE RUNNER were made by American Neon in Burbank, which spent nearly six months building them. Actually, American Neon only contributed two-thirds of the things you see in the movie. We inherited the rest of our neon from ONE FROM THE HEART after they were finished with their Vegas sets. That kicking cowgirl; she came directly to us from ONE FROM THE HEART."

Scott's vision of the future also included a near-perpetual acid rain caused by the out-of-control industrialization. To convincingly simulate those torrential downpours, an elaborate sprinkler system was erected about 20 feet above the outdoor set. Whereas most productions are content to use a single sprinkler head to drop rain on their streets, BLADE RUNNER utilized at least seven rapidly-spinning sprinklers to simulate a heavy downpour, necessitating lengthy set-ups while the rain effects were synchronized. The constant starting and stopping of this rain system resulted in a damp, perpetual chill on the set.

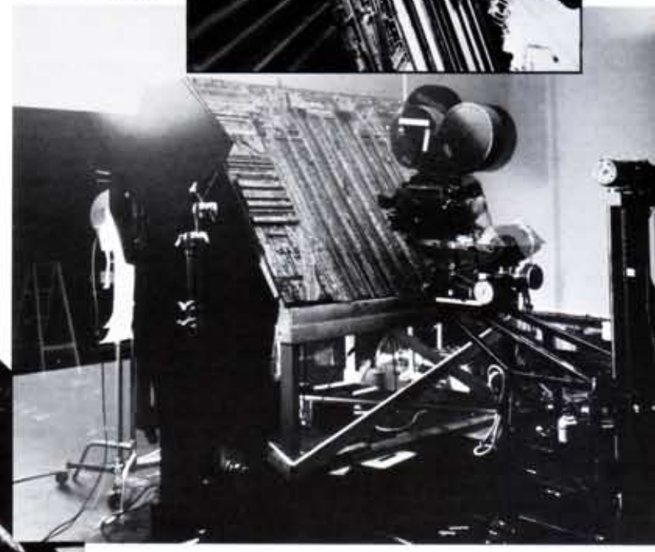
Combined with the shadows of the night, the rumbling sounds of the full-sized vehicles hissing down the rain-slicked streets, and the vapors rising from the occasional, discreetly camouflaged smoke pot, Ridleyville had been effectively transformed into the ultimate *noir* nightmare. One final touch: during many of the rain scenes, Scott had slow eerie music fed through overhead loudspeakers to help involve his cast and crew with the moody atmosphere he had so painstakingly constructed, and so breathtakingly achieved.

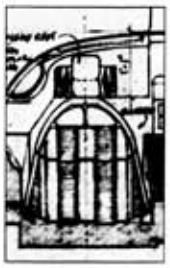
Chris Ross details the roof of the oversized Pyramid model. The miniature included a highly-detailed landing bay (shown below, while under construction) for which a 1" Spinner model was needed.

THE TYRELL PYRAMID was one of the most elaborate miniatures in the film. Standing 2½ feet tall on a nine-foot base, the model was built on a "guesstimated" scale of 1:1000, and was meant to represent a building nearly half a mile tall. Although there are two Pyramids in the film, only one model was built—optical sleight-of-hand was used to suggest the second tower. The Pyramid was designed by Tom Cranham, who also helped storyboard the elaborate fly-by that opens the film. Much of the Pyramid's intricate detail was fashioned from acid-etched brass plates, which were layered in extensively, particularly on the flying buttresses that rise up on each side of the tower. The core of the Pyramid was composed of styrene and plastic patterns cast in clear polyester, backed with acrylic sheets cut to size to minimize shrinkage. Internal lighting came from florescent tubes built into the model, shining through thousands of holes scraped at random in the painted plastic panels. Additional lighting on the towers atop the structure were axialites, tiny bulbs used in the dials of watches.



AN OVERSIZED SECTION of the Tyrell Pyramid, shown at right during photography in an EEG smoke room, was built for the close-ups needed for the film's opening fly-by. The photograph was double exposed to show the computer-controlled camera movement, in this case, an upward tilt. The model was 4 feet high, 5 feet wide, and included several working elevators, with 3-inch-tall cars. Since the fly-bys required the camera to "see" into specific offices, two tiny rooms were built, matched to the full-scale sets. The miniature rooms included ¼"-tall human figures, and tiny ceiling fans.





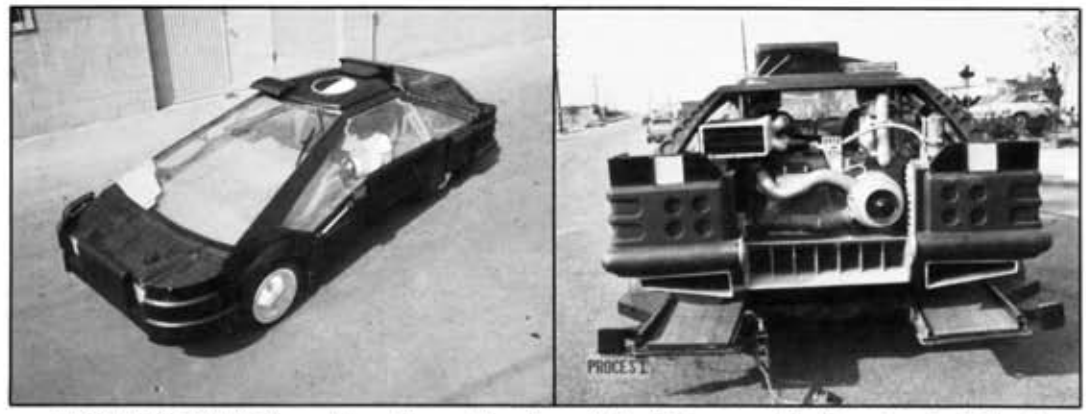
VEHICLES

One of the most important design concepts Ridley Scott had to face were BLADE RUNNER's vehicles. Unlike fashions or architecture, the look of Ridleyville's cars is sure to change 40 years from now.

Creating the necessary cars, trucks and taxis—and making them believable—was Syd Mead's primary function. Mead designed five basic vehicles, including an armored taxi; the People's Vehicle, a small, government owned transport; Deckard's private car; and, most prominently, the Spinner, a police vehicle capable of *flight*.

The vehicles had a thoroughly worked out history and function. "Ridley had his own particular vision for the cars," Mead said. "He wanted believable mechanical objects, but at no time did he want these vehicles—or any piece of machinery in the film, for that matter—to dominate the proceedings. He'd always say we weren't making a "hardware" movie like 2001. What he wanted were backgrounds that reflected an everyday, workaday level of technology, yet backgrounds that would still be sufficiently impressive to interest an audience."

Mead's designs were attractive, but they were also based on sound mechanical and practical concepts. For instance, the taxis were designed low to the ground to emphasize their load-carrying abilities. And Mead developed the People's Vehicle as a possible solution to the mass transit problem. "It's a little cart-like thing anyone can rent or lease, but not own," Mead explained. "You climb in, insert a card and pay for the time you actually use it. Then you simply leave it parked on the street when you're through, and it sits patiently waiting for the next customer."



DECKARD'S CAR (left) was designed to resemble a decommissioned Spinner, capable of street travel only. Visual consultant Syd Mead reasoned that the Spinner's air flaps and air-directional panels would be removed, but other original features—such as the heavy-duty windshield wipers and oversized bumpers—would remain. The car, like everything else in the city, has been "retrofitted," with new electronics and air conditioning equipment left on the outside for easier servicing (left). The car is shown here prior to final detailing—graphics, grime and a 2019 license plate were added later by the art department.

BLADE RUNNER's "star car" is undoubtedly the Spinner, the first design concept discussed at Mead's meetings with Scott. "The starting-off principle for my work in the film was that this futuristic society could produce a car that could fly," Mead explained.

Scott had originally conceived of the Spinner as a fairly compact coupe. Instead, Mead designed a larger, "Chevrolet scale" model which would lend itself to visually impressive, full-scale takeoffs. The artist also decided against the helicopter-blades and folding wings that had become a cliche. "Instead of unwieldy folding propellers or H.G. Wells-like appendages," Mead said, "I suggested designing the Spinner as an aerodyne, which is a heavier than air craft with an internal, enclosed lifting system built into it—something like the hovering Harrier planes the British have been using during the Falkland Island crisis. I insisted on an 'enclosed lift system' because the Spinner had to be believable. Folding propellers and wings wouldn't work in a congested urban traffic situation.

"The floor boards were built out of clear plexiglass," Mead added, "so that anyone in the passenger compartment could look down at their feet and see the city flying away beneath them. I thought this was a nice, simple, and practical navigational aid. If the instruments conked out you could always fly by the soles of your feet, so to speak. I'm not sure they used that little detail during shooting, though." Other design touches included heavy-duty windshield wipers and glass cleaning systems to deal with the highly-polluted air of 2019.

In addition to incorporating hydraulic sections which fold the the front wheels up inside the craft for its conversion to flight, and collapsible headrests built with self-contained speaker systems, perhaps Mead's most unusual Spinner detail was a hydraulic "twist-wrist" steering device. The traditional steering wheel was replaced with two in-dash holes into which operators placed each hand, grabbed a handle set within the hole, and, by turning their wrists, effectively guided the vehicle.

Mead's designs were turned over to draftsmen, who prepared detailed blueprints, from which both miniature and full-sized vehicles were built. Along the way, many refinements were made—some for practical and structural reasons, some ordered by Ridley Scott, who felt Mead's designs tended to be *too* futuristic.

"I set up the design format for each vehicle type and then let the draftsman and builders make necessary changes as they went along," Mead said. "What we ended up with was a curious accumulation of detail, a heuristic growth of odds and ends that the original concepts didn't include. I think the cars really do look believable because of this."

Although nearly all of Mead's designs were constructed full size, miniatures were needed to make the Spinner "fly." Mark Stetson, who supervised the film's miniature work, began by constructing a six-foot-long mock-up in his garage to work out, in three dimensions, some of the design difficulties. Stetson made a number of changes to suit Scott, including altering the Spinner's roof from a laser gun to a more-conventional siren and flashing lights.

Stetson's crew built detailed Spinners in varying sizes, from a tiny model barely an inch long to a highly-sophisticated four-foot model with nearly enough built-in mechanics to drive out of the EEG facility on its own (see sidebar, page 41). In addition, several other flying vehicles were built to add more detail to the panoramic flybys. "Three of these 18" background vehicles were made by Bill George in a week and a half," noted Stetson. "Since there was nothing crucial about them, very little design work was done. We simply repainted them as needed."

Most of the vehicles in BLADE RUNNER, however, were *real*, built full size, and able to drive under their own power through the short, zig-zagging streets of Ridleyville. To tackle the job of translating Mead's designs to fiberglass, rubber and steel, Scott chose Gene Winfield, an old hand at cinematic car customizing.

Winfield has built a career on producing vehicles and props for television and film companies. In the 1960s, Winfield joined up with AMT, a leading model kit company, building full-scale, functional versions of unusual model cars to be used for promotional tours. Winfield was introduced to Hollywood through his AMT connection, designing and building Napolean Solo's $35,000 car from THE MAN FROM U.N.C.L.E. Another AMT deal enabled Winfield to design STAR TREK's full-size shuttle craft. Winfield also produced custom autos for GET SMART, IRONSIDE and T.H.E CAT, and created eight vehicles for Woody Allen's SLEEPER.

Winfield was first contaced on BLADE RUNNER while the project was still being shopped around

In his hunt for the renegade replicants, Harrison Ford questions a fish dealer (Kimiro Hiroshige) on Anamoid Row, a stretch of sidewalk booths specializing in mechanical animals. The set is a clutter of confusing, often-conflicting images, and is one of the best examples of director Ridley Scott's penchant for "layering."

Hollywood. "Universal Studios was budgeting the picture to determine whether they were going to produce it," Winfield recalled. "They wanted me to bid on it. They also wanted me to *design* the cars at that point. But then Universal dropped the whole thing.

"Four months later," Winfield continued, "Filmways called. I won the bid and went over to the BLADE RUNNER production offices. The first thing I noticed, of course, was that all of the cars had already been designed by Syd Mead."

Working within a budget that was "well under $800,000," Winfield spent nearly six months producing the needed vehicles, hiring a 35 member crew and working out of three different shops—two rented and his own facility in Canoga Park. Originally, Winfield was to build more than 50 full-scale vehicles; budget restrictions and design changes lowered the total to 25, among them, eight "sub-compact" People's Vehicles, four taxis and six sedans, including Deckard's car.

Winfield's cars were given more detailing than usual film vehicles. For instance, instead of flat glass panels in the windshields—the usual cost-cutting procedure—windscreens were fitted with curved plastic. However, the extra detailing occasionally meant deadline problems, and many of the cars were delivered straight from Winfield's shops to the set. Screenplay changes also meant the reworking of several designs, adding to Winfield's workload.

CAR CUSTOMIZER GENE WINFIELD

> *"We warned them that the hydraulic, twist-wrist steering would be difficult to operate. The steering systems were so critical and hard to drive that the first Spinner we delivered was immediately cracked up."*

"At one point in the script, Sebastian's van/motor home was featured much more prominently than it is now," Winfield said. "Well, that changed, but the van had been built by then and they liked it so much that we wound up making three of them. One was for Sebastian, of course, one was made over into a converted fire truck, and one looked like an ambulance. All of these were constructed from worked-over Dodge vans with an extra axle added, so that, in the end, they'd look like anything *but* a Dodge van."

Winfield also built four different full-scale Spinners (see sidebar, page 30)—two fully street-operational, one built out of lightweight aluminum and designed to be "flown" by crane for on-set "take-offs"; and one model dubbed the "breakaway" Spinner, built in three sections to facilitate filming interiors on an EEG effects stage. "Doug Trumbull was keeping tabs on our work all of the time," Winfield noted. "He'd occasionally drop by our shop to make sure we were doing things that would match up with the miniature Spinners his crew were constructing."

All of the Spinners were built to conform with Mead's paintings, right down to the "twist-wrist" driving system. Although innovative, the engineering detail proved too impractical. "We warned the production team that the twist-wrist steering—a very complicated hydraulic system—would be hard for an ordinary person to drive," Winfield explained. "We kept saying that they should send some people over to the shop so that we could train them on driving these things.

"What we feared would happen, did," Winfield added. "The steering systems were so critical and hard to drive that the first Spinner we delivered was immediately cracked up. After that, they decided they didn't have the time to teach people the proper way of handling these things. They had the hydraulics and twist-wrists pulled out and a regulation system installed. That's how these small chain-link steering wheels ended up on the cars. They were the smallest, cheapest things you could buy, and they hoped their size would enable them to film around them, so they wouldn't be visible. I sure *hope* they never show on camera!"

Although Windfield's contribution was crucial, he did not built *all* of the film's cars. In keeping with the retrofitting theme, modern day vehicles were altered for use in the background of street scenes. "These weren't custom jobs in any sense of the word," Winfield said, "but old cars from the '60s—Plymouths, Cadillacs and the like—that had been crutched up with tanks and tubes and stainless steel gimmicks. They're mixed in with my cars during the big traffic jam. I'm fairly sure that they were the handiwork of the production guys, although there may have been some input from Dean Jefferies, another film car designer."

Although most of Winfield's previous custom cars have been prominently featured in promotional tours, only five of Winfield's 25 vehicles remain intact, the rest were destroyed by Mother Nature and Warner Bros.

"On the night of May 14, 1981, at around 11 o'clock, a fire started two doors over from me and spread to our shop," Winfield recalled, "It totally consumed our building, destroyed all our tools and equipment, and burned two of the BLADE RUNNER vehicles down to the ground. And we were *working* in there at the time! That fire really put me in a state of shock, because I wasn't insured for it. We were working literally around the clock, and the fire insurance had simply, totally, slipped my mind. I finally absorbed the costs, but it was touch and go for awhile."

The rest of Winfield's cars were destroyed—intentionally—after the shoot had wrapped. "They were destroyed so they wouldn't show up in any other movies or TV shows before BLADE RUNNER opened," Winfield said. "They did keep two Spinners, two of Deckard's sedans and one police sedan, though. If I'm lucky, I'll get the contract to restore the Spinners and we'll take them to Europe for a promotional tour!"

THE SPINNER at rest on the rain-soaked neon-lit streets of Ridleyville (below) and in flight over the city (left). Scenes in the Spinner's cockpit were filmed on an EEG stage early in production; the video imagery and the backgrounds were both matted in later. This particular shot through the Spinner's windshield was one of the most complex in the film, requiring 35 separate elements to complete.

RIDLEY'S INFERNO was the name given by the crew to the vast industrial complex that surrounded the city. Although appearing to stretch for miles (see photos, page 20-21), the forced perspective miniature was just 13 feet deep and 18 feet wide, made of edged brass and sculpted foam over a plexiglass base. The miniature was designed by Tom Cranham and Chris Ross to resemble the massive refineries currently found in New Jersey and Long Beach, but on a far greater scale, and included more than 2,000 individual light sources. Above: Chris Ross (l) and George Trimmer add painted details to molded foam structures in the foreground of the miniature. Only the front of the model was fully detailed, including several large brass towers bolted onto the front of the tables; the rear was merely rows of edged brass silhouettes, positioned by Ross in diminishing scale, after first checking the perspective with paper cutouts (inset). Above left: Trimmer (l) and Leslie Ekker detailing one of the three 6'x13' tabletops used for the miniature landscape. Assembling the model in three pieces made it easier to move to the shooting stage, and allowed for greater flexibility when shooting the Inferno as a backdrop to other miniatures. Below left: Ekker and Trimmer (r) work on an upended tabletop, stringing some of the seven miles of fiber-optics needed to light up the set. Using industrial facilities in the nearby San Fernando Valley as reference, effects supervisor Dave Dryer used dyes to tint the lights various shades of red, orange and yellow.

PRODUCTION

While Ridley Scott, Lawrence Paull and Syd Mead concentrated on creating a believable urban environment, circa 2019, producer Michael Deeley concentrated on the environment of Hollywood, circa 1980-81. As is the case with most major productions, the route from script to screen was anything but smooth.

Even figuring out what to title the project was difficult. DANGEROUS DAYS was soon dropped, and in casting about for something else, BLADE RUNNER (Ford's code name in the script) was chosen as a suitable working title. It was not until nearly one year later that the title was made official.

Shortly after the name was chosen, it was discovered that there already existed two books titled *Blade Runner*, one by William Burroughs and the other by science fiction/fantasy writer Alan E. Nourse (concerning a society where medical supplies are so scarce they are supplied by smugglers known as "Blade Runners"). But by the time Deeley had licensed the books for the use of their titles, Scott & Co. had grown fond of yet another title, GOTHAM CITY. But Bob Kane, creator of *Batman* (whose adventures took place in a city of the same name) objected, and BLADE RUNNER it was.

Finding the right actor to portray Deckard had been one of the major challenges facing Scott and Deeley from the start. After wistfully musing on the impossibility of obtaining a 30-year-old Robert Mitchum ("What he couldn't have done with this role!" Scott exclaimed), they became interested in Harrison Ford. In addition to Ford's obvious bankability—his performances as Han Solo and Indiana Jones have helped rake in more than $500 million at the box office—they felt Ford had been given little opportunity to showcase his true talent as an *actor*.

"Ford hasn't been given much of a chance, particularly since STAR WARS, to show what he's made of," Deeley said. "We felt that Deckard's curious mixture of emerging sensitivity and hard-boiled bureaucrat would be an excellent chance for him to do that."

Obviously, Ford agreed. "The story has an element of psychological drama I've never dealt with before in a film," said Ford, who has also starred in such recent features as FORCE 10 FROM NAVARONE, HANOVER STREET and THE FRISCO KID. "One of the interesting things about Rick Deckard is that he's fighting fear. Shooting people is not something

Left: Doug Trumbull (kneeling), David Dryer and assistant Leora Glass block out a shot in the EEG smoke room. The large metal half-circle behind Trumbull is part of the frame of the 65mm motion-control camera. Right: Mark Stetson makes a last-minute adjustment to a miniature of the noodle bar at which Deckard is picked up by police, a model built by Bill George. The skyscrapers on the far left were undetailed, back-lit facades, with holes cut in to let the light through.

At EEG, where there's smoke, there's miniatures

Emulsified oil and computerized cameras created ultra-realistic cityscapes.

To create the scenic vistas that BLADE RUNNER's flying cars soar through involved the close harmony between the modelmaker's art and the science of motion-control photography.

While detailed models have been a staple of movie making for generations, computerized motion-control systems—which enables the camera to repeat movements *exactly*—are a relatively new innovation. "What could be called motion control was used fairly successfully on 2001," explained Doug Trumbull. "It consisted of very clumsy motors, linked up to gear boxes, which were taken off lathe machines, which were hooked to timing belts, which were hooked up to lead screws. The whole thing was very clumsy and it only ran at one speed. But nevertheless, it was motion control."

The state-of-the-art has advanced quite a bit in the intervening 15 years, and BLADE RUNNER's flying scenes were photographed on Trumbull's own "Icebox" system, developed for use on CE3K and able to control camera direction, exposure, lighting and movement of articulated models.

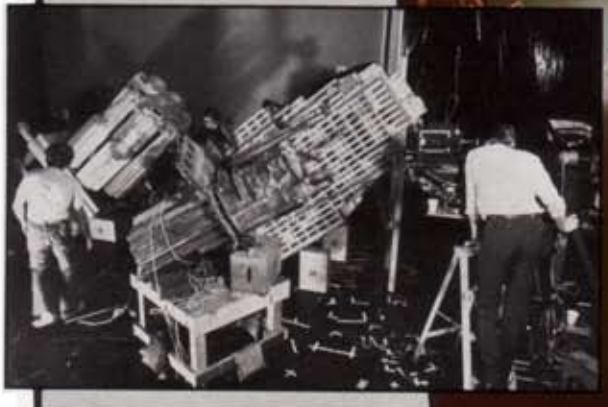
With nearly 35 separate Spinner/flying shots, the three EEG motion-control systems used in the film—whose tracks are laser-leveled and epoxied onto the floor for perfect steadiness—became crucial mechanical components. "We'd rehearse a motion-control move by first programming it and then repeatedly looking at the shot in black and white," said effects supervisor David Dryer. "When it was smoothed out and looked like it was doing what it was supposed to do, we'd take the system through a production shot."

Most effects houses shoot models in bright lighting against a blue screen. But EEG shoots their models in "smoke" to give them texture, pulling high-contrast mattes in a separate, no-smoke pass.

EEG's smoke room is 40 feet wide and 65 feet deep, and equipped with infrared sensors that constantly measure and control the density of the smoke (actually, emulsified oil suspended in air). The smoke is exceptionally irritating, so operators monitor the shots from separate booths. When "hands-on" contact is needed, gas masks must be worn by the crew (right).

When working in the smoke room during a shot, members of the crew wear gas masks to protect them from the oil-saturated air.

Below: Effects supervisor Dave Dryer looks through the lens of the 65mm motion-control camera to check a smoke-room set-up for a Spinner fly-by. Although the buildings are almost laying on their sides, they'll appear vertical as the camera spirals down toward the Precinct Station (far left). Right: The completed set-up, lit and ready to film. Note the rounded building in the lower center—that's actually the "Millennium Falcon" on its edge, redressed as a futuristic skyscraper.



Signage Of The Times

Creating Ridleyville's posters, patches, logos and decals, and a newsstand full of in-jokes.

Ridley Scott didn't want the sets of BLADE RUNNER to look like sets. Rather, he wanted audiences to think they were actually seeing what Los Angeles would look like in the year 2019. To help make Ridleyville real, illustrator Tom Southwell spent six months creating background graphics—a subliminally-perceived collage of magazines, posters, municipal signage and $100,000 worth of neon.

While little of Southwell's work is prominently featured on screen—except, of course, for the neon—the typographic assortment greatly adds to the overall impact of a *lived-in* environment.

"Lawrence Paull turned a number of graphic illustration tasks over to me," explained Southwell, a 1972 graduate of New York's Pratt Institute. "It rapidly grew into quite an assignment. I was with the film for six months doing this." During this period, Southwell designed the oriental neon signs (including the tongue-wagging White Dragon hovering over Deckard's noodle bar), warning stickers for the parking meters (shown page 22), and the trafficators' "Walk/Don't Walk" symbols (shown above).

Signs for WALK/DON'T WALK

Southwell—whose previous film experience included stints as production illustrator for ANNIE, RAISE THE TITANIC and THE MUPPET MOVIE—contributed to several departments involved with the film. For the costume designers, he provided the insignia, patches and badge worn by police officers.

Above: Tom Southwell's designs for (from top): Spinner decal; taxicab logo; restaurant trademark; and symbol for "Computer Repairs." Right: cover of 2019's leading men's magazine.

To the crews building the full-scale Spinners, he designed a license plate, jagged serial numbers and other decals, and also the three-dimensional "Spinner" logo, which was positioned on the rear of the car.

Southwell also assisted Paull and art director David Snyder in detailing the New York Street set—designing everything from advertising posters for drugs and cars to signs for the numerous storefronts. And working from Syd Mead's original concept sketch for the VidPhon, Southwell prepared the actual phone graphics, including Deckard's VidPhon credit card (shown page 28).

Southwell's most interesting assignment—certainly the one that gets the most attention—was designing 2019's magazine covers—a last-minute job that produced some of the most humorous examples of what life might be like in 2019. Given just four days to come up with covers suitable for a Ridleyville newsstand, Southwell created a number of startling titles, including *Krotch* (going for $29 a copy); *Moni*, with a cover story on "Illegal Aliens" by R. Scott; *Kill*, whose motto is "All the News That's Fit to Kill"; *Fash*, a large-format fashion magazine featuring an article on "Spray-on Swimwear"; *Creative Evolution*; and *Horn*, the skin mag of the future, with an article on "Hot Lust in Space."

Southwell's original designs were reproduced with a Xerox color copier, cut to size and glued directly to the covers of existing magazines, such as *Omni* and *Playboy*. Although the Xerox process was relatively crude, it was the only reproduction method fast enough to meet the deadline.

Delivered to the set, the 2019 magazines were mixed in with a number of contemporary magazines titles, including Scott's favorite, *Heavy Metal*, and the punkish *Wet-The Magazine For Gourmet Bathers*.

Like most of his other work, the magazine covers can barely be glimpsed on camera, becoming just another component in Scott's so-called "700-layer cake."

"I was always aware that my designs were a small tile in the overall mosaic," Southwell said. "In the case of the magazine covers—which were intentionally raw and unfinished—Ridley had simply wanted a fuzzy visual backdrop for the newsstand. It might have been nice to have gotten a closer view of those magazines, though. I'd put the names of all the top production crew right there on the covers."

A last-minute assignment to create background detail for a Ridleyville newsstand resulted in nearly a dozen unique magazine covers (including the three below), and some of the film's wittiest touches. Illustrator Tom Southwell included names of key personel where possible—note articles bylined by M. Deeley, R. Scott and L.G. Paull on cover of "MONI."

he likes to do. So even though he's a pretty good one, he's a reluctant detective at best. That ambivalence is an interesting facet of his character. He also gets beat up a lot."

Picked for the crucial role of Roy Batty was Holland's Rutger Hauer, perhaps best known to American audiences for his recent performance as Albert Speer in the TV miniseries INSIDE THE THIRD REICH. The 38-year-old actor—whose well-developed form makes him perfect to portray a super-developed military replicant—has appeared in nearly 20 features, including the Oscar-nominated SOLDIER OF FORTUNE and NIGHTHAWKS, in which he played a terrorist.

Other cast members include Sean Young (STRIPES) as Rachael, Ford's replicant lover; Edward James Olmos (an Indian steelworker in WOLFEN, and "El Pachuco" in ZOOT SUIT) as Gaff, Ford's jealous sidekick; and Joe Turkel (the ghostly bartender in THE SHINING) as Tyrell.

Late in 1980, while hundreds of designers, actors and technicians were massing towards the start of principal photography, an abrupt event nearly sank BLADE RUNNER: the film's financial backers suddenly pulled out of the film.

"The rumor was that Filmways decided to put their money behind another project," said a source close to the production. "Gossip had it that the other movie was BLOW OUT, which cost about $16 million. If that's true, someone made a big mistake."

In a turn-about that must have struck Phil Dick as poetic justice, Scott and Deeley first heard about the Filmways disaster by reading the trade papers. The stall could not have happened at a worse time. Preproduction was beginning to wind down, and if a new backer was not quickly found, it might prove impossible to reassemble the crew. Scott was also set to direct DUNE next (an assignment which has since gone to David Lynch) and if Filmways' pull-out delayed production, BLADE RUNNER might be without a director. Worse, a Director's Guild strike was planned for the summer of 1981. If the film was delayed too long, *nobody* would be directing.

Happily, the turnaround was brief. After approaching more than a dozen companies, Deeley received backing—on a budget now at $22 million—from Tandem Production executives Jerry Perenchio and Bud Yorkin; additional costs were absorbed by The Ladd Company, whose director, Alan Ladd Jr., had given the go-ahead to STAR WARS and ALIEN while a top executive at 20th Century-Fox.

After nearly a year of preproduction, BLADE RUNNER's principal photography got underway on March 9, 1981, three months later than first planned. Since most of the film is set at night, that's when much of the shooting took place, too. That meant that lunch was normally held after midnight and filming would wrap at 4 or 5 in the morning. This grueling pace forced Scott and other key personnel to survive on an average of four hours of sleep, as it was usually only a short time between the end of filming and the screening of dailies the next morning.

Deeley had originally scouted a number of actual urban locations, but it was soon agreed that the possibility of residents vandalizing the elaborate sets was too great a risk. Instead, the film's exteriors were shot on one of the largest—and certainly most widely seen—standing set in Hollywood: Warner's New York Street set. Built more than 50 years ago, the set has been used for such diverse fare as ANNIE and the Dead End Kids features, as well as the setting for such detective classics as THE MALTESE FALCON and THE BIG SLEEP.

The dimensions of the New York set are as impressive as its history. The H-shaped area is a full city block long, though with its various intersections and off-shoots, the storefronts and brownstones would stretch for several blocks if "unfolded." At the west end of the street was an intersection dubbed the "nightclub area," with bars, restaurants and department stores. At the opposite end was an X-shaped intersection, which became a small version of Times Square. "At one point we were going to hang a huge screen on this facade and throw front-projected plates of sumo wrestlers on it," Paull said, "but we never got around to it."

The basic construction of Ridleyville took ten weeks, with an additional month devoted to set dressing. "It was a very tight schedule," Paull said. "In the nightclub area, for example, were were literally finishing up details during the day for that night's shooting."

In addition to studio work, Scott staged several sequences in and around several Los Angeles locations, layering actual city streets with 2019 hardware, and letting the effects crew matte in mega-structures in the distance. Most of the Precinct Station interiors, for example, were shot over four nights at L. A.'s Union Station.

Another actual location was used for the home of J. F. Sebastian (William Sanderson), a shy genius who spends his leisure hours producing astonishingly realistic toys for the upper strata of 2019's society. Key scenes were staged in and around the historic Bradbury Building in downtown Los Angeles, which was commissioned in 1893 by millionaire Lewis Bradbury and designed by George Wyman.

"I imagined that this had once been a marvelous old hotel, but because of the off-world colonization push, Sebastian is the only person living there," Paull said. "He chose what used to be the Presidential Suite, and had done it up in a sort of neo-classical, French-Victorian design." Ironically, the building's design had been inspired by Edward Bellamy's *Looking Backward*, an early utopian novel set in the year 2000 that featured

SEBASTIAN'S HOME was set in the historic Bradbury Building, although its appearance in the film (inset top) hardly resembles the Los Angeles street on which it actually stands. The building's Renaissance exterior was dressed with large barley columns and a tattered canopy extending out into the street, to which futuristic traffic lights, parking meters and video monitors were added. A Matt Yuricich matte painting created the towering cityscape in the background. The hold-out matte (inset bottom) shows the extent of the live-action element. This is a blow-up of a 65mm interpositive, the low-contrast stock to which Yuricich must match his colors (see sidebar, page 47). Above: Sebastian exits his customized van, designed by Syd Mead and built by Gene Winfield. Since Sebastian is a tinkerer, the car is meant to look homemade, cobbled out of a variety of old and new components.

> *"What I've done in RAIDERS OF THE LOST ARK and BLADE RUNNER is 'Physical Acting.' Stunts are falling off a tall building or crashing a car, something you're silly enough to think isn't going to hurt the next day."*

HARRISON FORD

descriptions of the new buildings.

Sebastian's seven-room suite was constructed on the Burbank lot, with windows and other structural details keyed to the Bradbury building. But finding the proper furniture and decoration for the sprawling set was difficult. "We ended up renting, borrowing and stealing objects from all over town," Paull said. "Two of Sebastian's rooms are actually set up with units from MY FAIR LADY." The set was painted with a special rubber-based compound that peeled as it dried, creating an suitably run-down appearance.

Peeling paint was a subtle touch; Sebastian's fascinating collection of toys and automatons, however, upstaged such nuances. Dancers, soldiers and clockwork figures litter the set, many actually *objets d'art* hundreds of years old, obtained from Lenny Marvin, a collector of antique automatons.

"Once Ridley saw Marvin's automatons, he decided to use dwarves as automaton extras," Paull said. "If you keep your eyes open you'll see them: 3½-foot-tall living automatons who greet Sebastian when he comes home. Ridley also used suitably made-up extras to suggest that the toys were *all* automatons. For example, there were some women in body stockings standing up against the alley walls surrounded by genuine mannikins. Your eye doesn't quite take them in at first. Then suddenly, one of those women will ever-so-slightly *move*. Very freaky."

The Burbank Studios housed a total of 47 sets in addition to Sebastian's apartment. Among the most impressive was the office of Tyrell, the head of the firm that produces the Nexus-6 replicants.

"The concept of the Tyrell corporation is a kind of tongue-in-cheek extrapolation of what might happen if current experimentation in DNA developed into a large conglomerate," said Ridley Scott. "This sort of business certainly wouldn't content itself with producing bacteria that gobbles up oil spills. It would branch out into entertainment, aerospace or any other avenue it found open to its expansion."

Tyrell's office measured 1,600 square feet and featured 20-foot high columns, a black marble floor and a huge picture window through which the surrounding industrial complex can be seen (see photos, page 42) "The only comparable set I can remember in this context was Edward G. Robinson's office in LITTLE CAESAR," said Paull. "The scale of Tyrell's office is inhuman. It dwarfs the people within its space."

Originally, Paull wanted to build the set completely out of marble, but the budget couldn't afford it. His next approach featured raw concrete and granite. "I did a lot of research in the *moderne* style," Paull explained. "I also wanted Tyrell's office to smack of a neo-fascist or 'Establishment Gothic' look, because that was the character of the man—he literally ran his empire from a tower."

Another sprawling set was built for Deckard's apartment, designed to reflect both his bachelorhood and the oppressive atmosphere of his employment. Although it was equipped with numerous high-tech gadgets, Deckard's apartment was given relatively mundane furnishings. "Ridley specifically asked for an unusual color scheme on all of the appliances," noted Syd Mead. "It was a baked ivory look quite fashionable in the 1920s. Scott liked the antiqued feeling of the enameling, but when the paint we used for it got dirty, it really looked awful. But that didn't stop Ridley—he wanted to spray fingerprints and grease stains all over the door of the freezer."

Another non-studio location was used for Chew's Ice House, where a valued member of Tyrell's staff (James Hong) is interrupted in his micro-surgical genetic design work by two thoroughly peeved replicants. Two days were spent filming in a meat locker in Vernon, California, in temperatures that dipped below zero, after a crew spent nearly a week creating the icy build up, painstakingly adding layers of water to the objects in the room.

Additional visual touches for the Ice House—and for several other scenes—were supplied by Modern Props, an independent outfit that contributed to STAR TREK-II and ESCAPE FROM NEW YORK. Working with Linda DeScenna, the film's set decorator, Modern Props' major assignment lay in producing the strange optical instrument which can be seen bristling in the icehouse (the same unusual fixture also appears in one Anamoid Row booth).

"We have a large stock of modules, light panels and computer readouts," said the firm's president, John Zabrucky. "In fact, we have so much material on hand that it even threw Ridley a bit. He had come specifically down to our facility to get an idea of what he wanted for Chew's machine, and before we knew it, he was rummaging around and saying, 'I'll take this, and that, and this . . .'"

Much of the film's action involves the suspenseful cat and mouse chase between Batty and Deckard. Staged primarily on the Burbank lot, the sequence starts when Batty bursts into Sebastian's apartment after Deckard has "terminated" Pris (Daryl Hannah).

"I wanted to determine Batty's physical superiority from the first moments of the chase," Scott said. "In order to demonstrate his speed, I posed Harrison in an ambush position near a door of the apartment. Then Rutger Hauer entered another door farther down the room at a normal camera speed. However, before he could exit the frame, I had the camera undercranked, and he began to physically slow down, exaggerating his movements very, very, carefully. The combination of undercranking and slow movement on the part of the actor results in a rather convincing burst of speed."

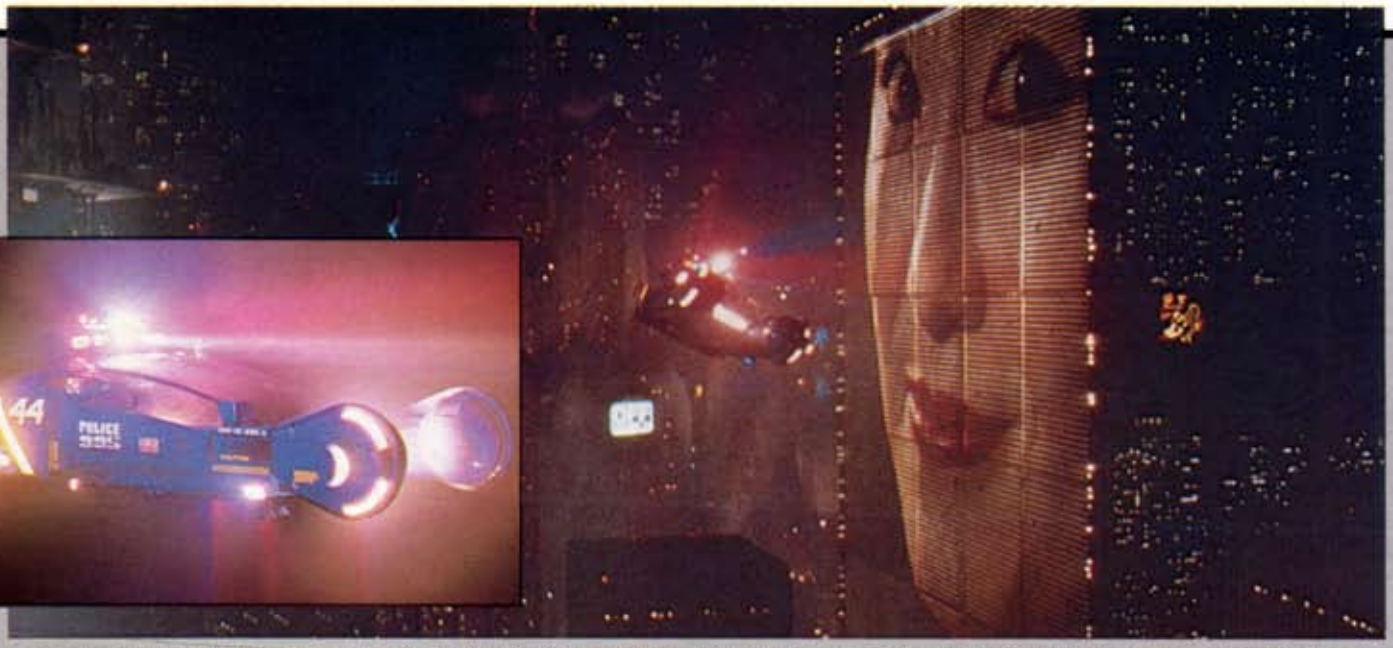
Much attention was given to Ford's firearm. After rejecting one futuristic Syd Mead design (it was eventually turned on its side and used as a telephone), Scott settled on a relatively conventional-looking weapon. "We all felt that a bright streak of light coming out of a barrel had become a horrible cliche, and we were sick to death of it," Scott said. "We transformed some German flare guns into large caliber weapons that Deckard could use to shoot straight through people. Then David Dryer came up with the idea that the pistols discharged a high intensity material that imploded on contact, drawing in so much light on the way that it became a black beam instead of a light streak. We dubbed it the Black Hole gun." Although plans called for an animated effect, Scott later decided against postproduction enhancement.

As usual, Ford did most of his own stunts. "I term what I've done in RAIDERS and BLADE RUNNER 'Physical Acting,'" Ford explained. "Stunts are falling off a tall building or crashing a car, something you're silly enough to think isn't going to hurt the next day."

By any other name, Ford did most of the punching, running climbing, and hanging-on himself. When Ford loses his grip while hanging on a window ledge, the only thing securing him was a tether attached to his waist (an air bag was placed 10 feet below, just in case). However, even Ford knows when it's time to turn the trenchcoat over to someone else: a leap between two buildings was the work of a stuntman.

Ironically, some of Ford's most dangerous moments before the camera were caused by the camera itself. "We were using a 65mm Mitchell camera—#3, the third one old man Mitchell ever made—which weighed about 75 pounds," explained Dryer, who supervised engineer a shot looking straight down on Ford (see photos, page 47). "With that kind of weight cantilevered out over Ford, there was always a risk that the camera would break a casting and come right down on him. So we rigged a special plate and support to get that camera actually looking back down over itself."

Deckard's apartment (below) was a sprawling, five-room set furnished with antiques and high-tech hardware. The set was done in a Mayan motif, which echoes the look of the Frank Lloyd Wright-designed Ennis-Brown house, which served as the entryway to Deckard's huge, cantilevered condominium complex.



A police Spinner banks smoothly as it flies through the concrete canyons of Los Angeles, a breathtaking composite of miniatures, matte paintings and front-projected artwork. The Spinner was a four-foot miniature (shown inset, with its internal electronics switched on), photographed separately in an EEG smoke room.

It flies through the air with the greatest of ease . . .

A 4-foot miniature stood in for Harrison Ford's Spinner as it soared through the skies of Ridleyville.

Although operable, full-scale versions of the flying police vehicles were built, miniature "spinners" were needed for shots of the car in flight, and to interract with the various miniature buildings constructed.

Four different sized Spinners were built: a 15" version was used for long shots in flight; a 4½" version was used to buzz the Precinct Station; a tiny, 1" model was placed on a model of the Tyrell Pyramid roof; and a ¼-scale model, nearly four feet in length, was used for the bulk of the flying shots.

Weighting 65 pounds, and costing nearly $50,000, the so-called "Hero Spinner" was sculpted by Tom Pahk and incorporated a dazzling variety of sophisticated functions. "There were two wing-like side panels and two articulated rear panels that opened up like an insect rubbing its wings together, and two wheel covers that rotated up or down," explained Mark Stetson, who supervised the film's miniature work. "It also had a dash that lit up just like the full-size car."

In addition, two 18" puppets, representing Harrison Ford and Edward James Olmos, were sculpted by Bill George, and articulated to include moving heads and arms. Bob Johnson was responsible for the Spinner's mechanical effects.

Like the other miniatures in the film, the Hero Spinner was photographed in an EEG smoke room. Generally, two or three passes were needed: one with the model lit normally; and one or two passes for "effects" lighting, including headlights and the flashing lights on the roof (shown top left).

Long shots often required the use of a 15" model because the EEG stages weren't big enough to make the huge Hero Spinner look small on film. "We only had 72 feet of [motion control] track to work with," explained effects supervisor David Dryer. "Even with a 28mm lens—which is quite wide for 65mm film—the Hero Spinner was too big in the frame to give the feeling that it was coming from way off in the distance."

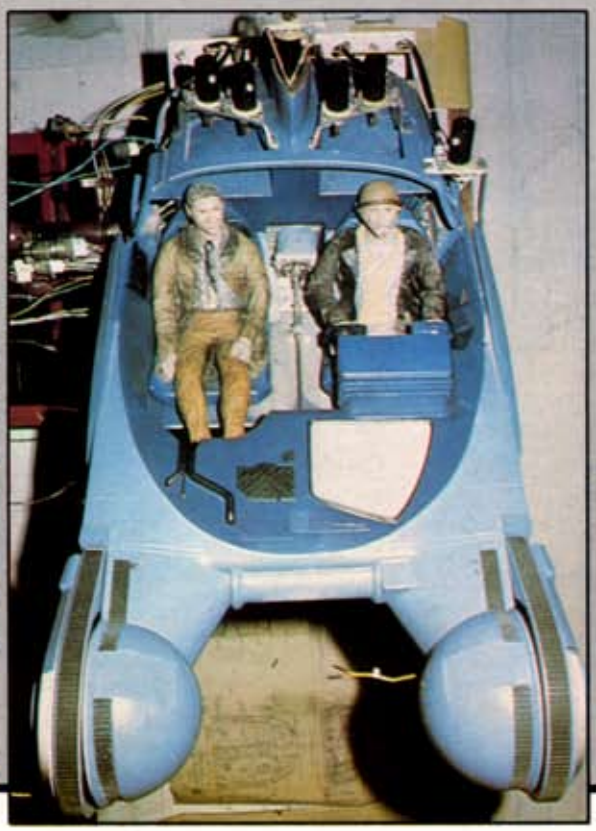
The large-scale miniature was meant to intercut seamlessly with the full-scale vehicles under construction. At times, it was a challenging assignment. For instance, the "wig-wag" lights (those red and blue spinning lights found on most police vehicles) had to match the *exact* rotation and pulsation of the full-scale Spinners.

"We shot the model on the EEG stage with 'appearance' lights that we could merely turn on and off. This was our 'wig.' " Stetson explained. "Then, using motion control, we returned the camera and model to the start and attached an appliance with a set of quartz lights mounted in cylinders with lenses (shown below, left), which sent out a beam of light through a hole. The cylinder rotated so that it cast this beam around. When we did the second shot with no other lighting involved, all you saw were these rotating beams of light. That was our 'wag.'

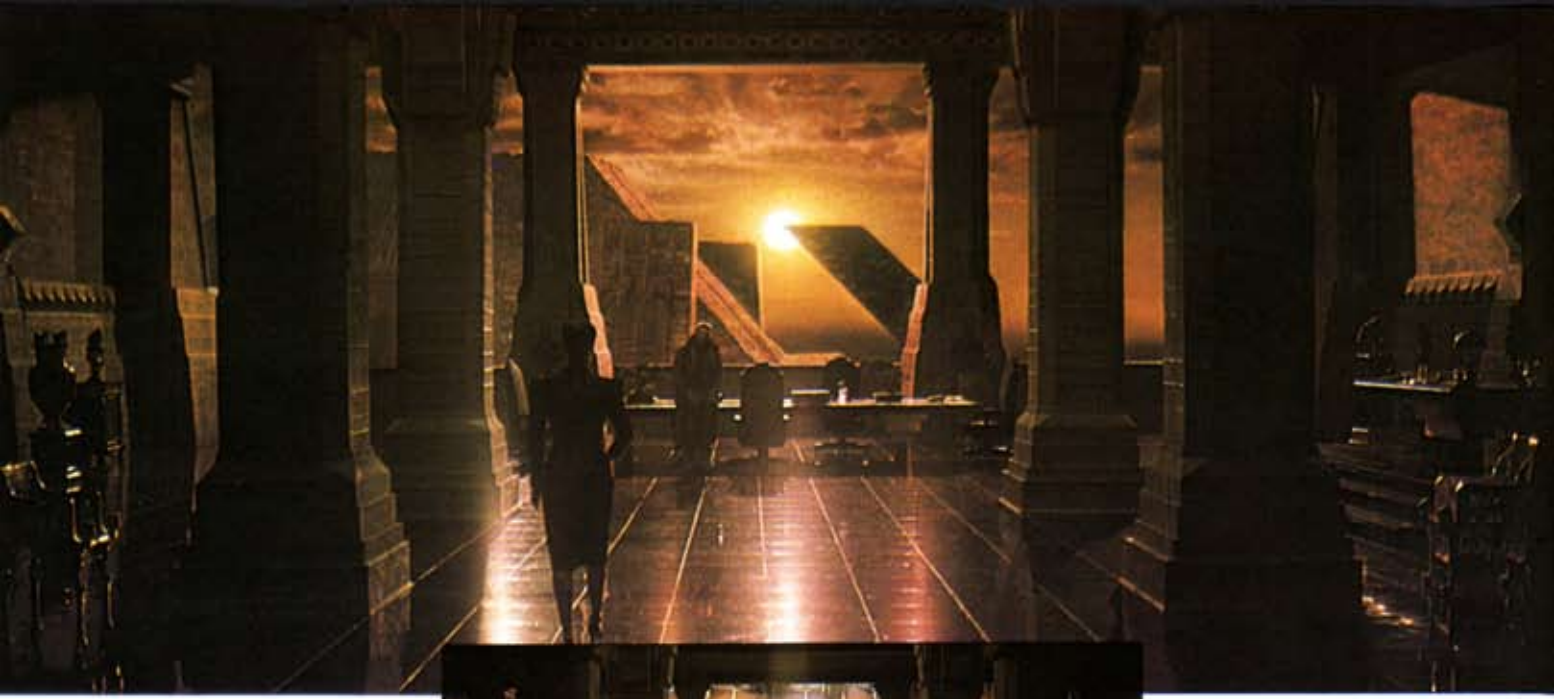
"By carefully planning out the rotational sequence of the real cars to our models beforehand," explained Stetson, "we ended up with a perfect synchronization between the two."

Although the Hero Spinner was indeed impressive, Stetson reflected the mood of many of the modelmakers. "We all felt that the model wasn't properly used," he said. "It never got its due in the final print. You just never saw enough of it, really."

Below: Modelmaker Bill George sculpted this figure of Harrison Ford (shown assembled, but still unpainted) for the ¼-scale "Hero" Spinner. A shaft through the neck let the head move while the car was photographed.



Left: The 45"-long Spinner, prior to final detailing and weathering. The apparatus on the roof created sweeping beams of light during motion-control photography. Below: Bill George wires up the detailed cockpit.



TYRELL'S OFFICE was a giant set on the Burbank lot, enhanced by a matte painting by Matthew Yuricich. Originally, the scene was filmed with a front-projected plate of the miniature pyramid thrown behind the actors, with yellow-gel arcs hung over the set to suggest sunlight streaming in through the window (inset top left). The front-projection plate was needed before the miniature pyramid was completely finished, so the available pieces were assembled, photographed and retouched by Yuricich. However, the final result was deemed unsatisfactory. "The front projection turned out to be a little softer than Trumbull wanted, so in I went with my paintbrush," said Yuricich, who eventually repainted most of the view through the windows, the ceiling and parts of the columns. (Note extent of hold-back matte, inset bottom left.) Yuricich also repainted the wall on the right side of the set because it had come out too dark as originally photographed by cinematographer Jordan Cronenweth. The sun coming through the huge office window was cel artwork, animated at EEG under the supervision of John Wash and optically inserted into the painting.

EFFECTS

It was clear from the outset that the film would require much in the way of sophisticated special effects. However, Ridley Scott wanted more than just flashy opticals, he wanted visuals that would fit in seamlessly with the gritty, ultra-realistic look that characterized the rest of the film's design.

He turned to one of the industry's true "wizards," Douglas Trumbull and his newly-formed Entertainment Effects Group, located in Venice, California. Founded with long-time associate Richard Yuricich, EEG is one of the most advanced and well-equipped effects shops in the industry.

"We have the largest, most complete special effects facility in the world, bar none," boasted Trumbull, who cut his teeth as an effects supervisor on 2001, and has gone to to create the effects for CE3K, STAR TREK—TMP and SILENT RUNNING, a film he also directed. "We absorbed most of Paramount's special effects operation when we moved into this facility, and now we're geared up with the total effects equipment spectrum: optical printers, our own 70mm cameras, multi-plane and motion control systems—everything. I think I can safely say that what we have is significantly larger and more complete than either ILM or [John Dykstra's] Apogee."

Regardless of which effects facility is the biggest, it's clear that Trumbull assembled an experienced team of artists and engineers for the project: Richard Yuricich would, with Trumbull, co-direct the entire operation; Robert Hall would head up the opticals team (as he had done on CE3K); Dave Stewart was picked as director of effects photography: Greg Jein would steer the miniatures department; electronics and motion control systems design would be supervised by Evan Wetmore; and Matthew Yuricich would handle the film's numerous matte paintings.

"Generally, my job on BLADE RUNNER was a supervisory one," Trumbull explained. "Richard Yuricich and I would conceive of the technique, design and general approach to any effects problem, and then direct the entire crew towards the end product of creating believable illusions. This included supervising lighting and perspective and deciding which photographic processes would be used. I just put it all together."

Although designing almost all of the film's effects shots, Trumbull's stint on the production was relatively short-lived. For years, he had been attempting to launch another project that would not only see him orchestrating the effects but directing as well. As BLADE RUNNER's effects work began to gear up, Trumbull received the go-ahead from MGM on BRAINSTORM, a film he would direct, co-author and create the effects for. (Natalie Wood's death near the end of production has thrown that project into controversy. See story, page 14.)

With Trumbull preoccupied with BRAINSTORM, and with partner Richard Yuricich shifting his attention to that project as well, 39-year-old David Dryer was brought in to supervise the actual shooting of the effects. Tall and lean, and invariably well-dressed, Dryer is a 1965 graduate of the U.S.C. Film School. For most of his career, he's designed and directed television commercials—the same high-pressure background that produced Ridley Scott.

"When I first came on, Ridley wasn't at all sure of my credentials or capabilities," Dryer recalled. "He was constantly double-checking with Richard or Doug on my ideas. I can't say that I blame him, really. But as time went on, Ridley understood that I was delivering the goods he was expecting from me."

Trumbull had been involved with BLADE RUNNER's miniature shooting for about a month when Dryer was signed to the project in April, 1981. "Doug and I overlapped each other for a week," Dryer explained. "He had already shot a few straight, non-background takes of the Tyrell Pyramid. It then became clear that his commitment to BRAINSTORM precluded his day-to-day involvement. However, he would occasionally drop in when he had the time.

"The fact that I was so heavily involved is certainly not meant to downgrade either Trumbull's,

Yuricich's or Scott's contributions," Dryer added. "Their input and invention was great. Incidentally, Scott doesn't ever consider how difficult something is if he wants it. If you made Ridley happy, then you'd really done something to be proud of."

Trumbull had originally set up a preproduction plan calling for 105 effects shots; a budget cut-back dropped the number of effects shots to 35, "the same number that had been executed on ALIEN," Dryer noted. "We were given $2 million to do those 35 effects, but many shots went through considerable alteration when Ridley got deeper into the production and saw just exactly what he wanted to do. Eventually, the number was increased to 85 shots. Our final budget also escalated, but not by much.

"It was with a great deal of satisfaction that we managed to come in just under budget, within $5,000 of our estimate," Dryer added with a smile. "That's something that you don't see happening too often on an effects-heavy film like this. In fact, it almost *never* happens."

Three EEG stages were primarily used: the "smoke" room; Stage 2, where the smaller motion-controlled Spinner traffic was photographed on a 72-foot track: and the Compsey stage, where the majority of flat work, multiplane clouds and interior Spinner video imagery was filmed. The 22,000-square-foot facility also contained the workshops where one of the film's largest miniatures took shape—the industrial complex called the Hades Landscape—and referred to by the cast and crew as Ridley's Inferno—a 13'x18' forced-perspective tabletop (see photos page 20-21, 36).

"It is this incredible sort of New Jersey industrial wasteland gone beserk," Trumbull explained. "It has thousands of light sources, the Tyrell Pyramids, and spouting flames burning off toxic gases from towering smokestacks. To obtain these effects necessitated a rigorously-controlled combination of miniatures, motion control passes and front projection."

Front projection, specifically, was used to produce the sulfurous flames spewing from the landscape's towers. A small crew under the direction of Robert Sperluck shot a number of high-speed 35mm gasoline explosions, which were then projected onto white foam cards slotted into the top of the miniature towers during a second computer-controlled exposure.

"All you'd see on the negative was the fire," Dryer explained. "This was later optically added with a cover matte, so that you wouldn't see too many of the other light sources through the flames."

Two Tyrell Pyramids are visible in the background of the landscape. Although major pyramid scenes were shot separately and matted in, long shots employed large transparencies physically mounted onto the miniature set. "Since the perspective of an object that big and that far away is almost flat anyhow, there's nothing to give away the fact that they're really only stills," Dryer said.

SFX SUPERVISOR DOUG TRUMBULL

"We had so many in-camera passes and flashing lights in some shots that we couldn't feed all the information into the computer. We actually had guys sitting around with switches to turn some lights off and on."

The table-top was constructed over a plexiglass foundation and lit from beneath. In addition, miles of fiber optics were threaded into the landscape and hooked up to 20 small boxes, each equipped with several small projection bulbs whose brightness was controlled by Trumbull's "Icebox" motion control computer (developed for use on CE3K, and also used for STAR TREK—TMP). The computer had been programmed to not only suggest steady illumination, but a number of flickering flame sources.

"We'd drive everything we could on the 'Icebox' [named for its bulky appearance]" Trumbull noted. "In some shots, though, where we had so many lights flashing and up to 10 in-camera passes going on, we simply couldn't feed all the information into the available computer channels. So we actually had guys sitting around with switches to hit these light sources off and on at certain cue points."

The film's miniature crew, originally to be headed by Greg Jein, had undergone a change of command somewhat similar to Dryer's stepping in for Trumbull and Yuricich. Jein, who created the outstanding miniatures for CE3K and 1941, was involved with Francis Coppola's ONE FROM THE HEART when contacted in the fall of 1980. Jein thought he'd be available in a month or so, and recommended that Trumbull hire Mark Stetson—who had worked with Jein on Clint Eastwood's FIREFOX—to facilitate the start-up of the model work.

However, by late October, it had become apparent that Jein would be unable to shake his Zoetrope commitment in time to switch over to BLADE RUNNER, leaving Stetson in charge.

At the age of 30, Stetson is one of the most admired modelmakers in Hollywood, with credits on STAR TREK—TMP, CE3K: THE SPECIAL EDITION and ESCAPE FROM NEW YORK. Once Trumbull and Yuricich gave the go-ahead, he immediately set up shop in EEG's Glencoe facility, originally leased by Columbia for CE3K.

Stetson supervised a crew that numbered as many as 20, including Wayne Smith (miniatures coordinator), Tom Cranham (an illustrator who had worked with Trumbull previously), Tom Pahk, Chris Ross, Bill George and Kristopher Gregg. Their responsibilities included the aforementioned Hades Landscape, a detailed model of the 700-story Tyrell Pyramid, miniature versions of the flying Police Spinner, and an assortment of towering, retrofitted cityscapes.

"BLADE RUNNER generated a *lot* of model work," Stetson said. "We were budgeted at about $700,000 and we stayed with the project, building miniatures and props, until August of 1981. I don't think it's unfair to say that they got their money's worth."

One of the most challenging assignments was the two huge Tyrell Pyramids that tower over the rest of the Hades Landscape. Actually only one 30"-high model was needed; optical sleight-of-hand created the illusion of an additional building. The general shape was worked out with a rigid foam mock-up. Tom Cranham then drew out detailed plans for the textured surface of the pyramid; some of the details were executed in acid-etched brass plates, others were made into clear plastic wall panels, which were later painted. The miniature pyramid, constructed on an incredible 1:1000 scale, also featured moveable elevators on the outside walls, for which later motion control photography created the illusion of independent movement (see photos page 32-33).

The film opens with a fly-by of the Hades Landscape and Tyrell Pyramid, concluding with a pull-in shot focusing on the office within the pyramid where Holden, Deckard's ex-partner, is about to conduct a near-lethal interview with a renegade replicant (one of the few incidents retained from Dick's novel). To film this element, a large section of the top of the pyramid was built—4 feet high, 5 feet wide—including two tiny model offices actually built into the miniature, with furnishings matched to the full-scale sets visible through the windows.

Perhaps the most complicated of the film's miniatures were the flying Spinners, of which at least four models of varying sizes and capabilities were built: a 15" version was used for many of the distant fly-bys through the city; a 3½" version was used to buzz the Precinct Station; a tiny, one inch model was placed on the roof of the large scale pyramid blow-up; and a four-foot model crammed with electronics and mechanical controls—dubbed the "Hero Spinner"—used for most flying shots (see sidebar, page 41).

In addition to the Syd Mead-de-

TYRELL'S DEATH was planned as a gut-wrenching effect, with a dummy head built by Marvin Westmore (shown below, with Rutger Hauer and Ridley Scott). But Scott wanted something less graphic, so he rigged actor Joe Turkel with thin tubes to make him "bleed" (right). Even this was deemed too strong, so Scott simply held the camera on Hauer and used sound effects to create the stunning impact.

> *"We were so frantic to get more buildings into the cityscape that we grabbed Bill George's model of the "Millennium Falcon," bristled it with etched brass and plopped it into different shots. Instant building."*

EFFECTS SUPERVISOR DAVID DRYER

signed Spinner, Ridley Scott decided the environment needed other flying cars, and in a last-minute request, turned to Stetson's miniature crew to come up with something that looked good. "Three of these background vehicles were made, all by Bill George, in a week and a half," noted Stetson. "Since there was nothing crucial about them, very little design work was done. They were 18" long and we simply repainted them as needed."

Ridleyville's miniature cityscapes—used as a backdrop for scenes of the Spinner flying, as well as certain establishing shots—began with a series of designs by Wayne Smith, who photographed existing Los Angeles buildings that he thought might be interesting visually, yet simple to reconstruct in miniature.

Aided by a series of renderings by production designer Lawrence Paull and art director David Snyder, Smith began work, hiring Jerry Allen to supervise a crew of six in the construction of a dozen large-scale buildings, some of which were eight feet tall.

"When Ridley came down to see the first set-up we'd made of the miniature buildings," Dryer recalled, "he didn't like it. Period. He'd changed his mind on the overall concept. Instead of the depths of the city, which is what he already had on the New York Street set, Ridley wanted to go into megastructures, huge buildings that had supposedly been erected on pre-existing structures. Ridley decided on this new direction after the city was complete, on the stage, and set for a shot. We were really caught with our pants down. It was pretty depressing."

Actually, one shot *was* completed using the large buildings, a sequence featuring a rear-projected Syd Mead painting of the metropolis that continued on into infinity. But for other aerial vistas, a whole new town was constructed.

"We had to move very fast," Stetson said. "We literally grabbed any shape, large leftover, or bit of cylindrical tubing we could get our hands on, and turned it into a building." Compared to the first set of buildings, these miniatures were drastically reduced in size, but vastly increased in scale. For example, what was supposed to be a 500-story building was, in reality, a miniature only four feet high. Thirty of these smaller structures were constructed, although some were merely pre-formed grid patterns backed with paper, with holes punched through for backlit windows.

To get enough buildings quickly enough, a number of other shortcuts were taken. Stetson arranged to borrow many of the small-scale skyscrapers built for ESCAPE FROM NEW YORK, and other modelmakers pitched in where they could.

"Bill George had been making a five-foot tall replica of the *Millennium Falcon* for his own amusement," Stetson said. "We were so frantic to get more buildings into the cityscape that we grabbed Bill's ship, bristled it with etched brass and plopped it into different shots. Instant building. The *Millennium Falcon* building is right next to the Precinct Station when the Spinner glides down towards it, and it is in a couple of other, differently angled shots as well."

Another recycled spaceship found its way into one of the film's effects highlights, the flight over the Precinct Station. "The roof was built from a mold I had originally made for CE3K: THE SPECIAL EDITION," Stetson explained. "It was made for the saucer-like ceiling of the 'ballroom' Neary stands in, the one that flies away towards the top of the ship. We pushed a lot of fiber optics through that." The Precinct Tower stood double duty for other buildings as well, painted different colors and put into the background of different shots.

Another attraction of Ridleyville was the strange, surreal blimp which floats over the metropolis and bombards its inhabitants with all manner of arresting advertising. Composed of a series of convoluted innertube-like shapes, and detailed with antennas and peeling old billboards (onto which new billboards have been built), the Blimp went through four design revisions before Dryer and Scott approved its contours.

"We wanted to get a doughy, inflated look, and went through a lot of experimentation," Stetson said. "Eventually, we stretched a surgical rubber sheet over a rack of templates and filled it with a whole bag of plaster to stretch it out."

Detailed with etched brass, the four-foot long Blimp was ablaze with light, including two large commercial screens, several smaller billboards and dozens of tiny running lights, necessitating several motion-control passes.

"That Blimp took a *long* time to film," Dryer said. "we sometimes spent days just shooting Blimp passes. Then we had to go in and optically add other things to it. Many of its axial lights were so dim, for instance, that we had to go back in to make them bright enough. We pulled long exposures on that, up to 40 seconds per frame."

The Blimp is not the only city artifact to bombard the viewer with commercial messages; the entire sides of *buildings* were also used to screen commercials.

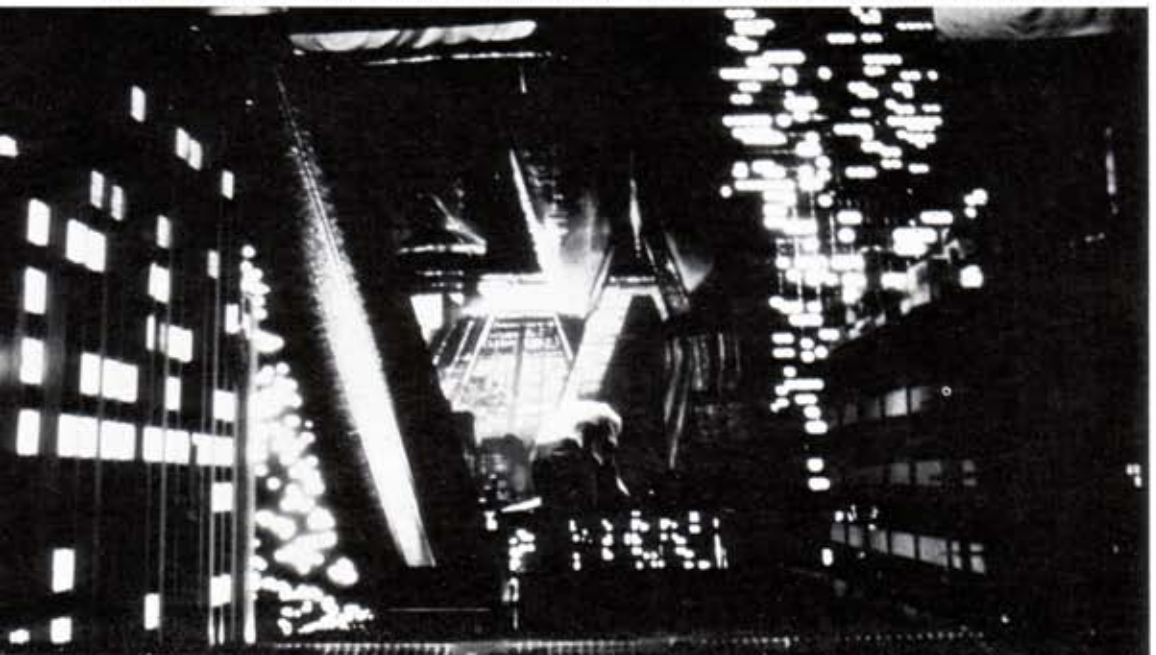
"One futuristic notion I am absolutely sure of, is that everywhere you look you'll be assaulted by media," Ridley Scott explained. "A visually-appealing offshoot of this concept was the idea of gigantic advertising screens, something similar to the scoreboards you see at most of the major stadiums here (see top photo, page 41)."

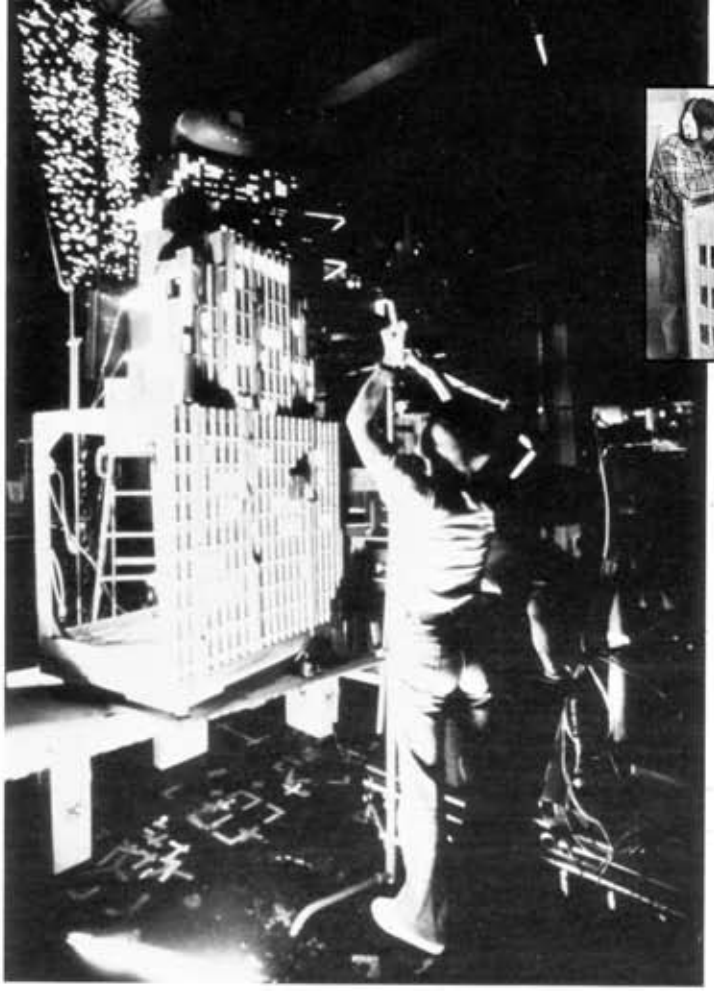
Reprising his long career in TV commercials, Dryer directed more than a dozen spots, in lengths of 15 to 45 seconds, photographed in 35mm at EEG. "We shot a lot of hard sell Oriental-looking commercials," Dryer said. "Then we took a silver-painted, plastic mold form material that looked like a series of tiny nubby light bulbs, and projected our commercials onto that. We actually painted out some of these little nubs to make it appear as if some of the bulbs had burned out." Ten screens were manufactured, ranging from 8"x10" to huge screens six feet high and four feet wide.

"About six screens were the most we used in any one shot," Dryer explained. "Our commercials were all projected with a 35mm interlock projector. In some cases, like the fly-in over the Precinct Station, the landscapes were so tight we couldn't fit the projector in to throw the commercial where a screen was supposed to be. So we ended up bouncing the images with mirrors and turning the film backwards in order to correct the visual orientation.

"Like the Blimp," Dryer continued, "it required many in-camera passes to do the advertising screens. We had to shoot effects

Chief modelmaker Mark Stetson sets up a miniature cityscape on an EEG soundstage. The buildings shown here represent the variety of techniques and resources used on the project. For example, one of the original, large-scale miniatures built for the film is in the left foreground, while Stetson is working on a row of miniatures of greatly-diminished scale, originally built for ESCAPE FROM NEW YORK. The view beyond Stetson, showing buildings hundreds of stories tall, is a rear-projected Syd Mead painting. The film's cityscapes were a hodge-podge of variously-scaled structures, rearranged for each particular shot.





MINIATURE CITYSCAPES were needed as a backdrop for shots of the Spinner in flight over and through the city. A team under the direction of Wayne Smith built a number of highly-detailed, large-scale buildings—1" to the foot—taking advantage of ready-made detailing used in the doll house trade. Above: Jerry Allen (l) and Suzy Schneider at work. However, after the buildings were completed and ready to film, director Ridley Scott altered the scope of the shots to include towering mega-structures. Almost overnight, Mark Stetson's miniature crew began turning out buildings that were short on detail, but vastly increased in scale. Ultimately, everything that was built was used, in an often kaleidoscopic blend of perspective and scale. Left: Bill George stands next to the motion-control track in the EEG smoke room, adjusting a light prior to filming a fly-by. In the foreground is one of the original "doll-house" miniatures, but great scale is lent by the relatively-simple facade in the background, whose array of punched holes make it appear to be hundreds of stories tall.

lighting, fill lighting, further effects lighting for the different element intensities, and then do each projection one frame at a time until we had 10 or 12 passes in camera."

Such unusual assignments were common for the EEG crew. Even what might appear on screen as a simple shot—such as interiors of the full-size Spinner with Harrison Ford and Edward James Olmos—presented a number of complicated effects problems.

"We were forced by a scheduling problem to go in and shoot the mock-up interiors with Ford and Olmos and *then* provide the background views for what was going on outside the windows," Dryer explained. "It would have been much easier for us to have shot those using rear or front projection while the actors were on stage."

To solve the problem, the Spinner interiors were filmed with a 65mm camera, incorporating interactive lighting effects coming through the windows and playing on Ford and Olmos. The dashboard lights were also turned on, but, interestingly, it was decided *not* to channel in video-imagery to the monitors because the cockpit was so confined. Dryer simply locked-off the shots and matted in the imagery later.

The typical solution to combining an interior with views of moving cityscapes below would be a blue-screen composite—the technique used in STAR WARS. But even with ILM's state-of-the-art hardware, such shots are almost impossible to perfect. "Blue screen—especially when you're dealing with windshields or other highly reflective surfaces—is almost impossible to deal with because of the spill," Trumbull noted. "We used no blue screen at all."

Generally, Trumbull uses "contrast mattes" to composite images, a technique also known as "front-light/back-light." To create a matte of a flying Spinner, for example, the motion-control move is repeated using black and white film, with a brightly-lit white screen positioned behind the darkened model. This silhouette creates an almost perfect matte.

However, for shots of the Spinner's *interior*, a somewhat simpler solution was devised. "We simply positioned a full-size Spinner windshield on stage, in front of a *very* large rear projection screen on which we ran the composite opticals of the flight through the city. The camera simply shot through the windshield.

"For further verisimilitude, I tried to time the miniature searchlights on the screen with the interactive lighting we'd done during the live shoot," Dryer added. "We also used air-guns to splatter water on the windshield to suggest the ever-present acid rain. We also added glycerine to the water to heavy it up. We'd done some time and motion studies to see how fast water would crawl across the glass if the Spinner was going at 100 mph, and the glycerine helped the illusion. All of this was later matted in to the live-action shot.

Providing moisture on the Spinner windshield wasn't the only water-based problem. Nearly every shot in the film has either rain or smoke in it, or both—elements that have traditionally generated huge obstacles for effects technicians. The traditional method of layering in rain—double exposure—usually results in an all too obvious foreground "curtain" between the viewer and the actors.

"Robert Hall and I worked out formulas for double exposures and cover mattes that had never been done before," Dryer said proudly. "We had to photograph individual layers and drops at different distances and specific angles for every rain shot in the film. Hall and I reasoned that the only way you can see rain at night is if it's backlit. To get this backlit effect, we'd do a partial composite of most of the elements in a scene—and with all the miniatures and mattes, there'd sometimes be 30 elements to a shot—and draw a low contrast black and white cover matte.

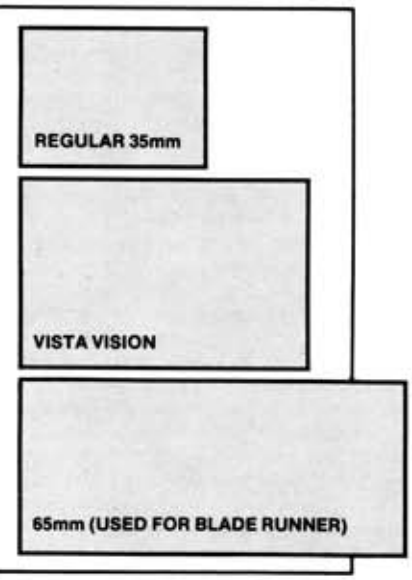
"Then we'd take that low contrast print, bipack it with a low contrast print of rain we'd shot against black, and run it through the optical printer. That would give the feeling that the rain was only backlit, so if there's an area in the background that's lighter you could see rain in front of it. If it's a darker background, you wouldn't see as much rain. Almost every shot used this technique."

The black and white rain shots were filmed at the Burbank Studios in front of a darkened building and in the EEG parking lot. Rain machines suspended at a height of 40 feet dumped the water for the camera. One layer of rain was shot at a time, although there was as many as four layers needed for a single composite. Multiple double exposures were the simple solution to yet another layered effect.

The solution for miniature smoke sprang from a discarded idea for shooting rain. "We were thinking of projecting water on little screens to get the feeling of rain pattering down in an alleyway as you passed it," Dryer said. "We never did that, but we ended up shooting smoke effects that way. We'd fix up a little 4" by 5" screen into an area within a miniature set, and make a pass to expose slow motion smoke on the card."

The final keys to BLADE RUNNER's effects work were the matte paintings provided by Matthew Yuricich (see sidebar, page 47), a

SHOOTING IN 65mm is one of the reasons EEG's special effects look so good. In many films, effects shots are easy to spot because of grain, color shift or other optical flaws. But it's nearly impossible to tell the live-action from the effects in BLADE RUNNER, thanks in part to the use of 65mm film for shooting and compositing effects sequences. (Films are occasionally released in 70mm; the extra 5mm is for the sound track.) Generally, the larger the negative, the sharper the image and the clearer the final composite. As shown at right, 65mm gives a tremendous advantage over standard 35mm and VistaVision (a process, used by ILM, that runs 35mm through the camera horizontally). Although a VistaVision frame is as tall as 65mm, one third of the height is cropped out when using a wide-screen (2.33:1) ratio. In contrast, none of the 65mm frame is wasted.



long-time Trumbull associate. However, Yuricich found his usual approach to matte work had been relegated to the back seat.

"I don't look on the BLADE RUNNER mattes as *real* matte shots," Yuricich said. "They'll probably cut my throat for saying that, but I consider most of my paintings in this film as an excuse for providing backgrounds for their flying toys. These mattes were necessary, granted, but not *primary*. When I ordinarily do a matte, like those on STAR TREK or CE3K, it's because they *have* to be there. But what I did on BLADE RUNNER was to really just lay out a background for the effects work going on in front of it."

Regardless, certain scenes would not have been nearly as effective without the contribution of Yuricich, who provided 20 full mattes "and a lot of partial ones" in his eight months on the project, including the view out of Tyrell's office window (see photos page 42), and a futuristic cityscape surrounding Sebastian's home (page 39). Yuricich also beefed up dark areas of the screen during Batty's final confrontation with Deckard and created multiplane haze and clouds over the Tyrell Pyramid.

"BLADE RUNNER was an unusual assignment," Yuricich said. "I don't think I've ever been involved with any film that includes such a wealth of detailing."

WRAP-UP

BLADE RUNNER's live action officially wrapped on the last day of June. But since the threatened Director's Guild strike never materialized, Scott continued to shoot pick-up scenes until the second week of July.

With the wrap came the usual flurry of postproduction activities. Scott found himself on a constant shuttle schedule between England and America supervising the editing, dubbing, and postproduction optical effects. Vangelis, the Oscar-winning composer for CHARIOTS OF FIRE was dubbed to provide the hypnotic score.

The publicity machine also began to gear up. In January, the first BLADE RUNNER trailer was released (prominently featuring The Ink Spots singing, "If I Didn't Care"), and a 16-minute promotional film (featuring interviews with Scott, Ford and Mead) was circulated through the country's various horror, fantasy and science fiction conventions.

And then came the sneak previews, first in Denver and Dallas, and then in San Diego a few weeks later. The SRO crowds initially greeted the newest Harrison Ford/Ridley Scott opus with wild applause, but it soon became apparent that these viewers were *Ford* fans, primed for the streamlined action heroics of RAIDERS OF THE LOST ARK and STAR WARS, and unprepared for the downbeat, *noir*ish aspects.

Yet the less-than-enthusiastic response left Scott unworried. "A sneak preview is usually never the final print of a film," Scott said. "It is a rough cut, an assemblage used to gauge audience reaction and to reorient the filmmaker towards a popular perception of his product. In this respect, I think the Denver/Dallas sneaks served their purpose.

"Besides," he continued, "I think that the only true audience problems concerned the climax of the film. We originally ended with what we felt was an ambiguous finale—European, if you will. The preview version climaxed with an elevator door closing on Rachael's face, leaving the nature of her and Deckard's plight unresolved. It was fairly apparent that the crowds didn't care for this. Fortunately, we had also shot an alternative ending, with Deckard and Rachael leaving the city together in a Spinner, heading towards the unpolluted Northwest. I should think that it will be better accepted than our first choice."

However, the reaction to the new ending at the third preview, held in San Diego, was decidedly mixed. Some in the crowd felt that Deckard's voice-over—explaining that Rachael is a new model replicant with no implanted termination date—was too pat, or worse, a dramatic cop-out.

Despite the varied response to the new ending, response to the preview was more enthusiastic. There were, for example, no walk-outs from the sold-out auditorium. The expectant audience had included Michael Deeley, Joanna Cassidy, Alan Ladd, Jr. and Ridley Scott, who remained in the theater lobby until every preview reaction card had been filled out and deposited.

The director was in high spirits after the screening, smiling and answering questions from the crowd, stating, "This has been our best response yet."

Although many in the crowd felt the film had a profound message, Ridley Scott, for one, did not agree. "I must say that I'm not comfortable with these issues of morality," Scott confessed. "Making a film is, to some extent, like wielding a propaganda weapon. Either you take the clear-cut position that you're making a statement, or you entertain. In BLADE RUNNER, I would go so far as to say that the design is the statement."

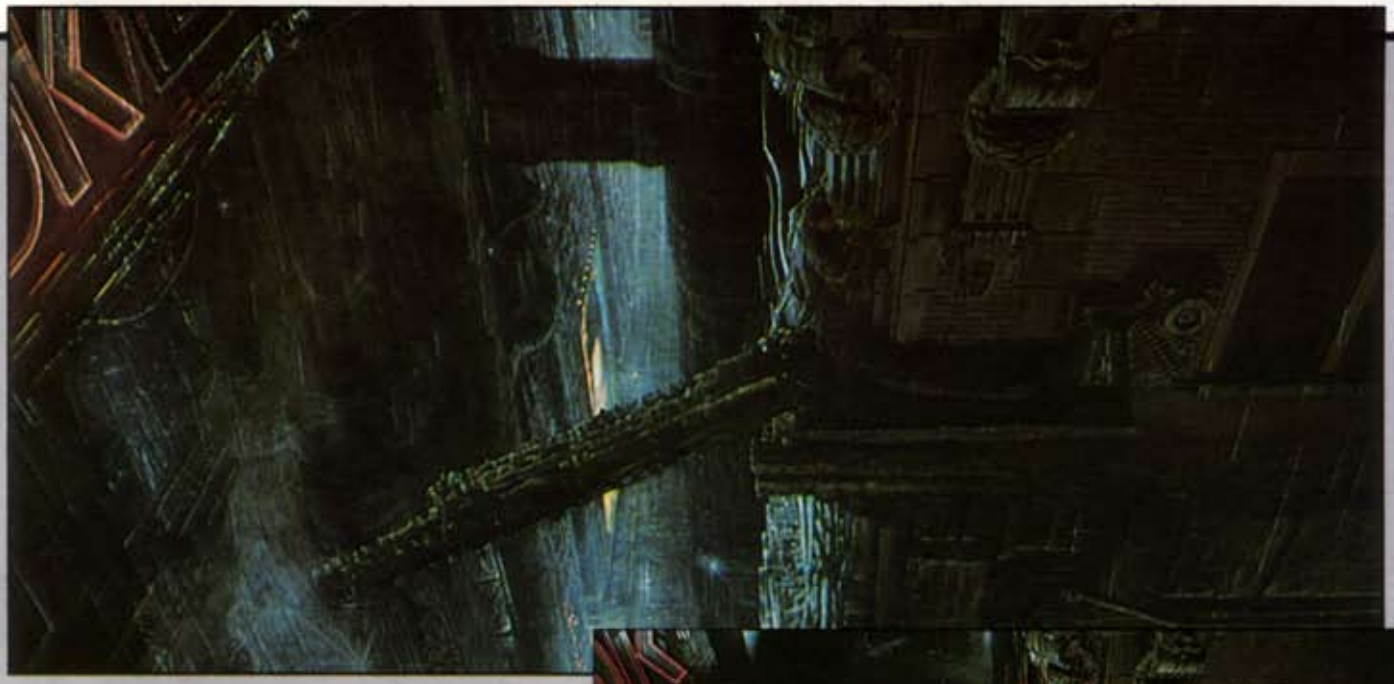
When pressed on the ethical questions that the film raises, Scott shrugged them away. "I'm not going to tap-dance around that question and be accused of making a statement movie," he said. "There is simply no intentional message in this film, although people will read all sorts of things into it. Basically, I see filmmaking as creating entertainment. If I'm not in this business to entertain, what am I in this business for?"

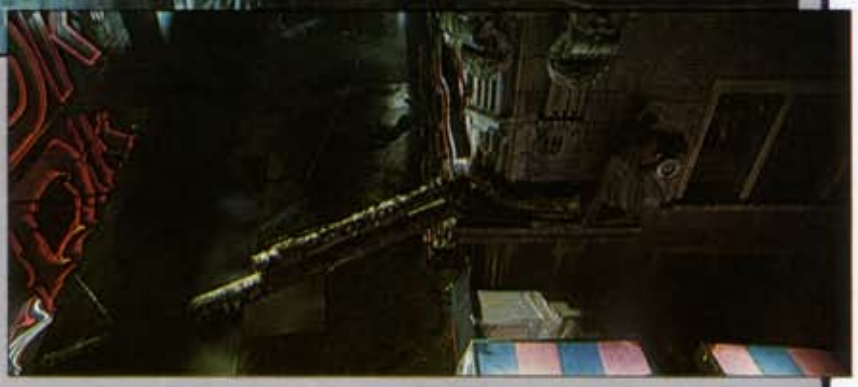
Whether or not Scott has succeeded in entertaining the audience won't be known until June 25, BLADE RUNNER's national release date. But unfortunately and most sadly, the man who had been primarily responsible for the film's existence never saw the final print.

On March 2, 1982, Philip Kendred Dick died. The author had been recuperating from a stroke—and had been diagnosed as having every chance of recovering—when a second stroke and subsequent heart attack took his life.

The immutable, alternating cycles of existence—of which Dick had so imaginatively written—played out their last ironic card: the premier cinematic adaptation of Dick's work breathed its first breath with the author's last. Regardless of BLADE RUNNER's final merits, the film will most certainly expose a sizeable new audience to the craft and genius of Philip K. Dick's fiction. If for no other reason than this, the struggle to bring *Do Androids Dream Of Electric Sheep?* to the screen will have been vindicated. □

THE CHASE between Rick Deckard and Roy Batty concludes on the rooftops of Ridleyville. At this point, Harrison Ford is beaten, broken—literally—and desperate to evade the swifter, stronger replicant by climbing up over the cornice of the Bradbury Building (right, reconstructed on the studio backlot). Ultimately, Rutger Hauer lets the "blade-runner" live, even as his own, artificial life drains away. During the final moments of the chase, Hauer clutches a white bird (below), which was supposed to fly away as Batty dies. However, the bird was bothered by the on-set rain effects and Scott eventually had to splice in an insert shot of it flying up into a clear, blue, daylight sky—a jarring anomaly.





The Mattes of Matt Yuricich

He created a towering megalopolis with a few low-contrast brush strokes.

Harrison Ford teeters over the misty streets of Ridleyville (above), a combination of matte painting, limited set (inset), and optically-added rain and mist.

To retrofit a store front, you need a set decorator. To retrofit a building, you need a miniature crew. But to create an entire retrofitted city, with buildings towering hundreds of stories tall, you need a skilled matte painter like Matthew Yuricich, who has previously created the night skies of Muncie, Indiana for CE3K, and Star Fleet Headquarters for STAR TREK—TMP.

For BLADE RUNNER, Yuricich was primarily relied upon to create the heights of a near-future Los Angeles, a job that included supplying the backdrop to the final chase between Deckard and Batty (shown above, below left).

For the shot of Harrison Ford sneaking along a ledge (above), the cornice of the Bradbury Building was reconstructed on the studio backlot. Flexible mirrors were placed beneath large neon letters (representing the other side of the street) to create the proper reflections. As with other BLADE RUNNER effects shots, the scene was filmed in 65mm.

Working from a print of the live action, Syd Mead then painted at least two different versions of the scene as a guide for Yuricich: one was brightly-lit and intricately detailed; the other, very similar to the final matte, was dark and indistinct.

In addition to the painting and live action photography, other elements were added to the final composite, including rain, mist, a "commercial" on a building screen, and interactive street lighting.

Yuricich's high-quality work is all the more remarkable considering he must paint in a narrow band of colors which barely resemble the original shot. That's because his mattes are photographed not with the film stock used for live-action photography, but with a special high-contrast fine-grain duplicating stock used to strike release prints.

The thousands of prints needed for BLADE RUNNER are made from a *dupe negative*, rather than the original, irreplaceable *camera negative*. First, a low-contrast print (called the *interpositive* or IP) is made from the original negative. The IP is used to create the dupe, which in turn creates release prints.

These intermediate steps diminish the quality of the final print, but prevent damage to original negative. Most of the time, the system works adequately. But effects films require so many additional steps between original negative and release print that grain becomes a problems.

So Yuricich's mattes are photographed directly on the high-contrast dupe stock, eliminating at least two generations of film. But it means he must match the nearly-monochromatic colors of the IP.

"This is a system that my brother, Richard, devised for CE3K and STAR TREK," Yuricich explained. "It's good, but there are problems. All the colors shift. In fact, I can't get black very well, and the film is so slow that whites *become* black. It's tricky."

"On dupe stock, medium gray is equivalent to white, dark-grey is black, and a narrow zone of green actually represents blue and yellow," explained Doug Trumbull. "Matt has to painstakingly compensate for that complexity. No one else in the industry does that."

This technique makes a Yuricich matte look nearly as optically sharp as a non-effects shot, and makes it difficult to tell where the painting ends and the set begins.

A matte shot of Ford dangling in mid-air (below) required a traveling matte, so a large white sheet of styrofoam was placed beneath his feet (below right). Left: Matthew Yuricich at work on a cityscape.