

PART THREE: TOWARD COSMIC CONSCIOUSNESS

"If you look back in history you'll find that the artist and the scientist are inseparable. In many ways the artist's work is identical with scientific exploration. The artist is able to focus more in the area of consciousness, but with the same scientific zeal. Yet cosmic consciousness is not limited to the scientist. In fact scientists are sometimes the last to know."

JORDAN BELSON

We've followed the evolution of image language to its limits: the end of fiction, drama, and realism as they have been traditionally understood. Conventional cinema can be pushed no further. To explore new dimensions of awareness requires new technological extensions. Just as the term "man" is coming to mean man/plant/machine, so the definition of cinema must be expanded to include videotronics, computer science, atomic light. Before discussing those technologies, however, we must first ask ourselves what these new dimensions of awareness might be. In the language of synaesthetics we have our structural paradigm. What concepts are we to explore with it?

We could say that art isn't truly contemporary until it relates to the world of cybernetics, game theory, the DNA molecule, Heisenberg's Uncertainty Principle, theories of antimatter, transistorization, the breeder reactor, genocidal weaponry, the laser, pre-experiencing alternative futures. But this purely scientific portrait of modern existence is only partially drawn. As Louis Pauwels has observed: "We are living at a time when science has entered the spiritual universe. It has transformed the mind of the observer himself, raising it to a plane which is no longer that of scientific intelligence, now proved to be inadequate."¹ Man no longer is earthbound. We move now in sidereal time. We must expand our horizons beyond the

¹Pauwels, Bergier, *op. cit.*, p. 62.

point of infinity. We must move from oceanic consciousness to cosmic consciousness.

At their present limits astrophysics, biochemistry, and conceptual mathematics move into metaphysical territory. Mysticism is upon us: it arrives simultaneously from science and psilocybin. Pauwels: "Modern science, once freed from conformism, is seen to have ideas to exchange with the magicians, alchemists and wonder-workers of antiquity. A revolution is taking place before our eyes—the unexpected remarriage of reason and intuition."²

Art and science have achieved extremely sophisticated levels of abstraction. They have in fact reached that point at which the abstract becomes extra-objective. Post-Euclidean geometry, for example, precludes any exact visualization of a stable space grid. We are confronted with dynamic interaction between several transfinite space systems. Precise focusing is impossible. (John Cage: "A measurement measures measuring means.") And the content of modern art tends increasingly toward the conceptual—i.e., decision-making, systems aesthetics, environmental problems of "impossible" art.

What we "know" conceptually has far outstripped what we experience empirically. We are finally beginning to accept the fact that our senses allow us to perceive only one-millionth of what we know to be reality—the electromagnetic spectrum. Ninety-nine percent of all vital forces affecting our life is invisible. Most of the fundamental rates of change can't be apprehended sensorially. Fuller: "Better than ninety-nine percent of modern technology occurs in the realm of physical phenomena that are *sub* or *ultra* to the range of human visibility. We can see the telephone wires but not the conversations taking place. We can see the varieties of metal parts of airplanes but there is nothing to tell us how relatively strong these metals are in comparison to other metals. None of these varieties can be told from the others by the human senses, not even by metallurgists when unaided by instruments. The differences are invisible. Yet world society has throughout its millions of years on earth made its judgments on visible, tangible, sensorially demonstrable criteria."³

² *Ibid.*, p. xxii.

³ R. Buckminster Fuller, *Ideas and Integrities*, p. 64.

So we see—that is, we *don't* see—that our physical environment itself has drastically altered the classical definition of artistic purpose as articulated by Conrad Fiedler: "Artistic activity begins when man finds himself face to face with the *visible* world as with something immensely enigmatical... In the creation of a work of art, man engages in a struggle with nature not for his physical but for his mental existence."⁴

It is the invisible and inconceivable that man finds immensely enigmatical and to which he has turned his conceptual capacities. Not only is drama obsolete but in a very real sense so is the finite world out of which drama traditionally has risen. The concerns of artist and scientist today are transfinite. McLuhan: "Electricity points the way to an extension of the process of consciousness itself, on a world scale, and without any verbalization whatever."⁵

The Paleocybernetic Age witnesses the concretization of intuition and the secularization of religion through electronics. Nam June Paik: "Electronics is essentially Oriental... but don't confuse 'electronic' with 'electric' as McLuhan often does. Electricity deals with mass and weight; electronics deals with information: one is muscle, the other is nerve." This is to say that global man in the final third of the twentieth century is witnessing the power of the intangible over the tangible. "When Einstein wrote the equation $E=mc^2$, the metaphysical took the measure of, and mastered, the physical. Nothing in our experience suggests that energy could comprehend and write the equation of intellect... [Einstein's] equation is operating inexorably, and the metaphysical is now manifesting its ability to reign over the physical."⁶

In addition to a radical reassessment of inner space, the new age is characterized by the wholesale obsolescence of man's historical view of outer space. Lunar observatories and satellite telescopes, free from the blinders of earth's air-ocean, will effect a quantum leap in human knowledge comparable to that which the microscope provided at the end of the nineteenth century. Until 1966, for ex-

⁴ Conrad Fiedler, *On Judging Works of Visual Art*, trans. Henry Shaefer-Simmern and Fulmer Mood (Berkeley, Calif.: University of California Press, 1949), p. 48.

⁵ Marshall McLuhan, *Understanding Media* (New York: McGraw-Hill, 1965), p. 80.

⁶ Fuller, *Spaceship Earth*, p. 36.

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ample, all of astronomy indicated that the planet Mercury did not rotate. Radar observations now reveal that it turns on its axis every fifty-nine days. Similar embarrassing reversals of generations-old opinions about Venus, Mars, Jupiter, and even our own moon have occurred within the last decade.⁷

We are entering a transfinite realm of physical and metaphysical mysteries that have nothing to do with fiction. It is now recognized that science has come closer to whatever God may be than has the church in all its tormented history. Science continually discovers and reaffirms the existence of what Fuller calls "an a priori metaphysical intelligence omni-operative in the Universe." Scientists find that a vast omni-present intellect pervades every atom of the universe, governing the structure and behavior of all physical phenomena. Yet this intelligence itself, which we identify as "the laws of nature," is purely metaphysical and is totally unpredicted by the behaviors of any of the physical parts. Einstein's $E=mc^2$ is science's most comprehensive formulation of that intelligence. As J. B. S. Haldane once said, "The universe is not only stranger than we imagine; it is stranger than we *can* imagine."

⁷ Arthur C. Clarke, "Next—The Planets," *Playboy* (March, 1969), p. 100.

2001: The New Nostalgia

The year 2000, although universally accepted as a rather apocalyptic millennial symbol, does not begin the twenty-first century. A difference of twelve months may seem relatively insignificant today, but in the onrushing accelerations of radical evolution many worlds can come and go in the period of a year. Already the focus of the arts, especially cinema, has shifted toward cosmic consciousness. "The consequences of the images," said McLuhan, "will be the images of the consequences." A completely new vocabulary of graphic language is available to the image-maker now that our video senses have extended to Mars and beyond.

Stanley Kubrick's *2001: A Space Odyssey* was the last film in history forced to rely on synthetic images of heavenly bodies. One measure of radical evolution is the way in which Kubrick's images of the earth and moon, so utterly realistic not long ago, have become pallid in contrast with the actual images themselves. We've confronted a larger reality: there no longer is a need to represent cosmic consciousness through fiction. Just as synaesthetic cinema renders fiction obsolete, so do the technologies that enable us to traverse the planets and to invent the future. The old Hollywood cliché "filmed on location" assumes staggering implications.

In many respects *2001* is an epochal achievement of cinema; in other ways, however, it is marred by passages of graceless audience manipulation and vulgar expositional devices that would embarrass artists of lesser talent than Kubrick. But the movie unquestionably is a phenomenal experience, and even though it begins to pale after a couple of viewings, its contributions to the state of the art and to mass-audience commercial cinema cannot be overlooked or overrated. Because of this movie a great number of persons have been able to understand something of the spiritualism in science. And though it is rather symptomatic of an unfortunate syndrome having to do with the feared "dehumanizing" effects of advanced technology, *2001* did create an impressive sense of space and time relationships practically without precedent in the cinema. A technical masterpiece, but a thematic mishmash of nineteenth-

and twentieth-century confusions, which demonstrates that it is not so much a film of tomorrow as a trenchant reflection of contemporary sentiments solidly based in the consciousness of today. Still, it was more than we might have hoped it would be.

In casting its vision to the stars, *2001* returns full circle to the origins of human curiosity. One of mankind's oldest recorded thoughts has to do with the cyclic unity and simultaneous regeneration of the universe. In the texts of ancient Sanskrit is the notion that the universe dies and is reborn with every breath we draw. To a certain extent this has been substantiated by the studies of modern physics, which reveal that elemental changes at the atomic and subatomic levels are total and instantaneous, while the macro-system of the cosmologically vast universe itself is constantly in metamorphosis. In *Vishvasara Tantra*, which includes one of man's earliest attempts at explaining the formation of matter, we find the prophetic conclusion, "*What is here is elsewhere; what is not here is nowhere.*"

These concepts are virtually embodied in the design of *2001*, from its higher ordering principle—that mankind's dawn is a continual process of death and rebirth—through each of its parts, none of which predicts the behavior of the whole. The film moves with an implacable and purposive grace through a richly-connected allegorical structure that recalls Ortega y Gasset's "higher algebra of metaphors." Encompassing the whole is the sexual/genetic metaphor in which rockets are ejaculated from a central slit in Hilton Space Station No. 5, and a sperm-shaped spacecraft named *Discovery* (i.e., *birth*) emits a pod that carries its human seed through a Stargate womb to eventual death and rebirth as the Starchild Embryo. Within this macrostructure we find endless variations such as the prehistoric bone that becomes a spinning space station, one of the most tasteful allegorical transitions in the history of a medium given to rather grandiose symbolism.

The behavior and ultimate deactivation of the berserk computer HAL might be viewed as a metaphor for the end of logic. It is established that HAL, who not only "thinks" but also "feels," represents the highest achievement of human intelligence. The machine is singing "*Daisy, Daisy, give me your answer true*" (a computer recording of which actually was made ten years ago) when

the cybernetic lobotomy renders it senseless. Immediately after, the astronaut encounters the alien monolith in crucifix-alignment with a string of asteroids and is seduced through the Stargate into a dimension "beyond infinity"—that is, beyond logic.

In this domain far from any galaxy we know, the human finds himself in austere Regency chambers with an aqueous video-like atmosphere, constructed by whispering omniscient aliens to make him comfortable during the lifetime he is to spend under their scrutiny. He is kept ultra-healthy and lives to a very old age. This is depicted through a kind of metaphorical time-lapse in which the astronaut undergoes a series of self-confrontations, aging each time. At last he gazes toward a bed in which is lying an image of himself so old and emaciated that he incredibly resembles the humanoid apes of "The Dawn of Man." This primitive creature timidly lifts its palsied hand in archetypal gesture toward the metallic monolith that towers in the center of the glowing room.

Suddenly there appears the cosmic image that began the film and constitutes a kind of metaphysical leitmotiv of transcendental Cartesian beauty: in deep space we are levitated near a huge planet, its crest illumined by starlight. Another globe rises behind and directly in line with the first; and now, with a blinding starburst and Strauss's paean to Nietzsche, a fiery sun appears behind the second planet, completing the geometrical assembly of heavenly bodies. A timeless unforgettable image that suggests, almost surrealistically, some higher order, some transcending logic far beyond human intelligence. *2001* is Stanley Kubrick's interstellar morality play.

There is, however, a fundamental disunity between the film's conceptual and design information. Its adherence to a Minimalist aesthetic of primary structures is starkly contrasted against the confusion of its ideas. And whereas it is structurally uneven, there are moments when form and content seem flawlessly synthesized. The elegant simplicity of its architectural trajectories is the harmonic opposite of its galactic polymorphism. And what might be described as its "aesthetics of space tooling" has captured the imagination of a society steeped in the vulgar bric-a-brac of postwar architecture. It has become a kind of cinematic Bauhaus.



Mystical alignment of planets and sun in the Stanley Kubrick production *2001: A Space Odyssey*. Photo: courtesy of MGM Studios.

Central to this tremendous cultural influence, and in spite of the film's many confusions, is Kubrick's intuitive grasp of what I call the *new nostalgia*. It pervades the entire film, but particularly the sequence in which Gary Lockwood aboard the *Discovery* receives a videophone birthday message from his earthbound parents. The crucial effect is Kubrick's use of the *adagio* from Aram Khachaturian's *Gayane Ballet Suite*. The music—mournful, melancholy, with a sense of transcendental beauty—invests the scene with an overwhelming mood that invites only one interpretation: it is obviously a sad event.

This sadness is a manifestation of the new nostalgia: the astronaut is a child of the new age, a man of cosmic consciousness. Not only does he live in a different world from his parents on a conceptual level, he has physically left their natural world and all of its values. Of what possible significance could a birthday be to him? He doesn't even share a common definition of life with his parents. His companions aboard the *Discovery* are preserved in a cryogenetic state of suspended animation.

Yet the sequence has been widely interpreted as an indictment of the "dehumanizing" effects of technology. The astronaut is seen as a kind of "space zombie" because he appears indifferent to the effusions of his parents. In fact, the music functions not as commentary on the action but as an evocation of the Astronaut's realization of a generation gap both physical and metaphysical.

That he's not particularly demonstrative in the usual messy way suggests nothing so much as a sense of integrity. To find him inhuman is equivalent to Camus' Magistrate accusing Mersault of not loving his mother.

To understand this generation gap, we must realize that the melancholy of the new nostalgia arises not out of sentimental remembrance of things past, but from an awareness of radical evolution in the living present. When Sartre wrote about Existentialism, it was not popularly recognized as being inherent in daily experience; it was a concept, a theory, else there would have been no need for Sartre to formulate an entire cosmology upon it. But through electronic technology, Existentialism becomes daily experience. We are transformed by time through living within it; but technologies such as television displace the individual from participant to observer of the human pageant, and thus we live effectively "outside" of time; we externalize and objectify what previously was subjectively integral to our own self-image. The result is an inevitable sense of melancholy and nostalgia, not for the past, but for our inability to become integral with the present. We are all outsiders.

The new nostalgia also is a result of Western culture's transformation from sacred to secular: "Sacred societies resist change, unable to accept or value the new or untraditional. Secular societies, a relatively modern development, are oriented toward change, consciously seek out and value new and untraditional ways. Sacred societies are oriented toward the past; secular societies toward the future."⁸ Ironically, no sooner has Existentialism moved from theory to experience than it is given a new dimension by science, which has replaced the church as our temple of worship and has disclosed man's teleologic, anti-entropic function in the universe, something the church never was able to do.

But the scientific method is, by its very nature, nonsacred. Everything is open to challenge. Thus the new nostalgia is a symptom of our realization that nothing is sacred. This produces a tendency to dissociate and distance oneself from all previously coveted phenomena that have provided continuity as landmarks of the soul. Most of mankind's ancient dreams have become realities;

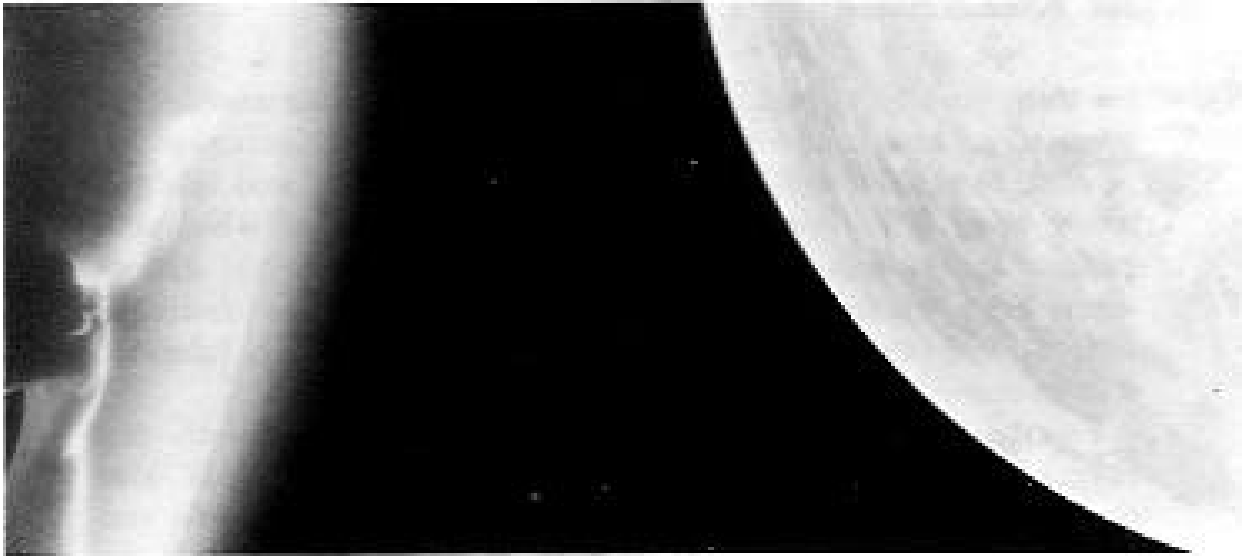
⁸John McHale, *The Future of the Future* (New York: George Braziller, Inc., 1969), p. 24.

the speed of change has caught us without new dreams to replace the old, because the world of tomorrow is elsewhere and unthinkable.

We find, moreover, that the new nostalgia is a symptom of the death of history. The more we learn about the present, about humanity's perception and interpretation of the present, the more suspect history becomes. When Fuller remarks that our most polluted resource is the "tactical information" (news) to which humanity spontaneously reflexes, he echoes Hermann Hesse's view that "history's third dimension is always fiction." The present has discredited the past, while the history of the present is recorded by machines, not "written" by men, and is thus out of our hands as a "man-made" phenomenon. "The computer," says McLuhan, "abolishes the human past by making it entirely present." We don't "remember" the assassination of John F. Kennedy because we never experienced it directly in the first place. For millions of people who were not actually present in Dallas, Kennedy's death exists only in the endless technologically-sustained present. We "remember" it in the same way that we first "knew" it—through the media—and we can experience it again each time the videotapes are played. Since we see and hear and feel only the conditioning of our own memory, a great flood of nostalgia is generated when technology erases the past and with it our self-image.

The new nostalgia also is a result of humanity's inevitable symbiosis with the hallucinogens of the ecology. First, man's image of himself as discretely separate from the surrounding biosphere is shaken by his discovery of the a priori biochemical relationship between his brain and the humble plant. Second, in the consciousness-expansion of the drug experience, the overwhelming emotion is one of remembering something that one has forgotten, something one "knew" long, long ago in the forgotten recesses of the mind. The *deja vu* of the drug experience results from the discovery of how much is absent in "normal" perception of the present, not the past. Although *2001* contains no specific allusions to drug experiences, the subject is indirectly suggested in the Stargate Corridor sequence, which might well be interpreted as a drug-trip allegory.

But perhaps the most profound aspect of the new nostalgia is what we call the generation gap, which is totally a result of the unprecedented sudden influx of information. The past is discredited



Starchild Embryo from the Stanley Kubrick production *2001: A Space Odyssey*. "The image of the Starchild, its umbilical feeding from no earthly womb, elegantly symbolizes a generation gap so sudden and so profound that few of us believed it possible." Photo: courtesy of MGM Studios.

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but continues to inform a present in which new information has revealed us in a completely new perspective. The information implosion, as revised self-knowledge, sheds un-remitting and inadvertently cruel light upon the illusions of the past, of which our parents are victims. We find, as Hesse did, that "world history taken as a whole by no means furthered what was desirable, rational, and beautiful in the life of man, but at best only tolerated it as an exception."⁹

For the first time in history, an entire generation abruptly discovers that its legacy of love has been tragically ill-served: "Humanity is characterized by extraordinary love for its new life, and yet has been misinforming its new life to such an extent that the new life is continually at a greater disadvantage than it would be if abandoned in the wilderness by its parents."¹⁰ The image of the Starchild Embryo at the conclusion of *2001*, its umbilical feeding from no Earthly womb, elegantly symbolizes a generation gap so sudden and so profound that few of us believed it possible. As we unlearn our past, we unlearn our selves. This is the new nostalgia, not for the past because there is no past, and not for the future because there are no parameters by which to know it.

The Cybernetic Age is the new Romantic Age. Nature once again has become an open empire as it was in the days when man thought of the earth as flat and extending on to infinity. When science revealed the earth as spherical, and thus a closed system, we were able to speak of parameters and romance was demystified into Existentialism. But we've left the boundaries of earth and again have entered an open empire in which all manner of mysteries are possible. Beyond infinity lurk demons who guard the secrets of the cosmos. We are children embarking on a journey of discovery. "The same extraordinary intellectual forces with which man is remolding his planet are now being turned in upon himself. The results of this inner exploration may be infinitely more powerful than any physical-ly-extended voyage to Mars or the bottom of the sea."¹¹

⁹Hermann Hesse, *The Glass Bead Game* (New York: Holt, Rinehart, and Winston, Inc., 1969), p. 150.

¹⁰R. Buckminster Fuller, *Education Automation* (Carbondale, Ill.: Southern Illinois University Press, 1962), p. 9.

¹¹John McHale, "Man +," *Architectural Design* (February, 1967), pp. 87, 88.

Kubrick himself demonstrated his awareness of the new nostalgia when he quoted Carl Jung's remarks on possible consequences of contact with advanced alien intelligence: ". . . reins would be torn from our hands and we would find ourselves without dreams... we would find our intellectual and spiritual aspirations so outmoded as to leave us completely paralyzed."¹²

I interviewed Arthur C. Clarke, coauthor of *2001*, who has been chiefly responsible for elevating science fiction from pulp to profundity. I was accompanied by Ted Zatlun, then editor of the *Los Angeles Free Press*. We suggested that the film's depiction of the man/machine symbiosis as ominous and threatening might have been irresponsible.

CLARKE: It could be irresponsible, yes. But the novel explains why HAL did this and of course the film never gave any explanation of his behavior. So from that point of view it differs from the novel. I personally would like to have seen a rationale for HAL's behavior. It's perfectly understandable and in fact makes HAL a very sympathetic character because he's been fouled up by these clods back at Mission Control, you see. And in a way it's more pro-machine than pro-human, if you analyze the philosophy behind the novel. I included a sort of emotional passage about Hal's electronic Eden and so on. But it would have been almost impossible to give the logical explanation of just why HAL did what he did. It would have slowed things down too much. So it had to be treated on this sort of naïve and conventional level. Then there was the straightforward matter of dramatic content. One had to have some kind of dramatic tension and suspense and conflict. And Hal's episode is the only conventional dramatic element in the whole film. And so in that way you might say that it was rather contrived. We set out quite consciously and deliberately—calculatedly, if you like—to create a myth, an adventure, but still be totally plausible, realistic, intelligent. We weren't going to have any blonde stowaway in the airlock and all this sort of nonsense that you've seen in the past. This immediately limited our options enormously. There are fairly few things that can happen on a space mission. Especially if the men have been carefully selected psychologically and so on—all

¹² Stanley Kubrick interviewed in *Playboy* (September, 1968), p. 96.

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the things which make astronauts such undramatic characters. You don't have nervous breakdowns or Caine Mutinies on a spaceship.

TED: Do you see the hippie phenomenon as an evolutionary process similar to what you described in *Childhood's End*? Many aspects of what we call the hippie movement were almost prophesied in that book, especially the idea of an awakened moral conscience among youth.

CLARKE: Yes, at one point I had a subtitle for *2001* which was *Childhood's Beginning*.

TED: But in another way there seems to be a contradiction between *2001* and *Childhood's End*. In an evolutionary sense. In *2001* the idea of an evolving expansion of consciousness seems directly opposed to extending the American capitalistic free-enterprise system into outer space. I mean with Howard Johnson and Pan-Am businesses.

CLARKE: That was done primarily to establish a background of realism to achieve total acceptance by the audience.

GENE: Yes, but you see this is exactly what we feel is rather unfortunate about the film. I mean that's all very fine, and it works, and everyone likes that, they think it's clever and all. But in fact how "realistic" is capitalistic free enterprise at that advanced stage in man's evolution? And to suggest such a thing—even to suggest "ownership" in space is perhaps a bit of self-fulfilling prophecy. We are what we think the future will be.

CLARKE: But that doesn't necessarily mean capitalistic free enterprise. Pan-Am is running the range for NASA, but that doesn't necessarily mean a capitalistic system. Names hang on, that's all. I mean Hilton is planning a space-station hotel. He gave a talk and showed designs three years ago.

TED: But the obvious extension of that idea is spherical influence in space—Russia's sphere here, America's sphere here, China's sphere over there. I just don't think that when man evolves to the point where he can travel throughout the universe, using new energy sources and so on, that he will carry with him an archaic form of thinking.

CLARKE: Well, of course, he won't. Things will change completely. But the events of *2001* are only thirty years from now. And a lot of

these things will still be around. The names anyway. Just as the Catholic Church still exists in name. In fact, if I'd done *2001* by myself I'd have had an international organization instead of nationalism. But here again you're constrained by practical matters—this is an American film made by an American company and there are a lot of problems. For example at one point we were saying we should have at least one token black in the crew. But when your crew is only two people it would be so obvious. I mean can you see Bill Cosby in there? So finally we said the hell with it.

GENE: Science fiction has had a new image for the last few years, a new respectability. In fact, most people are now willing to accept the fact that there is nothing *but* science fiction.

CLARKE: I've been saying for years that mainstream literature is a small subsection of science fiction. Because science fiction is about everything.

GENE: Exactly. And one of the significant aspects of *2001 is* that it's science fact. When you discuss science and what it's doing, you're not only discussing the present but the past and the future simultaneously. Because science encompasses what has been and what will be all in the moment, the present. So the idea of science *fiction* no longer is meaningful.

CLARKE: One reason older people dislike *2001 is* they realize it's about reality and it scares the hell out of them. This film is about the two most important realities of the future: development of intelligent machines, and contact with higher alien intelligence. Which of course may be machines themselves. I suspect that all really higher intelligences will be machines. Unless they're beyond machines. But biological intelligence is a lower form of intelligence, almost inevitably. We're in an early stage in the evolution of intelligence but a late stage in the evolution of life. Real intelligence won't be living.

GENE: I understand your meaning of that idea as a beneficial thing in which man is rendered obsolete as a specialist, obsolete as all the things he's been up to now—obsolete in comparison to the computer's ability to do all these things better and quicker—but, on the other hand, man is then totally free to live comprehensively, nonspecialized, like the freedom of children.

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CLARKE: That's how I ended one of my essays on the subject. I said "Now it's time to play." The goal of the future is total unemployment, so we can play. That's why we have to destroy the present politico-economic system.

The Stargate Corridor

The conceptual deficiencies of *2001* are somewhat redeemed by its sophisticated deployment of cinematic technology. For the first time in commercial cinema we are given the state of the art at its highest point of refinements.¹³ *2001* has become the higher ordering principle by which all commercial cinema must be measured.

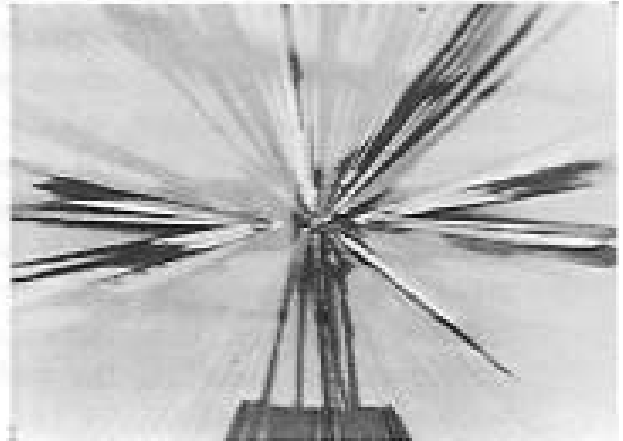
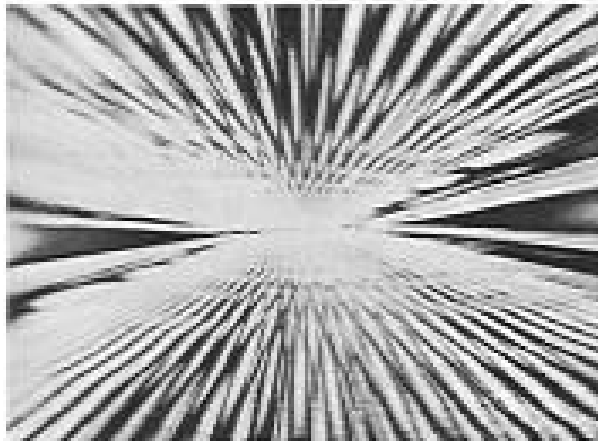
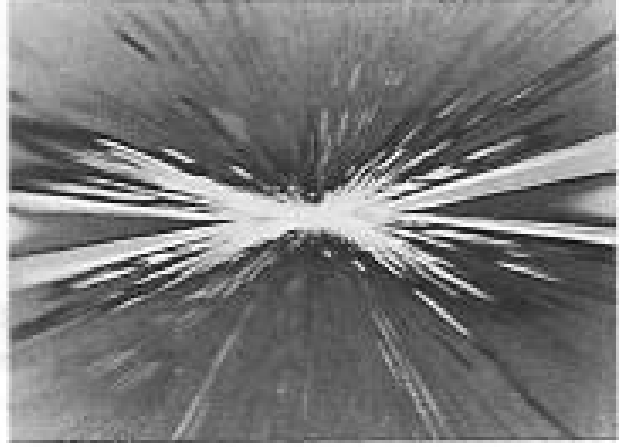
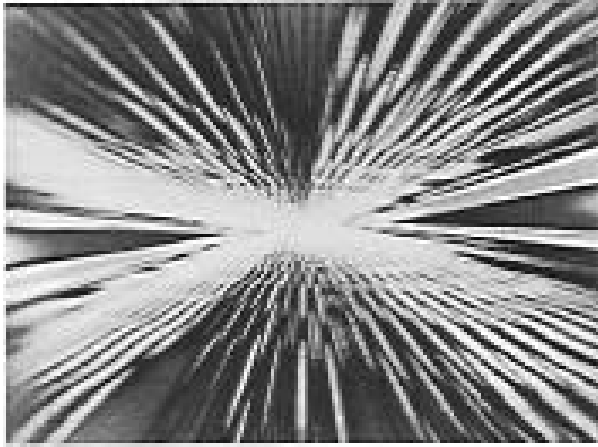
Douglas Trumbull, a twenty-five-year-old artist/technologist, was one of four special effects supervisors on the project. The so-called slit-scan machine, which created the Stargate Corridor sequence, was one of several pieces of equipment Trumbull developed especially for this film. Though much of its impact is due to the Cinerama format (16mm. versions are not nearly so impressive), the sequence was nevertheless a breakthrough in commercial cinema. Although this particular approach to the slit-scan was developed by Trumbull, the technique does have precedent in the work of John Whitney.

According to Trumbull, the original screenplay called for a giant tetrahedron that would be discovered in orbit around Jupiter. This was because there is, in fact, a strange perturbation of one of Jupiter's moons. Astronomers have noted that it appears to grow larger and smaller at certain points in its orbit. "So Clarke said maybe it's not a moon at all," Trumbull recalls. "Maybe it's some sort of object that presents a larger and smaller size as it rotates. So the spacemen arrive and it's this huge tetrahedron with a hole in it. He positions his pod over the hole, looks down through, and can see into another dimension. The tetrahedron may be superimposed over Jupiter but he sees stars through the hole: a time gate."

TRUMBULL: We spent a long time drawing tetrahedrons with holes in them and it all looked corny. It was never right. Then someone thought of having a giant hole or slot directly in one of the moons. The spaceman is orbiting around one of the moons and finds a

¹³ Extensive details on the production of *2001* were published in *The American Cinematographer* (June, 1968).

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Slit-scan Stargate Corridor from Stanley Kubrick's *2001: A Space Odyssey*.

hole in it. We drew pictures of that and they looked pretty stupid. Finally Kubrick came up with the idea of the big slab. He always insisted on super-simple symmetrical forms rather than anything which would deviate artistically from the simplest approach.

One of the very last things we did was adding the mystical symmetry. The Jupiter sequence culminates in a shot in which the moons and asteroids are aligned and the mysterious slab is seen perpendicular to them like a crucifix. It wasn't intended to be that, but that's the way it came out. So when we saw what we had, we worked back from that point and created similar scenes earlier in the film. For example, when the apemen are looking up at the slab and suddenly there's this symmetrical alignment of the sun and the moon over the slab—that was put in long after the sequence was shot. Then we went back to the point where they discover the slab on the moon and inserted the same imagery for that sequence. This was all second-guessing but it was meant to suggest the same ideas as one finds behind similar imagery in mystical literature and symbols.

There was always the idea that Keir Dullea would go into a time-warp or some kind of "psychedelic" corridor, but we didn't know how to get him into it. What do we do with him? Does he fall into a hole or what? It was completely unresolved. The special effects people came up with corny things with mirrors that looked terrible. So I stumbled onto this idea through fragments of information about what John Whitney was doing with scanning slits that move across the lens creating optical warps. I figured why couldn't you have a slit that starts far away and moves toward the camera? Rather than moving laterally, why can't it move dimensionally?

So I did a simple test on the Oxberry animation stand. It was rigged with a Polaroid camera so you could take Polaroid pictures of any setup immediately to see how it looked. So I just ran the camera up and down and juggled some slits and funny pieces of artwork around, and I found out that you could in fact scan an image onto an oblique surface. That whole idea expanded and I

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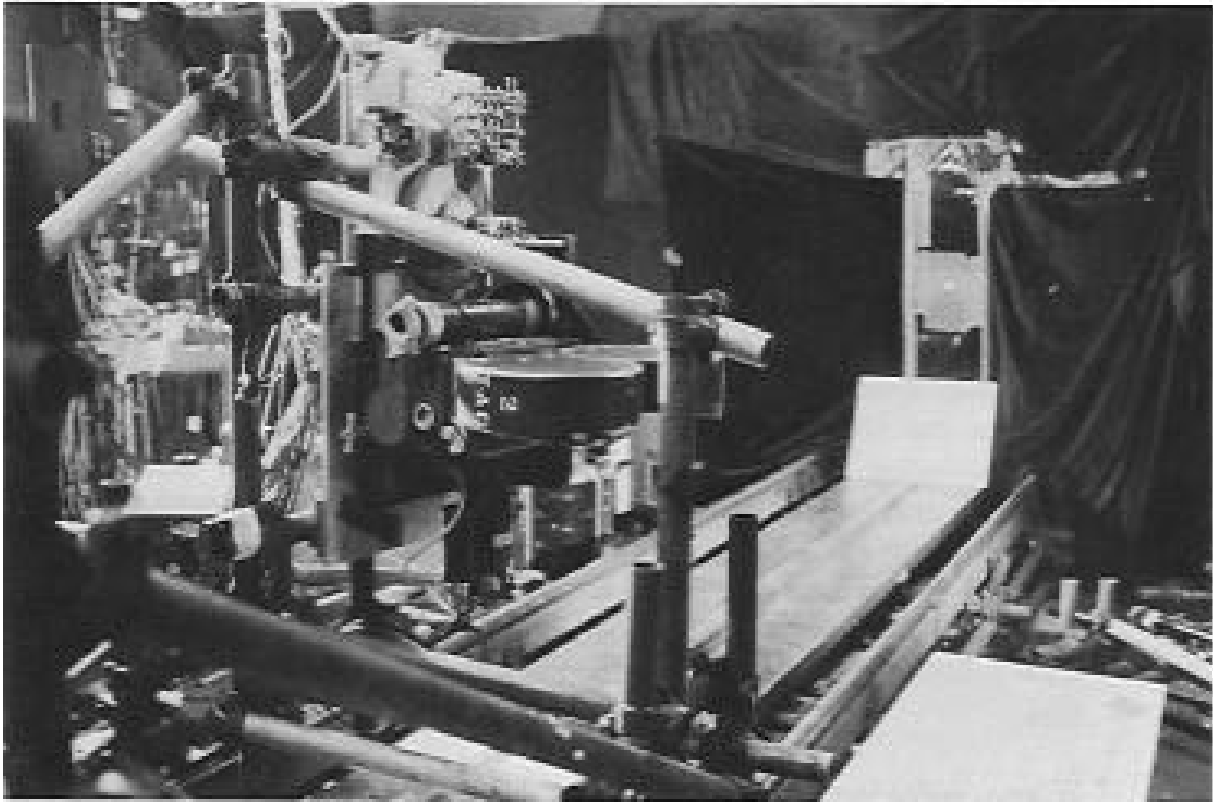
built this huge thing that occupied about 50,000 square feet. It produced the effect which I call the Slit-Scan Effect.

Similar to image-scanning techniques used in scientific and industrial photography, Trumbull's process was totally automated through an impressive battery of selsyn drives, timers, sequencers, and camera controls. Basically it involved a standard 65mm. Mitchell camera mounted on a fifteen-foot track leading to a screen with a narrow vertical slit in its center. Behind the screen was a powerful light source focused through several horizontally-shifting glass panels painted with abstract designs and colors.

When the camera is at the "stop" position at the far end of the fifteen-foot track, the illuminated slit is framed exactly in the center of the lens. The standard shutter is taken out of phase and held wide open. An auxiliary shutter is built onto the front of the lens that opens to F 1.8 when the camera begins to track toward the screen. One single frame of film is exposed during the sixty-second period in which the camera tracks from fifteen feet to within one and one-half inches of the screen. The camera lens is attached to a bellows mount on a camshaft rotating from a selsyn linked to a drive motor, all of which maintains perfect focus and depth-of-field the entire distance of the one-minute track.

When the camera reaches the screen it has veered one-half of a frame either right or left of the slit. The exposure thus produced on the single frame is a controlled blur, much the same as time exposures of freeways at night that produce streaks of red taillights. The shifting panels of painted glass behind the slit alter the pattern of light coming through the slit as the camera approaches, producing an uneven or streaked blur. When the process is repeated for both sides of the frame, the effect is of an infinite corridor of lights and shapes advancing at enormous velocity.

The glass panes behind the slit are shifted horizontally by selsyns and advancing motors synchronized with the tracking camera. Thus the exposure pattern is identical for each frame of film except that a differential mechanism displaces the entire rig slightly for each camera run, creating an impression that the scanned image is moving.



Slit-scan machine built by Douglas Trumbull for the Stargate Corridor sequence of Stanley Kubrick's *2001: A Space Odyssey*.

The slit-scan is not limited to this application. As we shall see later, John Whitney, Jr., has constructed a computerized, hybrid optical printer that automatically scans a projected motion-picture sequence. In addition, the camera need not track perpendicular to the scanned image; a diagonal approach would create effects of warped perspective in otherwise representational imagery.

TRUMBULL: There was one short slit-scan sequence—a bad take, actually—which started out black and instead of having walls of color come at you it had little points of light which were parts of the artwork before it actually developed into walls. It started out black, then a few little red sparks came out, and then a few more and it generated more and more. That particular shot was done with a device I rigged for automatically accelerating the speed. So as the dots were coming up it was accelerating at such an incredible rate

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that we used up all the artwork in a couple of seconds. Though the shot is brief it was the only one with a transitional effect: it started out black and slowly became something.

We had a double-projection technique in which we could run two aligned 35mm. projectors simultaneously onto one screen to see how two elements looked together. So that was how we figured out the way of getting the astronaut into the Stargate sequence: we shot a scene just panning away from Jupiter out into deep space and faded in that little slit-scan footage which gave us our transition into the time-warp. At the same time we were shooting the slab floating around Jupiter. There was a physical problem in getting the slab out of the frame without matching the camera movement with the animation pan. So we decided to have it just fade out between the planets: the slab fades, and as the slit-scan comes in the stars fade out. It's strange how solutions to technical problems become the content of the film.

If one considers the introduction of sound and then color as successive "generations" in the history of cinema, it is possible to say that we've entered the fourth generation by marrying basic cinematic techniques to computer and video sciences. There have been no fundamental breakthroughs in the nature of cinema since its conception. In one sense the history of film is but a footnote to Lumière and Méliès. But the technological revolution begins the new age of cinema. Before moving into computer films, however, we'll discuss the work of Jordan Belson, who both preceded and surpassed *2001* in the realm of cinematic innovations. Although not as technologically sophisticated as Kubrick's enterprise, Belson's films achieve a sense of cosmic consciousness only hinted at in *2001*, and levels of design with far greater integrity and vision.

With a tiny fraction of the manpower, equipment, and money expended in the production of *2001*, Belson has created images and moods of far wider significance and lasting beauty. While the state of the art remains relatively untapped, Belson, working with limited resources, has demonstrated its potential. He's a visionary who has broken through to the other side; the state of the art need only follow.

The Cosmic Cinema of Jordan Belson

"Only the fantastic is likely to be true at the cosmic level."

TEILHARD DE CHARDIN

Certain phenomena manage to touch a realm of our consciousness so seldom reached that when it is awakened we are shocked and profoundly moved. It's an experience of self-realization as much as an encounter with the external world. The cosmic films of Jordan Belson possess this rare and enigmatic power.

Basic to this enigma is the disconcerting fact that Belson's work seems to reside equally in the physical and metaphysical. Any discussion of his cinema becomes immediately subjective and symbolic, as we shall soon see. Yet the undeniable fact of their concrete nature cannot be stressed too frequently. Piet Mondrian: "In plastic art, reality can be expressed only through the equilibrium of dynamic movement of form and color. Pure means afford the most effective way of attaining this."¹⁴

The essence of cinema is precisely "dynamic movement of form and color," and their relation to sound. In this respect Belson is the purest of all filmmakers. With few exceptions his work is not "abstract." Like the films of Len Lye, Hans Richter, Oskar Fischinger, and the Whitneys, it is *concrete*. Although a wide variety of meaning inevitably is abstracted from them, and although they do hold quite specific implications for Belson personally, the films remain concrete, objective experiences of kinaesthetic and optical dynamism. They are at once the ultimate use of visual imagery to communicate abstract concepts, and the purest of experiential confrontations between subject and object.

In their amorphous, gaseous, cloudlike imagery it is color, not line, which defines the forms that ebb and flow across the frame with

¹⁴ Mondrian, *op. cit.*, p. 10.

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uncanny impact. It is this stunning emotional force that lifts the films far beyond any realm of "purity" into the most evocative and metaphysical dimensions of sight and sound. The films are literally superempirical—that is, actual experiences of a transcendental nature. They create for the viewer a state of *nonordinary reality* similar, in concept at least, to those experiences described by the anthropologist Carlos Castaneda in his experiments with organic hallucinogens.¹⁵

E. H. Gombrich: "The experience of color stimulates deeper levels of the mind. This is demonstrated by experiments with mescaline, under the influence of which the precise outlines of objects become uncertain and ready to intermingle freely with little regard to formal appearances. On the other hand color becomes greatly enhanced, tends to detach itself from the solid objects and assumes an independent existence of its own."

Belson's work might be described as *kinetic painting* were it not for the incredible fact that the images exist in front of his camera, often in real time, and thus are not animations. Live photography of actual material is accomplished on a special optical bench in Belson's studio in San Francisco's North Beach. It is essentially a plywood frame around an old X-ray stand with rotating tables, variable speed motors, and variable intensity lights. In comparison to Trumbull's slit-scan machine or the Whitneys' mechanical analogue computer it's an amazingly simple device. Belson does not divulge his methods, not out of some jealous concern for trade secrets—the techniques are known to many specialists in optics—but more as a magician maintaining the illusion of his magic. He has destroyed hundreds of feet of otherwise good film because he felt the technique was too evident. It is Belson's ultrasensitive interpretation of this technology that creates the art.

The same can be said for the sounds as well as the images. Belson synthesizes his own sound, mostly electronic, on home equipment. His images are so overwhelming that often the sound, itself a creation of chilling beauty, is neglected in critical appraisals. The sound often is so integral to the imagery that, as Belson says: "You don't know if you're seeing it or hearing it."

¹⁵ Carlos Castaneda, *The Teachings of Don Juan—A Yaqui Way of Knowledge* (Los Angeles, Calif.: University of California Press, 1968).

He regards the films not as exterior entities, but literally as extensions of his own consciousness. "I first have to see the images somewhere," he says, "within or without or somewhere. I mean I don't make them up. My whole aesthetic rests on discovering what's there and trying to discover what it all means in terms of relating to my own experience in the world of objective reality. I can't just dismiss these films as audio-visual exercises. They obviously mean something, and in a sense everything I've learned in life has been through my efforts to find out what these things mean."

He has been a serious student of Buddhism for many years and has committed himself to a rigorous Yoga discipline. He began experimenting with peyote and other hallucinogens more than fifteen years ago. Recently his interests have developed equally in the directions of inner space (Mahayana Buddhism) and outer space (interstellar and galactic astrophysics). Thus by bringing together Eastern theology, Western science, and consciousness-expanding drug experiences, Belson predates the front ranks of avant-garde art today in which the three elements converge. Like the ancient alchemists he is a true visionary, but one whose visions are manifested in concrete reality, however nonordinary it might be.

Teilhard de Chardin has employed the term *ultra-hominization* to indicate the probable future stage of evolution in which man will have so far transcended himself that he will require some new appellation. Taking Chardin's vision as a point of departure, Louis Pauwels has surmised: "No doubt there are already among us the products of this mutation, or at least men who have already taken some steps along the road which we shall all be traveling one day."¹⁶ It requires only a shift in perspective to realize that Belson is taking those steps.

Allures: From Matter to Spirit

Originally a widely-exhibited painter, Belson turned to filmmaking in 1947 with crude animations drawn on cards, which he subsequently destroyed. He returned to painting for four years and in 1952 resumed film work with a series that blended cinema and painting through the use of animated scrolls. The four films produced in the period 1952-53 were *Mambo*, *Caravan*, *Mandala*, and *Bop Scotch*. From 1957-59 he worked with Henry Jacobs as visual director of

¹⁶Pauwels, Bergier, *op. cit.*, p. 59.

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the Vortex Concerts at Morrison Planetarium in San Francisco. Simultaneously he produced three more animated films, *Flight* (1958), *Raga* (1959), and *Seance* (1959). *Allures*, completed in 1961, found Belson moving away from single-frame animation toward continuous real-time photography. It is the earliest of his works that he still considers relevant enough to discuss.

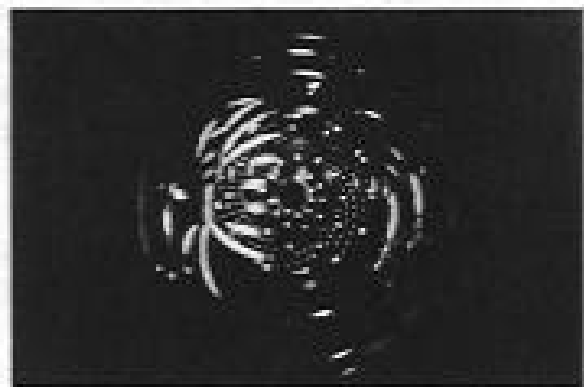
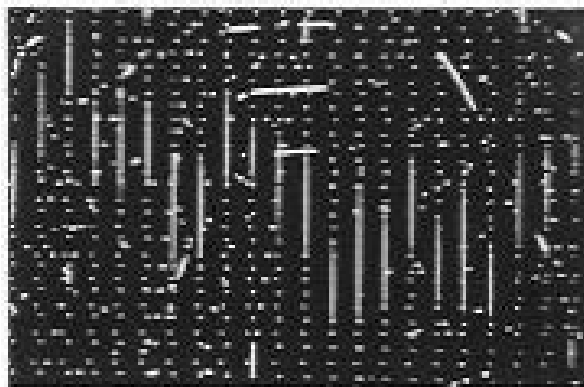
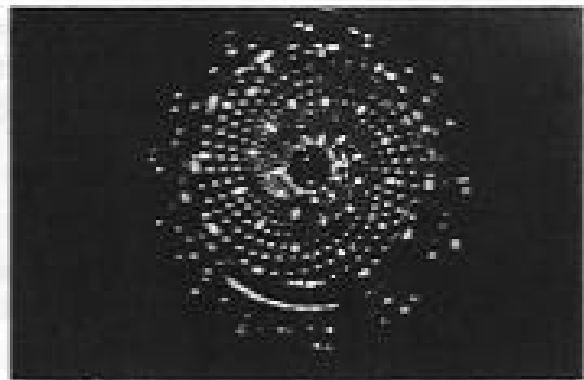
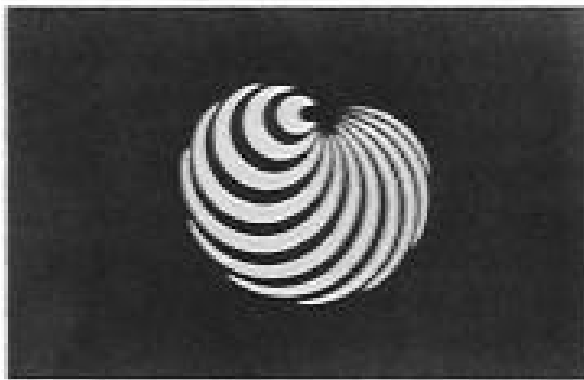
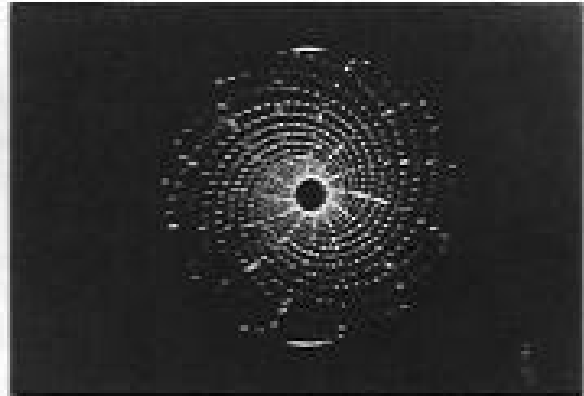
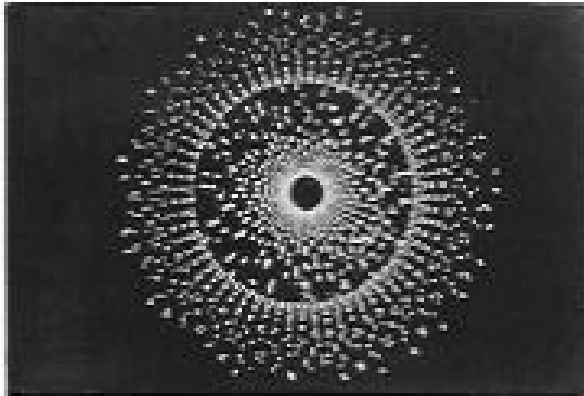
He describes *Allures* as a "mathematically precise" film on the theme of *cosmogenesis*—Teilhard de Chardin's term intended to replace cosmology and to indicate that the universe is not a static phenomenon but a process of becoming, of attaining new levels of existence and organization. However, Belson adds: "It relates more to human physical perceptions than my other films. It's a trip backwards along the senses into the interior of the being. It fixes your gaze, physically holds your attention."

Allures begins with an ethereal pealing of bells. A centrifugal starburst of pink, yellow, and blue sparks whirls out of a black void. Its points collect into clusters and fade. Bells become weird chimes; we sink into a bottomless orange and black vortex. An intricate pink mandala of interconnected web patterns spins swiftly into the distance. A caterpillar-like coil looms ominously out of infinity. We hear a tweetering electronic warble, a collection of threatening piano notes. Pink and yellow sparks wiggle vertically up the frame. Distant snakelike coils appear and fade. A tiny sun surrounded by a huge orange halo disintegrates. There are flying, comet-like petal shapes.

Oscilloscope streak-dots bounce across the frame with a twittering, chattering metallic noise. They form complex triangular and tetrahedral grid patterns of red, yellow, and blue. Out of this evolves an amorphous yellow-white pulsating globe of fire without definite shape. It vanishes and a blue, neon-bright baton rotates slowly into infinity.

"I think of *Allures*," said Belson, "as a combination of molecular structures and astronomical events mixed with subconscious and subjective phenomena—all happening simultaneously. The beginning is almost purely sensual, the end perhaps totally nonmaterial. It seems to move from matter to spirit in some way. *Allures* was the first film to really open up spatially. Oskar Fischinger

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Jordan Belson: Allures. 1961.16mm.
Color. 9 min. "A combination of
molecular structures and astronomical
events mixed with subconscious
phenomena... a trip backward
along the senses from matter to
spirit."

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had been experimenting with spatial dimensions but *Allures* seemed to be outer space rather than earth space. Of course you see the finished film, carefully calculated to give you a specific impression. In fact it took a year and a half to make, pieced together in thousands of different ways, and the final product is only five minutes long. *Allures* actually developed out of images I was working with in the Vortex Concerts. Up until that time my films had been pretty much rapid-fire. They were animated and there was no real pacing—just one sustained frenetic pace. After working with some very sophisticated equipment at Vortex I learned the effectiveness of something as simple as fading in and out very slowly. But it was all still very impersonal. There's nothing really personal in the images of *Allures*."

After the glowing blue baton vanishes the screen is black and silent. Almost imperceptibly a cluster of blue dots breaks from the bottom into magnetic force fields that become a complex grid pattern of geometrical shapes superposed on one another until the frame is filled with dynamic energy and mathematical motion. A screeching electronic howl accentuates the tension as galaxies of force fields collide, permutate, and transmute spectacularly. Some squadrons rush toward the camera as others speed away. Some move diagonally, others horizontally or vertically. It's all strongly reminiscent of *2001*—except that it was made seven years earlier. Elsewhere in the film rumbling thunder is heard as flying sparks collect into revolving atomic structures, from whose nuclei emanate shimmering tentacles of tweetering multicolored light. At the end we hear ethereal harp music as a pulsating sun, fitfully spewing out bright particles, reveals within itself another glimmering galaxy.

Re-Entry: Blast-off and Bardo

Re-Entry is considered by many to be Belson's masterwork. Completed in 1964 with a grant from the Ford Foundation, it is simultaneously a film on the theme of mystic reincarnation and actual spacecraft reentry into the earth's atmosphere. Also, as Belson says, "It was my reentry into filmmaking because I'd given up completely after *Allures*. Mostly for financial reasons. But also out of general dismay at the experimental film scene. There was no audience, no distribution, there was just no future in it at that time."

Re-Entry is chiefly informed by two specific sources: John Glenn's first space trip, and the philosophical concept of the *Bardo*, as set forth in the ancient *Bardo Thodol* or so-called *Tibetan Book of the Dead*, a fundamental work of Mahayana Buddhism. According to Jung, *Bardo* existence is rather like a state of limbo, symbolically described as an intermediate state of forty-nine days between death and rebirth. The *Bardo* is divided into three states: the first, called *Chikhai Bardo*, describes the psychic happenings at the moment of death; the second, or *Chonyid Bardo*, deals with the dream-state that supervenes immediately after death, and with what are called *karmic illusions*; the third part, or *Sidpa Bardo*, concerns the onset of the birth instinct and of prenatal events.¹⁷

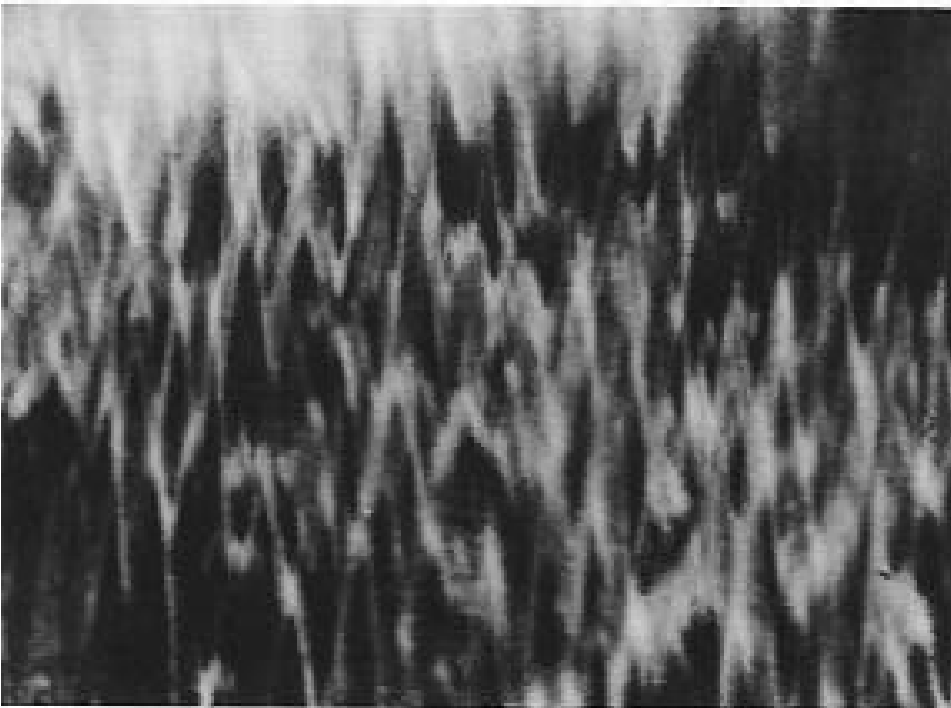
With imagery of the highest eloquence, Belson aligns the three stages of the *Bardo* with the three stages of space flight: leaving the earth's atmosphere (death), moving through deep space (karmic illusions), and reentry into the earth's atmosphere (rebirth).

The film, says Belson, "shows a little more than human beings are supposed to see." It begins with a rumbling thunderous drone (blast-off, perhaps). In a black void we see centripetal, or imploding, blue-pink gaseous forms barely visible as they rush inward and vanish. The sound fades, as though we have left acoustical space. After a moment of silence, the next sound is wholly unearthly: a twittering electrical pitch as vague clouds of red and yellow gases shift across the screen amorphously. Suddenly with a spiraling high-pitched whine we see a gigantic solar prominence (one of two stock-footage, live-action sequences) lashing out into space, changing from blue to purple to white to red. Now blinding white flashes, as though we're passing the sun, and suddenly we are into a shower of descending white sparks that become squadrons of geometrical modules moving up and out from the bottom of the frame, warping and shifting to each side of center as they near the top.

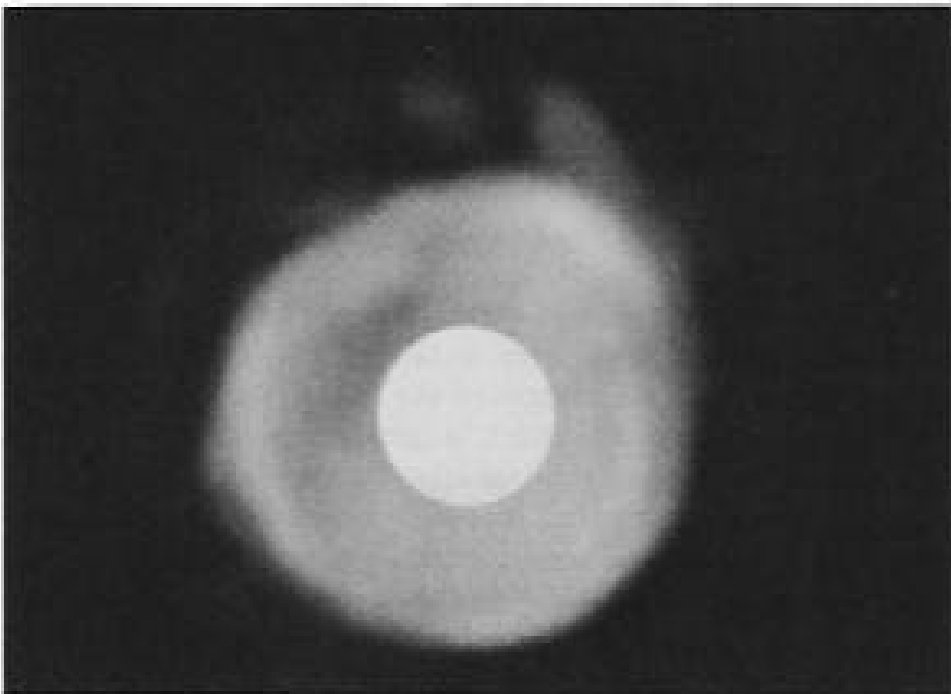
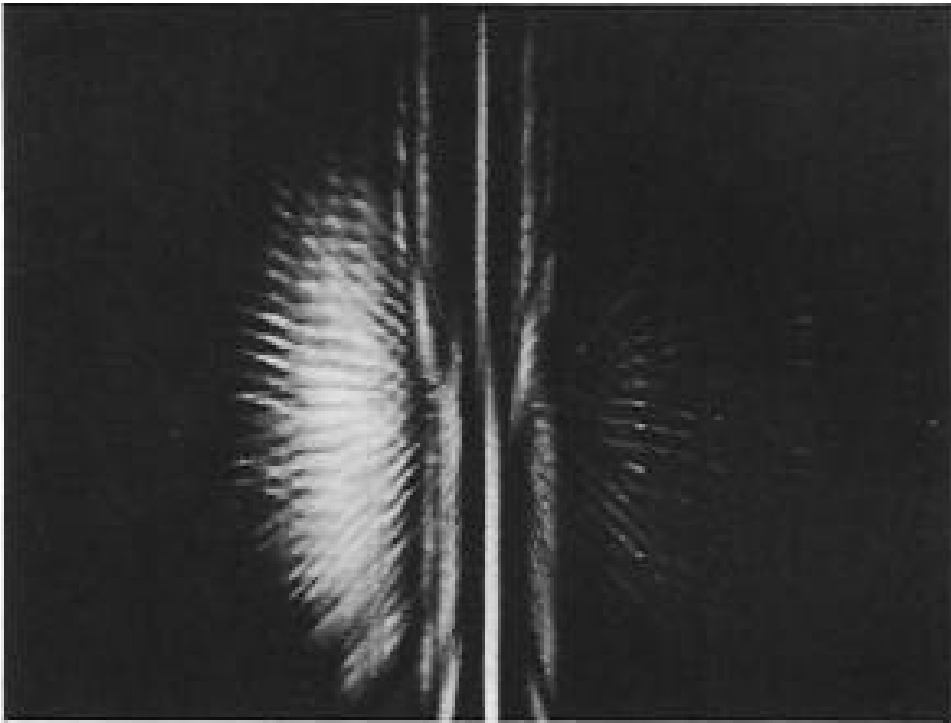
GENE: Certain of your images appear in every film, like the geometrical, perspectival interference patterns. They're quite effective. Do you conceive them through some sort of mathematical concept?

¹⁷ W. Y. Evans-Wentz, *The Tibetan Book of the Dead* (London: Oxford University Press, 1960).

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6 min. "The film does manage to transport whoever is looking at it out of the boundaries of the self."



Jordan Belson: *Re-Entry*. "... the next thing you know you're in heaven. You're surprised to be there. On the other hand, it's happening ..."

JORDAN: Those images in particular are derived from the nature of the device itself. But the images later in the film—the more nebulous ones, of more magnitude—they're more a question of personal vision. Discerning them, seeking them out, presents all sorts of possibilities by being receptive to them when I find them beneath my camera.

GENE: Are there other stock-footage sequences?

JORDAN: Yes. You wouldn't recognize it, but there's a shot of the earth rolling by, as seen from a camera in a rocket. I excerpted a part of that film and doubled it, so it was mirrored Rorschach-like. That's for the reentry to earth. The film leans heavily on such material. As a matter of fact, on the sound track there's actually John Glenn's radio conversation from his spacecraft to earth. He's saying something like ". . . I can see a light..." He was referring to Perth, Australia, as he passed over. Then it shoots past the earth and the sun and goes off into a rather ambiguous area in which you have to cross over barriers of time and space, but also mental, psychological barriers as well. It's a kind of breakdown of the personality in a way. It sort of boils out and the next thing you know you're in heaven. You're surprised to be there. On the other hand it's happening you know.

The "boiling out" sequence is among the most dramatic in all of Belson's films. Suddenly we hear a thunderous rumble that increases in intensity until the bottom of the frame begins to turn pale manganese blue and cobalt violet, a gaseous boiling cloud that surges up over the frame, turning alizarin crimson. We descend through it, as though it is being blasted upward by some explosive force far below. Image and sound increase to unimaginable intensity as though we're hurtling through sheets of space fire in a cosmic heat belt. The spacecraft is out of our solar system and into another dimension. Death has occurred; we move into the second stage of the *Bardo*.

At a corresponding point in the *Bardo of Karmic Illusions* the Sanskrit text reads: "*The wisdom of the Dharma-Dhatu, blue in color, shining transparent, glorious, dazzling, from the heart of Vairochana as the Father-Mother, will shoot forth and strike against thee with a light so radiant that thou wilt scarcely be able to look at it.*"¹⁸

¹⁸ *Ibid.*, p. 106.

This of course could be interpreted as a supernova whose maximum intrinsic luminosity reaches one-hundred million times that of our sun. The image in Belson's film is somewhat like slow-motion movies of atomic blasts in Nevada with the desert floor swept across by a tremendous shock wave. At another point it appears as a sky of mackerel clouds suddenly set aflame and blown asunder by some interstellar force. Shimmering iceberg shapes of every hue in the spectrum dance like galactic stalactites against a sizzling frying sound. This becomes a dizzying geometrical corridor or eerie lights almost exactly like the slit-scan corridor of *2001*—except that it was made four years earlier.

Carl Jung describes the final stage of the *Bardo*: "The illuminative lights grow ever fainter and more multifarious, the visions more and more terrifying. This descent illustrates the estrangement of consciousness from the liberating truth as it approaches nearer and nearer to physical rebirth."¹⁹

The images assume majestic dimensions. Seemingly millions of minute particles suggesting mesons, cosmic rays that survive in the atmosphere for only a millionth of a second, cascade in sizzling firestorms down from the top and up from the bottom in shards of viridian, ultramarine red, Thalo blue. There's a sense of unthinkable enormity. Finally we see a white sun surrounded by a pulsating red halo, which is then obscured by vapors. "The film does manage to transport whoever is looking at it," said Belson, "out of the boundaries of the self. At that very moment is when the foundation slips out from under us and very rudely we're brought back to earth. It's all very much like the process of spacecraft reentry. You're out there, free, totally free from the limitations of earthly distance, and suddenly you have to come back and it's a very painful thing."

Phenomena: From Humans to Gods

Phenomena (see color plates), completed in 1965, moved Belson closer to the totally personal metaphysical experience that culminated two years later in *Samadhi*. Also *Phenomena* was the first film in which he abandoned allegories with space flight or astronomic sub-

¹⁹ *Ibid.*, p. xxxvi.

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jects for a more Buddhistic exploration of psychic energies. It was primarily inspired by Buddha's statements in the *Diamond Sutra* and the *Heart Sutra*.

The film begins with electronically-distorted rock music as curvilinear dish shapes of bright cadmium red, crimson, and cerulean blue expand frenetically. A glowing red neon coil pulsates to the music. Next we see—unique in Belson's work—a recognizable though distorted figure of a man, then a woman, images shot from television through warped glass filters. They are obscured by a hailstorm of popping confetti-like flashes of red, white, and blue on a black field. The music fades into tumultuous cheering throngs as a fiery red starburst erupts in a sky of cobalt blue, its rings expanding into individual thorny clusters.

Belson thinks of this sequence as "an extremely capsulized history of creation on earth, including all the elements and man. It's the human sociological-racial experience on one level, and it's a kind of biological experience in the sense that it's physical. It's seen with the blinders of humanity, you know, just being a human, grunting on the face of the earth, exercising and agonizing. There's even a touch of the Crucifixion in there—a brief suggestion of a crown of thorns, a red ring of centers, each emitting a kind of thorny light cluster. The man and the woman are Adam and Eve if they're anyone. I see them as rather comic at that point. At the end of course it's pure consciousness and they're like gods. The end of the film is the opposite of the beginning: it's still life on earth but not seen from within, as *sangsara*, but as if you were approaching it from outside of consciousness so to speak. From cosmic consciousness. As though you were approaching it as a god. You see the same things but with completely different meaning."

In Buddhism the phenomenal universe of physical matter is known as *sangsara*. Its antithesis is *nirvana* or that which is beyond phenomena. Also within *sangsara* exists *maya*, Sanskrit for a magical or illusory show with direct reference to the phenomenon of nature. Thus in the *Diamond Sutra* Buddha equates *sangsara* with *nirvana* since both contain "magical" elements and asserts that both are illusory.²⁰ This is the substance of Belson's film.

²⁰ Edward Conze, *Buddhist Wisdom Books: The Diamond Sutra, The Heart Sutra* (London: George Allen & Unwin Ltd., 1958).

Suddenly and quite incongruously we hear German *Lieder* (Belson: "The epitome of the ego personality"). A gorgeous organ-pipe lumina display dances across the frame, a shifting alignment of fluted columns of phosphorescent colors similar to the work of Thomas Wilfred and more recent lumina artists such as Julio le Parc. Though Belson calls it a "gaudy juke-box lighting effect," it is far more beautiful than its predecessors: vertical shafts of white light through which move horizontal sheets of emerald, Prussian blue, rose madder, pale citron.

The pillars of color melt with a crackling buzz and slowly liquid blobs of pigment solidify into one of the most spectacular images of Belson's films: a mosaic field of hundreds of hard-edge, bullet-shaped modules in a serial grid. Each tiny unit constantly transforms its shape and color—from violet to Mars red to French ultramarine blue to mint green and zinc yellow. The staccato buzz flawlessly underscores the geometry, as though the modules are generating the sound as they converge and transform.

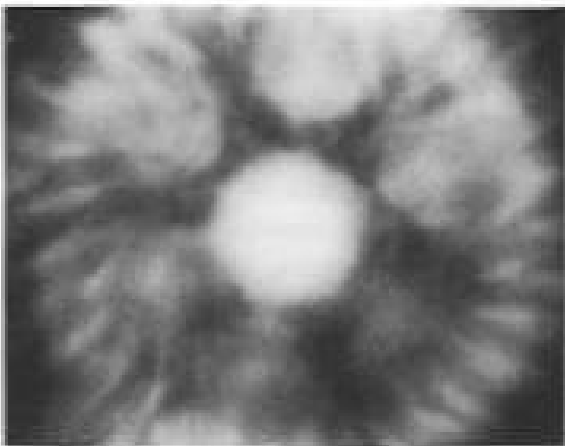
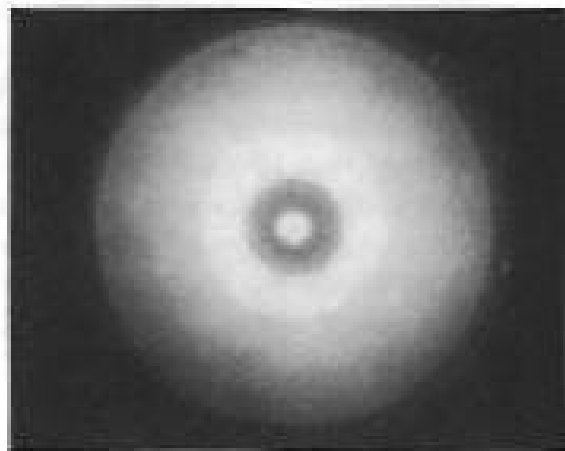
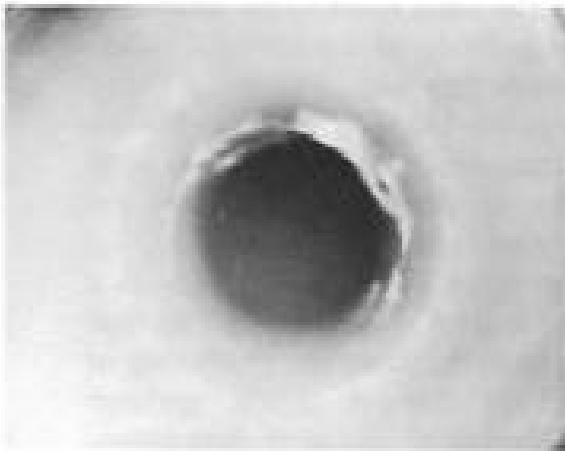
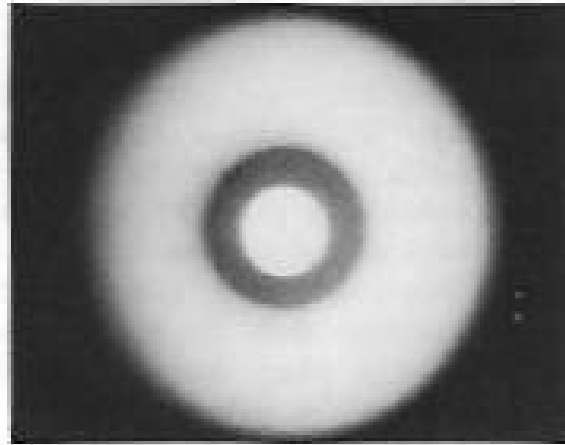
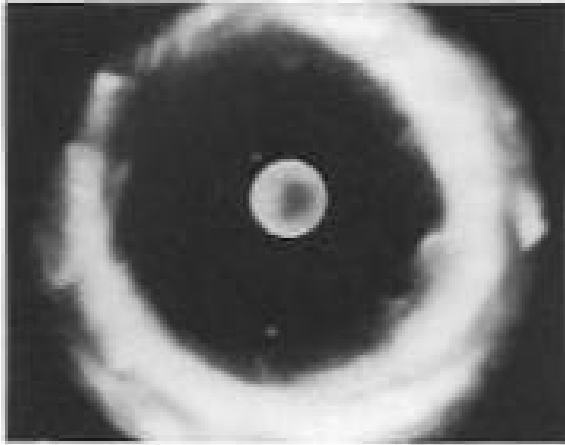
Suddenly the frame is shattered with a roar and a fiery light in a heaven of boiling multihued gases: a grim, sinister eruption that suggests, according to Belson, "depersonalization, the shattering of the ego-bound consciousness, perhaps through death, perhaps through evolution or rebirth." This celestial storm of manganese blue and zinc yellow leads into a state of *karmic illusions* with glacial, floating, aurora borealis lights of red and yellow-whites, rainbow liquid cascades of exquisite sheerness.

Various states of matter rise above, iceberg-like, sink and float away. This is followed by an intense white-light sequence with an ethereal mother-of-pearl quality, representing a state of total integration with the universe, of blinding super-consciousness. It culminates in an enormous roaring sphere of flaming gases. In the final sequence, against a descending drone, the void is shattered by a central light that throws out sweeping circular rainbows of liquid color moving majestically clockwise, collecting together, and lashing out again in the opposite direction until the ultimate fade-out.

Samadhi: Documentary of a Human Soul

For two years, from 1966 through 1967, assisted by a Guggenheim Fellowship, Belson subjected himself to a rigorously ascetic Yoga discipline. He severed emotional and family ties, re-

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Jordan Belson: *Samadhi*. 1967. 16mm. Color. 6 min.
"When I finally saw how intense *Samadhi* is, I knew I had achieved the real substance of what I was trying to depict. Natural forces have that intensity: not dreamy but hard, ferocious."

duced physical excitements and stimulations, reversed his sensory process to focus exclusively on his inner consciousness and physical resources. The result of this Olympian effort was *Samadhi* (see color plates), certainly among the most powerful and haunting states of nonordinary reality ever captured on film "It's a documentary of the human soul," he says. "The experiences which led up to the production of this film, and the experiences of making it, totally convinced me that the soul is an actual physical entity, not a vague abstraction or symbol. I was very pleased when I finally saw how concentrated, how intense, *Samadhi is* because I knew I had achieved the real substance of what I was trying to depict. Natural forces have that intensity: not dreamy but hard, ferocious. After it was finished I felt I should have died. I was rather amazed when I didn't."

In Mahayana Buddhism death is considered a liberating experience that reunites the pure spirit of the mind with its natural or primal condition. An incarnate mind, united to a human body, is said to be in an unnatural state because the driving forces of the five senses continually distract it in a process of forming thoughts. It is considered close to natural only during the state of *Samadhi*, Sanskrit for, "that state of consciousness in which the individual soul merges with the universal soul." This state is sought—but rarely achieved—through *dhyana*, the deepest meditation. In *dhyana* there can be no "idea" of meditation, for the idea, by its very existence, defeats the experience. The various stages of *dhyana* are denoted by the appearance of lights representing certain levels of wisdom until the final "Clear Light" is perceived. In this quasi-primordial state of supramundane all-consciousness, the physical world of *sangsara* and the spiritual world of *nirvana* become one.

Electroencephalograms of Hindu Yogis in states of *Samadhi* ecstasy, or what in psychology is known as *manic dedifferentiation*, show curves that do not correspond to any cerebral activities known to science, either in wakefulness or sleep. Yogis claim that during *Samadhi* they are able to grow as large as the Milky Way or as small as the smallest conceivable particle. Carlos Castaneda discusses similar experiences in his report of apprenticeship to a Yaqui Indian sorcerer. Such fantastic assumptions are not to be taken literally so much as conceptually, as experiences of nonordinary psychological realities, which are nonetheless real for him who experiences them.

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Perhaps with these concepts in mind we can approach Belson's sublime vision on a level more suited to it. We might remember also that practically everyone reading this book has in his possession an instrument that transforms energy within matter: the transistor. Belson seeks no more and no less than this. *Samadhi* is a record of two years of his search.

Samadhi was a radical departure from Belson's previous work in many ways. First, rather than ebbing and flowing in paced rhythms, it is one sustained cyclone of dynamic form and color whose fierce tempo never subsides. Second, in addition to the usual electronic sound, Belson's inhaling and exhaling is heard through the film to represent years of Yoga breathing discipline. And finally, whereas the earlier works moved from exterior to interior reality, *Samadhi* is continually centered around flaming spheres that evolve out of nothing and elude specific identification.

The various colors and intensities of these solar spheres correspond directly to descriptions in the *Tibetan Book of the Dead* of lights representing the elements Earth, Air, Fire, and Water. They have two additional meanings, however: the *kundalini* moving upward through the *chakras*; and the inhalation-exhalation of the life force, *prana*. For those unfamiliar with Yoga concepts, the *chakras* are physical nerve centers located within the body along the spinal column at five or six points: one in the sexual region, one in the region of the navel, the heart, the throat, the eyes, the middle of the head, the top of the head. Clairvoyants supposedly can see them. According to Yoga theory the *kundalini*—the vital life force that animates the body—resides in a concentrated form at the base of the spine in the general region of the sexual organs. Through physical disciplines and ethical, moral strength one raises that center of life force from the lower spine progressively, in stages, toward the brain.

Thus one implication of the elusive shifting centers in *Samadhi* is a trip through the *chakras*, from the lowest to the highest. There is also the analogy with the breathing structure. When we hear Belson inhale, the spheres glow brighter to indicate that *prana*, the life force in the air we breathe, is being introduced into the bloodstream and therefore into the *kundalini*. The deep, spatial, dark areas of the film

indicate not only the stages between *chakras* but also exhalations when there is relatively less *prana*.

As it begins, a stormy field of turbulent gases collects around a central core. The serrated vapors melt into a small central "jewel" of curling pink and red-orange flames that finally fades into black silence. The vacuum created by this pause reverberates in the ears until, slowly, a deep blue filamented sphere evolves, turning with purposive elegance, glowing into cadmium orange, surrounded by a whirling halo. It becomes a blue sphere in a red universe, spewing off white-hot rings of light.

Next comes a series of solar or planetoid visions: a scintillating yellow star with six shimmering fingers; a blue-purple planet with a fiery red halo; a small central globe dwarfed by an immense corona; a dim yellow-ochre sun emanating flames that revolve like chromospheres in a plasma storm; various stellar orbs turning with implacable grace against wavering sonorous drones. Suddenly there's a burst of white light of blinding intensity: a murky sea of deep blue gas is in huge movement; waves of unbearably gorgeous mist sweep across the void. It is obvious that contact has been made with some vast new reality.

Cinema to Belson is a matrix wherein he is able to relate external experience to internal experience. He feels that it culminated in *Samadhi*. "I reached the point that what I was able to produce externally, with the equipment, was what I was seeing internally. I could close my eyes and see these images within my own being, and I could look out at the sky and see the same thing happening there too. And most of the time I'd see them when I looked through the viewfinder of my camera mounted on the optical bench. I've always considered image-producing equipment as extensions of the mind. The mind has produced these images and has made the equipment to produce them physically. In a way it's a projection of what's going on inside, phenomena thrown out by the consciousness, which we are then able to look at. In a sense I'm doing something similar to the clairvoyant Ted Serios who can project his thoughts onto Polaroid film. Only I have to filter my consciousness through an enormous background of art and filmmaking. But we're doing the same thing. *Samadhi* breaks new territory in a way. It's as though I've come back from there with my camera in hand—I've been able to film it.

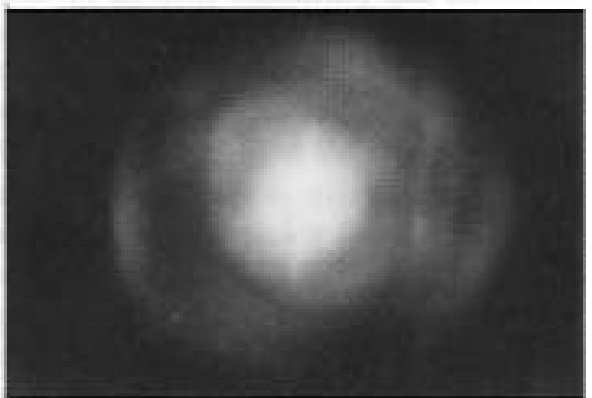
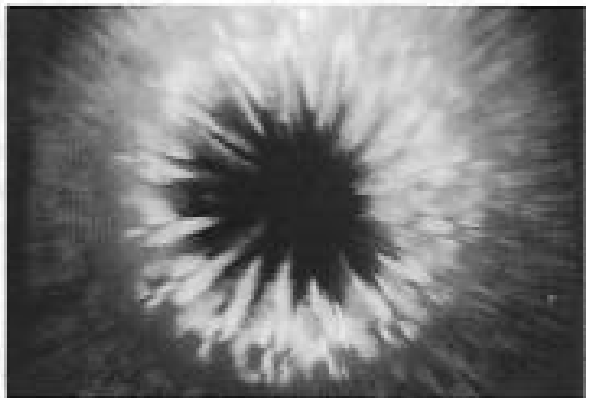
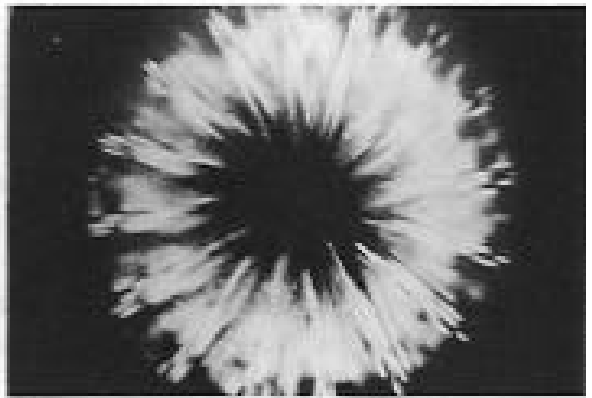
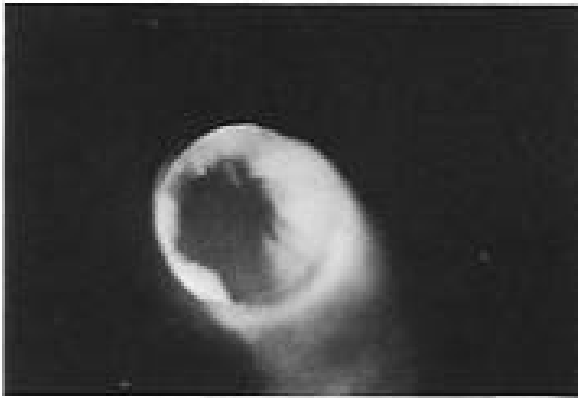
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GENE: Do you feel your drug experiences have been beneficial to your work?

JORDAN: Absolutely. Early in life I experimented with peyote, LSD, and so on. But in many ways my films are ahead of my own experience. In fact *Samadhi* is the only one in which I actually caught up with the film and ran alongside of it for just a moment. The film is way ahead of anything I've experienced on a continuing basis. And the same has been true of the drug experiences. They somehow set the stage for the insights. I had peyote fifteen years ago but I didn't have any cosmic or *Samadhic* experiences. That remained for something to happen through development on different levels of consciousness. The new art and other forms of expression reveal the influence of mind-expansion. And finally we reach the point where there virtually is no separation between science, observation, and philosophy. The new artist works essentially in the same way as the scientist. In many cases it's identical with scientific exploration. But at other times the artist is able to focus more in the area of consciousness and subjective phenomena, but with the same kind of scientific zeal, the same objectivity, as scientists. Cosmic consciousness is not limited to scientists. In fact scientists are sometimes the last to know. They can look through their telescopes and see it out there, but still be very limited individuals."

Momentum: The Sun as an Atom

If one were to isolate a single quality that distinguishes Belson's films from other "space" movies, it would be that his work is always heliocentric whereas most others, even *2001*, are geocentric. The archetypal nature of the sun is such that Belson's obsession with it has, at times, tended toward a certain mysticism that was, no doubt, unavoidable. That he would someday make a movie exclusively about the sun was inevitable; that it would be his least mystical work came as something of a surprise.



Jordan Belson: *Momentum*. 1969. 16mm. Color. 6 min. "The paradoxical realm in which subatomic phenomena and the cosmologically vast are identical."

"I was wondering what the subject of my next film would be after *Samadhi*," he said. "My whole world had collapsed. All the routines I'd created in order to develop the state of consciousness to produce that film just fell apart. So I had to keep working just to maintain the momentum from *Samadhi*. I had no pre-conceived idea what the new material was about, but I was calling it *Momentum*. Eventually I discovered it was about the sun. I ran right to the library; the more I read the more I realized this was exactly what *Momentum* was about. All the material was similar if not identical to solar phenomena like corona phenomena, photosphere phenomena, chromosphere phenomena, sun spots, plasma storms—I was even getting into some interesting speculation about what goes on *inside* the sun. And I realized that the film doesn't stop at the sun, it goes to the center of the sun and into the atom. So that was the film, about the sun as an atom. The end shows the paradoxical realm in which subatomic phenomena and the cosmologically vast are identical. Through the birth of a new star is where it happens."

Momentum (see color plates) was completed in May 1969, after eighteen months of painstaking study and labor. In one sense it's a refinement of the whole vocabulary he's developed through the years, distilled to their essence. But there are new effects inspired by this particular subject. *Momentum* is a calm, objective experience of concrete imagery that manages to suggest abstract concepts without becoming particularly symbolic.

It begins with stock footage of a Saturn rocket whose after-burners blaze in rainbow fury. We hear echoing ethereal music and slow cyclic drones. Next we see a solar image in mauves and iridescent ruby, huge prominences flaring in slow motion. A series of graceful lap-dissolves brings us closer to the sphere as it revolves with a steady and ponderous dignity. In spite of its furious subject, *Momentum* is Belson's most serene and gentle film since *Allures*. This treatment of the sun as an almost dreamlike hallucinatory experience is both surprising and curiously realistic—to the extent that one can even speak of "realism" in connection with solar images.

There's a visceral, physical quality to the images as we draw near to the surface and, with a soul-shaking roar, descend slowly into blackness: apparently the suggestion of a sun spot. Flaming napalm-like clouds of gas surge ominously into the void, which suddenly is shattered with an opalescent burst of light. We move through various

levels of temperature and matter. Belson's now-familiar techniques seem to possess a pristine clarity and precision not previously so distinct. Swooping cascades of flame seem especially delicate; fantastic towering shards of luminescent color reach deeper levels of the mind; the translucent realms of kinaesthesia leave one speechless.

Moving deeper into the mass, images become more uniform with a textural quality like a shifting sea of silver silt. Millions of tiny flashes erupt over a field of deep blue vapors. Quick subtle movements and sudden ruptures in the fabric of color seem suppressed by some tremendous force. Indefinite shapes and countless particles swim in a frantic sea of color.

"Then the film goes into fusion," said Belson. "A state of atomic interaction more intense than fission. This is supposed to take place on the sun, fusion." A blinding red fireball breaks into a multi-pointed star of imploding light/energy, flashing brighter and brighter, mounting in intensity. An image similar to James Whitney's *Lapis*—a collecting of millions of tiny particles around a central fiery core—builds up to the moment of crescendo, with all the colors of the universe melting into one supremely beautiful explosion, and suddenly we're deep in interstellar space, watching a distant flash as a new sun is born.

"The whole secret of life must somehow exist in the solar image," Belson remarked. "*Momentum* is a kind of revelation regarding the sun as the source of life. Not only in our solar system, but wherever there's a sun it's the source of life in that part of the universe. We come from it and return to it. Though we think of the sun as a gigantic thing, I think probably an atom itself is a small sun—in fact our sun is probably an atom in a larger structure. It's somehow tied up with the essence of being. If you were to think of a single form that would be the primary structure of the universe it would just have to be the solar sphere. I mean there's so much evidence around us to that effect."

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