

VII. Science Fiction

WE COME FINALLY TO *science fiction*. This is by definition a literature of ideas, and so furnishes a virtually inexhaustible source of material for discussion. SF has been characterized in provocative terms by the critic Edmund Crispin:

Science fiction is a reactionary type of reading. It harks back to a literary intention which the Renaissance outmoded and the rise of the novel came near to obliterating—I mean the intention of depicting human beings in their relation to entities having an importance, or at any rate a potency, as great as or greater than the importance or potency of the human animal itself. In science fiction these entities may very occasionally, as in the older literature, be of a religious or quasi-religious nature; but more often they have to do with the laws and potentialities, so far as these are known or can be guessed, of the physical universe which humanity inhabits. Thus, where mainstream fiction, thanks to the monotonously humanist bias of the last five centuries of our culture, has been almost uniformly catatonic in its withdrawal from environment, science fiction seeks to direct man's attention outwards once more—to mitigate the creature's excessive preoccupation with himself and his society by throwing emphasis on the temporariness and precariousness of his situation within the macrocosm.

I shall consider some of the novels and stories of a number of SF writers, focussing particularly on *H. G. Wells*, *Karel Čapek*, *Olaf Stapledon*, *Philip K. Dick*, *Stanislaw Lem*, and *J. G. Ballard*.

H. G. Wells (1866-1946) was one of the creators of science fiction. Many of his most striking ideas, both within and outside the SF genre, occur in his short stories, all of which were written before 1911. In **The New Accelerator** (1903), for instance, a research physiologist develops a drug which speeds up human metabolic processes several thousand times, so that anyone who takes it sees the world as virtually standing still. In **The Plattner Story** (1897) a chemical experiment goes wrong and Plattner, the demonstrator, vanishes in the resulting explosion. Ten days later he reappears, but with his body mirror-reversed: formerly right-handed, he has become left-handed; his heart is now on the right-hand side of his body. The only explanation would appear to

be that Plattner was blown by the explosion into a four- (or higher) dimensional space in which he was "turned around" before returning to normal space. In **The Crystal Egg** (1899) a dealer in antiques acquires the mysterious object of the title and discovers that, when illuminated by a single ray of light and viewed from a precise angle, a scene can be clearly discerned within it. In this scene are a number of masts, each surmounted by a similar crystal egg, around which fly a multitude of large bird-like creatures. Every so often one of these creatures alights on a mast and peers intently into the crystal; occasionally the face of one of these creatures, with its great eyes, fills the whole scene. It becomes clear that the crystal egg is transmitting a picture of another world, and that the crystals in that world are devices allowing the flying creatures to view our world. The fact that the sky of this other world contains two moons means that it is probably Mars. In **The Star** (1899) a large object collides with the planet Neptune; the two fuse into a star which heads towards the centre of the solar system. Astronomers fear that it may collide with the earth, and as it draws closer it wreaks havoc on the earth's surface, causing earthquakes and floods. At the last moment, however, it is deflected by the moon and proceeds to fall into the sun. Although humanity survives the ordeal, society has been devastated, and the earth's climate permanently warmed. Martian astronomers, on the other hand, see few changes on the earth's surface and are surprised that the near collision had so small an effect. Mr Fotheringay, the protagonist of **The Man who Could Work Miracles** (1899) finds that he has in some mysterious way acquired the power of having his every wish miraculously granted. Beginning modestly with a few minor miracles, such as transforming his tobacco-jar into a bowl of violets, one night Mr. Fotheringay is encouraged by the local parson, Mr Maydig, to perform bigger feats. So he duly drains a swamp, improves the railway, and, in a reforming zeal, changes all the alcoholic beverages in the vicinity to water. It grows late, and Mr Fotheringay (evidently a man of little imagination) starts to worry about getting to work the following day. Mr Maydig suggests that Mr. Fotheringay, like a latter-day Joshua, stop the hour growing any later by arresting the rotation of the earth. Mr. Fotheringay obliges, but as a result finds himself pitched incontinently into a whirling chaos; for in stopping the earth from rotating he has neglected to arrest the motion of the objects on its surface, which have as a result all been thrown violently forward at high speed. Failing to understand this, and thinking that his miraculous powers have gone wrong, Mr Fotheringay wishes that he be rid of them, and that time run back to the moment immediately prior to their appearance. Thus everything returns to normal, and so in actual fact Mr Fotheringay has never possessed the power to work miracles at all.

Wells' short novel **The Time Machine** (1895) is the first to treat what was to become the major SF theme of *time travel*. The central character invents a machine enabling him to travel in time, which he uses to investigate the future of the human species. He becomes temporarily stranded eight hundred thousand years in the future, where he finds the timid and beautiful Eloi living in what at first seem to be idyllic circumstances, but discovers they are the prey of the degenerate Morlocks, troglodyte descendants of the labouring class. He travels to still more distant eras where he witnesses the extinction of humanity, and the world's final decline as the sun cools.

The problem of humanity's future concerned Wells greatly, as his later writings testify. The split between the Eloi and the Morlocks in **The Time Machine** is an early warning against the perpetuation of social class divisions.

The War of the Worlds (1898) is the archetypal story of *alien invasion*. Mars embarks on an invasion of the earth, launching a number of giant cylinders which crash to ground in England. From these issue huge spherical creatures armed with heat-rays and fighting machines, which proceed to devastate the country. Panic spreads as resistance fails and London is destroyed: human beings are powerless against the Martians. Providentially, the Martians succumb to infection by earthly bacteria, which succeed in destroying them where humanity's best efforts fail.

By portraying humanity as being too weak to resist the Martians, Wells administers a sharp corrective to the notion that human society occupies a central position in the cosmic order.

Wells also wrote a number of utopian novels in which he presents his mainly optimistic speculations on the forms that the society of the future might take. In **A Modern Utopia** (1905) he describes a society governed by a technocratic elite¹, and in one of his later books, **The Shape of Things to Come** (1933), he charts a possible future course of development which might lead to the establishment of the utopian state. But he never managed to resolve the imaginative conflict between his social idealism and his doubts that human beings were capable of achieving spiritual maturity.

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¹ It is of interest to note that as a direct response to Wells' optimistic vision in **A Modern Utopia**, E. M. Forster (1879-1970) wrote his dystopian story **The Machine Stops** (1909), a powerful depiction of the tragic consequences of becoming over-dependent on the machine.

Karel Čapek (1890-1938) was the foremost Czech writer of the interwar years. He is best known for his play *R.U.R.* (1921) —an acronym for “Rossum’s Universal Robots”—in which the word “robot” was first introduced. (In Czech the word means something like “forced labour,” and in the play it applies not to metal robots as we have come to think of them, but to a slave class of quasihuman androids.)

The Absolute at Large (1922) is a satire in which a scientist invents an atomic device capable of producing almost free power; its release shakes the world to its foundations, leading to a devastating war. In **Krakatit** (1924) a crank inventor devises an exceptionally powerful explosive, with predictable consequences. Both of these novels illustrate how the ultimate catastrophe can be arrived at by a seemingly casual, unintended route.

Čapek’s **Tales from Two Pockets** (1929) are short stories of detection with a philosophical twist. This philosophical turn is developed further in the trilogy of novels, **Hordubal**, **Meteor**, and **An Ordinary Life** (1933–34), all of which are concerned with the nature of individual identity and how it can be known.

Čapek’s masterpiece is his last novel **War with the Newts** (1936), a pointed but humorous satire on human shortcomings. A curious, apparently intelligent, sea-dwelling species of salamander or “Newt” is discovered in the South Pacific. Their potential as labourers is soon recognized and a “Salamander Syndicate” set up for their breeding and exploitation; hundreds of millions of them are bred, and they spread all over the world. Recognizing that the Newts are intelligent beings—they even learn to speak human languages—various groups of well-meaning people appear with the intention of conveying to them the benefits of human civilization. A popular philosopher even creates for the Newts a special religious system whose chief article is affirmation of faith in the “Great Salamander”: this doctrine fails to take root among the Newts, but finds many adherents among the human population. Finally the Newts, by now having learned much from their human masters, turn the tables on them and begin flooding the continents in an effort to eliminate human beings entirely.

War with the Newts is a kind of universal satire: in it Čapek directs his darts at science, religion, nationalism, racism, linguistics, communism, capitalism, businessmen, intellectuals. But, like **Frankenstein** and **Dr Jekyll and Mr Hyde** its central theme is the dangerous ability of human beings to meddle in regions where even angels would fear to tread.

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In writing his novels *Olaf Stapledon’s* (1886-1950) principal concern was to present his ideas on the possibilities of development of mind and society. **Last and First Men** (1930), his most famous novel, is a

history, extending over billions of years, of humanity's descendants, told by one of the Last (18th) Men working through the “docile but scarcely adequate brain” of one of the First Men (ourselves). Concerning the story he has to tell, the Last Man remarks:

When your writers romance of the future, they too easily imagine a progress toward some kind of Utopia, in which beings like themselves live in unmitigated bliss among circumstances perfectly suited to a fixed human nature. I shall not describe any such paradise. Instead, I shall record huge fluctuations of joy and woe, the results of changes not only in man's environment but in his fluid nature.

And it is indeed a remarkable story. In the course of millions of years, the human species remakes itself several times. Five hundred million years hence, the disintegration of the moon forces humanity to migrate to Venus and later still to Neptune (the home of the Last Men), the human body having been redesigned to make it possible to survive the harsh conditions on the Neptunian surface. The cerebral Last Men have developed the technique of entering into any past mind and participating in its experience. Two billion years from now, the Last Men have become aware that, within a few thousand years, the sun will flame out as a nova and extinguish all life in the solar system. They have undertaken the task of disseminating among the stars the seeds of a new humanity, minute spores driven by radiation pressure. They pursue this project even though they know that it is extremely improbable for it to succeed. As their world dies, one of their number delivers a moving epitaph to humanity:

Great are the stars, and man is of no account to them...But one thing is certain. Man himself, at the very least, is music, a brave theme that makes music also of its vast accompaniment, its matrix of storms and stars. Man himself in his degree is eternally a beauty in the eternal form of things. It is very good to have been man. And so we may go forward together with laughter in our hearts, and peace, thankful for the past, and for our own courage. For we shall make after all a fair conclusion to this brief music that is man.

At the beginning of *Star Maker* (1937) we find its narrator, a contemporary man, sitting on a suburban hill musing on the futility of his existence. Looking up into the night sky he feels himself become disembodied, and soars up into space, so embarking on a voyage of cosmic dimensions. He visits many worlds, and becomes part of a communal mind that eventually expands to embrace the entire cosmos.

In a blinding vision, the narrator, now identified with this cosmic mind, faces the Star Maker, the creator of all things. The narrator cries out for love, but like Spinoza's God, the Star Maker is above all emotion and judges his work objectively, recognizing its imperfections. In a moment of ecstatic acceptance, the narrator comes to understand this and wakes up on the hill with a strange sense of peace. He sums up what he has learned from his cosmic experience:

Two lights for guidance. The first, our little glowing atom of community, with all that it signifies. The second, the cold light of the stars, symbol of the hypercosmical reality, with its crystal ecstasy. Strange that in this light, in which even the dearest love is frostily assessed, and even the possible defeat of our half-waking world is contemplated without remission or praise, the human crisis does not lose but gains significance. Strange, that it seems more, not less, urgent to play some part in this struggle, this brief effort of animalcules striving to win for their race some increase in lucidity before the ultimate darkness.

Stapledon modestly described his novels as "fantastic fiction of a semi-philosophical kind." This description does considerably less than justice to **Star Maker**, in which Stapledon has, with sweeping imagination, synthesized philosophy, science, art, and religion into a powerful vision of the cosmic order.

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In his many novels and stories *Philip K. Dick* (1928-1982) returned again and again to the development of three major themes: the nature of the reality underlying the world of appearance, the delineation of "alternative" universes differing from the one we actually inhabit, and the replacement of organic life by mechanical simulacra. His unique way of handling the first theme is exemplified in his stories **We Can Remember It for You Wholesale** (1965) and **The Electric Ant** (1968). In the first of these stories, memory is treated as kind of onion from which successive layers are peeled, revealing deeper and deeper levels of remembered reality. Its principal character, Douglas Quail, calls on Rekal, Incorporated, an agency which uses chemico-hypnotic techniques to implant in its clients totally convincing pseudo"memories" of experiences that they wish to have had. Quail is sedated and the procedure initiated for implanting in him the pseudomemory he has requested—that of having undertaken a mission to Mars as a secret agent. But the technicians uncover what seems to be a genuine memory of such a mission which has been erased from Quail's consciousness: not wishing to meddle in what seems to be

government business, they hasten to revive him and send him on his way. It transpires that the military has been monitoring Quail all along, and knowing now that his conditioning has failed, they determine to liquidate him. He manages to convince them that his conditioning might be effectively restored by overlaying the memory of the exciting life of a secret agent with the pseudomemory of something even more exciting and desirable. Quail is accordingly examined by their psychiatrists to determine his ultimate fantasy wish, which turns out to take the form of imagining himself as a small boy preventing, singlehanded, an alien invasion of earth. Quail is then returned to Rekal to have this wish-fulfilment fantasy implanted, but under sedation the fantasy is revealed to be a genuine memory repressed to a level deeper than that of the Martian mission: it was not fantasy at all.

The Electric Ant is an intriguing variation on the theme of solipsism. The story's protagonist, Garson Poole, comes to learn that he is not the human being he had always assumed himself to be, but actually a mechanically programmed organic robot—an "electric ant". Depressed at this discovery, he resolves to commit suicide by ripping out the programming mechanism controlling his thoughts and behaviour. Examining himself, he finds a panel in his chest which he pulls off to reveal a tiny spool of tape unwinding imperceptibly over a scanner. He learns that this is not in fact a programming mechanism, but a "reality-supply construct": the true source of all his experience. He grasps that, by controlling this tape, he thereby controls his subjective reality. Intrigued by this possibility, he paints over a section of the tape with opaque varnish; six hours later a number of objects, including the New York skyline, drop out of his visual field, reappearing soon after. Pursuing his researches, he inserts a blank section into the tape; four hours later the fabric of reality begins to unravel for him—colours drain away, material objects turn to smoke. Later, his ordinary perceptions restored, he figures that cutting the tape will have the opposite effect: instead of reducing sensation, he will be subject, in a blinding flash, to every possible stimulus at once. Observed by a friend, he cuts the tape, and is destroyed by the resulting sensory overload. A few minutes later his friend sees *her* reality drain away: she herself, and everything else, were nothing more than impressions on Poole's reality-tape.

The second theme – that of alternative realities – is subtly handled by Dick in his novel **The Man in the High Castle** (1962), whose characters live in a United States that has lost World War II. In this book, which, like most of Dick's novels, eludes synopsis, the country has been divided by the victorious Germans and Japanese, with the exception of a buffer zone in the Rocky Mountains. The novel oscillates between various "realities" all which appear to have equal ontological status. For example, at one moment, a Japanese dignitary finds himself

briefly in a San Francisco much more like the one in our world, a world in which, at any rate, the Japanese are clearly not the victorious occupiers of California. Dick varies his theme by introducing a character in the form of a novelist – the eponymous man in the high castle – who has written a book called "The Grasshopper Lies Heavy," depicting a world, similar to, but differing in certain respects from our own, in which the Axis powers have lost the war. One of the characters eventually visits the novelist and forces him to admit that his book was written with the aid of the Chinese *Book of Changes*. When she throws the coins herself, asking the *I Ching* what was supposed to be learned from the book, the resulting hexagram is Chung Fu, "Inner Truth," to which she assigns the literal interpretation that Germany and Japan in reality did lose the war. But the man in the high castle, the author of this "book within a book" is not sure, and Dick leaves the reader to decide which world (if any) is the "real" one.

Dick's third major theme—that of the replacement of organic life by mechanical simulacra—is well served in his novella **Second Variety** (1953). This is set during a future war between the Eastern and Western Blocs in which the remnants of the latter have retreated to the base they have established on the moon, leaving only a handful of their troops on the earth's devastated surface. The Western Bloc continues to prosecute the war by setting up an underground complex of automated factories constructed to produce a stream of robot weapons—the so-called "claws"—designed to penetrate enemy bunkers and kill their occupants. At first the claws are crude and easily destroyed, but the sophistication of their design improves to the point that they begin to turn the tide of the war in the West's favour. Walking through the ruins of a town, Hendricks, an American officer, encounters a ragged young boy whom he decides on impulse to take with him. The two then encounter three Russian soldiers—two men and a woman—who pull out laser pistols. As their enemy Hendricks expects himself to be their target. But instead the Russians shoot the boy who, exploding in a tangle of gears, is shown to be a robot, a "claw" designed to look like a human being. The Russians, Klaus, Rudi, and Tasso, the woman, take Hendricks back to their bunker and explain to him that the underground factories have now begun to turn out robots indistinguishable in appearance from human beings, designed to attack both sides indiscriminately. To their knowledge these come in three varieties, of which the first looks like a wounded soldier, and the third is the ragamuffin David encountered by Hendricks. The form of the second variety they say is unknown to them. Later Klaus shoots Rudi, claiming that he suspected him to be of this second variety, but it turns out on examining the corpse that Rudi is human after all. Suspicion thus falls on Klaus, who is eventually shot by Tasso; he does prove to be a mechanism. In a subsequent attack by a number of Wounded

Soldiers and Davids, Tasso destroys them by detonating one of a number of specially designed bombs attached to her belt, but Hendricks is severely injured in the blast. Hendricks decides that he must return to the moon base for help. Believing that Klaus was of the second variety, and so now trusting Tasso, Hendricks allows her to accompany him to the launch site of the one-seat lunar spacecraft, camouflaged nearby, in which he had been conveyed to earth. There Tasso points out to Hendricks that his injuries will probably prevent him from surviving the trip, and convinces him to allow her to go in his place. Once she has taken off, Hendricks walks back to where Klaus was destroyed and idly turns over the robot's metal brain case, finding to his horror the number IV stamped on it, showing that there were four varieties, not three. Hendricks does not have to wait long to confirm what he now knows, too late, to be the form of the second variety, for he is soon attacked by a squadron of identical Tassos, each carrying identical bombs. As he dies, he consoles himself with the thought that the robots have already begun to design weapons to use against each other.

In the bleak world of **Second Variety**, the claws resemble organisms in that their struggle to exist forces them to "evolve." But of course, unlike the evolution of organic life, the "evolution" of these mechanisms is not the result of chance, but of adaptive improvements in their design.

Dick's stories are full of ingenious devices—often taking the form of exotic drugs—introduced for the purpose of subjecting his characters' ideas of reality to dislocation. For example: in **Now Wait for Last Year** (1966), there is a drug with the side effect of carrying its user—in an apparently objective manner—through time; in **Ubik** (1969), an aerosol can dispensing the Absolute; in **Flow My Tears, the Policeman Said** (1974), a psychotropic drug which alters the perceptions not just of users, but of non-users as well; in **Paycheck** (1953), a number of apparently useless objects which turn out to be of pivotal importance for the protagonist, since he has brought them back from the future; in **Faith of Our Fathers** (1967) an antihallucinatory drug causing its users to see the world as it really is; in **Do Androids Dream of Electric Sheep?** (1968) "empathy boxes" enabling the members of a religious cult to enter their leader's mind; in **The Three Stigmata of Palmer Eldritch** (1965), an hallucinogenic drug, which, taken by a group of people simultaneously, projects them into a shared illusory world. In *A Scanner Darkly* (1977) the gimmick is a "scramble suit" which, by rendering its wearer unidentifiable, causes its principal character, a narcotics agent, to remain unaware that he is spying on himself.

Of all SF writers, Philip Dick was the one most concerned with purely metaphysical questions, and as a result his work occupies a unique place in science fiction as a literature of ideas.

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In his SF novels the Polish writer *Stanislaw Lem* (1921–) has chosen as his principal themes the impact of scientific knowledge on human life, and the challenges to that knowledge that may arise from future discoveries. Lem's mastery of these themes is nowhere better demonstrated than in his novel **Solaris** (1961). Centuries in the future, the planet Solaris is discovered in orbit about two stars of the "Alpha Constellation." Puzzled by the seemingly impossible stability of Solaris's path, scientists launch an intensive investigation, leading to the placing of an elaborate space-station in orbit around the planet. The planet's surface is found to be covered by a mysterious "ocean" whose nature, organic or inorganic, baffles the scientists; the study of the properties of this ocean has blossomed into a whole new branch of science, "Solaristics." The discovery is made that the stability of Solaris' orbit is caused by "tidal" variations in the ocean's shape. But Solaris has no moons, so does the ocean change its shape deliberately? Is it sentient? Visits to the planet's surface reveal that the ocean is capable of manifesting a bewildering variety of different, often gigantic, formations; these have been classified as "tree-mountains," "extensors," "fungoids," "symmetriads," and "mimoids." The origin and the purpose of these formations remain unknown. A century after the discovery of Solaris, Kelvin, a physicist, arrives at the space station orbiting Solaris to replace one of its three-member crew who has recently died. He discovers that the crew members have been receiving mysterious "visitors" apparently conjured up from their subconscious minds, not as hallucinations, but as solid human beings. The female "visitor" of Kelvin's predecessor has apparently driven him to suicide. Soon after Kelvin's arrival, his own "visitor" materializes in the form of a former lover who has died some years before. Kelvin and his colleagues come to believe that it is the ocean which in some mysterious way is the source of the "visitors," since they first appeared immediately following an X-ray bombardment of the ocean. Finally the scientists succeed in constructing an apparatus for disintegrating the "visitors" and use it successfully; but, although they are now certain that the ocean is responsible for the visitors' appearance, they still have no idea of how or why. The ocean remains an enigma.

The ocean of **Solaris** is one of science fiction's richest and most beautiful images, a vast natural phenomenon which, almost playfully, refuses to yield up its secrets to human science.

Lem's novel **The Invincible** (1967) provides another good illustration of his skill at mapping the limits of human technology, but in this case the opponent's nature is better understood. An advanced spacecraft, *The Invincible*, is sent on a mission to investigate the failure

of a predecessor, *The Condor*, to return from a previously unexplored planet in the "Lyre Constellation." On the planet's barren surface, *Invincible's* crew find the unmarked corpses of their predecessors scattered around the apparently undamaged *Condor*. The mystery is finally, if only partially, resolved, when *Invincible* clashes with the agents responsible for the deaths of *Condor's* crew. On examination these turn out to be microscopic crystals, apparently evolved over eons of struggle, whose ancestors were probably robots abandoned on the planet by some former civilization (here one is reminded of Dick's **Second Variety**). One of the ship's scientists postulates "an evolution of non-living things, an evolution of machines," and speculates that a shortage of energy may have led to a struggle for survival:

In this battle, the 'intellectually' superior mechanisms, which needed considerable amounts of energy (not least, because of their size) were no match for the less developed but more economical and more productive machines.

The crystals possess a collective mentality and swarm in clouds, overcoming attackers by enveloping them in an electromagnetic field of such power as to wipe the human brain clean of all memories and similarly disrupt all cybernetic systems. They dominate their planet's environment, and the ironically named *Invincible* proves no match for them. In the end the crew of the *Invincible* accept this triumph of the inorganic over the organic, and take off, leaving the planet undisturbed.

In **The Futurological Congress** (1971) Lem enters Philip K. Dick territory. In a century's time, living conditions on the earth, now supporting 100 billion people, become so intolerable that the authorities have taken to administering to the population continuous massive doses of hallucinogenic drugs known as "mascons" which mask the squalor and generate the illusion of decent living conditions. These mascons have the unfortunate side-effect of causing the hair to fall out, the ears to become horny, and, and worse, for tails to grow; to mask these it has become necessary to administer "supermascons." The people, needless to say, are blissfully unaware of this state of affairs. The principal character, Ijon Tichy, while dining in an elegant restaurant with someone high in authority, is told the dreadful secret, and given a phial of vigilanimide, an antihallucinogen which reverses the effect of the mascons and allows him to see the world as it really is:

My hands were trembling as I pulled the cork and lifted the flask to my nostrils. A whiff of bitter almonds made my eyes well up with tears, and when I wiped them away, and could see again, I gasped. The magnificent hall, covered with carpets, filled with palms, the ornamented walls, the elegance of the sparkling tables,

and the orchestra in the back that played exquisite chamber music as we dined, all this had vanished. We were sitting in a concrete bunker, at a rough wooden table, a straw mat – badly frayed – beneath our feet. The music was still there, but I now saw that it came from a loudspeaker hung on a rusty wire. And the rainbow-crystal chandelier was now a dusty, naked light bulb. But the worst change had taken place before us on the table. The snow-white cloth had gone; the silver dish with the steaming pheasant had turned into a chipped earthenware plate containing the most unappetizing gray-brown gruel, which stuck in globs to my tin – no longer silver – fork.

When the effect of the antihallucinogen wears off, Tichy's companion tells him that they are fortunate to be dining in an elegant restaurant, because less exalted establishments mask conditions that are far worse:

"Here at least we have real tables, chairs, plates, knives and forks; there, people lie on planks – stacked in many tiers – and eat with their fingers from buckets moving by on conveyor belts. And what they eat in the guise of pheasant there is much less palatable...a powdered concentrate of grass and beets, soaked in chlorinated water and mixed with fish meal; usually they add gelatin and vitamins, plus synthetic emulsifiers and oils to keep the stuff from sticking in your throat."

But eventually a second dose of the antihallucinogen reveals even this squalid subreality to be an illusion:

I looked, petrified, at the transformation taking place, realizing in a sudden shudder of premonition that now reality was sloughing off yet another layer – clearly, its falsification had begun so very long ago that even the most powerful antidote could do no more than tear away successive veils, reaching the veils underneath but not the truth. It grew brighter – white. Snow lay on the pavement, frozen solid, trampled down by hundreds of feet; the street presented a bleak and colourless scene; the shops, the signs, had vanished and instead of glass in the windows – rotting boards, crossed and nailed together...One ragamuffin sat atop a pile of snow, settling down for the night as if in a feather bed; I saw the contentment in his face; he felt right at home...

The situation is finally explained to Tichy by another high official:

"The year is 2098, with 69 billion inhabitants legally registered and approximately another 26 billion in hiding. The average annual temperature has fallen four degrees. In fifteen or twenty years there will be glaciers here. We have no way of averting or halting their advance—we can only keep them secret."

The book ends with its hero apparently returning to one of his initial illusory states.

The world presented in **The Futurological Congress** is a comic inferno, the scenario of Dick's **We Can Remember It for You Wholesale** writ large. With its society's mass (if involuntary) use of psychotropic drugs, it is a worthy descendant of Huxley's **Brave New World**.

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J. G. Ballard (1930–) has always been an outspoken champion of science fiction as he sees it—the literature not of outer, but of inner space, the literature of unfettered imagination. As he has said:

Living is one of the most boring things one can do. The really exciting things, the most interesting experiences, go on inside one's head, within those areas covered by the intelligence and the imagination.

I think the imagination is capable of devising almost anything—I don't see any restraints in it. I think it's capable of living—it does live—in an unlimited universe. One's merely got to channel it in the right direction.

Ballard uses images and symbols to convey his ideas in a very striking manner. The critic David Pringle has provided a thoughtful analysis of Ballard's use of symbols in his early novels *The Drowned World* (1962), *The Drought* (1964) and *The Crystal World* (1966). In the first of these global warming causes the earth's ecology to revert to its prehistoric state, and the human race to cease reproducing—which leads to a second Eden, but one in which human beings have a place solely as organisms, not as human beings. The symbol here is *water*, the theme the unconscious desire of human beings to return to the *past*, to the womb. In *The Drought* (and in the short story collection *Vermilion Sands* (1971)) Pringle suggests that Ballard employs *sand* to symbolize the *future*, a future in which human beings become increasingly intellectualized as they move further and further away from their biological origins. They become lethargic and affectless—an emotional state aptly symbolized by a sandy desert. In *The Drought*

industrial waste has caused a tough polymeric film to form on the surface of the oceans, so preventing the evaporation of water to form clouds, and transforming the entire land surface into a parched desert. In the aridity and formlessness of sand Ballard sees an appropriate symbol of the future. It is a symbol of entropy, of the dissolution of form within both the individual and social spheres. In *The Crystal World*, the entire globe is slowly transformed into a crystalline mass. Here Ballard uses the image of a crystal to present an image of *eternity*, or *timelessness*, of a world transmuted from a Heraclitean plurality into a unity, a static unchanging Parmenidean One.

In one of Ballard's most haunting stories, **The Garden of Time** (1962), crystals are used in an explicit way to engender timelessness. With its protagonist Count Axel, this story is a compressed reworking of Villiers de l'Isle Adam's symbolist "novel" *Axel* (1890). In Villiers' novel, Count Axel has withdrawn, as is customary with symbolist heroes, into an ancient and isolated castle—in this case, deep in the Black Forest—where he devotes himself to the study of the hermetic philosophy of the medieval alchemists. But, finally, confronted with the vulgarity of the material world—his disdain for which is expressed in the deathless line

As for living, our servants shall do that for us—

Axel chooses to commit suicide. In *The Garden of Time*, Ballard has replaced Villiers' somewhat overblown romanticism with precise visual imagery. Threatened by a vast ragged horde—the encroachment of the external world—Count Axel and his wife live on in their retreat. They are saved by the "time flowers" which grow in their garden:

The flowers grew to a height of about six feet, their slender stems, like rods of glass, bearing a dozen leaves, the once transparent fronds frosted by the fossilized veins. At the peak of each stem was the time flower, the size of a goblet, the opaque outer petals enclosing the crystal heart. Their diamond brilliance contained a thousand faces, the crystal seeming to drain the sun of its light and motion.

Each time Axel plucks one of the crystalline flowers, time is reversed and the barbarian army is flung back from the garden walls. But each day the horde draws a little nearer and the supply of flower-jewels runs lower. Eventually Axel plucks the last flower; when its effects are exhausted the army bursts in upon them. But while their garden and castle are destroyed, in the manner of a fairy tale Axel and his wife are magically preserved as crystalline statues concealed behind an impenetrable thorn bush. The jeweled flowers are frozen moments—actual embodiments of memory—while the statues similarly represent a

pair of lives protected from the ravages of time by a literal crystallization.

Ballard has written several stories which reveal his interest in the nature of consciousness and in which it would not be fanciful to discern the influence of Sartre's **Nausea**. In **The Overloaded Man**, for example, the main character has developed the knack of erasing the details of objects so as to escape "the nausea of the external world":

He had discovered this talent only about three weeks ago. Balefully eyeing the silent TV set in the lounge one Sunday morning he had suddenly realized that he had so completely accepted and assimilated the physical form of the plastic cabinet that he could no longer remember its function. It had required a considerable mental effort to recover himself and reidentify it. Out of interest he had tried out the new talent on other objects, finding it particularly successful with over-associated ones such as washing machines, cars and other consumer goods. Stripped of their accretions of sales' slogans and status imperatives, their real claim to reality was so tenuous that it needed little effort to obliterate them altogether ...

Steadily, object by object, he began to switch off the world around him. The houses opposite went first. The white masses of the roofs and balconies he resolved quickly into flat rectangles, the lines of windows into small squares of colour like the grids of a Mondrian abstract. The sky was a blank field of blue. In the distance an aircraft moved across it, engines hammering. Carefully [he] repressed the identity of the image, then watched the slim silver dart move away like a vanishing fragment from a cartoon dream.

Finally, seeking

pure ideation, the undisturbed sensation of psychic being untransmuted by any physical medium,

he drowns himself in a pond:

Slowly he felt the putty-like mass of his body dissolving, its temperature grow cooler, and less oppressive. Looking out to the surface of the water six inches above his face, he watched the blue disk of the sky, cloudless and undisturbed, expanding to fill his consciousness. At last he had found the perfect background, the only possible field of ideation, an absolute continuum of

existence uncontaminated by material excrescences. Steadily watching it, he waited for the world to dissolve and set him free.

In *The Assassination Weapon* (1966), one of the best of the pieces collected in *The Atrocity Exhibition*, the protagonist Traven's mental problems are described as follows:

What the patient is reacting against is, simply, the phenomenology of the universe, the specific and independent existence of separate objects and events, however trivial and inoffensive these may seem.

"... It looks as if something is missing ... perhaps his soul, the capacity to achieve a state of grace ... the ability to accept, the phenomenology of the universe, or the fact of your own consciousness. That is Traven's hell.

There is a pronounced visual element in much of Ballard's work, and indeed he has acknowledged the strong influence of modern painting, especially the Surrealists, whose image he has described as "the iconography of inner space".

Ballard is a clever writer who has exploited a variety of narrative devices. One of his most ingenious stories, **The Index** (1977) is just that, a five page index to

the unpublished and perhaps suppressed autobiography of a man who may well have been one of the most remarkable figures of the twentieth century.

In this Borgesian conceit, Ballard speculates that

perhaps the entire compilation is nothing more than a figment of the overwrought imagination of some deranged lexicographer. Alternatively, the index may be wholly genuine, and the only glimpse we have into a world hidden from us by a genuine conspiracy of which [the subject of the putative autobiography] is the greatest victim.

Ballard has also written a number of urban disaster novels, of which **High-Rise** (1975) is the most rigorously constructed. Here Ballard envisages the affluent tenants of an elegant forty storey tower block slipping into a collective savagery: cocktail parties degenerate into marauding attacks on "enemy" floors and the trappings of technological civilization are turned into primitive weapons. As Golding did in *Lord of the Flies*, Ballard warns us that civilization is a very thin veneer indeed.

Ballard moved away from urban infernos in one of his most beautiful novels **The Unlimited Dream Company** (1979). In this novel the appearance of a messianic figure, Blake (a name surely chosen with the visionary poet in mind), signals the transmutation of a humdrum town in the south of England into an exotic paradise of liberation. In his final ecstatic vision, Blake sees humanity merging

with the trees and the flowers, with the dust and the stones, with the whole of the mineral world, happily dissolving ourselves in the sea of light that formed the universe, itself reborn from the souls of the living who have happily returned themselves to its heart. Already I saw us rising in the air, fathers, mothers and their children, our ascending flights swaying across the surface of the earth, benign tornadoes hanging from the canopy of the universe, celebrating the last marriage of the animate and inanimate, of the living and the dead.

In his most recent novel **Millenium People** (2003) Ballard returns to High-Rise territory, postulating a violent rebellion by London's middle classes against their own institutions. The explosion of a bomb at Heathrow leads psychologist David Markham, whose wife is among the victims, to investigate London's fringe protest movements. He falls with a shadowy group based in the comfortable Thameside estate of Chelsea Marina. Led by a charismatic doctor, the group aims to rouse the docile middle classes to anger and violence, to free them from both the self-imposed burdens of civic responsibility and the trappings of consumer society—private schools, foreign nannies, health insurance and overpriced housing. Markham, seeking the truth behind his wife's death, is swept up in a campaign that spirals rapidly out of control. The "revolution" finally fizzles out, and Markham reflects:

Did they realize from the start that the Chelsea Marina protest was doomed to failure, and that its pointlessness was its greatest justification? They knew that the revolt in many ways was a meaningless terrorist act...only by cutting short their exile and returning to the estate could they make it clear that their revolution was meaningless, that the sacrifices were absurd and the gains negligible. A heroic failure redefined itself as a success. Chelsea Marina was the blueprint for the social protests of the future, for pointless armed uprisings and doomed revolutions. Violence...should always be gratuitous, and no serious revolution should ever achieve its aim.

Nevertheless, at the novel's end Markham is still attracted to the anarchist vision of the revolt, thinking

of another time, a brief period when Chelsea Marina was a place of real promise, when a young pediatrician persuaded the residents to create a unique republic, a city without street signs, laws without penalties, events without significance, a sun without shadows.

*

Arthur C. Clarke's (1917–) **Childhood's End** (1953) is a moving account of the humanity's future evolution. Omnipotent beings suddenly appear from outer space, hovering over Earth's major cities in vast spacecraft, and proceed to impose, gently but firmly, an interdict on all war and conflict. The invaders seem benevolent, but do not at first reveal themselves. The reason eventually becomes clear—they have the appearance of devils, leathery wings, barbed tails and all. The true purpose for their arrival is to prepare the human race for its ultimate transformation into a single, disembodied intelligence. In a Stapledonian finale, *homo sapiens* ascends the final rung in the ladder of evolution.

Robert Silverberg (1935–) is one of the most prolific SF writers. **The Masks of Time** (1968) centres on Vornan-19, an enigmatic character who suddenly materializes in the world of 1999 claiming to have come from 1000 years in the future. The evidence for this, however, is not entirely convincing, and some believe him to be nothing more than an ingenious fraud. Nevertheless, he becomes a cult figure and the World Government of the day starts to figure that it could make use of him to counter the threat posed by the Apocalyptists, a group whose preaching the imminent end of the world has caused chaos. If Vornan-19 were to prove genuine, then he would furnish living proof that the world would endure into the next millennium. But Vornan disappears when attacked by a mob and the question of his authenticity—and of the world's survival—is left open at the novel's close. In **The World Inside** (1971), a variant of Huxley's **Brave New World**, Silverberg tackles the problem of overpopulation through the modest proposal that the population should simply be allowed to explode. In Silverberg's vision of the year 2380, the human race has expanded into the universe at large and now live in thousand storey superstructures each housing in excess of a million people. After two centuries of ruthless selective breeding, the human imperative is now: be fruitful and multiply without constraint, afford one's neighbours any type of sexual fulfillment, and above all, avoid the evil of frustration. But within this seemingly blissful vertical Utopia there still lurk individuals who feel such perverse and atavistic desires as a longing for privacy, a wish to descend from the heights, to walk on earth and bask in the sunshine.

These rebel throwbacks to an earlier Earth are dangerous, disruptive elements...

Gregory Benford's (1941–) **Timescape** (1980) is one of the memorable SF novels of the last 25 years. In Benford's vision, the world of 1998 is a growing nightmare of desperation, of uncontrollable pollution and increasing social unrest. Two scientists in Cambridge experiment with tachyons—subatomic particles that travel faster than light and therefore, according to the Theory of Relativity, can move backwards in time. The scientists plan to employ them to signal a warning to the previous generation. In 1962, a young California scientist finds his experiments are being spoiled by unknown interference. As he begins to suspect something near the truth, it becomes a race against the clock—the world is collapsing and will only be saved if he can decipher the messages in time. But (in accordance with the “Many-Worlds” interpretation of quantum theory) acting on the messages received in 1962 has the effect of splitting the universe into two alternative realities—one in which the ecocatastrophe is avoided (and in which President Kennedy is shot, but not killed), and the “original” one from which the messages were initially sent.

Norman Spinrad (1940–) is one of SF's most controversial writers. In 1972 he published **The Iron Dream**, a parodic vision of what science fiction would be like if it had been written by Adolf Hitler. In his **Riding the Torch** (1974), the earth has been sterilized and the remnants of humanity, confined to a fleet of starships, are engaged in an interminable and fruitless quest for other life in the universe. Ultimately grasping that life on Earth was a unique accident, they respond with a rhapsodic celebration of their uniqueness. **The Mind Game** (1980) is a harrowing account of how a sinister cult, based on the actual cult of Scientology, begins to take over the American middle class.

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SF short stories and novellas abound in memorable ideas. I conclude these notes with some of my personal favourites.

In *Arthur C. Clarke's* (1917–) **The Nine Billion Names of God** (1953), the priests of a Tibetan lamasery arrange for the installation of a computer which is programmed to list all of God's possible names in their hieratic alphabet: what would have taken fifteen thousand years can now be carried out in a hundred days. Once this is done, they believe, God's purpose will have been achieved, and the world will end. The technicians engaged to install the computer worry that, once all the names are listed, the monks will blame their machine for the continued existence of the world. But *this* worry turns out to be misplaced, for

when, after a hundred days, the computer completes its run, the technicians observe that

overhead, without any fuss, the stars were going out.

The background to *Alfred Bester's* (1913–) **Disappearing Act** (1953) is the future War for the American Dream, a total war into which the whole adult U.S. population has been drafted, each person now "a specific tool for a specific job." When a number of patients in a hospital ward for battle-fatigued soldiers vanish without trace, the General in command of the war effort demands to know what is going on. He is present in the ward when three of the patients reappear out of thin air, causing him to believe that in some miraculous way they have acquired the power of teleportation. Thinking that this capacity has great potential as a weapon, he summons psychiatric experts to pry the secret from the patients. The experts are astounded to learn that—so far as they can tell—each of the three is travelling into the past, to early twentieth century New York, to first century Rome, and to nineteenth century England. Now bent on learning the secret of time travel, the general summons a number of new experts, including a historian who has to be sprung from the penitentiary in which he has been serving a long sentence for expressing his opinion of the War for the American Dream. The historian discovers that the inmates are not in fact travelling into the historical past, but into pasts created by their own imaginations. He tells the General that the only "expert" capable of penetrating their secret is a poet. But poets no longer exist. In **Star Light, Star Bright** (1953) a school principal, Warbeck, attempts to track down a boy, Stuart, whose vacation essay describes, in a matter-of-fact way, the exploits of his friends, which appear to be little short of miraculous: one has constructed an attachment which, fitted to the end of a telescope, enables him to see through the clouds, another has invented a machine for converting food she dislikes into food she likes, still another hates to walk and so "thinks" herself everywhere. Warbeck is convinced that the children described in the essay must be geniuses and that this must also be true of its author; but the exact nature of his genius is unclear. The boy Stuart proves to be astonishingly elusive; all records of him and his family have disappeared. After considerable effort, Warbeck succeeds in determining the family's whereabouts, but as he approaches their apartment building, he suddenly finds himself thrust into limbo, an automaton, unable to speak or to stop, plodding along a road stretching into the infinite distance. In his simple desire to be left alone, the boy, without being aware of it, has sent Warbeck there: the boy's talent is for *wishing*. In **The Men who Murdered Mahommed** (1958) Henry Hassel, Professor of Applied Compulsion at Unknown University, returns home one afternoon to find his wife in the

embrace of one of his colleagues. Furious, he throws together a time machine, travels into the past, and shoots his wife's grandfather. He returns to the present confidently expecting that his wife will no longer exist, but instead finds her in exactly the position in which he left her. Quickly inferring that faithlessness must run in his wife's family, he again jumps into his time machine, returns to the past and kills his wife's maternal grandmother. But he returns to the present a second time to find his wife in the same position. Astounded, he makes increasingly desperate efforts to affect the present by going into the past and slaughtering Columbus, Napoleon, and half a dozen other celebrities, all with no effect whatsoever. After a while he finds that nobody at all can see or hear him; he has in effect become a ghost. Later he meets another spectral time traveller who explains what has happened:

"Time is entirely subjective, a private matter. Time travellers travel into their own past, and into no other person's. There is no universal time. There are only billions of individuals, each with his own continuum; and one continuum cannot affect another. We're like million of strands of spaghetti in the same pot. No time traveller can ever meet another time traveller in the past or future. Each of us must travel up and down his own strand alone. The fact that we're meeting each other now is explained by the fact that we're no longer time travellers — we've become part of the spaghetti sauce. You and I can visit any strand we like, because we've destroyed ourselves. When a man changes the past he affects only his own past -- no one else's. The past is like memory. When you erase a man's memory, you wipe him out, but you don't wipe out anyone else. You and I have erased our past. The individual worlds of the others go on, but we have ceased to exist. With each act of destruction we dissolved a little. We've committed chronicide."

William Tenn's (1920–) **The Discovery of Morniel Mathaway** (1955) is an ingenious variation on the time travel theme. A professor of art history from the far future travels by time machine some centuries into the past in search of an artist whose works are celebrated in the professor's time. On meeting the artist in the flesh, the professor is surprised to find the artist's current paintings talentlessly amateurish. The professor happens to have brought with him from the future a catalogue containing reproductions of the paintings later attributed to the artist, which the professor has come to see are far too accomplished to be the artist's work. When he shows this catalogue to the artist, the latter quickly grasps the situation, and, by means of a ruse, succeeds in using the time machine to travel into the future (taking the catalogue

with him), where he realizes he will be welcomed as a celebrity, so stranding the professor in the “present”. To avoid entanglements with authority the critic assumes the artist’s identity and later achieves fame for producing what he believes are just copies of the paintings he recalls from the catalogue. This means that *he*, and not the artist, created the paintings in the catalogue. But he could not have done so without having seen the catalogue in the first place, and so we are faced with a causal loop.

Tenn's **The Servant Problem** involves another sort of loop. In a totalitarian society of the future, the autocrat Garomma, Servant of All, has achieved what he believes is complete social control by having the masses conditioned to worship him. But Garomma does not realize that he himself has been conditioned to obey the orders of Moddo, his Servant of Education. In his turn Moddo is controlled, unawares, by the psychologist Loob, Assistant to the Third Assistant Servant of Education. And Loob is under the dominance of the laboratory assistant Sidothi, Psychological Technician Fifth Class. But Sidothi, as a lowly member of the masses, has been conditioned to worship Garomma, thereby closing the circle of control.

In *Fritz Leiber's* (1910-) **Rump-Titty-Titty-Tum-Tah-Tee** (1958) a group of New York artists and musicians produce a pattern of ink blots together with the drummed rhythmic phrase of the title. The combination proves so compulsive that, like a catchy tune, it spreads all over the world and threatens to dominate people's thoughts completely. Eventually an antidote is discovered, a pattern that negates all symbols, accompanied by a rhythmic phrase "Tah-titty-titty-tee-toe" which completes and negates the first one. In **You're All Alone** (1950) Leiber depicts a Mettriean² world in which only the principal characters are actually alive and conscious, the rest of the world's inhabitants being nothing more than mindless mechanisms.

In *Daniel F. Galouye's* (1920-76) **Counterfeit World** (1964) the characters gradually become aware that the world they inhabit is virtual, a programmed construct inside a computer. The question is left open as to whether that computer is itself part of a larger program in some further computer...

Robert Heinlein's (1907–88) **By His Bootstraps** (1945) is a memorably convoluted time-travel story in which a man from 30000

² *Julien Offray de la Mettrie* (1709–51) was a French physician and philosopher who, on the basis of personal observation, claimed that psychical activity is purely the result of the organic construction of the brain and nervous system. He developed this theory in *Histoire Naturelle de L'âme* (1745). The protest against his atheistic materialism was so strong that La Mettrie had to leave the country. He further alienated the public with *L'Homme Machine* (1748), the final development of his mechanical explanation of human beings and the world. He lived in Berlin under the protection of his patron Frederick the Great. His ethics, purely hedonistic, are set forth in *L'Art de Jouir* (1751).

years hence returns from the future to meet himself, and then proceeds to fight himself, while he himself stands by and watches. The future man has been dispatched to obtain certain items for a resident of the still farther future who also turns out to be himself... **All You Zombies** (1959) boasts a protagonist entangled in a temporal loop enabling him, through a sex-change operation, to become both of his parents. Heinlein's **The Unpleasant Profession of Jonathan Hoag** (1942) is a chilling fantasy in which the world is presented as a botched job by a cosmic artist who decides to destroy his work and start all over again.

A. J. Deutsch's (?-?) **A Subway Named Möbius** (1950) postulates the construction of a subway system topologically so complex that its connectivity becomes infinite. This leads to the emergence of a nonspatial network into which trains and their passengers disappear; on re-emerging they are entirely unaware of that time has passed...

T. L. Sherred's (1915-85) **E for Effort** (1947) explores the effect of the invention of a machine enabling any past event to be witnessed at the time it actually happened. In the effort to suppress the invention, society is put in turmoil...

In *Henry Kuttner's* (1914-68) **Mimsy Were the Borogoves** (1943), two young children come across an educational toy from the far future from which they learn how to enter higher-dimensional space, into which they vanish, never to return.

Damon Knight's (1922-2002) **The Country of the Kind** (1956) depicts a docile future society containing one violent, atavistic misfit. Humanely excommunicated by his fellow-citizens, whom he refers to as "Dulls", he is free to roam the world. To render him harmless, however, his body chemistry has been altered to make his presence intolerably offensive to others, and psychic conditioning employed to induce an epileptic fit at the first sign of violence on his part. This violent man is the sole artist in a world from which art has vanished. In his wanderings about the world he leaves carvings to which is attached the message:

To you who can see: I offer you a world. You can share this world with me. They can't stop you. Strike now—pick up a sharp thing and stab, or a heavy thing and crush. That's all. That will make you see. Anyone can do it.

But nobody takes any notice.

I conclude with *Frederik Pohl's* (1919-) **The Tunnel Under the World** (1954). After dreaming of his death in an explosion, Guy Burckhardt wakes up on June 15th, makes his routine trip to his office in the town of Tylerton and, aside from noticing that the advertisements are somewhat more aggressive than usual, has an ordinary day. That evening, a fuse blows in his house. He goes down to the basement to fix

it, and notices that the basement floor and walls have, inexplicably, acquired metal facings. Puzzling over this, he is overcome by a sudden weariness and falls asleep on the floor. The following morning he is surprised to find that the date on the newspaper is June 15th, and not the 16th as he expected. He is still in a state of bewilderment when later, at his office, he receives a phone call from a man named Swenson whom he recalls having approached him the previous day. Swenson expresses great relief that Burckhardt remembers him and tells Burckhardt that he can shed some light on the recent mysterious events. The two arrange to meet and Swenson takes Burckhardt to a movie theatre where, passing through the manager's unoccupied office, they enter first a metal-walled tunnel and then a room off it containing a number of television screens. Swenson tells Burckhardt that he believes malign forces—aliens possibly—have taken over the town and have for some unknown reason programmed its population to wake up every morning believing the date to be June 15th. Determined to find out the truth, Burckhardt marches off down the tunnel. At its end is a door leading to another room containing a desk in which he finds a gun. After a short wait, a man and a woman show up. A struggle ensues in the course of which Burckhardt shoots the woman and the man runs off. Burckhardt is astonished to find that the woman is actually a humanoid robot; when she informs him that he, too, is one, he is devastated. In fact, she explains, the entire populace of Tylerton are robots, simulacra of the twenty thousand people—including Burckhardt himself—killed in a chemical plant explosion which destroyed the town on the night of June 14th some years before. The town has been reconstructed and the brain patterns of the original inhabitants transferred to the simulacra—who still think themselves human beings—so as to create a microcosm of American society, one capable of serving a variety of purposes, for instance, gauging the effectiveness of advertising slogans or political campaigns. Because the last living memories of Tylerton's inhabitants have ended on June 14th, each night the simulacra have been programmed to think that the following day is June 15th, which as a result they are constrained to live through repeatedly without being aware of the fact. Burckhardt and Swenson's sense that something was amiss had been the result of inadvertently missing their nightly programming. Burckhardt, outraged by these revelations, storms out of the room, resolving to put an end to the tyranny somehow—even though he now knows himself to be no more than an automaton. But he finally enters the outside world to find that his whole town occupies the space of a tabletop and that he is himself only an inch high. The following morning he wakes up—his memory of all these events obliterated—to find once again that the date is June 15th.