

AN UNSEEN WORLD

BY RUNE HASSNER, PH.D

By using a powerful scanning electron microscope, Lennart Nilsson has brought us unique, beautiful, yet frightening, images of the HIV-virus and "killer cells", ready to attack dangerous intruders. He has made a hitherto unseen world of the human body visible and photographed objects measuring about one millionth of a millimeter. His photographs also describe how a new human life develops from the very beginning.

Lennart Nilsson has, for decades, been one of the top names in Swedish photography and possibly the foremost in the world in this special genre of visual research.

In the seventies, when NASA's unmanned spacecraft Voyager I and Voyager II began their journeys towards Jupiter, Saturn and Uranus and farther out into our solar system and beyond, they both carried Nilsson's photographs from *A Child is Born* transformed into sound signals on a metal tape; a message from Earth which may reach a recipient somewhere in space within the next century, or perhaps in a billion years. A composite of Nilsson's photographs of flowers and a bee engraved on the back of the current Swedish 100 kronor bill, which passes from hand to hand every day, is perhaps a less permanent image than those sent out by "space mail".

Nilsson's work covers more than half a century from the mid 1940's, when modern photojournalism made its break-through in Sweden. Born in 1922, he started out early on his own, as a freelance photojournalist working on contract for the publishing house Ahlen & Akerlund in Stockholm. One of his first assignments was to cover the liberation of Oslo, Norway, in 1945. Other picture stories on *A Midwife in Lapland* (1945), *Polar Bear Hunting in Spitzbergen* (1947), *Fishermen at the Congo river* (1948) – to mention a few – were published abroad in magazines such as *Life*, *Picture Post*, *Illustrated*. A selection of his early work was published in his book *Reportage* (1955), a series of portraits of leading persons in Sweden in *Sweden in Profile* (1954), and his great photo essay about the Swedish Salvation Army appeared both in picture magazines and in his book *Hallelujah* (1963).

In the mid-1950's Nilsson began experimenting with new photographic techniques to report on the world of ants and life in the sea. His revealing macro studies were published in his book on ants, *Myror* (1959), in *Life in the Sea* (1959), and in *Close to Nature* (1984).

In the 1960's special designed, very slim endoscopes (1 mm in diameter with lenses covering a 170. angular field of view and extremely short focal lengths, about 1.5 mm) made it possible for him to photograph the blood vessels and the cavities of the body with the necessary depth of field and, in 1970, he used a scanning electron microscope for the first time.

His scientific work has since been published all over the world, in scientific periodicals, picture magazines and newspapers, such as *Life*, *Time*, *National Geographic*, *Paris Match*, *Stern*, *Sunday Times* and *Geo*. His exciting close-up studies of the human body and its defense system was published in the books *Man Behold* (1973) and *The Body Victorious* (1985), and the sensational images illustrating the beginning of life in *A Child is Born* (1965), with a completely revised and expanded version in 1990. This *Saga of Life* (translated into 20 languages) was, in fact, the result of continuous research over four decades.

Nilsson, the great photojournalist and social documentary photographer of the forties and fifties, has definitively been over-shadowed by the Nilsson who later chose to explore the microcosm world of man and animal, visualizing how a human being was conceived, grew in the womb and was finally born. In this vein, perhaps it would also be appropriate to comment on Nilsson, the artist. Whether on assignments for the weekly press or as one in a team of doctors or writers studying the functions of the body, he primarily sees himself as a journalist with a camera. I am sure, though, that a Man Ray or an Andre Breton would have been enthusiastic about some of the surrealistic qualities to be found in Nilsson's images of, for instance, jelly-fish, sperm and lymphocytes.

It is interesting to follow how he, with every advance in equipment, step by step, has closed in on smaller and smaller objects in his studies of the world around him, as more powerful microscopes have become available and opened new fields for his research. Behind his quiet and somewhat shy exterior, there is an iron will - and a streak of fanaticism that seems to enable him to overcome all obstacles in order to get the picture he wants. He has an unending patience, combined with the eye of a journalist, as well as an artist's sense of form and color and singular technical and inventive skill.

Like many of the leading photographers of our time, Lennart Nilsson has also been tempted to explore the possibilities of adding movement and sound to the images by using the film camera to make documentaries and television programs. He has made several such programs for scientific and educational purposes. The *Saga of Life* (1982), for Swedish and international television companies, based on his images of the reproductive system and the development of the fetus. It won a national prize and an international Emmy and a number of other awards and was acclaimed by the press in many countries. Between 1987 and 1989, he prepared a series of six films - and two books - on

the human body for the National Geographic Society in Washington.

He received his third Emmy for *The Miracle of Life*, a series of three one-hour programs finished in 1996, a multimillion project and a co-production between Swedish Television and television channels in the USA, England, Germany and other countries. The first program, *The Saga of Life*, is about the emergence of life on Earth and the creation of Man. In *The Unknown World*, he explores the world around us through the microscope, both on and inside the human body - our immune system, bacteria-consuming macrophages and the like.

The Man and his Universe focuses on Lennart Nilsson himself, and how he has created pictures with his specially designed tools. Computerized animation technology has been used in some of the film sequences.

Nilsson's first one-man exhibition was *Hallelujah*, at the Fotografiska Museet in Stockholm in 1963. Since the seventies, his scientific work has been shown on a number of occasions in Europe, the USA and Canada, as well as being used at scientific research conferences the world over. In 1980, he was the first photographer to receive the Hasselblad Award, and in 1991, his first large retrospective exhibition ever - a summing-up of fifty years of image-making - was shown at the Hasselblad Center in Göteborg. Specially designed, condensed versions of the exhibition have since been shown in Brazil, France, Germany, Scotland, Spain, Sweden and the USA.

Over the years, Lennart Nilsson has received a number of awards, medals and other forms of recognition for his achievements, including the Art Directors' Club Award in New York, 1965, 1972 and 1976; the Prix Italia in 1966; the American Academy of Achievement's Golden Plate in 1969; the National Educational Film Festival Prize 1973; the Prince Eugen Medal, Stockholm 1974; First Prize of the International Film & TV Festival, New York 1976; The Rodman Medal of the Royal Photographic Society, England 1979; the Emmy Award 1982, 1983 and 1996, The Large Gold Medal of the Academy of Engineering Sciences, Stockholm 1989; The ICP Master of Photography Award, New York 1992; the German Photographic Society's "Kulturpreis", the Progress Medal of the Royal Photographic Society in England, both in 1993; the Peabody Award from College of Journalism and Mass Communication, University of Georgia, First Prize for Science & Technology Stories, World Press Photo, both in 1997.

His work is included in the collections at Moderna Museet, Stockholm; Hasselblad Center, Göteborg; British Museum, London; Ontario Science Center, Tokyo Fuji Art Museum and other institutions. He became a member of the Swedish Society of Medicine in 1969. An Honorary Doctor's Degree in Medicine was conferred on him in Stockholm in 1976.