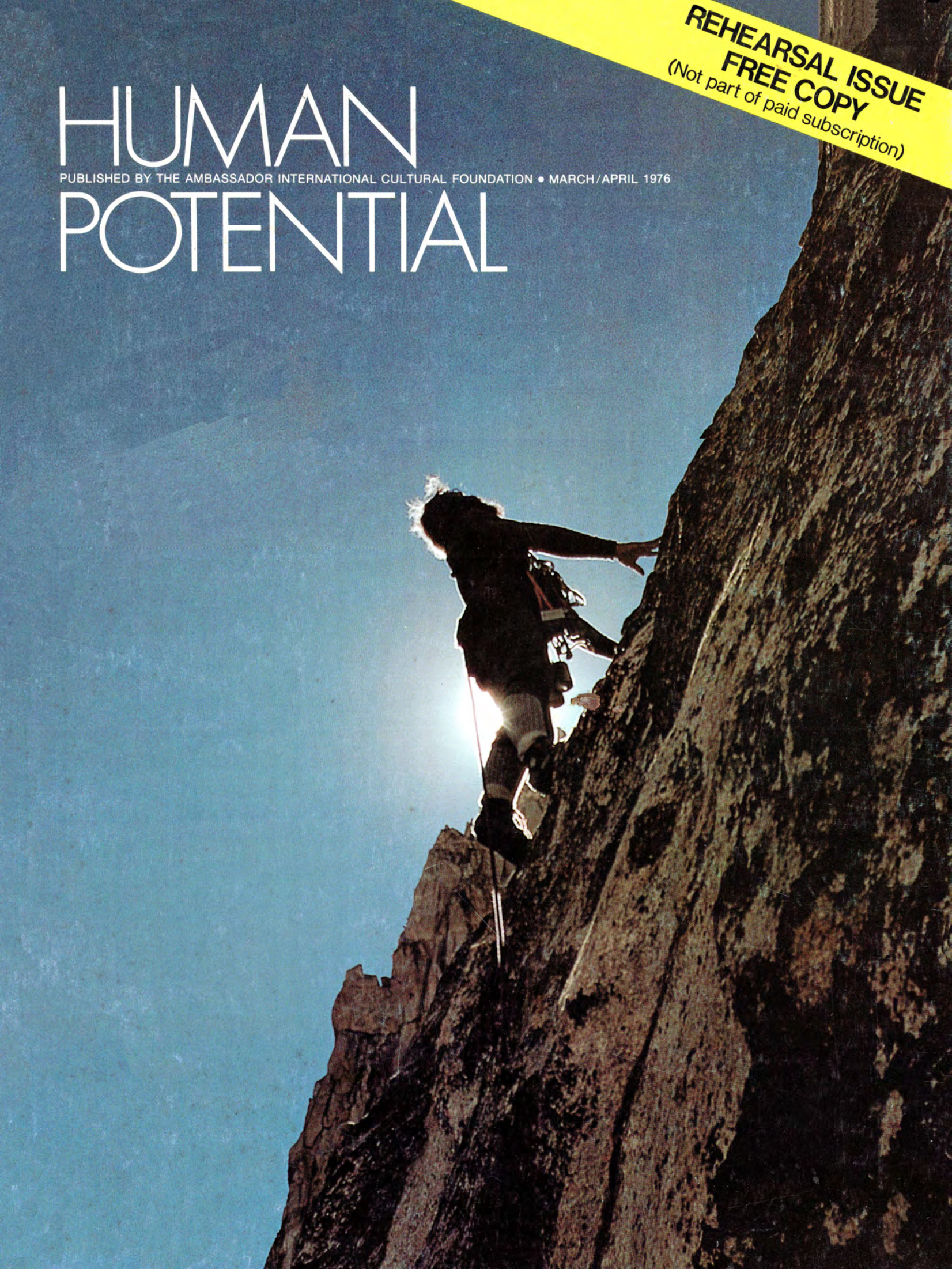
HUMAN POTENTIAL

PUBLISHED BY THE AMBASSADOR INTERNATIONAL CULTURAL FOUNDATION • MARCH/APRIL 1976



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PROSPECTUS

HUMAN POTENTIAL is an odyssey about the greatness of man. It's about human beings — where we have been, where we are, and where we are going.

In an era when most media stress the destructive, brutal side of man, *HUMAN POTENTIAL* explores all aspects of human *accomplishment* and *creativity* — the constructive, noble side of man — past, present and future.

HUMAN POTENTIAL is oriented toward *achievement* in all fields of human endeavor. Who among us has advanced the frontiers of human knowledge to the greatest extent? How and why have such achievements been accomplished? And what *can be* accomplished in the future? *HUMAN POTENTIAL* sets out to be fascinating as well as factual, artistic as well as informative.

What are the common denominators for successful people and creative achievement? *HUMAN POTENTIAL* examines men and women in every role of life — designer and builder, scientist and statesman, artist and athlete, philosopher and physicist, author and actor, humorist and humanist, historian and futurist — all accented with a modicum of humor, adventure, controversy and prognostication.

HUMAN POTENTIAL also emphasizes man's unique characteristics — the expression of humor, the appreciation of beauty, the feelings of ecstasy and love, the awareness of self-consciousness, the capacities for abstract thinking, the complexities of human language, history and culture, the search for meaning in the universe and in life, the development of a moral sense and personal character, and the ultimate questions of free will and human survival.

HUMAN POTENTIAL lives and breathes with warmth and color. We believe that showing what man *has* achieved together with what he *can* achieve lifts the human spirit — and encourages individuals to fulfill their personal potential in their own lives. *HUMAN POTENTIAL* enriches people's lives and helps them to become more successful human beings. Featuring intriguing personalities, great and small, *HUMAN POTENTIAL* is dedicated to the ideal that while man may be on the brink of doom, he is yet on the eve of tremendous beneficial breakthrough.

SCOPE

With brightness and ease, *HUMAN POTENTIAL* will highlight the following areas:

The Nature of Man

The difference between animal brain and human mind. Human sexuality — is it unique? Scientific evidence for the soul? ESP/PSI — the new science. Why do we laugh? How do we dream? Stress/anxiety/guilt/depression — how to combat them.

The Varieties of Human Culture

People around the world. Cross-cultural perspectives on sex, marriage, the family, youth, religion, and mankind's histories, myths, and traditions. Reports on the latest anthropological findings — and what they mean for man's conception of himself.

Man and His Universe

With striking photographs and illustrations — the awesome universe, the majestic beauty of the earth's land masses, atmosphere and seas, as well as the remarkable human body.

Artistic Appreciation/Scientific Achievement

From man's great appreciation of art, music, literature, architecture and food, to his stunning achievements in science and technology, we take a holistic view of man to more fully realize who and what we are.

Planetary Concern

The latest information on the major world crises — government, population, food, economy, pollution, resource depletion — written by international experts in their fields; the use of technology interplaying with religion, philosophy and human behavior to plot solutions to the world's problems.

Human Concern/International Relations

People helping people — written by those rare men and women who are busy demonstrating their unselfish concern for others. How to achieve personal success in a changing society. Individually and collectively, nationally and internationally, we examine the successes and failures in building a harmonious world, subscribing to the concept that more enduring benefits to the human family can be accomplished through a spirit of selflessness and service than through aggression and coercion.

The Study of the Future

What's ahead to the year 2000 — and beyond? What alternative futures are available? What changes must society make? What will the world be like a generation from now? Experts in the new field of futuristics will write on fascinating aspects of future societies, cultures, and technologies.

FROM THE FOUNDER

During the past several years I've talked privately with many of the world's top leaders in government, education and industry. I count among my very dear friends kings, presidents, prime ministers, and men and women of prominence in government. I am painfully aware of their enormous tasks. From a purely human viewpoint — impossible tasks.

Government is concerned with world conditions — relations between governments of nations, and with internal conditions within nations.

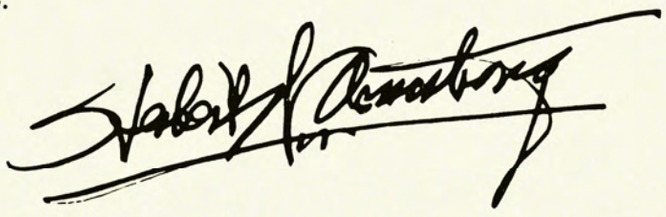
But what is the state of the world today? One of war and threats of war — not of peace. More than half of all people on earth are living in poverty, near starvation, illiteracy, unequal conditions, unhappiness, anguish, suffering, hopelessness — and death.

I have many times pointed out a seemingly incredible paradox! The infinitely marvelous human mind can send men to the moon and back, but it cannot solve the problems here on earth! Think of it! Human minds so great, and yet — no peace, no universal well-being and happiness! Why? The answer is astounding!

Man does not understand what he is! He does not understand why he is! He doesn't understand his incredible human potential.

This world needs great humanitarian efforts. It needs demonstrations of concern for others. It needs an understanding and appreciation of international cultures and arts. And this publication will, on a regular basis, contain enlightening articles on these subjects written by international figures in government, education, the arts. But above all, this world sorely needs to grasp the spiritual dimension — and understanding of the great transcendent purpose for all humanity.

This is why Ambassador International Cultural Foundation embodies, among its goals, a desire to promote greater international understanding of man himself. This is why our publication bears the title . . . HUMAN POTENTIAL.



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Founder
HERBERT W. ARMSTRONG

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OBITUARIES, 1975

During the past year, a great number of world governments changed leadership, and an unusually large number of famed statesmen have passed from the world scene.

The three men pictured above ruled their respective countries for a combined total of over 140 years! They carved permanent history out of the middle half of the Twentieth Century, and, though they were both despotic and benevolent, loved or hated with equal passion, they were undeniably . . . *people with purpose*.

Chiang Kai-Shek

(October 31, 1887 — April 5, 1975)

As ruler of mainland China from 1928 to 1949, and of Nationalist China (Taiwan) from 1949 onward, Chiang was at war, or preparing for war, his entire adult life. He fought the Manchu Dynasty (1911), the Japanese invasion (1931-1945) and Communism in China (1927 onward) during the most turbulent century in China's modern history.

Francisco Franco

(December 4, 1892 — November 1975)

"Generalissimo" of the Nationalist forces that overthrew the Spanish democratic republic in the Spanish Civil War (1936-1939), Franco has been the authoritarian ruler of Spain for nearly four decades.

During World War II, Franco's fascist government took an unpopular neutral stand toward Hitler, but in the 1950's his firm stand against Communism, his domestic reforms and his relaxation of police state measures earned him renewed acceptance among democratic leaders.

Haile Selassie

(July 23, 1892 — August 27, 1975)

Emperor of Ethiopia from 1930 to 1974, Haile Selassie died a virtual prisoner, nearly a year after being deposed in a military coup.

Son of a provincial governor, Selassie (then called Ras Tafari) became a governor himself in 1911. He was heir apparent from 1916 onwards, ruling Ethiopia for a total of 57 years. His "finest hour" was his impassioned speech before the League of Nations following Italy's invasion of Ethiopia in 1935.

People with Purpose / *Statesmen*

Eisaku Sato
(March 27, 1901 — June 2, 1975)

As Japan's Prime Minister from 1964 to 1972, and as a key cabinet member from 1948 onward, Eisaku Sato presided over the phenomenal postwar economic miracle which made Japan the second-ranking industrial power of the free world.

Sato won the 1974 Nobel peace prize for his efforts to keep Japan non-nuclear, but his most satisfying personal achievement was the return of Okinawa to Japanese control.

U Thant
(January 22, 1909 — November 25, 1974)

As Secretary General of the United Nations from 1961 to 1971, U Thant helped defuse the Cold War from the icy Berlin Wall era to the warming trend of *detente* in the 1970's. Just before taking his post, Thant published a definitive three-volume history of postwar Burma, his native land, and in 1964, he published *Toward World Peace,* defining his "neutralist" stand in the U.N.

A former teacher, school headmaster, war patriot and Burmese government official, Thant was appointed to the U.N. in 1952. As Vice President of the General Assembly at the time of Dag Hammarskjöld's untimely death, he was voted into the top U.N. post for two consecutive five-year terms.

King Faisal
(1906 — March 25, 1975)

Just three months after being chosen *Time*'s "Man of the Year" because of his revolutionary use of oil as a tool for economic development, King Faisal, ruler of Saudi Arabia for 15 years, was assassinated by his nephew, Prince Faisal ibn Musad.

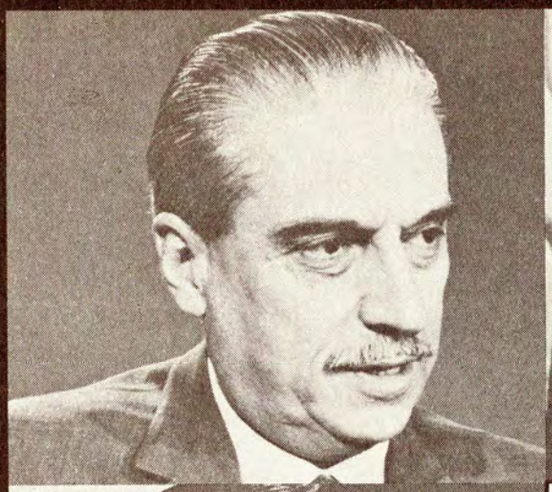
The son of a king and brother of a king, Faisal was in a position of power his entire adult life. From 1930 onward, he served simultaneously as Viceroy of Hajez (in Mecca) and Minister of Foreign Affairs for Saudi Arabia.

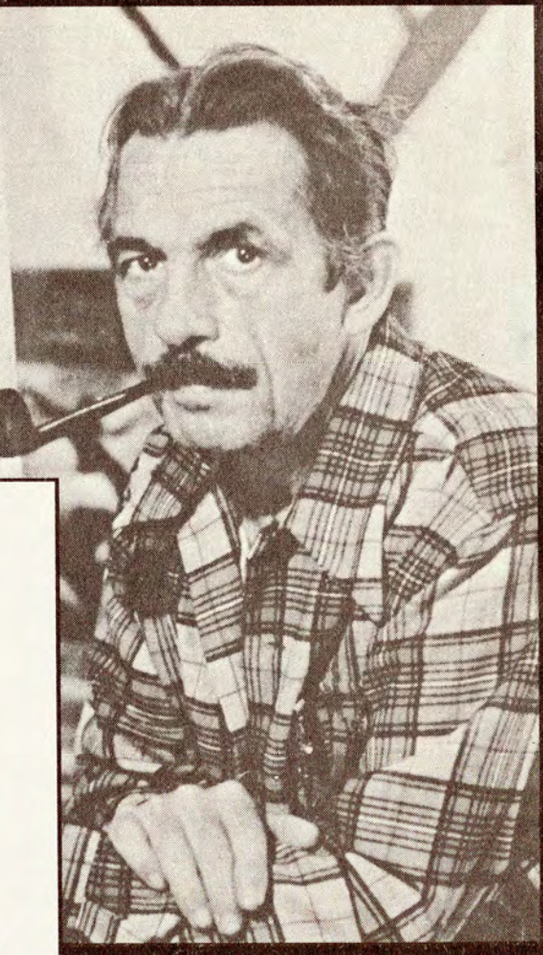
Pinhas Sapir
(1909 — August 12, 1975)

Israel's miracle-working Minister of Finance and "king-maker" to Golda Meir and Yitzhak Rabin, Sapir died of a heart attack while dedicating a synagogue in the Negev Desert.

Zalman Shazar
(October 6, 1889 — October 5, 1974)

Born in Russia, Shazar emigrated to Palestine in 1924, after which he edited *Davar* (daily) from 1925 to 1949 and served as Israel's first Minister of Education (1949-50). Shazar was President of Israel from 1963 to 1973.





The artistic world also suffered irreparable loss in 1975, with the death of both the world's leading composer and its leading architect.

Constantine Doxiadis

(May 14, 1913 — June 28, 1975)

Both a practical planner and a visionary genius, Doxiadis developed the modern science of *ekistics* — or architecture as it relates to the social sciences. From his headquarters in Athens, Doxiadis and his 700 associates dreamed of, and worked toward, building "ecumenopolis" (world-city) by the year 2100.

Dmitri Shostakovich

(September 25, 1906 — August 9, 1975)

The most dominant figure in contemporary symphonic music, Shostakovich composed 15 symphonies and dozens of other major works spanning a 50-year career which was made all the more remarkable by the constant artistic pressure exerted on him by repressive Soviet leadership.

The Music World

In addition to Russia's Shostakovich, Italy's leading composer, Luigi Dallapiccola, 71, and England's Master of the Queen's Music, Sir Arthur Bliss, 83, also died in 1975, while the New York opera world lost leading tenor Richard Tucker, 61, bass-baritone Norman Triegle, 47, and the "voice of the Met" for 44 years, announcer Milton Cross, 77.

Jack Benny, 80, was a tireless public servant, a heavy patron of the arts and once a child prodigy himself, although he was more noted for his deadpan radio and television humor.

Thomas Hart Benton

(April 15, 1889 — January 1975)

Along with John Curry of Kansas and Grant Wood of Iowa, Thomas Hart Benton of Missouri was a pioneer of the American Regionalist Movement. Impatient with the domination of French abstract art, they painted "provincial" American settings in imaginary, but realistic, large murals and oil paintings.

An artist for nearly 70 years, Benton died in his studio just three hours after finishing basic work on his last mural, about (appropriately enough) a painter's death. He was 85.

Casey Stengel

(July 30, 1891 — September 29, 1975)

More than just a successful baseball manager (winning ten American League championships in twelve years with the New York Yankees, 1949-1960), Stengel introduced a new language, Stengelese, and a fresh outlook to a growingly business-minded sports world.

We'll miss Ol' Casey . . . we'll miss them *all*.

Now learn the secrets of enjoying great music and understand the works of the masters as never before

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In each album, devoted exclusively to the life and work of one great composer, you hear outstanding selections of all musical forms in which he excelled, performed by our finest artists—Van Cliburn, Emil Gilels, Jascha Heifetz, Eugene Ormandy and the Philadelphia Orchestra, Leontyne Price, to name just a few.

Then, in a lavishly illustrated companion booklet, you'll discover facts about the composer's life, the forces that shaped his music, the people and places that surrounded him and you'll learn exactly what to listen for in his work.

Altogether you get nearly four hours of listening enjoyment on 4 stereo records, plus the illustrated booklet and rich gold-stamped slipcase and box. A collection of these albums makes not only an impressive array for your music shelf, but a magnificent addition to your music library.

To acquaint you with the series, you are invited to audition the first album, Tchaikovsky, free for 10 days. And as an added bonus, we will send you the deluxe edition of The Golden Encyclopedia of Music at no extra cost. Records of this calibre usually sell for $6.98 each. The Encyclopedia retails for $17.95. But as a subscriber to the series you may keep this $45.87 value for just $17.95 plus shipping and handling as described in the reply card.

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EXPLORING *HUMAN POTENTIAL*

In This Issue:

Exploring the human potential is to discover the uniqueness of man. What two subjects could seemingly be more remote from each other than a great maestro musing about the arts **(An Afternoon With Arthur Rubinstein)** and the Pygmies of the Ituri Forest struggling for life **(To Save a People)**? Yet, when one experiences a Pygmy funeral and feels the empathic emotions resonating from the child who is burying his mother, and when one hears talk about man's place in the universe and the meaning of death — then, at least for that instant, the essential unity of mankind is captured and perceived.

Since the future is so obviously related to the human potential, each issue of the magazine will include a **Future Forum** — a look ahead through the experienced eyes of professional futurists. For openers, we have Isaac Asimov **(The Science Fiction Writer as Prophet)** and Lester Brown **(By Bread Alone)**.

Paradoxically, the *past* may be equally as relevant for human self-understanding — and there is no better place to start than by uncovering 3000 years of history at the cradle of Judeo-Christian and Islamic cultures in Jerusalem **(Archaeological Excavations at the Temple Mount in Jerusalem)**.

HUMAN POTENTIAL is especially interested in expanding the boundaries of knowledge concerning the human mind and body. In **Unlocking Your Human Potential** practical helps are given for self-development. Then Dr. J. Gaither Pratt's rigorous and resourceful survey on **ESP Research Today** spans the fascinating areas of current investigations in parapsychology. These new findings threaten to shatter the traditional tenets of materialism, which state that reality is restricted to the physical world.

And while modern society may be overexposing sex (pardon the pun!) in multimedia "sexploitations," who would deny that sexual behavior is indeed a significant aspect of the human potential? Masters and Johnson's straightforward assessment of **The Pleasure Bond** not only gives a realistic history of relations between the sexes, but also points the way to a healthy ideal, avoiding the extremes of traditional male domination and radical female counter-domination. Continuing the subject from the physiological viewpoint, **Sex — It's All (Well, *Almost* All) In Your Head** explains how sexual feelings become "felt" and where sexual activities are actually "activated."

The athletic capacities and achievements of human beings are no less a part of the human potential, and they will be covered by meaningful articles on sports and sports personalities. In **Sugar Ray's Still Fightin'** we see the former champ working to prevent juvenile delinquency with the same fierce determination his opponents once feared in the ring. Watching youngsters develop their abilities, social awareness and self-confidence through sports is another tribute to the human potential.

Rounding out our first issue, our worldview essays focus on the Arab world **(Arab Civilization — Past and Future)** and international law **(Achieving World Order).** *HUMAN POTENTIAL* also highlights two very real art forms normally taken for granted: the magnificent majesty and exquisite beauty of the natural environment **(Let It Be!)** and the endless gastronomic possibilities for creative cooking **(The Light and Beautiful *Nouvelle Cuisine*)**.

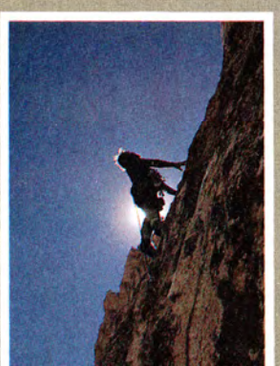
As we state in the prospectus, *HUMAN POTENTIAL* is an odyssey about the greatness of man — his achievements and creativity in all fields of human endeavor, past, present and future. We on the editorial staff are privileged to participate in this adventure, and we look to you, our readership, for co-direction in the months and years ahead.

CONTENTS

OUR COVER

Mankind's upward struggle toward his ultimate purpose is the subject of *HUMAN POTENTIAL*, and therefore this sheer rock climb is a fitting cover for our first edition.

Photo: Galen A. Rowell



If you find one of these pennies, don't buy a piece of gum with it.

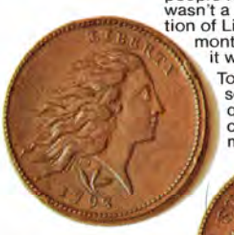
Things have changed a lot in the last 200 years. Pennies, for instance. There was a time in our country's past when each one on this page was ordinary.

A time when someone very much like you picked it up. Looked at it. And saw nothing more than just another penny.

1793 Flowing Hair Large Cent, Chain Reverse. The first penny struck under the authority of the United States Government bore a Liberty figure on the front and 13 chain links on the back, representing the original colonies. The chain design was unpopular, and production was short-lived, with less than 37,000 minted. Today, this coin in extremely fine condition is valued at $4000.

1793 Flowing Hair Large Cent, Wreath Reverse. Even with the new wreath reverse, our second penny wasn't very popular. Most people felt that the portrait wasn't a good representation of Liberty. After 3 months of production, it was discontinued.

Today, however, some people are quite fond of it. The coin can sell for as much as $3000.



1794 Liberty Cap Large Cent. Between the years of 1793-1796, the face of this coin was changed four times. The "Head of 1794" pictured here was the second style. Today this coin in uncirculated condition is valued at $2000.

1796 Draped Bust Liberty Large Cent. Like all our previous pennies, the new style of 1796 was made of copper only. It underwent three major changes in its early years, and was finally discontinued in 1807. The 3rd reverse style shown here is worth $3000 uncirculated.

1814 Classic Head Large Cent. First minted in 1808, and discontinued in 1814, this series of pennies was less sharp in detail because a softer copper was used. The coins wore out more quickly, and are hard to find in good condition today. Uncirculated value is $1000.

1850 Coronet Type Large Cent. The face of this coin changed so many times, it's hard to keep track of them all. First minted in 1814, it lasted until 1857. That's when the seventh and final head style shown here was finally abandoned. That same date also marked the end of the large cent. Uncirculated value: $185.

1909 V.D.B. Lincoln Head Penny, Wheat Ears Reverse. Abe Lincoln made his debut on the face of our country's penny in 1909. That year also marked the beginning of a penny with a composition of copper, tin and zinc. The wheat ears reverse lasted until 1958. Values vary. This 1909 V.D.B. with the designer's initials is worth $11.00 uncirculated.

1943 S Zinc-coated steel Penny. Nothing changed except the metal in 1943. It was a critical war year, and copper was in short supply. The solution was the production of more than a billion pennies made of steel with a zinc coating. Regular composition was resumed in 1944. Uncirculated value: $1.75.

1857 Flying Eagle Cent. As our penny suddenly grew smaller, it also assumed a composition of both copper and nickel. Though about 1000 of the first small cents were actually minted in 1856, the new size was not really authorized by the government until the next year. Thus, this 1857 is considered to be the first official issue. Its uncirculated value is $465 while the "unofficial" 1856 is only worth about 6 times that much.

1905 Indian Head Penny. In 1859, the Flying Eagle gave way to the head of an Indian girl. Indian Head cents were produced until 1909. The more recent dates in good condition can be purchased for as little as 75¢. But if you have one like this in uncirculated condition, it's worth $25.

1974 D Lincoln Memorial Penny. First minted in 1959, it looks pretty familiar. Yes, just another penny. And that's exactly what it's worth. You could buy a piece of gum with it. But before you do, think about it. Remember what Ben Franklin said: A penny saved is a penny earned.

And that it is. At the very least.

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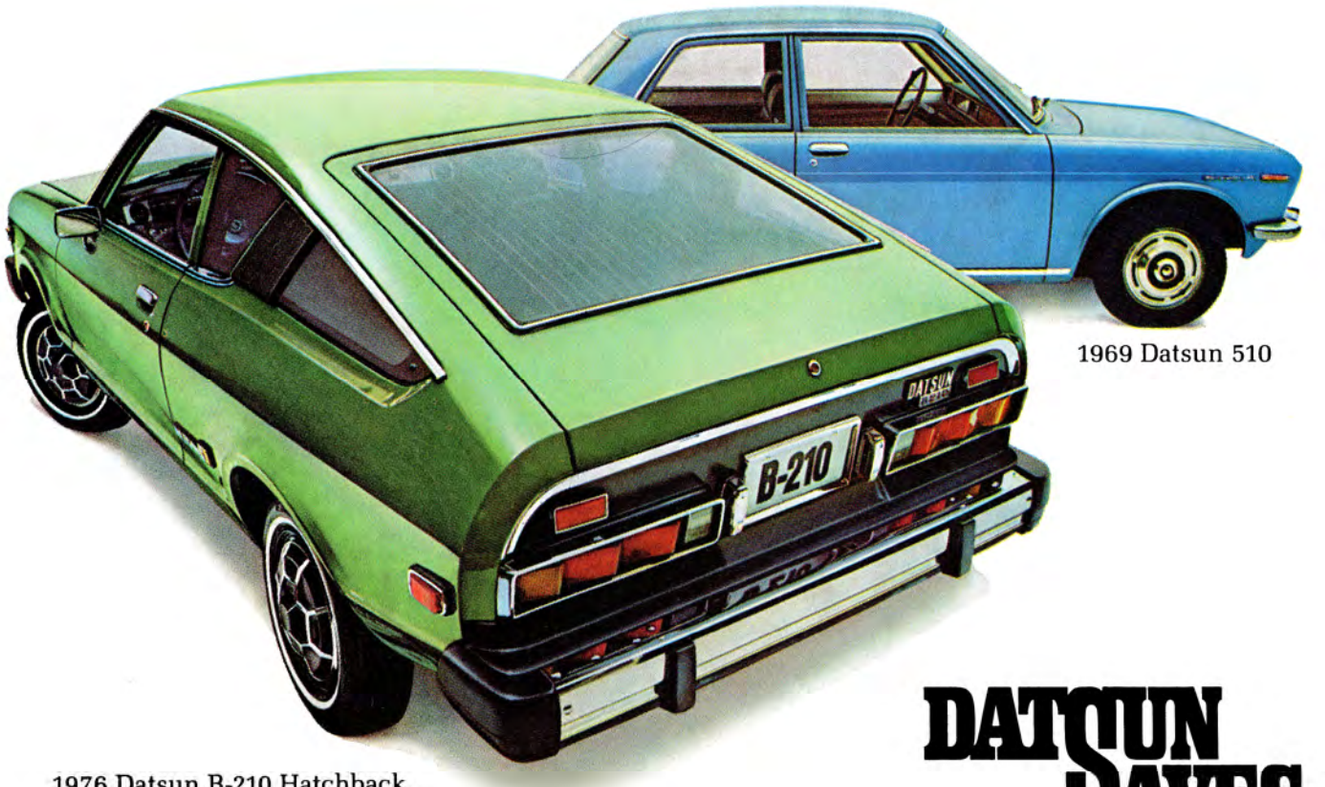
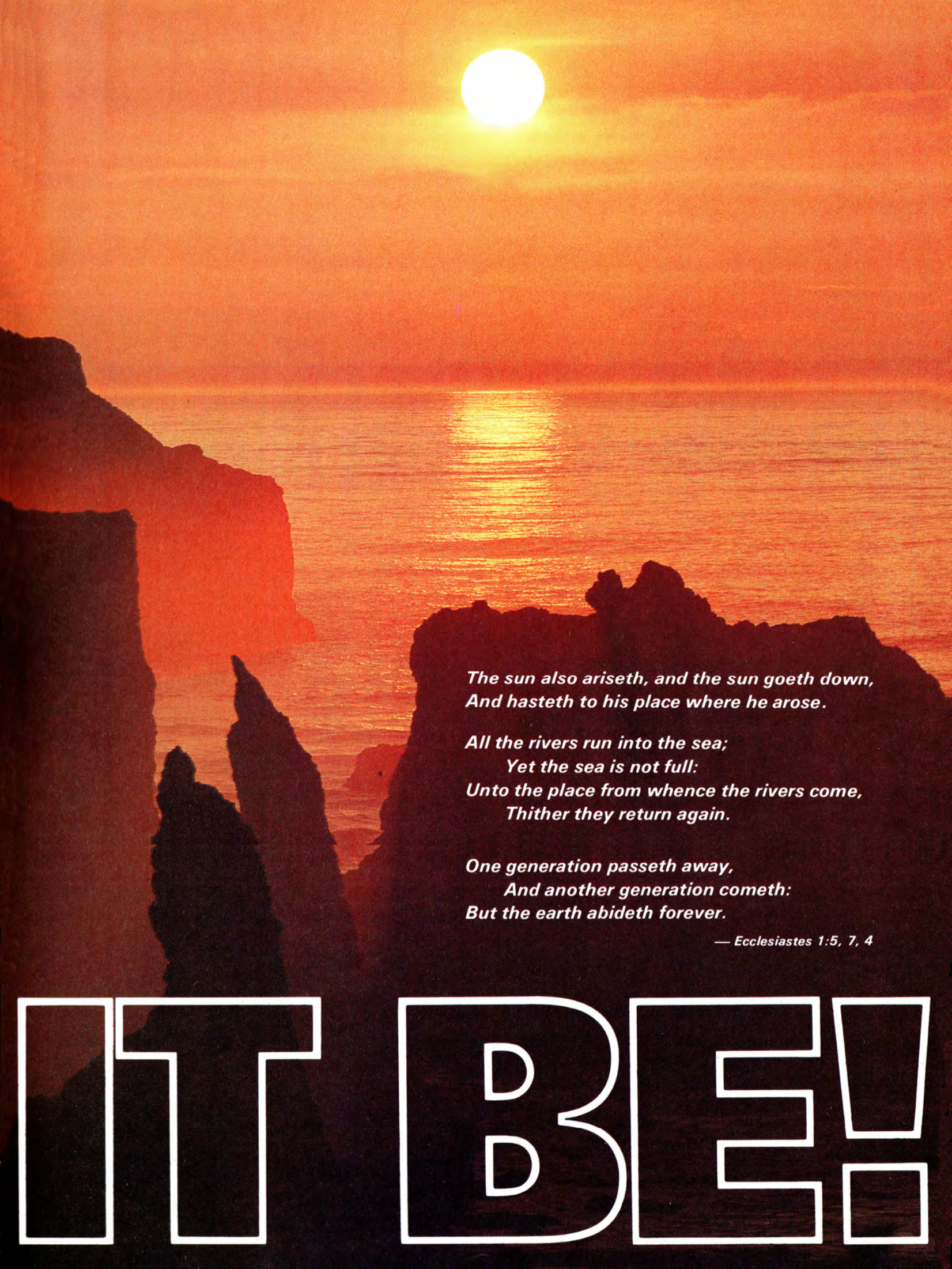


1969 Datsun 510

1976 Datsun B-210 Hatchback

DATSUN DAVES

Photo: David Muench



The sun also ariseth, and the sun goeth down,
And hasteth to his place where he arose.

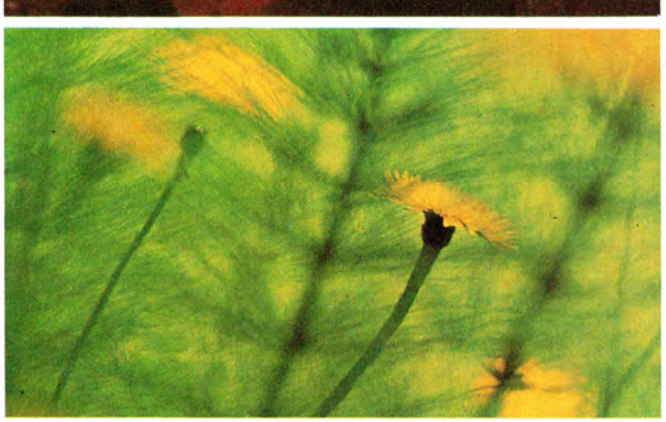
All the rivers run into the sea;
Yet the sea is not full:
Unto the place from whence the rivers come,
Thither they return again.

One generation passeth away,
And another generation cometh:
But the earth abideth forever.

— Ecclesiastes 1:5, 7, 4

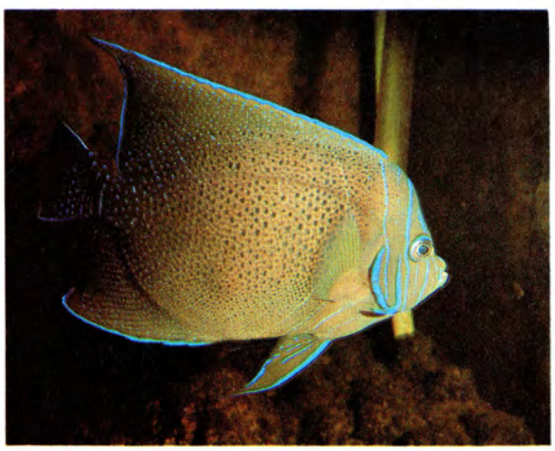
IT BE!

Right and Below: National Audubon Society
Below Right: David Muench



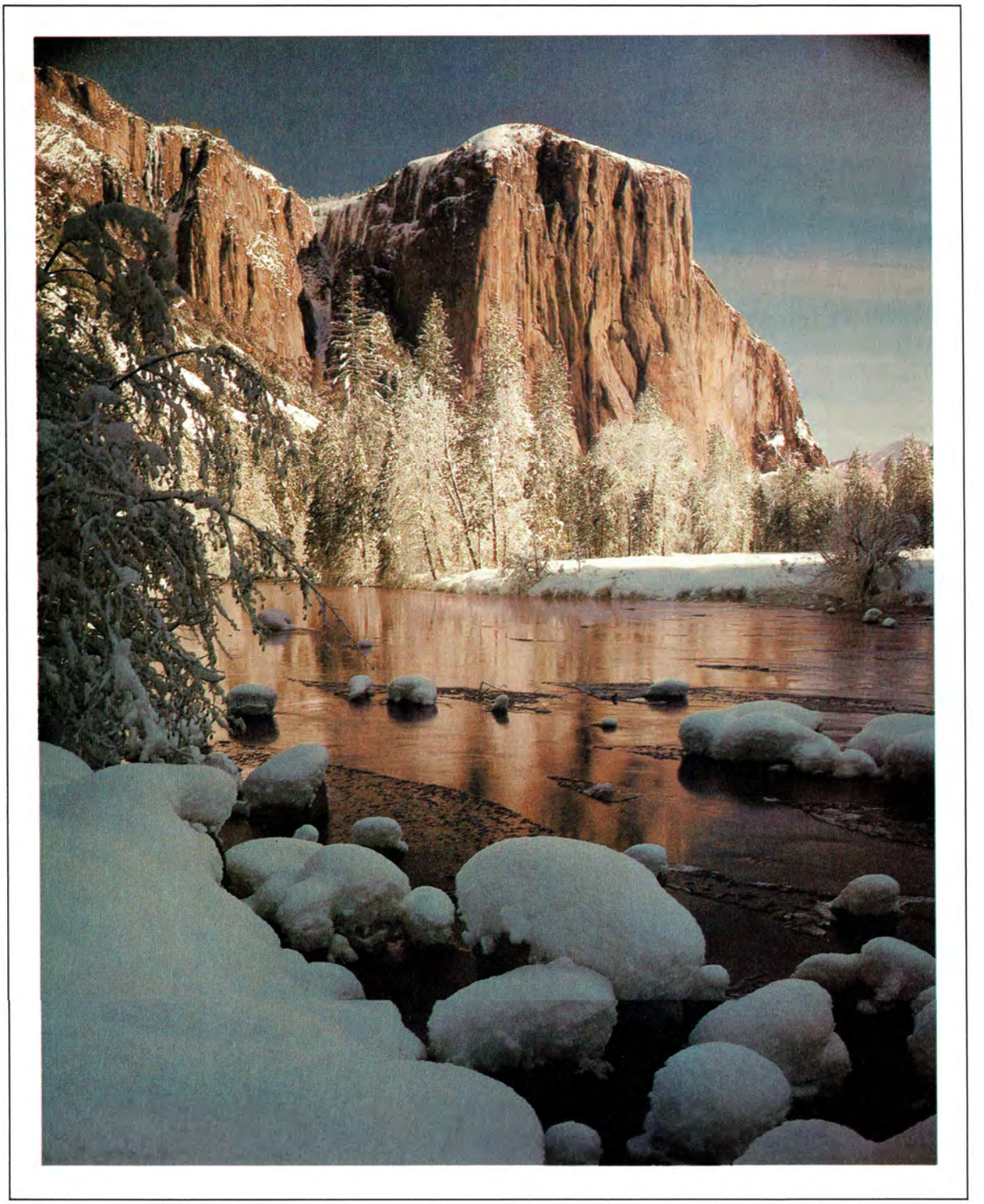
Above and Right: Photo Researchers
Above Right: Dennis Stock — Magnum

There was a time when meadow, grove, and stream,
The earth, and every common sight, to me did seem
Apparelled in celestial light,
The glory and freshness of a dream.
It is not now as it hath been of yore; —
Turn wheresoe'er I may, by night or day,
The things which I have seen I now can see no more . . .



Top Left: Dennis Stock — Magnum
Top: David Muench
Left: H. Armstrong Roberts
Above: Dennis Stock — Magnum

Above: David Muench
Left: H. Armstrong Roberts



The rainbow comes and goes, and lovely is the rose;
The moon doth with delight
Look round her when the heavens are bare;
Waters on a starry night are beautiful and fair;
The sunshine is a glorious birth;
But yet I know, where'er I go,
That there hath passed away a glory from the earth.

— William Wordsworth


PLEASE, LET IT BE!

14th to 16th centuries
EARLY AND HIGH RENAISSANCE

Giotto, Leonardo, Michelangelo, Titian, Raphael, Dürer, Bruegel . . . an age of artistic geniuses; and of royal giants — England's Henry the Eighth, Russia's Ivan the Terrible, Italy's avaricious Cesare Borgia. In this age of giants, new techniques were perfected and passed on to . . .

16th and 17th centuries
THE BAROQUE PERIOD

Rembrandt, Caravaggio, Rubens, Velázquez, Bernini, Vermeer . . . who created real people in a recognizable world — canvasses and stone which seemed to breathe, to speak. Holland ruled the seas and began her Golden Age in art. One of the most dynamic eras in Europe's history, it gave way to . . .

18th and Early 19th century
ROCOCO...NEO-CLASSIC...ROMANTIC

. . . an age of profound social change, the American and French Revolutions, England's Industrial Revolution — a confusion reflected in art's tumult of styles and widely different artists: Turner, Daumier, Delacroix, and Goya, whose uniquely personal style set the stage for . . .

19th century IMPRESSIONISM
& POST-IMPRESSIONISM

Manet, Cézanne, Van Gogh, Rodin, Renoir, Gauguin . . . modern art's first rebels whose intuitive, personal visions blossomed in a world of scientific and political turmoil — dynamite, the wireless, *On the Origin of Species, Das Kapital* . . . radical changes launching the flight into . . .

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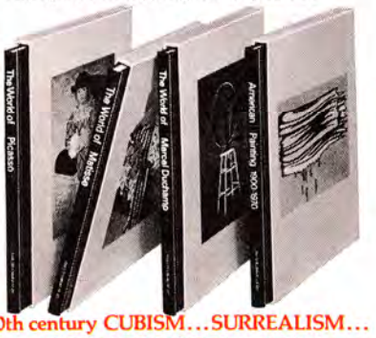

20th century CUBISM...SURREALISM...
ABSTRACT EXPRESSIONISM

Picasso, Matisse, Duchamp, Calder, Dali, Modigliani, Pollock, Klee . . . the 20th century artists who challenged the very definitions of art. In a world of modern technology and warfare, Freud, the Depression, the collapse of empires, they created art unlike anything ever seen before.

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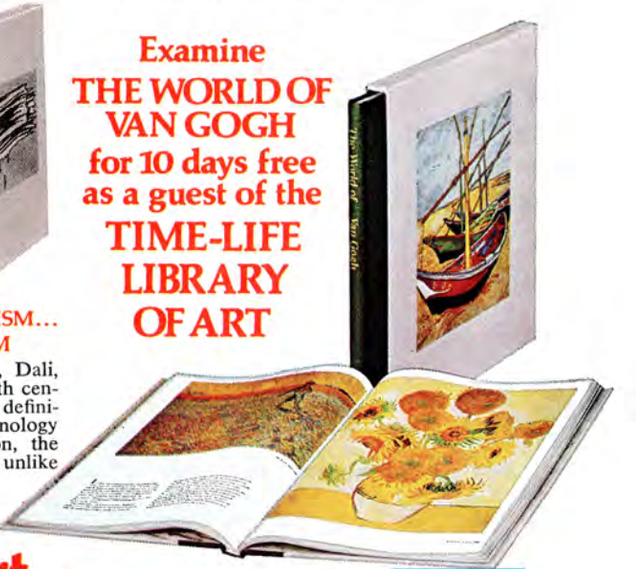

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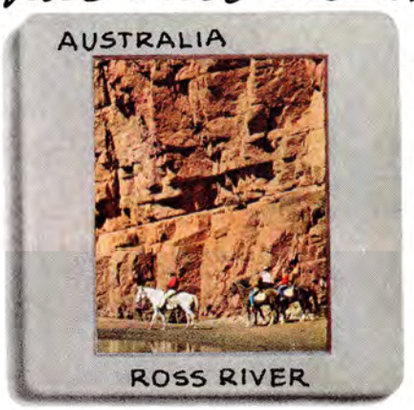
Dear Kids,

Piling together the pennies for this trip was more than worth it. Sydney was first, and lunching on rock oysters at the new Opera House was as relaxing as the opera was thrilling.

We bought opals for everyone because they're such a good buy. Next, we flew to Adelaide for the Arts Festival where this art exhibit was just one of dozens of events.

We visited a sheep station and saw lots of wildlife in the Flinders Ranges; and continuing north, we stayed at Ross River in comfy log cabins. Here we're on a sunrise horseback ride through Aboriginal country. Finally we went to the Lone Pine Koala Sanctuary where we saw loads of the little cuties. Hopefully, you'll see Australia before you're our age. Maybe as a graduation present?



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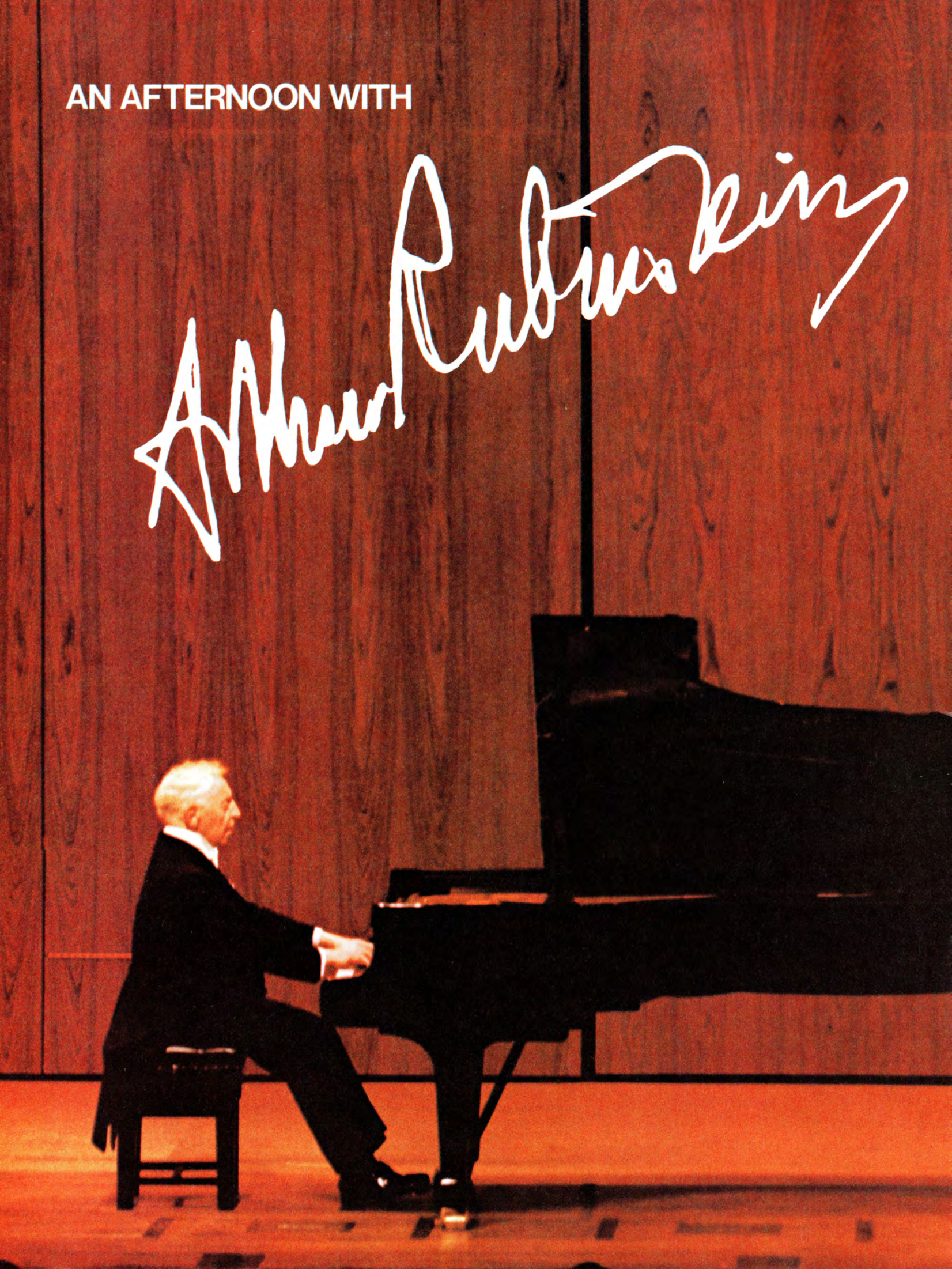
AN AFTERNOON WITH

Arthur Rubinstein



***MAESTRO ARTHUR RUBINSTEIN** recently gave a benefit recital at Ambassador Auditorium for the Jerusalem-based International Cultural Center for Youth (ICCY). While visiting the Pasadena campus, he participated in an informal question-answer session with Ambassador students. Even on questions seemingly far afield from the music world, the maestro demonstrated his great humanitarianism and human concern. Here, excerpted from that discussion, is some of the humor, wit and wisdom of Arthur Rubinstein — maestro, philosopher, humanitarian.*

MUSIC — "THE DIONYSIAN ART": Music is an art of great emotion. It is the only metaphysical art which comes from nowhere. You don't know where the ideas of music come from.

Painting is something which talks to you in a third person. Somebody must show you something, and you look at it. The act of painting is something solid. You look at it; you enjoy it or you don't enjoy it.

But music — it's of another dimension.

There is a man — a philosopher — who gave names to it which always pleased me very much. I quote it very often. You see, he called all the arts — but music — "apollonian arts." "Apollonian" means the art where you see the thing to admire: sculpture, painting, etc.

But music — he called that "dionysian." Dionysius was a god who was drunk. He was drunk with emotions, drunk with enthusiasm, drunk with an extraordinary eruption of temperament. Music is the "dionysian art." I like that definition very much.

PERFORMERS AND COMPOSERS: We poor performers are nothing in comparison with the creators. Who am I to compare with a Beethoven or a Mozart or a Chopin or a Schumann — someone who gave us the incredible wealth of music?

We performers *transmit* music. We are the "connection." We are the "antennas." We are born, of course, with a very strong talent of our own — the talent of transmission.

I call the creators "geniuses" — that is, not "talent," but *genius,* you see. What we see of the composers is their printed music. There it is. This is something solid. It is printed; it is written down. And, curiously enough, it talks to us personally, to each one of us differently. That's what makes it interesting to hear, let's say, a sonata of Beethoven being played by different pianists. We all will play it differently, because it talks to us. And therefore, we have the right to existence.

MUSIC, GOOD AND BAD: Essentially, for me there are only two kinds of music: good music and bad music. They're the only differences I admit. It can apply to anything; it can just as well apply to rock or to jazz or to Bach's cantatas or to Beethoven's sonatas, or to anything else. There are bad classics, there are bad romantics, there are bad moderns, there are bad jazz composers — and there are also the very good ones. Whether or not music is *good* is the only thing which matters. Music can appeal to me or repel me.

MUSIC WITHOUT EMOTION?: There are the modern musicians who say that emotion in music is not necessary. I think even the other arts also followed, saying emotion is not essential, that art ought to be practical.

I am absolutely against this. I will never accept this sort of theory, because I think that any music which has no emotion has no reason to exist.

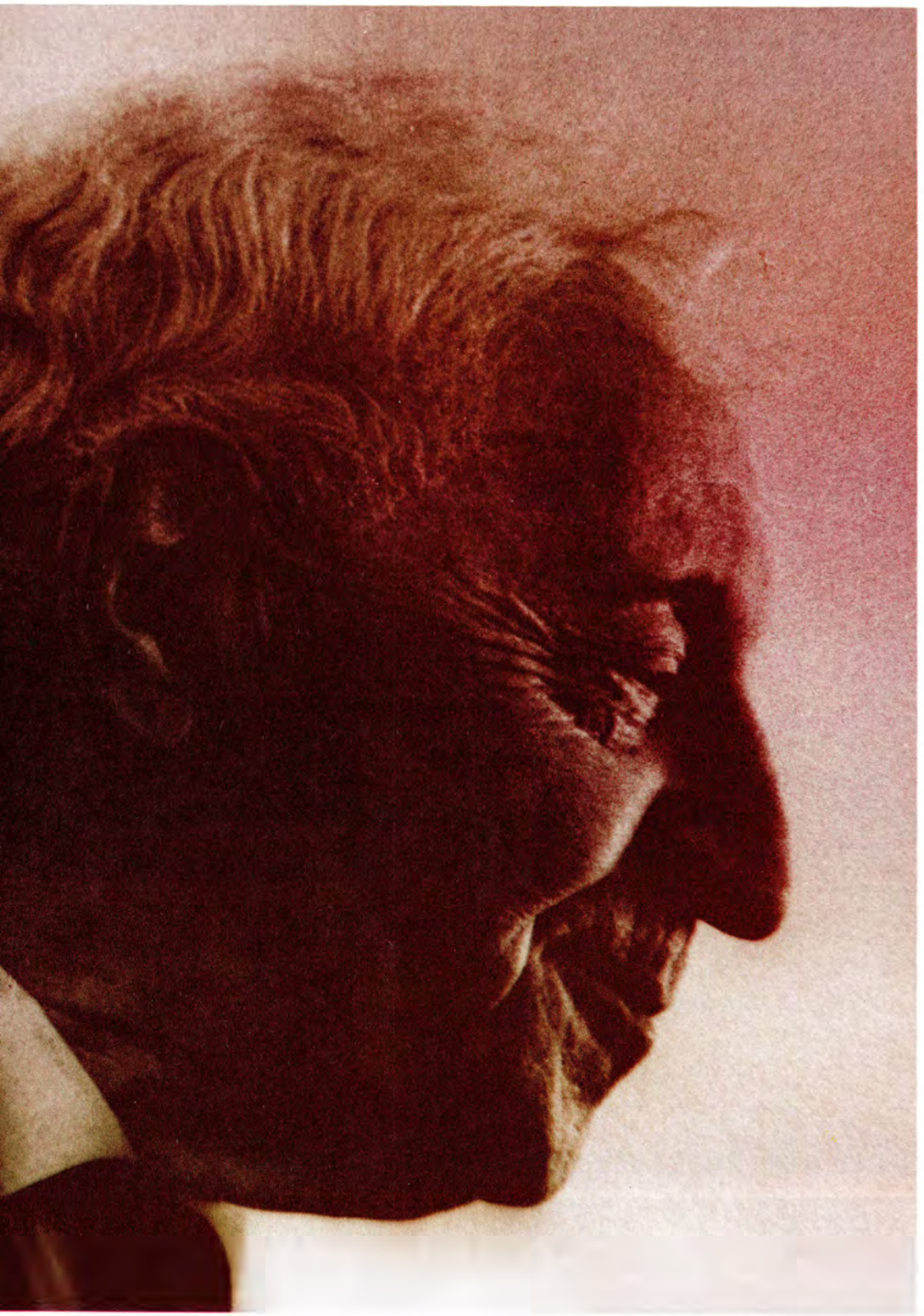
From the Psalms of David and the instruments of old China, music was always there to perform at emotional occasions. It was always something for funerals, for weddings, for happenings which gave joy or sorrow. But not just daily bread — it was never like that. Never. It shouldn't be like that. It is wrong.

I hope that this state of modernism — which denies emotion in the arts — is a passing show, is a revolutionary expression which will simply make some changes, maybe some freer attitudes toward the classics, some freedom in the form of music or art. I accept all this very gladly if it's good, but not when it's bad.

PERFORMING MUSIC: I think that interpreters who play music which they do not love are just foolish because they will never be able to transmit anything to a public. You can persuade the public only with enthusiasm — your heart with your emotion.

You must transmit your own emotion. Some interpreters remain with their emotions separated from the public. They have no ability to transmit them. Others have it. I'm one of those who fortunately have it.

You see, when I play I'll give my heart out because, first of all, I love



I have to tell you, nothing enchants me so much as being applauded when I don't have to play.

my public. I'm proud that they come; that they pay money to sit down in a chair and be quiet for two hours just to listen to my playing. That touches me very much. I think it's a great, great privilege. So, I want to give them all I have in my heart. You see, I give them the best I can with the music which I love.

A FAVORITE COMPOSER?: There isn't such a thing as a preferred composer. If I play a sonata by Beethoven; if I play a little piece of Schumann; a little encore of de Falla, invariably at the moment that I play those things, there is no other music in my mind or in my heart. It is the one thing which exists.

Music is always different. Differences bring the charm of living into everything.

WITH PICASSO — ON BOREDOM AND CHANGE: Picasso, the great painter — a good friend of mine — taught me a very good lesson. In our early friendship, we saw each other very much — three, four times a week.

Well, I noticed he had been painting exactly the same subject for three or four months. He had in his room a table; there was a bottle of wine; there was a newspaper; there was a guitar; the balcony had rather banal ironwork — nothing in particular.

I thought this work of his might be commissioned by a man, with a hundred clients, who wanted to sell a hundred examples of the same subject.

I asked Picasso: "Why do you paint the same subject? Aren't you bored with it?" He said: "What do you mean 'bored'? Every minute all those subjects suddenly become other things — other objects. Bored? What nonsense!"

He made it clear to me. You know, it's true. I have never played a composition the same way at any concert. Why? Because I'm two years or two days older. New experiences accumulate in me. Everything becomes completely different. That creates a great interest in life. Otherwise life would become very monotonous and very boring.

LETTER WRITING AND CHANGING YOUR MIND: I hate to even write letters. I never write letters. I prefer to take a train or plane to say "yes" or "no" to somebody, and not write it in any letter. I probably have some bad streak in my character. Because when I write in a letter an opin-

ion or a feeling or something personal, the minute I put it into the mailbox I think differently. I think: Why did I write that? I'm not quite sure. Not quite sure of the whole thing. And that stopped me from writing letters.

In personal conversation I see the immediate reaction. There's a different thing. The minute you see the reaction, you counter-react. You have a discussion. You see that he is not well persuaded, then you change your plan. You say it differently, you say more. You try to explain. In a letter, it's done — it's a document. People can then show you: "You said three years ago in a letter that you didn't like all of Beethoven." We are absolutely entitled to change anything we say. If you invite me to come tomorrow, I probably will say the contrary of what I said today. Maybe. Who knows?

MODERN CONVENIENCES: What would we do now without radio, without television, without all the wonderful gadgets that help us live and enjoy things? It is a completely different world.

I know a nice anecdote of the two great painters, Renoir and Degas. Renoir was a great modernist, an innovator. He wanted all the new gadgets. And Degas hated it. He wouldn't take an elevator. He wouldn't even think of a telephone. He was absolutely the old-timer — devoted to the old times, while Renoir was always ready for gadgets and things.

Well, one day Degas lunched with Renoir at Renoir's house. And Renoir looked down on him and said: "You are really a boring old-timer. You have no interest for anything. I will show you. I mean, during the luncheon, my son who is many miles away in Versailles will telephone me."

Well, they had something to eat. There was a hot beefsteak on the table. Degas started to eat it, but suddenly "Wrrrrr" — the telephone rang. Well, Renoir ran like mad to the telephone. His son was telephoning. A long conversation followed. Renoir's beefsteak, of course, became quite cold. Not for Degas. He had his hot.

Look at poor me, for instance. What would you call it otherwise? — it's servitude. I come to a town to give a concert, yes. I give orders not to be awakened till, let's say, nine o'clock. But, at seven o'clock they will let through somebody from another city. They have a great respect for long distance. They think that long distance

I think it's a great privilege that they come; that they pay money to sit down in a chair and be quiet for two hours just to listen to my playing. That touches me very much.

can't be refused. So at seven o'clock I get, suddenly, a young girl asking me: "Mr. Rubinstein, do you still like Mendelssohn?"

STYLE vs. TRADITION: Style, tradition — they are great words you know. Style is something to admire. One has to adhere to style. You must feel that you belong to a certain style. That I do admit. I like style in many things — even outside of art. Style is something which is reaching for beauty. But tradition is another thing. I fight that very much. I'm not for tradition. You see, traditions are frightfully falsified. With time they change meaning. Our intelligences work differently; we receive those messages differently. It is something which is a falsification.

Look, I will give you an example. Beethoven had a very good pupil, very assiduous pupil, who was the famous exercise man, Czerny. Well, he is the man who gives us a certain tradition of what Beethoven was like, what he wanted, how he wanted to be played, and so on. It's all wrong. Czerny jumps to conclusions which are really rather misleading. He would give us in the *Appassionata* Sonata indications that Beethoven played it once very slowly, and then the next day — "presto" — very quickly. Where is the tradition?

CHOPIN: My ex-compatriot Chopin, the great, great genius of the piano, was born for the piano. The piano found its angel. Other composers wrote better music, greater music than Chopin; but the piano was rather treated as a utility instrument. But Chopin made a fairy tale out of the piano. It sounds differently than when any other composer writes for it.

Beethoven sounds orchestral on the piano. You have to translate Beethoven into the piano. But Chopin is made for the piano and for nothing else, and he makes the piano into the most lovely instrument I know.

CHILD PRODIGIES: Child prodigies are really awful little beings. I must say they are in some ways little freaks. I was very lucky because an uncle of mind wrote a letter, about me, to a very old famous musician, Joachim, who was an authority of the very first class. He was the best friend of Brahms, of Schumann — I mean he was a great man — still alive and director of the Academy of Music in Berlin.

Well, he gave some brilliant, brilliant advice in his answer. This was when I was three or four and I played much better than my sisters who were 18 and 20. I had it — you know — they didn't. I had talent for playing. They just didn't.

But you see, the wonderful man — Joachim — wrote: "Please leave him alone! Don't force anything on him. Let him develop this gift as he feels like. If he wants to go to the piano and play, let him play. But his lessons ought to start when he is six. Before that it's nonsense. Let him hear music. Take him to a nice song recital of easy songs, something that's very nice for him to hear."

Joachim was right even in that, because I remember my parents took me when I was four years old to see the opera *Aïda*. And when the trombones started playing, I gave a big shriek. I was scared to death. I was too sensitive to music, and they had to drive me home. I couldn't stand trombones for quite a while.

Prodigies should be left alone. A law should prevent parents from exploiting them. Because prodigies can become like circus freaks. The eight-year-old girl who can play five sonatas of Beethoven upside down, or blindfolded; or with a towel on the piano keys! — I did that too! I knew how to do that at home for my parents, just for fun. I could play on a towel — why not? I knew the keys. I knew where they were.

I have known quite a few prodigies who went to pieces because they were exploited by their parents. A little boy or girl at four or five, six being applauded, being showered with things, and so on — will never be an artist later on if they are spoiled at the beginning.

They do not have the intelligence to understand what they are doing. It does something to their character, and also to their art.

I have seen a great, great talent in a little boy who really had it. I begged the father; I begged him with force: "Please leave that little boy alone. Let him practice. But not too much." He said: "Oh, no. I wouldn't harm him. And he loves to play for the public. He loves it." I say: "I know, of course. I did too."

They gave me a big box of chocolates after a concert. Who wouldn't? But, that's very dangerous for the little one.

I dream about a law prohibiting the exploitation of young people.

PRACTICING: I have been exceptionally lazy — that is a confession I have to make. I hated to play exercises. I always loved to make music — that is a different thing. It's not working. It's enjoying. But I hated work. Therefore, my development went together with my concertizing — with my giving concerts.

Every concert I give — even nowadays — is essentially for me a lesson for the next concert.

At home your concentration is — let's say — 50% to 60%. People come; lunch is ready; a telegram for you; they call you to the telephone; it's hot outside; it's cold inside — always something — and then the beautiful feeling that there is always mañana. Tomorrow morning you can pick it up again.

In a concert you feel like a bullfighter. You have to give it. There is no excuse. There are a lot of people who are told: "He's pretty good. You will hear." And there I am.

So, while playing, I'm 100% intensely interested. I suddenly discover things. I ought to give the impression to the public — even now at the ripe age of 88, don't forget — that I am playing better than ever. It's not true, but the impression ought to be there.

MUSICAL DIFFERENCES AMONG PEOPLE: You don't play different things to a Japanese public or to an Argentine public or to a Mexican public. But there are people in the world who are more musical by race — by some instinct. You see the Russians, the Mexicans, the Brazilians are somehow naturally musical. It doesn't mean that they right away can play a Beethoven sonata better than others. But peasants will come back from work and sing in tune, sing in divided voices. They keep the rhythm clearly. They have an enthusiasm for it. There are really some people more musical than others.

Look, the French are the laziest people for music in the world. And they really, unfortunately, go for the cheapest, most horrible music in the world — the modern rock singing. The French hardly go to concerts.

In Germany, every village has an orchestra or an institution of music. You can stop a German in the street and ask him: "Which number of Kochel is the D Minor Concerto of Mozart?" He'll say: "466." "Sing me the leitmotif of *Lohengrin*" — every German will do that.

But when it comes to understanding

new music, the Germans just sit there. When they heard the Brahms symphonies in Leipzig for the first time, the critics wrote that he ought to be shut in a madhouse. Serious critics wrote that.

But the French with this non-musical attitude — they have one other gift which is unique in the world. They have taste. They have unbelievably great taste; music which has something in it; a painting which has something in it, where there is some power in it, something which others might ignore — the French react to that. One of the great interests of my life is to observe all those things.

MUSIC IN TIMES OF TROUBLE: It is my personal belief that people and nations that are poor and living in despair are more enthusiastic about music than those who are rich and living in luxury.

I was playing in Mexico when Mexico was having a horrible revolution! Young people were killing in the streets. Sometimes I couldn't give a concert because there was fighting and shooting in the streets. It was the civil war in Mexico in 1919.

Well, you wouldn't believe it, but I gave 26 concerts in seven weeks. I had six or seven programs ready, and while I was playing them, I was learning the next six or seven. But imagine that! I couldn't do that anywhere in the world. They were fighting — and they needed music.

INTERNATIONAL POLITICS: Well, my dear young people, be sorry and cry over the diplomats who run the world. They were so horribly clever when they divided the world in two. Well, what do you think of politicians having divided Korea, divided Vietnam, divided Berlin, divided Jerusalem, divided Ireland, all leading to horrible wars and killings? And they all fight — they fight and go on fighting until they all die — probably in Vietnam a few pigs will remain and I don't know what else.

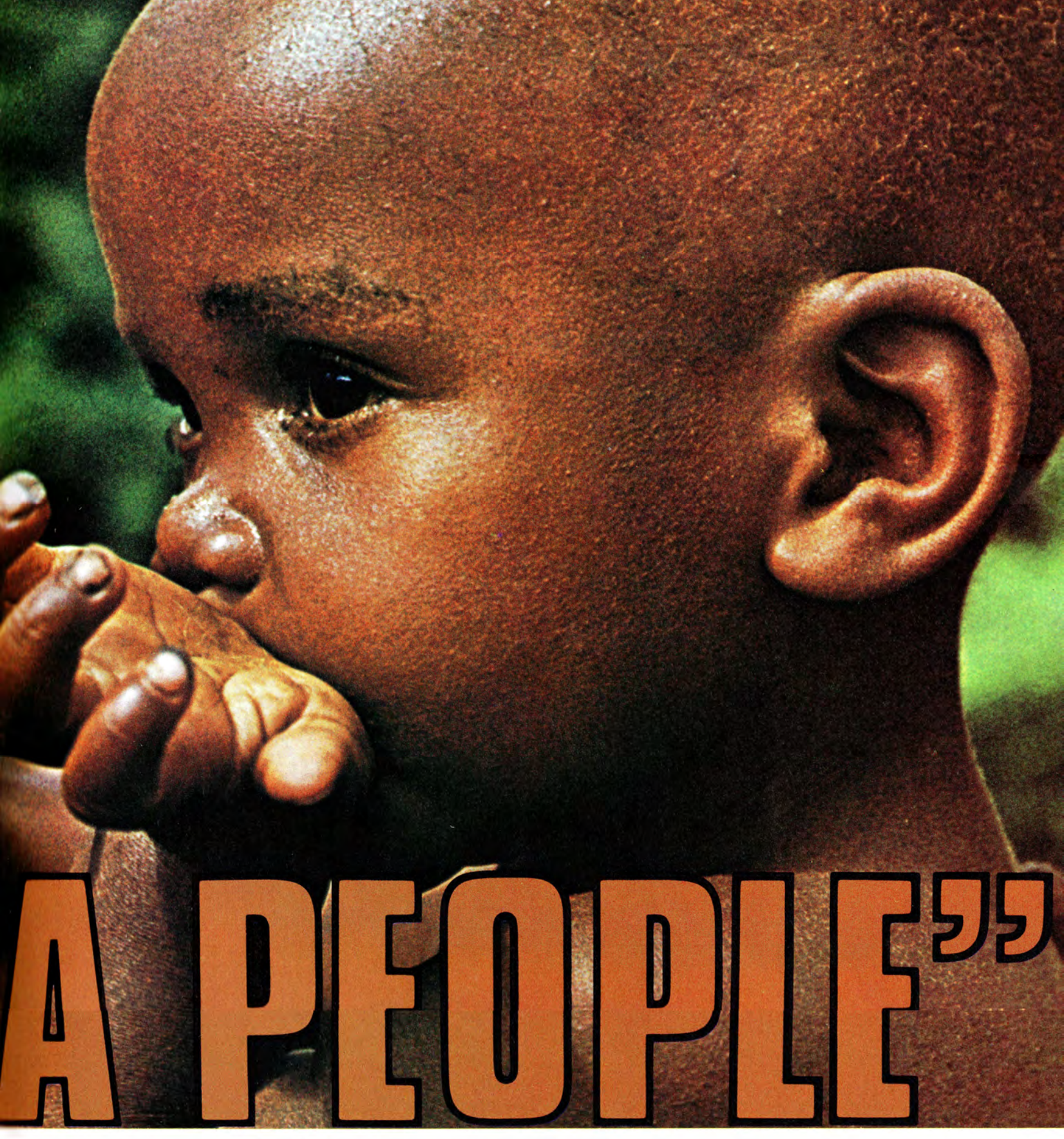
In Ireland too, at the rate it's going, in the next 100 years there won't be any Irishmen left. And what are they fighting for? Ask them! Everybody accepts only one God, but somehow humanity divided Him into six or seven heads — I don't know how to explain it. And they all are sure that theirs is the right God. Yet they all really believe that there is only one. I'm not a mathematician. I can't make it out. □

Mr. Rubinstein (right) and Mr. Armstrong together at the conclusion of the benefit concert at Ambassador Auditorium in Pasadena for the Jerusalem-based International Cultural Center for Youth.

"TO SAVE

CONVERSATIONS BY JEAN-PIERRE HALLET AS TOLD TO DR. HERMAN L. HOEH

PHOTOGRAPHS BY JEAN-PIERRE HALLET



"The PYGMIES of the Ituri Forest must be saved! If people are judged by the quality of their souls, hearts and minds, their potential for love, peace and harmony, the Pygmies are giants of mankind. Yet, our often blind "civilization" is now responsible for the imminent extinction of those beautiful people by systematically destroying their forest, their only home. The misuse of our human potential toward an increasingly sophisticated technology is self-destructive. Our ultimate survival will not be assured by computers and other material things. It can be inspired by simple people such as the Pygmies. By saving the Pygmies and their beautiful ethic we can learn to save humanity . . ."

JEAN-PIERRE HALLET with his Pygmy friends as they walk through a Bantu village. Jean-Pierre was born in Louvain, Belgium, in 1927. His father, André Hallet, was a painter of African landscapes and portraits. After spending his childhood in the Congo, Jean-Pierre Hallet returned in 1948 to live and work among seventeen different African tribes. He has managed to revisit his adopted people every year, bringing back a wealth of new facts on the Pygmies' culture, philosophy and religion. He has also compiled the first dictionary and grammatical study of the Efé Pygmy language and has photographed and filmed each aspect of their daily life.

As a child, I was fortunate to grow up in Africa with the physically small people called Pygmies. Back then, in the 1930s there were about 35,000 of these healthy, delightfully happy and highly expressive people. Later as an adult, I was reunited with my former Pygmy playmates whom I respected and loved. Professionally, I was a bush sociologist and agronomist for the Congo, Rwanda and Burundi. I did everything from diagnosing plant disease to delivering babies.

After nine years of intimate daily contact with members of seventeen tribes I decided there was only one way to know and understand my Pygmy friends better.

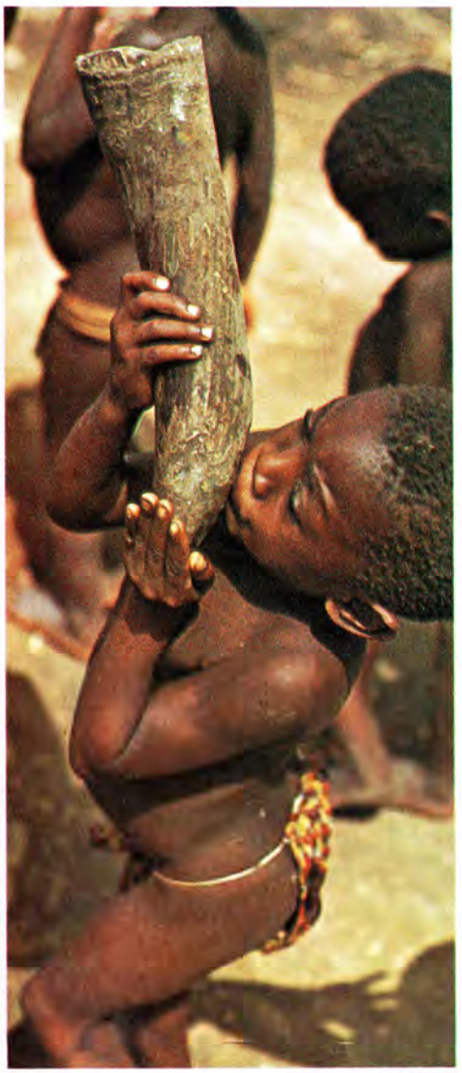
In January 1957 I emptied my pockets and walked into the tangled shadows of the Ituri Forest in northeastern Zaïre (formerly the Congo.)

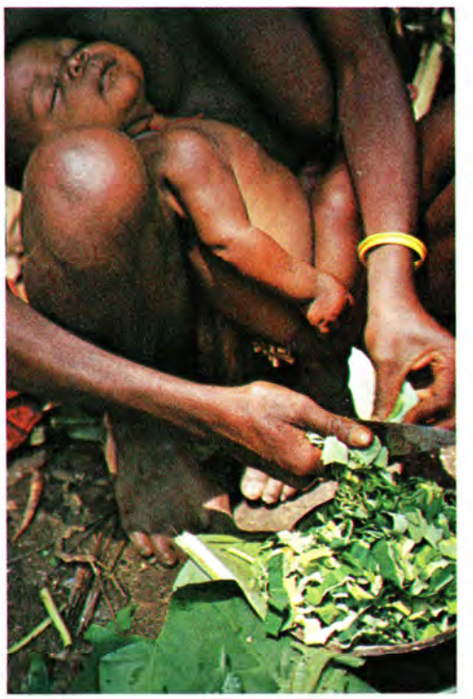
As I wrote in my first book *Congo Kitabu,* "Here in the Ituri the Pygmies had lived in harmony with nature for an incalculable number of years . . . and had survived for one simple reason: they respected nature, the living world from which they drew their sustenance. They gathered, hunted and consumed only what they needed, and they never killed an animal or even a plant without reason. Now I was going to become a part of that living world, a complex organism, whose every element played an honest, essential role in the biological balance. I would be one small link in the great chain of life binding the forest together. Other members of my race were trying to reach the moon, while I was about to discover the earth . . ."

For eighteen months I lived as an adopted member of the Efé Pygmy society. I was learning the hard way to appreciate their unique life style, their high moral values, their spiritual understanding, and their wisdom.

"If you give a piece of your heart to things that you own," say my Efé friends, "you cannot love people with all of your heart. You become the slave of the things that you own. We love and take care of people, not things. The Negroes and the white men think we are poor. Let them think what they please!

"Our ancestors, the men of the first ages, were rich and powerful. They lived in great villages. They used wonderful tools. They worked miracles. These things did not make them happy. Happiness is the smile on the face of your wife when you bring home the antelope. Happiness is the laughter of





Six-year-old Tebu-a sitting in camp, opposite. Women erect their hut, a primitive version of a geodesic dome. Vegetables, roots, fruits, mushrooms, vines and leaves are the main part of the daily meal. Immediately above, a child, although uncomfortable, is sound asleep, as mother prepares the family stew. A five-year-old, left, blows an atsi *made from the horn of a forest buffalo. Quite often young girls, emulating their mothers, go on a firewood safari (top).*

your children. Happiness is the music of the harp and the flute. Happiness is freedom. These are not things that you own — they are things you enjoy."

Few, it seems, know that the Pygmies, long before the coming of the European to Africa, possessed an enlightened philosophy and laws relating to their forest environment, and to a creator-deity. They even prayed aloud to that heavenly deity, usually addressed by the familiar-sounding title "our Father."

The Pygmy concept of God, in contrast to their tall black neighbors before the coming of the Europeans, is enlightening. "In the beginning," said a Pygmy elder, "God lived with men and gave them his commandments. He created the world. He can never die. If he did, the whole world would perish with him. God dwells on high, in the Firmament. God is the Lord above all things. He reigns also over men, whose actions he watches day and night."

The Efé Pygmies do not indulge in cannibalism, human sacrifice, mutilation, sorcery, ritual murder, intertribal war, initiation ordeals or any of the other cruel customs associated with equatorial Africa.

In Pygmy life, hunters — no matter how hungry — bring game back to camp where it is divided up among members of the band. (This is one of the laws their deity gave to his Ituri Forest congregation.) Traditionally, cooked game is not eaten until a brief prayer is intoned while a little tidbit of meat is either tossed into the air (the direction of the traditional home of "our Father") or wrapped in a large leaf and placed in the fork of a nearby tree (an act which raises it from the earth as an offering). These acts, now nearly totally neglected in their struggle to survive, let the deity know that his Pygmies do not take food for granted.

Sadly, I became aware of the many problems threatening Efé survival. Their ancestral forest was being increasingly chopped down by greedy lumbermen, irreparably damaging the precious ecological balance . . . their shelter, food, medications, and clothing were destroyed with the trees. Many Efé were forced to live in the blistering tropical sun for which their bodies were unprepared. Bantu and Sudanese Negro plantations were creeping in from all sides. Tourists came in droves bringing peanuts, cigarettes and sugar. The Pygmies started succumbing to new dis-

eases and suffering a high mortality rate. They were reduced to about 25,000. Above all, they suffered from loss of basic human dignity, sliding into feudal serfdom to the benefit of their tall African neighbors.

On June 26, 1957, after many problems, I managed to liberate every Efé (the only true, pure-blooded African Pygmies in the Eastern Ituri Forest) from these bonds of serfdom by obtaining from the Nande Bantu chieftains of Beni an official "emancipation proclamation." To compensate for the loss of their forest home, I established for the Efé Pygmies a realistic self-help program based on the progressive introduction of agriculture and better sanitation.

I taught them crop rotation and use of improved selected strains to enable them to compete on a more equal footing with neighboring Negro tribes.

During those eighteen months in the Ituri Forest, I taught the allegedly unteachable Pygmies how to read, write, and do simple arithmetic, mainly for the purpose of proving that they were as able to learn as their former masters — if not more so.

In 1960 political independence came to the Belgian Congo, and with it came chaos, rebellion and civil war. Because they are by nature nonagressive, my Pygmy friends were the first to suffer. They were rapidly reduced to some 15,000. Victims of new harassments — having to pay income tax, being drafted into the Zaïre army, suffering from enforced loss of cultural identity — they kept on dying at an increasing rate despite my lone efforts. Today, only about 3,800 "pure-blooded" Pygmies are left.

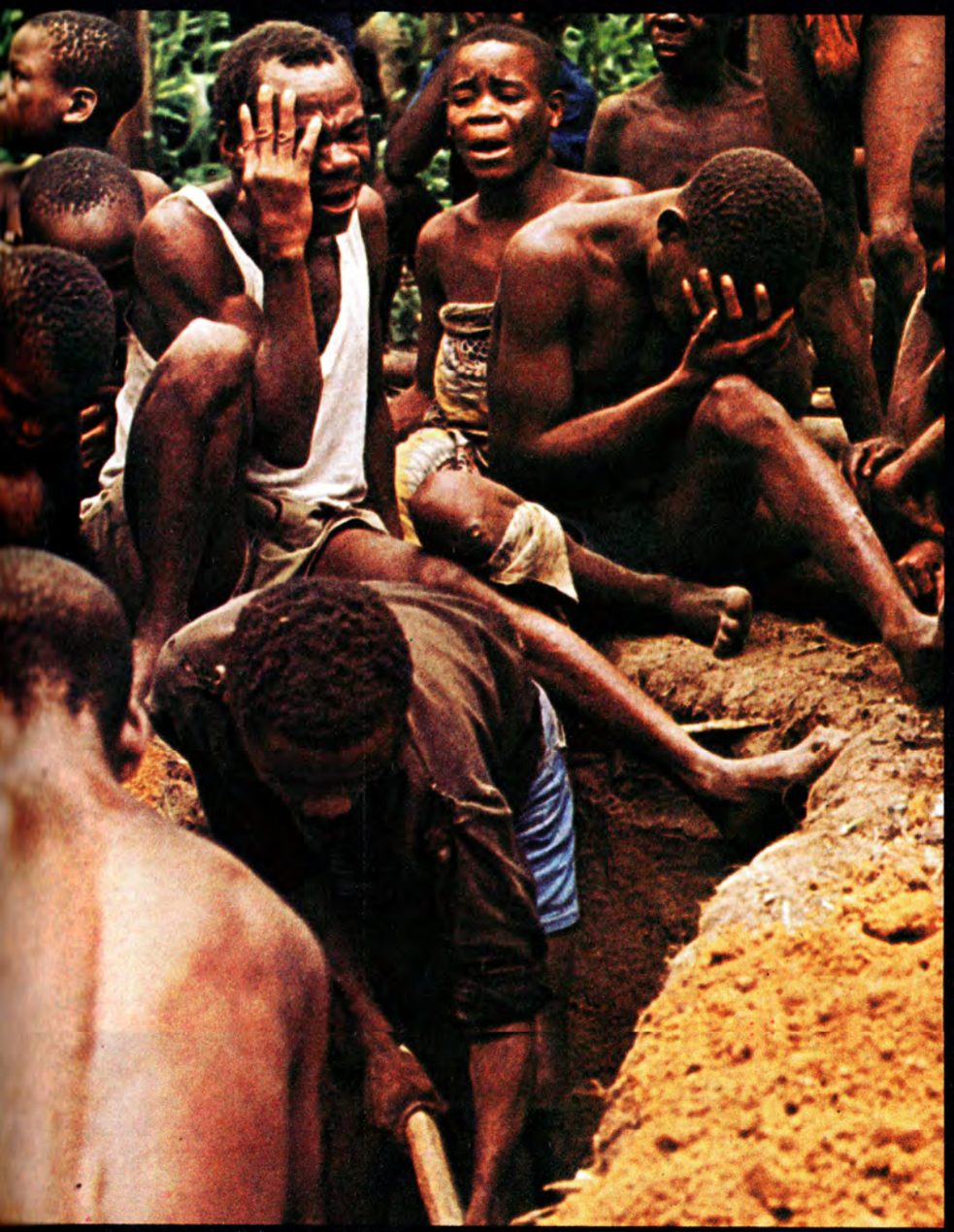
In an effort to make more people aware of the uniqueness of the African Pygmies and the tragedy of their imminent extinction, I wrote *Pygmy Kitabu.* But I felt that something visual was also imperative. I wanted to create a new dimension in a human documentary, to accurately portray the Pygmies not only physically, but also emotionally and spiritually. So, in the autumn of 1972, I made a full-color feature-length docu-

(Text continued on page 32)

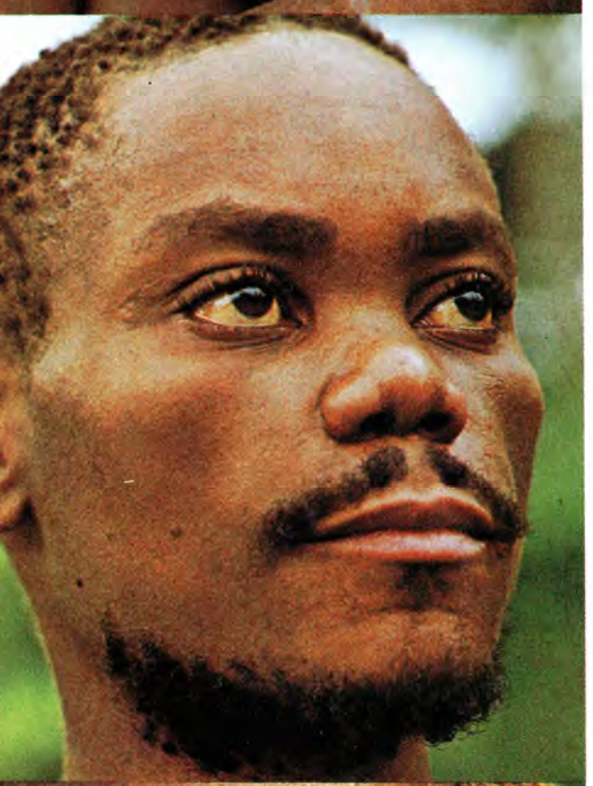
In the mysterious world of giant trees, vines and ferns, two boys (left) on a monkey hunt are as comfortable on a slippery high branch as they would be on the ground. A nearly mature nine-year-old shoots a monkey in forest shadows.

Efé Pygmies are a delightfully happy and highly expressive people, as exemplified by the young man playing the ndomu, *a five-string Pygmy bow harp very similar to that used by the ancient Egyptians. To make the harps, a sound-box must be carved out of a single piece of wood. Interestingly enough, the Pygmies will draw a blueprint before starting the work. They are perhaps the only so-called "primitive" people to do so. A contemplative, sensitive woman, with silver earring, listens attentively.*
Left, a loincloth or usi *made from the bark of the tropical fig tree. The* usi *is the only clothing traditionally worn by the Pygmies.*
The bark must be processed with care. The inner surface is cleaned and scraped. The outer layer is discarded. To make the bark thin and soft, it must be pounded for about two hours. The loincloth is then set to dry. The loincloths are often decorated. The designs are painted or tie-dyed. The very intricate geometrical patterns, harmonious lines, irregular spots and crosshatched designs are an expression of Pygmy creativity, spontaneity, imagination and freedom.

Pygmy belief regarding death:
"God willed it. If God willed it thus, it is because He had his reasons. One does not judge God."



Traditionally Pygmies disposed of their dead with a cremation ritual. Today it is against the law and they are forced to practice conventional burial. Above, Yobu, a six-year-old boy, is crying over his mother's death. His father died two months earlier. They both succumbed to new diseases resulting from the impact of "civilization."



SOME PYGMY BELIEFS:

"In the beginning . . .
God lived with men and gave them His commandments. He created the world. He can never die. If He did, the whole world would perish with Him . . . God dwells on high, in the Firmament. God is the Lord above all things. He reigns also over men, whose actions He watches day and night."

To explain why they make no picture of God:
"God is like the word that leaves your mouth. Make a picture of it, run after it, and bring it to me. The word? It is no more, it has passed and yet it lives always, today and tomorrow as well. God also."

Pygmies say that "A baby is like a fruit attached to the Tree of Life. And the mother, like Nature herself, lovingly protects that fruit, watching over its growth with the care and concern that only love can give."

On life after death (A Pygmy elder speaking to children):
"Children, look at the stars. They are the souls of people who were really good. They earned the right to twinkle in the sky. So we had better be good if we want to sparkle forever in Heaven, close to God."

From Pygmy Kitabu *by JEAN-PIERRE HALLET, and his film* Pygmies

mentary, *Pygmies,* the first and last ever to be made. The Zaïre government was about to rule that the Pygmies could not be photographed because their "primitive" appearance was bad public relations for the new nation. With great difficulties I managed to produce this graphic document, incorporating in 90 minutes the essence of a lifetime of observation and understanding.

The film follows the Efe Pygmies' life from birth to death, showing the strange customs surrounding the Pygmy birth, which takes place in the river, the colorful marriage ceremony, and the moving cremation ritual. Their amazing precocity and artistic creativity are illustrated for the first time on the screen. Also shown is the sacred Toré ceremonial which precedes the hunt, and possibly the last filmed elephant spearhunt. The Pygmies' tremendous warmth and the depth of their full range of emotions are felt throughout. The powerful narration by Lorne Greene enriches its visual impact. The film implies that these wise and once happy so-called primitive people hold the key to *our* emotional, mental and physical survival. The film suggests that "civilized" society needs a profound and basic understanding of life — not as an automated existence, but rather as a very precious privilege.

In September 1973 *Pygmies* was shown at a press preview at the Academy Award Theater in Los Angeles. It was a great success: standing ovation and excellent trade reviews.

I was sure the film would be well accepted.

"Too honest, too artistic . . . too good!", I was told by most distributors. "This is not for the general public . . . . How do you expect people to pay . . . to see a picture that has no sex, no violence, no suspense or staged drama — a film that nobody can 'relate' to?" I was told just too often. I was determined to convey the plight of the Pygmies to the people of America. Slowly, after the proper "promotion", the film began to be seen by many thousands of people. They seemed to be really impressed, touched and, above all, aware of how unique the Pygmies are and why it is so important to give them possibly their last chance to stay alive.

In Africa, more than one hundred fifty thousand square miles of national parks and game reserves are dedicated to the preservation of the flora and fauna. To date, not a single square mile has been set aside to aid the survival of the Pyg-

mies, Central Africa's oldest known surviving people.

Their Ituri Forest home has been reduced, at present, to less than ten thousand square miles. This area comprises only six and two thirds percent of the land reserved for the African animals. I believe that the Pygmies have the right to live in this small remnant of their original land. I am now heading an organization dedicated to the goal of securing for the Pygmies their original forest land.

To reverse the tragedy besetting the Pygmies, funds are used to provide medication when needed, to secure land, to buy tools and seeds — none of which the Pygmies can afford to buy on their own. Since they receive no support locally their only hope for survival is from outside help.

Now, why should we in the Western world — beset by inflation, unemployment, etc. — care about a dying race thousands of miles away?

The world is not so large that we can ignore what is going on even a few thousand miles away, and any human tragedy that occurs there may happen, sooner or later, in our land. We have one last opportunity to preserve a people who would otherwise disappear — a people whose simple wisdom, reflected in peaceful human relationships, family unity and total harmony with nature, should encourage us to think about and seek a realistic compromise between our self-destructive, often blind technology and a simple, honest way of life.

Should these people be deprived of their right to live? What if we were in their situation — and they in ours? I have developed a feasible plan for preserving part of their Ituri Forest home which, with the help of enough good-hearted people, would assure the survival of the Efé Pygmies. I devote the proceeds from my film and books to THE PYGMY FUND. But alone, I cannot save an entire human race from extinction. For this, I need substantial help urgently. In advance, I would like to say a warm and sincere "thank you" to those of you who care enough to become involved. □

Donations are most gratefully accepted. You can give the Pygmies, literally, the chance to live. Please make your check payable to "The Pygmy Fund" and mail to THE PYGMY FUND, P.O. Box 1067, Malibu, California 90265, U.S.A.
Information about the availability of Jean-Pierre Hallet's film, lectures and books can be obtained by institutions and organizations from the same address.

The three men above, in servitude to Bantu neighbors, convey the tragedy of the loss of cultural identity and their basic human dignity. To reverse the tragedy besetting the Pygmies, funding is used to provide medication when needed, to secure land, to buy tools and seeds — none of which the Pygmies can afford to buy on their own. This aid is to compensate for the destructive effect of the accelerated reduction of the forest on their lives and culture — since they receive no support locally. Their only hope for survival is from outside help.

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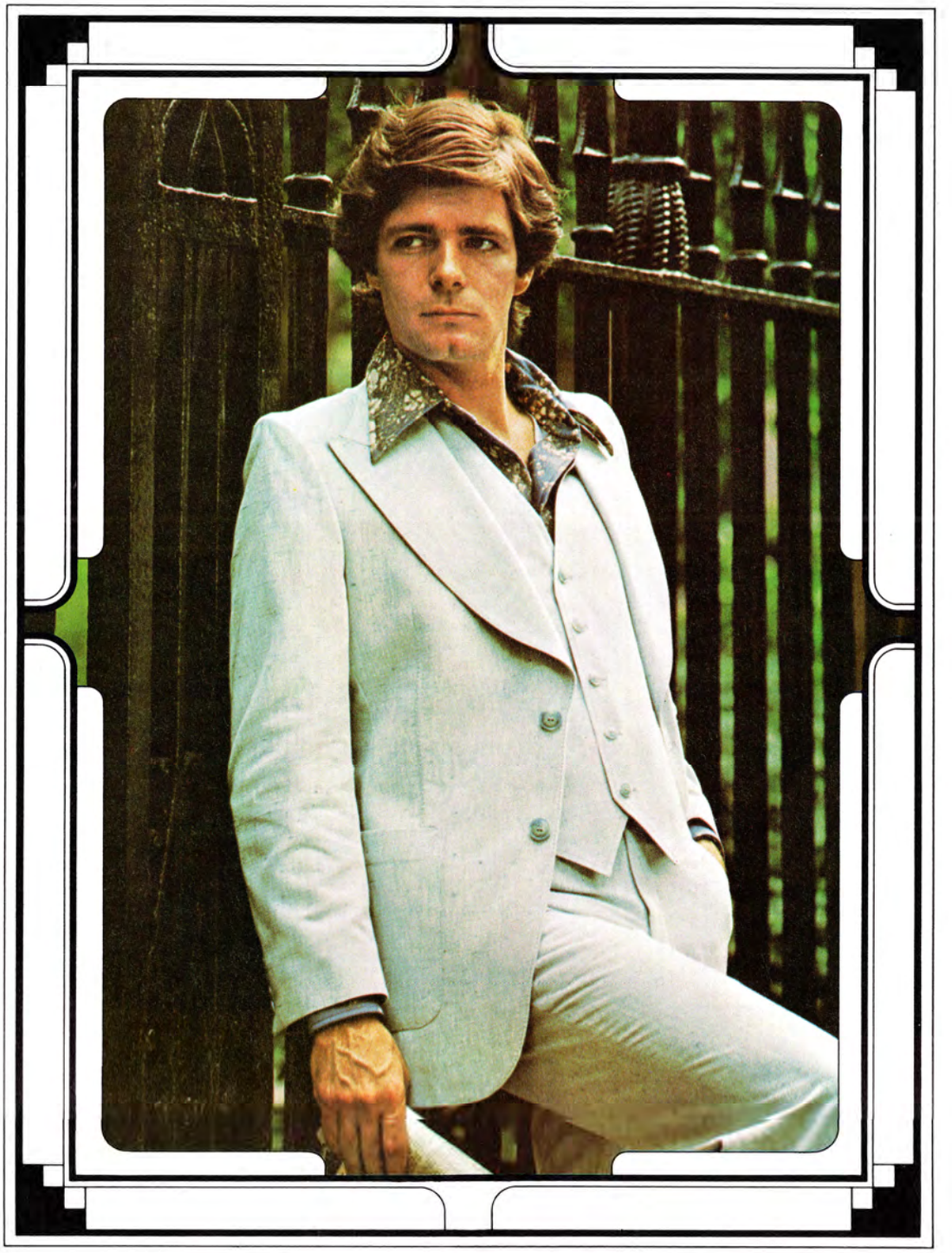

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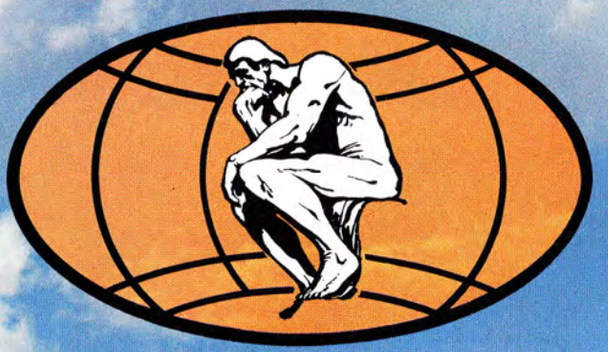

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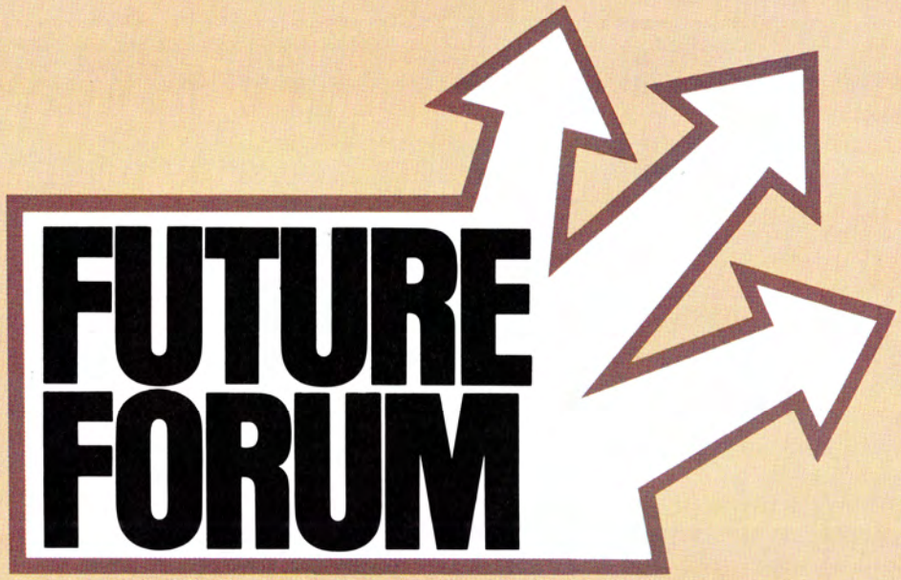
None of us asked to be a guardian of the human race in this fateful period of history. But since the lot has fallen to us, I hope that we shall not fail in our task.

— Edward S. Cornish, President, World Future Society



From the beginning of recorded history, man has looked to the future with a mercurial mixture of curiosity, fear, hope and anticipation. In less turbulent times, the future was usually approached with optimism and confidence. But today, man's vision of the future seems darkened by the threat of thermonuclear war, environmental destruction and the potential collapse of the economic and social systems that sustain our lives. Yet, paradoxically, our future is also brightened by the knowledge that in many respects we have within our power the possibility of creating a civilization incomparably superior to any ever known in the annals of history.

The saying goes, "The future always arrives a little before you're ready to give up the present." And it has already invaded the present. What *will* happen has suddenly become terribly relevant to what *is* happening.

Though mankind has always been interested in the future, never before has the future so seriously concerned all strata of society and so dominated the present.

A virtual tidal wave of future-oriented books have flooded the market: computer simulations, technological forecasts, scientific projections, eco-environmental extrapolations, innovative futuristic approaches, original conceptual ideas, transcendental philosophical musings, theological speculations, and even science fiction.

The approaches vary, but the effects are the same: human beings, uncertain of their prospects in this overpopulated, overmissiled world of the last quarter of the twentieth century, have become obsessed with the future.

In the past decade — really since the late 1960s — a steadily increasing public interest in the future has directly paralleled the advent of serious interest by professionals in widely diverse fields. Physical scientists are predicting what will happen to the earth's depleted

resources; social scientists are predicting what will happen to man's hypertense society; economists are predicting what will happen to man's stagnating capacity to produce goods and services.

Forecasting the future has become serious business — and prophecy is now a respected member of the Establishment.

Prophecy — No Longer a Dirty Word

Triggered by the undermining of man's total confidence in technocratic materialism, the past few years have witnessed the strange and paradoxical revival of widespread interest in the supernatural.

Both in parapsychology — the scientific study of ESP (extra-sensory perception) — and in many religious, quasi-religious and occult groups, prophecy is having a progressively greater impact on the general public.

In parapsychology the term *precognition* is used to describe awareness of future events and situations by nonphysical means.

Precognition is currently being seriously and intensively studied by trained investigators around the world. As a result, the number of *scientists* who believe that the human mind can *non*physically apprehend the future has been rapidly growing.

Though the general public is largely unconcerned with technical and esoteric studies in the sciences, economics and parapsychology, public interest in prophecy is high. Increasing numbers of people gorge themselves with the virtual smorgasbord of occult prophecy — mediums, ouija boards, tarot cards, I Ching, popular prophets like Edgar Cayce and Jean Dixon, and especially, astrology.

For such enormous appeal to continue, one is tempted to conclude that there must really be "something there" — and the accuracy (albeit intermittent) of occult prophecies does seem to transcend the physical.

Human beings have an innate desire to know the future. And in our day, this desire has become an obsession.

Origins of Futurism

Although men have always attempted to foretell and anticipate future developments, the post-World War II era has engendered a new kind of prediction called *futurism, futurics,* or *futuristics.* Modern futurism was first developed at the Rand Corporation through analytic techniques for projecting possible future events.

Initially these scenarios dealt with the probability of war between the superpowers. But soon the techniques of futurism were also applied to population problems, famine, resource depletion, economic maladies, and shifts in geopolitical power. Rand's methodologies quickly spread to the Hudson Institute, the Stanford Research Institute and many others, but it is only within the past decade that the idea of consciously influencing the future has started to become a part of public awareness.

Assessing the Future

What kind of techniques are used in modern futurism? One approach is *modeling* the future — reducing the complex interrelationships of numerous variables to mathematical equations which can then be fed into a computer for an "extrapolative prediction" of future trends. The 1972 Club of Rome report on the "Limits to Growth" — with its famed disaster curves — is essentially in this category. Obviously there are dangers that a model of a complex situation will become oversimplified and therefore generate largely irrelevant conclusions. (On the other hand, if American automobile companies had spent more time modeling scenarios instead of tail fins, perhaps they could have anticipated the burgeoning demand for small, economical cars.)

Another technique used in the new discipline of futurism is *technology assessment.* In the developed countries, virtually everything that people use, touch, feel, live with, work with, or play with has been dramatically transformed by technology. "The result," says Joseph F. Coates, Program Manager of the National Science Foundation, "is that there are few major problems of society that are not strongly influenced by modern technology."

Thus, an often useful technique in evaluating alternative futures is to examine the impact of the introduction of a new technology or the expansion of a present technology. The technology assessment technique directly impinges on such proposals as the development of the supersonic transport or the Alaskan oil pipeline.

Still another approach to futurism is the *Delphi* method. Developed by the Rand Corporation, the Delphi method parlays subjective judgments of "experts" into prognostications. Basically, the Delphi technique presents a questionnaire to a group of knowledgeable individuals, whose answers supply feedback for subsequent questionnaires, which are also filled out by the group. The feedback from previous questionnaires is used to narrow the range of opinion so that a usable consensus generally emerges after two or three rounds.

The Delphi method has been employed in such diverse areas as space bioethics, political alternatives, family lifestyles, police work, and transportation options.

Even though these and many other techniques have been developed to assist predicting and planning for the world of tomorrow, futurism remains largely an art form. In spite of many successes, futurism still has no established tradition, no infallible *modus operandi* that is acceptable to all.

Futurists on the Future

Those who study the future often have widely differing scenarios of what tomorrow will bring. Assuming we *could* control the future, who should make the policy decisions? Whose standards should be imposed? Who should determine

whether technological, economic, and population growth should be increased, reduced or even stopped? What regions and countries will benefit or suffer most from any proposed changes?

At the Second General Assembly of the World Future Society in Washington, D.C., last June, an impressive array of experts considered some of the alternative futures that may emerge in the next 25 years.

Lester Brown, President of Worldwatch Institute, was not optimistic. "We are about to enter a not-so-brave new world that will require accommodation to a less affluent and simpler way of life," said Brown. "We delude ourselves if we think the years ahead will be easy. At best they will be traumatic, and they could be catastrophic . . . . We are on the verge of one of the great discontinuities in human history."

By contrast, Herman Kahn, founding Director of the famed Hudson Institute, contended that we may be entering a period of transition from economic growth to stable equilibrium. "This transition could be the most important moment in history," declared Kahn.

Projections of ultimate catastrophe (e.g., the Club of Rome's "Limits to Growth") are commonly and disquietingly presented as scenarios of the future. But Kahn asserted such projections may be meaningless. "It's like projecting the growth of a 17-year-old — he would be a monster at 25."

M.I.T. Professor of Management Jay W. Forrester claimed that long-range and detailed planning for the future generations is being hampered by "too much emphasis on purely physical limits and . . . on international action and cooperation." Forrester maintained that social and cultural limitations must also be seriously considered. Too often, international solutions to energy, population, economics, etc., are simply "ways to avoid local responsibility."

Control Versus Freedom

Many futurists assert that widespread planning is our only hope of living in a desirable future. Author Alvin Toffler says we have been "lurching into the future" and "the time has come to adopt a longer view." But Jib Fowles, Chairman of the Committee for Studies of the Future at the University of Houston, contends that such planning may well ride roughshod over the attitudes and wishes of the people who will populate the future.

"There is something essentially sinister about the political means by which futurists would have their intentions implemented," says Fowles. "Rather than establish one smooth path into the future which may be free of surprise but which is certainly not free of coercion, it is better to move forward as democracy would have it — cumbersomely, risking crisis, but without a loss of freedom. As irksome and antiquated as this approach may seem to some, it is to man's long-term advantage, for it means that flexibility and resiliency will be preserved." Concludes Fowles, "We should keep hands off the future."

Most people recognize the need for a certain amount of future-oriented planning. But the conflict comes when we sense that someone else's undesirable goals and purposes will be achieved by that planning. George Orwell's foreboding novel *1984* vividly portrays a frighteningly possible "planned future" — a future nightmarishly efficient, where people's lives are regimented, monitored and controlled in every detail. Thus the question is not so much whether to plan for the future, but who is really qualified to do that planning? And of those qualified, whom can you trust?

Society's Myths

"Every society has a set of myths by which it views the future," says Gregg Edwards, Program Manager for Alternatives in Higher Education for the National Science Foundation. These myths, according to Edwards, "provide an essential backdrop for any proposed changes in the society."

The danger comes when those who control the future do not share the fundamental values (myths) of the society, or, when the society simply ceases to adhere to the values it once had. For example, futurists constantly talk of group marriages, communes, serial marriages, and so forth, but one of the greatest "myths" of the Western world is romantic love, and faithful monogamy remains a value which the majority still cherishes.

John Platt, Associate Director of the Mental Health Research Institute at the University of Michigan, observes that in our Western society we have no unified sense of any ultimate source for standards by which to evaluate possible future developments. "We have no prophets, we have no sacred books to guide us toward the future," asserted Platt at a plenary session of the World Future Society. "Perhaps the best we can do is adopt a secular humanism which combines the elements of ecology, existentialism, tolerance, and a new concept of justice."

Platt sees the major crises of the next decade offering the possibility of new global institutions involving "planning for the future by university, business, and government leaders in many countries."

Much emphasis has been placed on the physical limits of planet Earth. But in the final analysis, it may well be that man's ultimate potential for a challenging and dynamic future lies in his *philosophical* conception of himself.

Having the power to shape and mold the future closer to his heart's desire, man must recognize that physical limits and external forces are less likely to be the source of future woe than conflicts involving fundamental values, goals and purposes.

"The future is no longer what it used to be," goes a modern aphorism. Indeed, if any one sentiment epitomizes contemporary thought on the subject of the future, it is that mankind is facing, for good or evil, a fundamental change in the world order, and, according to most, the predicted transformation will take place between now and the year 2000. □

future report

The following is excerpted from FUTURE REPORT, a newsletter on the future published 18 times a year by FOUNDATION FOR THE FUTURE, Inc., a non-profit corporation. Write 575 Technology Square, Box 7001 MIT Branch P.O. Cambridge, Mass. 02139 for editorial/ subscription information. Phone (617) 868-2001. Fred Anderson Jr., Editor.

PREDICTIONS

Predictions in a study conducted for the California Department of Transportation by a group at U.S.C. include: smog reduced by 50% by the year 2000 along with a 50% increase in free time (vacations will grow to 6 weeks by 2005); an average retirement age of 59 by 2005; the average work week will shrink to 35 hours by 1985 and 30 hours by the turn of the century; free public transportation and minimum guaranteed incomes will be provided.

The quality of life will be lower for the next generation, according to a panel of 1,000 experts assembled by the *Encyclopaedia Britannica*. Some 66% of those questioned on a wide range of subjects foresaw a decrease, using their own definitions of the term. A third world famine by the turn of the century was forecast by 63%, and a cure for cancer was predicted by 56%. For the long term, *36%* thought that "Democracy as we know it today" wouldn't survive.

"Chase foresees a massive capital shortfall by 1985. With consequent high levels of unemployment. Levels double what we have now" suggests an ad for that financial institution. It urges the encouragement of personal savings, the establishment of more realistic depreciation allowances, preferential tax treatment on re-invested corporate earnings, among others. Without action, it expects "one out of six Americans could be out of work — 17 million unemployed idle in the streets."

The U. S. could be virtually crime-free by the year 2000 through the use of medical manipulation, believes Dr. Richard Moran of Mount Holyoke College. Speaking before the National Institute on Crime and Delinquency's meeting, he suggested that hospitals and prisons might become one institution and that an early warning screening system might identify potential criminals. Dr. Moran also warned that a coercive government might impose treatment on those unwilling to cooperate.

Tomorrow's vegetables will include sweet corn without a cob (it will have a narrow stem, which can be destroyed by garbage disposals); snap peas which have edible pods; jumbo peas the size of lima beans; and giant pumpkins growing to 400 pounds, according to Derek Fell, director of the National Garden Bureau.

Thirteen ways the earth could be destroyed are identified in an article in the October issue of *Science Digest*. Included are: The Red Sun (life scorched off the Earth by an aging sun); The Moon Flood (a massive tidal wave created by a moon drawn closer to the Earth); The Jupiter Effect (earthquakes produced by an alignment of all the planets in 1982); Invasion of the Asteroids; Curse of the Comets; Plummeting Planets; Star Tricks; and Blasted by Black Holes (all involving collisions with "heavenly bodies"); Not-So-Supernovas (the Earth could be irradiated with cosmic radiation); Smattered by Antimatter (assuming antimatter exists); and finally three man-made hazards — Awful Aerosols, Monster Microbes, and War Weapons (including nuclear and CBW accidents).

TRANSPORTATION

One billion dollars should be spent to produce turbine and stirling-engine powered cars by 1985, suggests a team from Caltech's Jet Propulsion Laboratory. A 30 to 45 percent increase in fuel mileage coupled with a drastic reduction in pollution could be achieved, according to project chief Dr. R. Rhoads Stephenson. He noted, "The reduction in gasoline usage by automobiles would yield a savings of crude oil up to 2 million barrels per day, worth about $8 billion a year at current prices."

Large but not heavy cars are the safest according to Brian O'Neill, vice president for research at the Institute for Highway Safety in Seattle, WA. "Increases in vehicle size are primarily protective, and increases in vehicle weight are primarily hostile" he noted. A report issued by the Institute viewed with concern the increasing number of very heavy and very light vehicles.

The automobile will incorporate 50 percent more rubber and plastics in five years suggests Floyd Melby of Goodyear Tire & Rubber, who projects an increase from 7 percent to 14 percent of an average car's weight, which will drop from 4200 pounds to 3200 pounds. Economy of operation and manufacturing costs will bring about the increase, notes Melby. By 1982 up to 5 percent of the cars sold in the U.S. will be manufactured by foreign firms using U.S. facilities, according to a survey of market researchers conducted by the Automotive Market Research Council.

The panel also expects gasoline to cost more than $1 a gallon by 1980; compacts and subcompacts to account for 60 percent of U.S. production by 1979, when a federal tax based on either vehicle weight or horsepower is expected to be passed by Congress; by 1980 at least one major city will ban vehicles from its downtown area; spare tires will be eliminated and factory installed air-conditioning will be found in 75 percent of all compacts by 1980; more than 50,000 electric vehicles will be produced per year by 1980; and an engine other than a piston will be standard on at least one passenger model by the start of the next decade.

DEFENSE

The use of precision guided munitions — employing lasers, television, infrared, radar, and other homing systems — might result in wars fought with soldiers only being used as spotters, or in completely automated wars, believes Dr. Frank Barnaby of the Stockholm International Peace Research Institute.

The Soviet Union recently launched a simulated attack on Denmark which involved laying a blanket of gas that produces unconsciousness in 48 hours. Air force bomber crews are training for fighting a "limited" nuclear war. The U.S. would respond in kind to a nuclear attack (a city of comparable size and value in the enemy's country would be

destroyed) or a response might be concentrated on the nuclear weapons of the enemy. The defense department is conducting an inventory of mines which might be used as shelters during a nuclear war. Reportedly space has been found for at least 30 million people.

Israel has acquired a fleet of hovercraft which could be used to combat a blockade at the entrance of the Red Sea. The craft, which could carry wounded soldiers, ferry supplies, or carry out rescue operations, can travel at 50 mph and accommodate six men or a half-ton of equipment.

A family of six air cushion vehicles is being developed by the Soviet navy for use as beach assault craft. The smallest is designed to carry about 90 troops while the largest craft can accommodate tanks and trucks.

Goggles which would provide protection from nuclear detonations will be supplied to the Air Force starting in 1977. They will be made of a transparent ceramic material (PLZT) which can reduce the amount of light admitted by a factor of 7,000 in less than a millisecond.

A letterbomb detector that can screen 36,000 letters an hour has been developed by IRT Corp. of San Diego, CA. It has sold two of the $150,000 units to federal agencies.

Space News: NASA has issued a revised planetary mission model that includes a Jupiter-Uranus flyby in 1979; a Comet Encke flyby, a Jupiter orbiter with probe mission, and a Jupiter swing-by out-of-ecliptic mission, all for 1980. Other potential missions include a Martian Polar orbiter in 1984 followed by two surface sample returns in 1989; two Venus orbital imaging radar missions in 1983; Saturn/Uranus/Titan probes in 1982-84 followed by two Saturn orbiters in 1987; and a flyby of Halley's Comet in 1985 followed by two rendezvous (Comet Temple-2 and Asteroid Flora in 1986 and 1987, respectively).

PRODUCTS AND PATENTS

A life-time artificial heart may be available when researchers are able to develop a rubber that will flex a half-billion times (the equivalent of an auto tire guaranteed for 500,000 miles). Goodyear scientists are working with a polyolefin rubber that has surpassed 150 million flexes, and animals have survived with implanted hearts at the Cleveland Clinic for as long as 94 days thus far.

A survey of the potential public reaction to the return of the two dollar bill, conducted by Harvard Graduate School of Business students, revealed that considerable marketing effort would be required. A bill may be released in 1976, with a Bicentennial theme, and perhaps the portrait of a woman.

Patents: About one-third of the 104,000 patent applications submitted in 1974 came from foreign applicants. This compares with about 22% of the 88,000 patents submitted in 1964. Germany, the United Kingdom, Japan, and France have significantly increased their patent activity, according to Intellectual Property Owners.

A method for inducing sleep has been patented (#3,884,218) by Robert A. Monroe of Charlottesville, VA. Mentonics involves generating a repetitive, pleasing sound and another which matches the activity of the brain during periods of sleep.

An electronic pain suppressor has been patented (#3,902,502) by Pain Suppression Labs of Paterson, NJ. The battery powered device has two electrodes, which when attached to the skin, provide relief from arthritis, and other maladies. Pulsating current passes through the nerves in the pain area. Saul Liss and George Feldstein are coinventors. A disposable sunburn dosimeter which measures exposure to the sun has been patented by American Cynamid (#3,903,423).

An electronic mosquito repeller, that produces a sound screen, effective within a 7-foot radius, is available from Nicon, Inc. (2287 Demington, Cleveland, OH 44106) for $9.45.

A sound privacy system that will allow private conversations to be held in large open rooms in the new San Diego courthouse will be installed by Communications Co. The system will require 250 4-inch speakers per floor, emitting a "shhh" sound.

Products/services: Chemically-treated clothes that prevent the growth of bacteria may reduce the use of deodorants, believes Tyrone L. Vigo of the U.S. Department of Agriculture's Southern Regional Research center in New Orleans. The chlorination of clothes, or of cotton used to manufacture the clothes, would provide the protection, according to Vigo.

Trees that mature as much as three times faster than normal may be mass-produced in the future suggests F. Thomas Ledig of Yale. Ledig uses an infrared gas analyzer to predict seedling growth. Fast growing black spruce, for example, may mature, and be ready for use, in 35 vs. 100 years.

Raytheon will build a "self-healing" computer for use by the Air Force in space. It will detect and bypass its own failures and have a 95% chance of operating after five years. The Bank of America has installed self-service financial terminals in three Los Angeles-area supermarkets. Using a debit card, customers can make cash withdrawals, transfer funds among accounts, and make utility bill payments.

ENERGY

A three part strategy aimed at obtaining one-fourth of the nation's energy needs from the sun by the year 2000 has been outlined by ERDA (Energy Research and Development Administration). According to Donald Beattie, deputy assistant administrator, "Solar energy will not be utilized until its costs and in some cases environmental impacts can be reduced." Thermal applications including heating and cooling of buildings and use of solar heat in farming and other industrial processes have promise in the near-term, notes Beattie. Converting the sun's rays directly into electricity has a high priority in the long term, while turning manure, other farm wastes, and woodchips into useful fuels such as methane, methanol, and hydrogen may not appear until the next century.

A power generation system that would employ an air flow created within a mountain has been patented (#3,894,393) and assigned to Lockheed Aircraft Corporation. A tunnel with a diameter of 100 to 1,000 feet and between 5 and 10,000 feet long would be constructed in a mountain, and at the top, air would be sprayed with water. Upon evaporation, the air would be cooled, causing it to fall through the tunnel.

China may rival Saudi Arabia as an oil producer by 1988, according to a report by Selig Harrison of the Carnegie Endowment for International Peace, appearing in *Foreign Policy* magazine.

Denmark could derive virtually all of its energy from the wind and sun by the year 2050, believes Dr. Bent Sorenson of the Neils Bohr Institute at the University of Copenhagen. He would have unemployed workers construct the necessary hardware, which would cover 180 square kilometers with solar panels and have windmills facing 150 square kilometers of oncoming wind. (The combined areas represent less than one percent of Denmark's land surface.) He also called for a stabilization of energy consumption at 19 billion watts. The proposals were covered in the July 25 issue of *Science* magazine. □


NO
EXIT
The safest prediction you can mak
is to predict the inevitable
DENSITY
Bruce McDean 1975

The Science-Fiction Writer as Prophet

by Isaac Asimov

Editor's Note:
Isaac Asimov, undoubtedly America's foremost writer on science for the layman, addressed an overflow crowd at the 1975 American Association for the Advancement of Science meeting in New York. Speaking on "The Science Fiction Writer as Prophet," Asimov discussed the art of science fiction, and portrayed a sobering scenario of the future. The following is a condensation of Asimov's address.

If life never changed; if society remained static; if things will always be as they are — then obviously we have no need for prophets.

Of course, people might still ask when they will die; or whether they will meet the beautiful girl or handsome man of their dreams. But this is not prophecy, it is fortune telling — and neither science nor science fiction has anything to do with it. Science fiction and prophecy are more concerned about the grand scale.

Change is almost invariably created by changes in science and technology. Nothing else makes any difference as far as society is concerned. Change continues to occur faster and faster because scientific and technological knowledge serves as a base for further change. More people are allowed to live longer because of the advances of science and technology. The speed of communication has drastically improved, so that the rate of transmission of new ideas constantly increases.

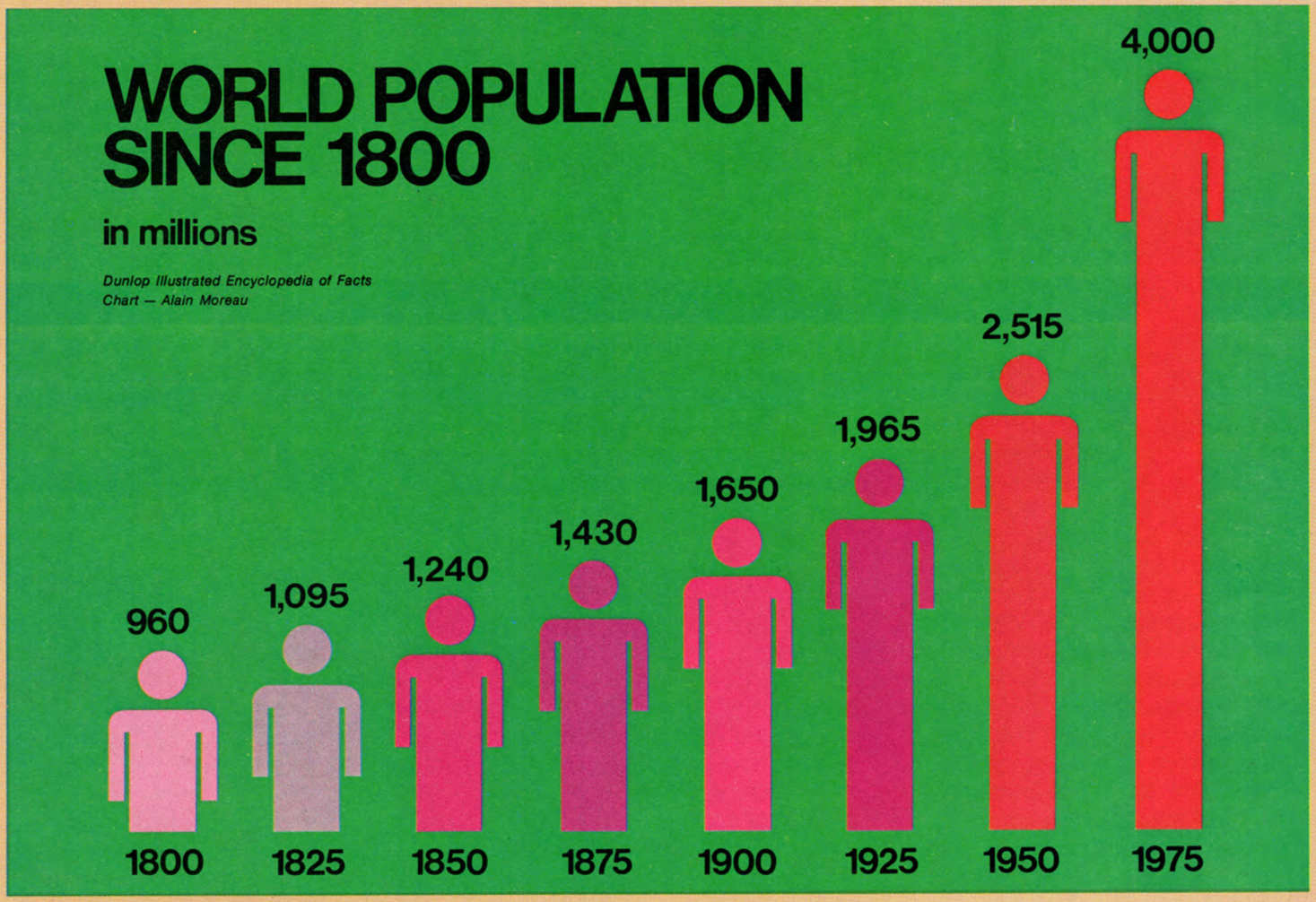
Illustration by Bruce M. Dean

This rate of change has now become fast enough to be detectable within a single lifetime. Older people have the curious ability to look back on their life to see that their childhood was linked up with a society quite different from the one they now face as an adult. It seems to me that somewhere about 1800, with the coming of the industrial revolution, this crucial change took place. The changing rate of scientific and technological advances then became visible in a single lifetime. You might say that if you were looking at a clock that was moving very slowly, it was at this point in history that you could actually begin to see the minute hand visibly move.

Predicting the Inevitable

The safest prediction you can make is to predict the inevitable. Of course, you will get very little credit for predicting the inevitable. For instance, if you say "tomorrow morning the sun will rise," no one will think that's very unusual, and when the sun does rise, no one is going to give you any credit. But, if you think this always applies, you're quite wrong. People in general are often unaware of the inevitable — and are thoroughly astonished when you predict it and it comes to pass.

We have spent so much of our history taking for granted that change does not happen, that we've even worked up a whole set of sayings which tell us, in the folk wisdom of mankind, to remain put and do nothing. We say, "Don't trouble trouble till trouble troubles you." "Don't cross the bridge till you get to it." "Don't count your chickens before they hatch." "Sufficient unto the day is the evil thereof." And when you have this



kind of inducement to lethargy, it is difficult to absorb the vast changes that we are facing and do something to make them less murderous.

It's quite possible that most people are not worried about the future. They worry only whether or not the world will last their lifetime. Louis XV has gone down in history books because he said, "Apres moi, la deluge," which in English means, "After me, the deluge." He thought, "this crazy world will last my lifetime, and after that I don't care." Perhaps each one of us may be saying, "Well, perhaps all kinds of disasters are ahead of us, but what the heck — it's going to last my time." Well, I can say that, because I'm 55. But anyone who is now 20 is not as "fortunate" as I am. He's going to be my age when it's very possible that our world and civilization will have collapsed.

Feeding the Billions

In the next 35 years there are going to be 4 billion *more* people on the earth. Gerard O'Neill makes a very interesting case for the possibility of developing space colonies of millions of people in the earth-moon region. Perhaps it can be done, but I suspect that we're not going to. We are simply not going to "export" 4 billion people to the moon, or to any place else. Population is multiplying too quickly now. Every year 80 million more people are born. Some people say that the solution is distributing the food better. I agree, food should be distributed better. (I feel very guilty about it — I'm not exactly underweight.) But suppose we do. I agree we can feed more people, and maybe we can feed all 4 billion well, but will we be able to feed all 8 billion people in the year 2010? Will we be able to feed all 16 billion in the year 2045?

Sooner or later, we have got to call a halt to population. The question is not whether the population will stop. The question is *when* and *how*. The answer to the question, "How?" is this: There are two possible ways. You either raise the death rate, or you lower the birth rate. No one has invented any other way. Throughout the entire history of life on earth, the population of every species has been controlled primarily by raising the death rate. In other words, when there are too many of a species, a number of them starve; or the predators can get them easier; or suddenly they decide to run wild, like lemmings, and tumble needlessly to oblivion.

As far as I know, no species has voluntarily and with forethought set about limiting its own numbers by reducing the birth rate. No species other than man has ever had the ability to foresee the future. No species other than man has ever lived in anything but the present. Therefore, it would seem that mankind, the most effectively intelligent species, ought to take advantage of its very peculiar capability and try something new, which is to limit his numbers by means of reducing his birth rate.

This may not be an easy thing to do. The easy thing to do is "nothing," thus allowing the death rate to go up, as it certainly will do. That's the advantage of a death rate — it doesn't depend on anything we do. It works by itself, for good or for bad. The birth rate depends on us doing something or *not* doing something, as the case may be — and that's what's difficult. But it will pay us to do something about lowering the birth rate — no matter how difficult — in order to save something as important as civilization.

It's easy for the science fiction writer to predict that if the population growth doesn't come to a halt, there will be disaster. And when that happens, everyone who still survives will point out that Joe Blow wrote this story way back in 1975 predicting this. What an amaz-

ing thing to prophesy! *No* — it's not amazing at all; it's *inevitable.* The best science fiction predictions are the predictions that what *must* happen indeed *happens.* Yet everybody is still surprised and impressed with science fiction as prophecy.

There is nothing I personally can do about it, except to continue talking about it. There is such a thing as being a "doom-crier" — and I don't like being one. The only reason I do it is because I see doom coming ahead, and I think it's so silly not to let people know.

In Our Lifetime

This doom that I foresee *is going to happen* in our lifetime. The longer we wait, the more certain it is to happen. The only way we can avoid having it happen is to begin taking action, to begin supporting any organization that is for planned population, and to begin putting an end to the utterly outmoded nineteenth century idea that one nation can properly exist while the rest of the world starves. Throughout human history the advances of science and technology have meant that a progressively larger area of the earth could be effectively controlled by united efforts. We have developed from tribal units to city-states, and from ancient empires to the modern nations. It seems to me that the logical extension of history is some sort of world government. *The smallest workable economic unit today is the planet earth.* There is no economic unit smaller than the earth that really makes sense, and we all know it. No nation can any longer exist isolated by itself and maintain a moderately industrialized way of life.

Of course, you might say, "Who needs a moderately industrialized way of life? We can always go back to the good old days our forefathers enjoyed before all this modern industrialization came about." A cult has developed against all this modern technology that is "destroying" us, and a great many people would like to go back to the "good old days" that they have never experienced. They think it's so great because they imagine it was a lot of shepherds piping to their flocks. Does it ever occur to them that a shepherd may someday get appendicitis? They imagine themselves back in Greece, talking to Socrates, but they don't imagine themselves back in Greece as a slave.

As a matter of fact, the condition of the average man before the age of industrialization was the condition of a slave, a serf, a peasant bound to the soil — people who were condemned and doomed to unending labor, to scratch out a bare pittance. You can still see what it's like in certain portions of the non-industrialized world — and if that's what people want, they will have it.

The last years in which the world was essentially nonindustrial were around 1800. At that time, the population of the earth was 900 million, and that population lived, on the whole, worse than we do today. I am not saying that we are well off today, but I am saying that the people in 1800 were *worse* off.

If our technological civilization ends, there is no need to rejoice about it — because the human race can't be supported by a non-industrial civilization. Three-fourths of us will have to quit the earth — and there are no volunteers.

So we are stuck with either continuing our industrial civilization or facing absolute catastrophe. And if we must keep our industrial civilization, which I think we must, then we are faced with either controlling our population or facing unimaginable disaster. So you see, we have no sane choice but to control population, and save our industrial civilization. There are no alternatives.

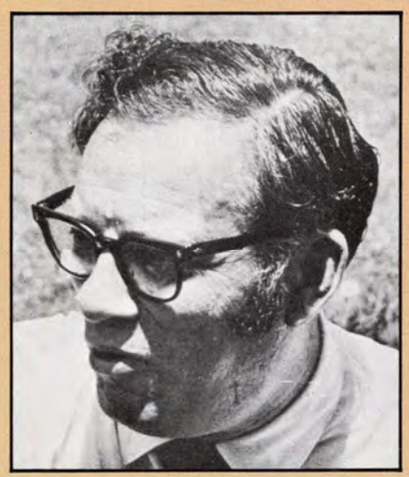
This is my present prediction; I think it's the simplest, the dead-levelest prediction anyone can make.

Who Will Listen?

And yet, I despair of convincing anyone of it. The average person sees only that in his immediate neighborhood there is no famine, and by that he can prove there never will be; that in his immediate neighborhood there is gas at the gas station, and there will continue to be; that in his immediate neighborhood our civilization works fine, and that it will continue to do so. Until such time as we can manage to get the human race to stop thinking that things will always be the same, we're doomed.

All I can say then, is this: science fiction is the one branch of literature that teaches, as a matter of fact, that things change, that things won't be the same, that tomorrow (for better or for worse), will be *different* from today. That is the basic prediction of science fiction, and that is the correct prediction. It can't possibly go wrong. Tomorrow will be different from today. All history shows that; everything that's happening now shows that; anyone who thinks about it can see that.

Why then should it be so amazing that science fiction can predict the future? And why is it so difficult for people to believe those predictions? If it continues to be difficult for people to foresee the future, I can only come to the conclusion that mankind will be destroyed. Because he will have deserved it. □



BIOGRAPHICAL SKETCH OF ISAAC ASIMOV

Isaac Asimov is undoubtedly America's foremost writer on science for the layman. A prolific author of science fiction and prose, Asimov has written on a wide variety of subjects, ranging from *I Robot* (1950) to *The Genetic Code* (1963) and *The Universe* (1966). He is perhaps best known for his rare ability to translate complex scientific jargon into simple prose without sacrificing technical accuracy.

Asimov was born in the U.S.S.R. in 1920, but in 1923 emigrated with his family to the United States, settling in Brooklyn, New York. In 1935, at the age of fifteen, Asimov graduated from high school and enrolled at Columbia University as a chemistry major.

In June 1938, he completed his first science fiction story, launching an illustrious career that would find him writing for a large and enthusiastic audience.

Asimov obtained his B.S. degree at Columbia University in 1939, and his M.A. degree in chemistry at the same university in 1941. After serving in the armed forces during World War II, he returned to Columbia to take his Ph.D. in chemistry in 1948. The following year he joined the faculty at the Boston University School of Medicine, where he is presently Associate Professor of Biochemistry.

Asimov's first book, *Pebble in the Sky,* was published in 1950. Today, more than one hundred fifty books later, he continues to both intrigue and inform millions of avid readers with the scientist's knowledge, the professional writer's skill, and the poet's imagination.

In the early 'seventies the soaring demand for food, spurred by both continuing population growth and rising affluence, has begun to outrun the productive capacity of the world's farmers and fishermen. The result has been declining food reserves, skyrocketing food prices, and intense competition among countries for available food supplies. Fundamental changes in the world food situation have left governments, institutions, and individuals everywhere unprepared and vulnerable.

GROWING global insecurity on the food front is directly related to the precipitous decline in world food reserves. Since World War II, the world has relied on two major food reserves: carryover stocks of grain in the principal exporting countries and cropland held idle in the United States under government farm programs. Together they provided a substantial buffer against the vagaries of weather and the whims of the market place. In 1961 these reserves amounted to 222 million tons of grain, or 95 days' worth of world consumption. By 1974, however, they had declined to a level representing global needs for only 26 days.

Thus in mid-1974 the world food supply-demand equation was precariously balanced. A poor harvest in any major producing country — the United States, the Soviet Union, India, or China — would send economic shock waves not only throughout the food sector of the world economy but, as it fueled the fires of inflation, throughout its other sectors as well. The vulnerability of the supply-demand balance to the weather suggested that the climate itself might well replace pollution as the dominant global environmental concern.

In this situation, national governments have resorted to a variety of techniques to obtain or ensure adequate food supplies for their people. Their actions have given rise to a new phenomenon: a global politics of food scarcity. During the summer of 1972, the Soviet Union employed secrecy to corner the world's wheat market by buying a large share of the exportable supplies of wheat before even the American government knew what was happening. The following summer, the United States — the source of 85 percent of all the soybeans entering the world market — abruptly announced an export embargo on soybeans in an effort to curb soaring soybean and food prices at home. This action, taken without warning or consultation with other countries, triggered a wave of diplomatic protests from Europe and Asia. For the billion people in East Asia for whom soybeans are a vital food staple and an essential source of scarce protein, the U.S. decision posed an ominous threat.

A similar situation developed with rice when Thailand, a leading world supplier, banned rice exports for several months in order to prevent politically costly price rises at home. This move was successful in its objective, but it wreaked havoc with efforts to prevent runaway food prices in other Southeast Asian countries. And in a similar spirit Brazil, despite its widely proclaimed food-producing potential, imposed export restrictions on both soybeans and beef.

The abrupt transition of the world food economy from a buyer's market to a seller's market that these national moves signaled in the early 'seventies, as well as the consequent rise in food prices, was not widely anticipated. Between late 1972 and the end of 1973, the world price of wheat tripled, and the price of rice followed. Soybean prices doubled in twenty-four months.

The sudden increase in wheat prices was followed in a matter of months by an equally dramatic rise in petroleum prices. From 1960 to 1972 the world price of a bushel of wheat and that of a barrel of oil were nearly equal, ranging from $1.35 to slightly over $2.00. A bushel of wheat could be traded for a barrel of oil in the world marketplace. In late 1973, the price of wheat soared past $5.00. For a brief period a bushel of wheat could be exchanged for two barrels of oil. Then came the Christmas Eve, 1973, oil price increase by the oil-exporting countries — the second doubling in price within the year — and the price of oil soared above that of wheat, reaching $8.00 per barrel.

These dramatic price increases raised one of the oldest questions with which economists have wrestled: What is the true value of a commodity? What is a fair and reasonable price? There are no obvious answers. In trying to shed light on this issue, several points need to be kept in mind. Wheat is a renewable resource, oil is not. Most of the world's exportable supplies of each are controlled by a single geographic region: North America in the case of wheat, the Middle East in the case of oil. Countries exporting oil or wheat stand to benefit from the price rises. No country exports both, but a great number import both. The poorer countries importing both wheat and oil suffered the greatest damage. The many countries having no valuable raw materials of their own to export exhausted their limited foreign-exchange reserves in a matter of months, and several were on the verge of international bankruptcy.

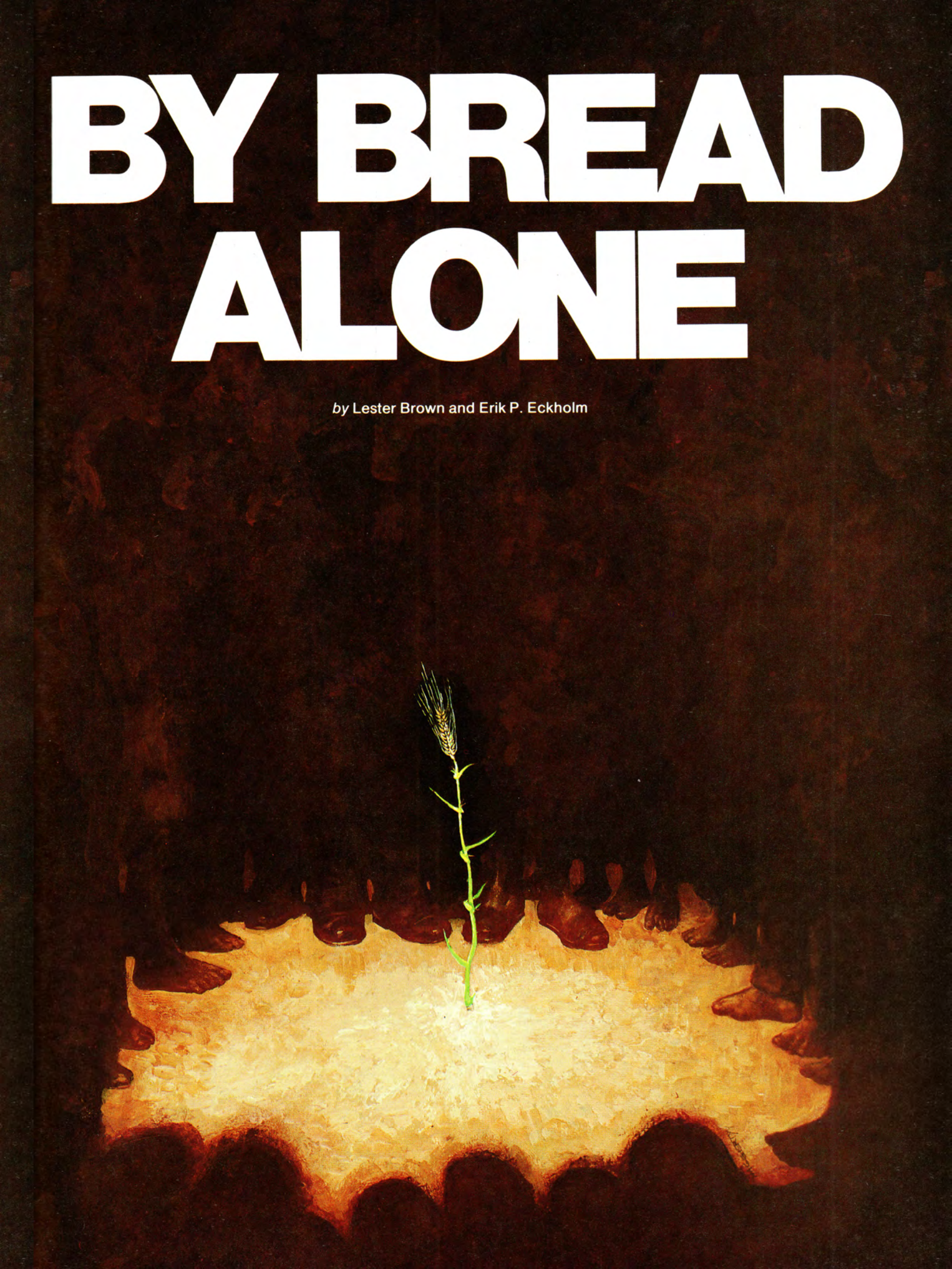
Short supplies of food and energy dramatize the extent of global interdependence. No country is entirely isolated from the effects of these scarcities — or from their trade and monetary repercussions. The capacity of U.S. agriculture to supply low-cost food to American consumers was thought to be inexhaustible, yet in 1973 Americans suddenly discovered that they were sharing food scarcity with consumers throughout the world. The United States was paying its rapidly rising oil-import bill with food exports. Indeed, the share of world food

(Continued on page 49)

Editor's Note: *The following article represents the "overview" of an important new book,* By Bread Alone *(Praeger Publishers, 1974). The introductory chapter, subtitled, "The Changing Face of Food Scarcity" is reprinted here in full, by permission of the authors. Lester Brown is a Senior Fellow of the Overseas Development Council, author of four other books concerned with the food-versus-population crisis, and an internationally recognized authority on agricultural development. Erik P. Eckholm is an Associate Fellow with the Overseas Development Council.*

BY BREAD ALONE

by Lester Brown and Erik P. Eckholm



Agricultural Shortages

The world is now facing, for the first time, shortages in each of the four basic agricultural resources — water, energy, land, and fertilizer.

WATER

The principal constraint on efforts to expand world food supplies during the final years of this century may well be water rather than land. In many regions of the world, fertile agricultural land is still available — provided that water can be found to make it productive. But most of the rivers that lend themselves to damming and to irrigation have already been developed. The expansion of irrigated area is slowing as the more attractive sites are exhausted. Future efforts to increase fresh-water supplies for agricultural purposes will focus increasingly on such techniques as the diversion of rivers (as in the Soviet Union today), the desalting of seawater, and the manipulation of rainfall patterns to increase the share of rain falling over moisture-deficient agricultural areas. Indeed, such initiatives as Rhodesia's recently announced plan to systematically seed clouds to increase rainfall by 10 percent — probably at the expense of neighboring African countries — raises the prospect that meteorological warfare soon may emerge from the province of science fiction.

ENERGY

Increasing world food production also requires a substantial increase in the amount of energy available for doing so. The recent quadrupling of the world price of energy is certain to affect future food-production prospects adversely, but no one can yet foresee exactly how. In more modern agricultural systems, such as that of the United States, the amount of energy now used to produce food greatly exceeds the amount of food energy the crops themselves yield. But as energy-intensive as farm production is, it consumes less than one fourth of the energy used in the U.S. food system. The rest is used to transport, process, preserve, and distribute the food. Perhaps the grossest inefficiency in the entire process is the usual means of transporting food from market to home. The average American shopper drives a two-ton automobile several miles to a supermarket at least once a week to transport perhaps thirty pounds of food. In the developing countries, the future availability of energy will have a profound effect on efforts to provide adequate nutrition, for large increases in energy inputs will be necessary if food production in these nations is to increase rapidly.

LAND

From the beginning of agriculture until about 1950, most of the year-to-year increases in world food output came from expansion of the area under cultivation. Since 1950, however, the major increases — probably four fifths of the current gains in output — are attributable to intensification of cultivation on existing land area. Most of the good cropland in the world is already under cultivation. Additional opportunities for expanding the world's cultivated area still exist, but they are mainly limited to the interior of Latin America and parts of sub-Saharan Africa. And even in these regions, the cost of food produced on the new land may be much higher than that of food grown in cultivated areas. Brazil, which occupies much of the interior of Latin America, now has the largest grain deficit in the Western Hemisphere.

FERTILIZER

The fourth major agricultural resource — fertilizer — is also in very short supply. The outlook in this case, too, is for generally higher prices in the future. One reason for the fertilizer shortage is a lag in the construction of new production facilities, but even when supply catches up with demand, the rising cost of energy will undoubtedly keep fertilizer prices well above the historical level. The production of nearly all of the world's nitrogen fertilizer (which accounts for roughly half of all fertilizer used) utilizes natural gas or naphtha as a raw material. In addition, the manufacturing process is energy-intensive, requiring large amounts of electrical power. The combination of soaring energy prices, the enormous capital requirements needed to create new production facilities, and the time required to bring new facilities into production means that nitrogen fertilizer will be in critically short supply for many years at least.

Ecological Overstress

The ecological undermining of major food-producing systems also is beginning to have an adverse effect on the prospect of increasing world food production.

OCEANS

Until recently, the oceans were viewed as an almost limitless source of protein, but the outlook has been sharply altered in the past few years. From 1950 to 1970, the world fish catch climbed steadily, more than tripling over this period from 21 million to 70 million tons. Since then, the catch declined for three consecutive years — even while the capital and effort expended to bring in the catch continues to rise. Many marine biologists now feel that the global catch of table-grade fish is at or near the maximum sustainable (i.e., self-regenerating) level. Overfishing, depleted stocks, and declining catches are affecting the haddock fishery of the northwest Atlantic and the anchovy fishery along the western coast of Latin America. The Peruvian anchovy fishery, the world's richest, yielded as much as 12 million tons — or one fifth of the world fish catch — during the late 'sixties. Largely because of overfishing, in 1973 the catch fell precipitously, to scarcely 2 million tons, and is now being rebuilt. As growth in marine protein supplies lags behind the global growth in demand, additional pressure will be shifted to land-based protein resources.

SAHARA DESERT

The tragedy unfolding in the African countries south of the Sahara Desert is an example of another type of ecological overstress that is diminishing the earth's food-producing capacity, although the problem exists elsewhere as well. Over the past thirty-five years, human and livestock populations along the sub-Saharan fringe have increased rapidly, nearly doubling in some areas. As these populations have multiplied, they have put more pressure on the ecosystem than it can withstand. The result has been overgrazing and deforestation, encouraging the advancement of the Sahara Desert at rates up to thirty miles per

year along the desert's 3,500-mile southern fringe, stretching from Senegal to northern Ethiopia. As the desert expands southward, human and livestock populations retreat before it. The result is ever greater pressure on the fringe area, which in turn contributes to further denudation and deforestation, setting in process a self-reinforcing cycle.

Several consecutive years of drought have brought this deteriorating situation to a disastrous climax. If, as some meteorologists believe, the life-giving belt of monsoon rains is shifting southward, then ecological overstress and climatic changes are reinforcing each other with catastrophic human consequences. If the process of desertification is not reversed, then Africa — which has one of the highest population growth rates of all the continents — may lose a sizable slice of its food-producing capacity.

INDIAN SUBCONTINENT

The Indian subcontinent provides a third dramatic example of ecological overstress. Over the past generation, as human and livestock populations have grown, the subcontinent has been progressively deforested. This trend has increased the incidence and severity of floods. The situation is most serious in the Himalayas and the surrounding foothills, for this is where nearly all of the subcontinent's major river systems — the Indus, the Ganges, and the Brahmaputra — originate. The long-term dangers inherent in continuing deforestation could have been predicted several years ago, yet many were surprised when Pakistan's August, 1973, flood — the worst in its history — washed away entire communities and, in some regions, destroyed the recently harvested wheat crop in storage as well as the summer crop standing in the fields. Since the deforestation trend has not been checked, one can only predict that the incidence and severity of flooding in Pakistan, India, and Bangladesh will be much greater in the future than it is at present. In effect, deforestation, particularly in Nepal, may be gradually undermining the subcontinent's food-producing capacity — to the grave detriment of the nearly three quarters of a billion people who now depend on it.

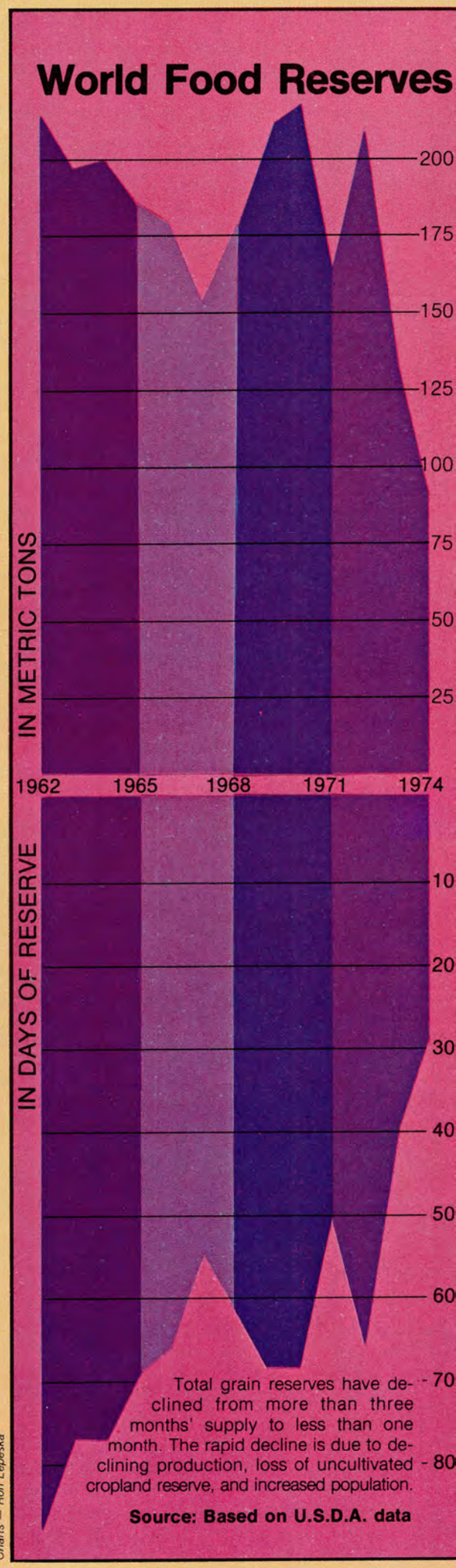
Clearly, the food-producing ecosystems in many parts of the world are being threatened by the pressures of a continuously growing demand for food. The examples given above are only three of the many that could be cited. The time has come to inventory these ecological stresses and assess their impact on future world food-production prospects.

and energy consumption crossing national boundaries is climbing steadily. Japan imports well over half of its total cereal supplies, Egypt nearly 40 percent. The countries of the European Economic Community import nearly all their petroleum, as well as four fifths of the high-protein feeds for their livestock industries. The United States already depends on imports for one third of its petroleum supplies; if its recent demand trend persists, it is expected to import half by 1985.

These events of the early 'seventies signal a fundamental shift in the structure of the world food economy. Throughout most of the period since World War II, the world food economy has been plagued by chronic excess capacity, surplus stocks, and low food prices. But emerging conditions suggest that this era is ending and is being replaced by a period of more or less chronic scarcity and higher prices, with little if any land held out of production. Short-term price fluctuations and temporary commercial surpluses should not obscure the more basic long-term forces at work.

Changing conditions on both the demand and supply sides of the world food equation are contributing to this shift. Throughout most of history, increases in the demand for food derived from growth in population. Since the time of Malthus, the food problem has been viewed as a food/population problem. World population growth continues to be rapid, but rising affluence now has emerged as another major claimant on the world's food-producing resources.

The impact of population growth on the demand for food is easy to understand. A 3 percent increase in population generates a 3 percent increase in the demand for food. But the impact of rising affluence is not so readily understood. One way to visualize it is in terms of per capita grain requirements. In the less developed countries, only about 400 pounds of grain per year is available to the average person. Almost all of this quantity must be consumed directly merely to meet minimal food-energy needs; very little can be converted into livestock products. By contrast, the average North American uses nearly a ton of grain per year. Of this, only 200 pounds is consumed directly as bread, pastries, or breakfast cereal. The remainder is consumed indirectly in the form of meat, milk, and eggs. Thus the average North American currently uses up



Charts — Ron Lepeska

five times as many agricultural resources as the average Indian, Nigerian, or Colombian.

The combined effect of population growth and rising affluence is expanding the world demand for food at a rate without precedent. At the turn of the century, the annual growth in global demand for cereals was probably about 4 million tons per year. By 1950 it was about 12 million tons per year. As of 1970, only twenty years later, the world demand for cereals was expanding by 30 million tons per year — the equivalent of the annual wheat crop of Canada, Australia, and Argentina combined. And this increase in demand is incessant, occurring in years of good and bad weather alike.

On the supply side, three sets of factors are beginning to affect efforts to augment world food output as rapidly as is necessary. Serious technological constraints are limiting the rapid expansion of food, particularly beef and soybeans; all four of the major resources used to produce food — water, energy, land, and fertilizer — are now in tight supply; and in a growing number of situations the pressures of growing demand for food are beginning to undermine the ecology of major food-producing systems.

The inability to achieve technological breakthroughs in these four critical areas is a significant limitation on the expansion of food supplies.

The changing world food situation is forcing us to redefine the problem and rethink our response to it. Traditionally most analysts have viewed the projected demand or need for food against the technological potential for expanding world food production. It is relatively easy to envisage a doubling or tripling of world food output based on known reserves of land and water, achieved through vastly increased inputs of energy and fertilizer. Some even suggest the possibility of a severalfold increase, assuming the uniform application of advanced technology and of the most sophisticated management techniques available. That there is a vast technological opportunity for expanding food supplies is not debatable, but this is not the real problem. The critical issue is *at what price* the additional resources will be brought into use. We know that most good land in the world is already under cultivation. We know that, with a few exceptions, the most desirable irrigation sites already have been developed. We know that energy, and therefore fertilizer, will be more costly in the future than in the past. We know that in the more advanced countries, where yields are already high, further increases in production will be far more costly than those of the past.

In order to bring these marginal resources into use, those world prices for food must rise above their historic levels. Unfortunately, however, recent food-price rises have already far exceeded growth in income among several hundred million of the world's poorest people. As a result, the food-intake level of millions of low-income people is being pushed below the survival level — in many regions reversing the long-term trend of improved nutrition, lengthening life expectancy, and declining infant mortality.

Historically, famine has been limited to relatively small geographic areas, as in Ireland in 1847 and in West Bengal in 1943. But advances in global and national food distribution and transportation systems now ensure that food scarcity is allocated according to *income* levels, with scarcity concentrated among the world's poor, wherever they are. Today, even while the threat of traditional famine persists in some areas, a less visible crisis of hunger and malnutrition is emerging among the world's lowest income groups — whether in the Philippines, Bangladesh, sub-Saharan Africa, northeastern Brazil, or among the Andean Indians. The silent crisis of malnutrition may be denying close to a billion human beings the basic right to realize their full genetic potential, their full humanity.

The prospect of a long-term steady climb in food prices, outstripping the purchasing power of a large segment of mankind, presents the international community with a formidable challenge, necessitating a radical shift in the traditional approach to food scarcity. Unless an effort is made to slow the growth in world *demand* for food, the world will be forced farther and farther up the cost curve in order to bring ever more marginal resources into use.

The deterioration of the world food situation during the first half of the current decade, together with currently foreseeable trends, also makes it quite clear that the world cannot remain long on its present demographic path. The choice is between famine and family planning, for future population growth clearly will be reduced by rising death rates, as is already occurring in some African and Asian countries, if it is not reduced by declining birth rates. An effort of unprecedented proportions is required to reduce birth rates among the more affluent — who exert such a disproportionately large per capita claim on the earth's scarce resources — as well as among the poor, where birth rates tend to be so high. Programs must be launched immediately to make family-planning services available to everyone, to meet the basic social needs of the poor that affect motivation for smaller families, to encourage new social roles for women, and to reorient national economic and social policies so as to promote low fertility.

A simultaneous effort is needed to simplify diets among the more affluent, to reduce, not their nutritional value, but their wasteful per capita claim on the earth's scarce agricultural resources. Important economic, ecological, and health considerations — all involving self-interest — now join the basic moral question of the distribution of scarce resources to argue for the simplification of diets among the rich, particularly for the substitution of high-quality vegetable protein for animal protein. The widespread substitution of vegetable oils for animal fats, such as margarine for butter, in the United States during the past generation provides both an example of the kind of change required and proof of its feasibility.

The changing nature of the food problem also calls for a major shift in geographic emphasis. The opportunity for easily expanding production in the developed countries has diminished sharply now that idled cropland in the United States has been returned to production. There is little prospect of quick, easy gains in the United States, Western Europe, the Soviet Union, or Japan, although substantial gains still are possible in all but Japan.

The world's principal unrealized potential for expanding food production is now concentrated in the developing countries. Although soil quality in Bangladesh is as good as in Japan, rice yields are only one third of those attained in Japan. India's area of cropland is roughly comparable to that of the United States, yet it harvests only 100 millions tons of grain, while the United States harvests 250 million tons. And corn yields in Brazil and Thailand are still less than one third those of the United States.

As resources become scarce, the comparative advantage in additional food production shifts toward those areas where conditions offer the highest returns. Today, the increase in food output that can be produced with an additional ton of fertilizer or gallon of fuel is far higher in the developing countries than in the industrial countries. Since fertilizers are already used very heavily in the agriculturally advanced nations of Europe, in Japan, and in the United States, an additional pound of fertilizer applied in

these nations may return no more than five additional pounds of grain. But in countries such as India, Indonesia, or Brazil, another pound of fertilizer can yield at least ten additional pounds of grain. It is unfortunate and ironic that, when world fertilizer shortages emerged in 1973, the more advanced nations acted to restrict their fertilizer exports to the poor nations, where the fertilizer could have produced much more food.

A similar situation exists with respect to energy. Additional inputs of energy to agriculture in countries like the United States and Japan are bringing rapidly diminishing returns in food production. In most developing countries, by contrast, additional energy inputs to operate irrigation pumps and in the form of fertilizers are an essential key to tapping vast unexploited food-production potential.

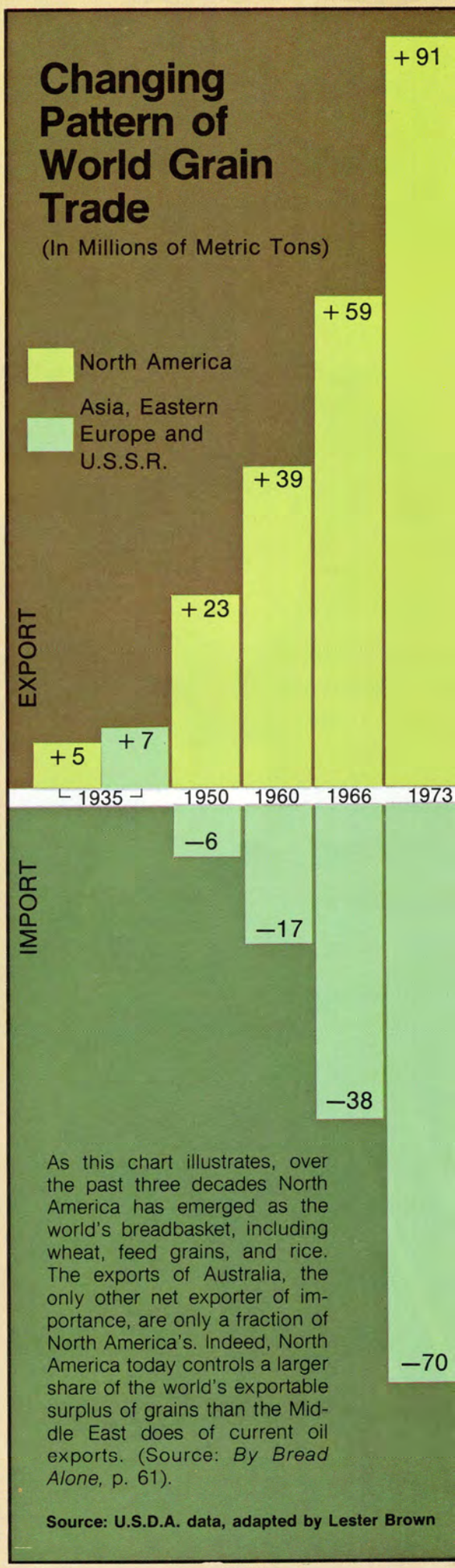
Although all these factors indicate that the greatest unrealized agronomic potential now resides in the developing world, this potential will not materialize easily. Agricultural development in the poor nations involves complex social, political, and economic changes; and without a strong commitment to these changes on the part of the governments of these countries, the needed agricultural progress will not occur. But in most cases the modernization process can be greatly facilitated by appropriate kinds of technical and economic assistance from the more prosperous nations.

For a variety of reasons, special attention in the developing countries need to be focused on farmers with small landholdings. Growing evidence suggests that, where small farmers have access to needed inputs, credit, and supporting services, they engage in labor-intensive cultivation and produce considerably higher yields of food per acre than do farmers on larger estates. The recent shifts in emphasis by the World Bank, the U.S. Agency for International Development, and other development agencies to give greater attention to small farms and rural development are an important step in the right direction, but government agencies *within* the developing countries have often failed to reorient their own programs to encourage progress among the poorer small farmers. In most developing nations, small-farm progress can contribute simultaneously to the solution of several acute problems. It can help to improve income-distribution patterns, reduce unemployment, check the swelling flow of people from the countryside to the cities, and greatly expand national and world food supplies. This approach has a further important benefit; evidence from developing countries in many parts of the world indicates that a rural development strategy centered on small farms, by spreading the benefits of economic progress among the poorest groups, can create a social environment that greatly increases the motivation to limit family size.

Over the past two decades, nations have devised numerous means for managing commercial *abundance* — including special farm-subsidy programs and the withholding of cropland from production. It has now become essential to develop the policies and institutions, both national and international, for managing *scarcity*. Foremost among the new institutions needed is a new world food-reserve system. Cooperative international management of food reserves would reintroduce some measure of stability to the world food economy and also help to ensure that the capacity of the international community to respond to food emergencies is maintained. The extreme price volatility that is likely in the absence of an effective reserve system will not serve the interests of producers, consumers, or government policy-makers attempting to cope with inflation.

The rapid integration of the world food economy and the changing nature of global food scarcity raise difficult moral issues. In an interdependent world plagued with scarcity, if some of us consume more, others must of necessity consume less. For example, should the Soviet Union again unexpectedly purchase a substantial share of the world's exportable wheat supplies, then consumers in low-income countries will be deprived of supplies that they need merely to maintain their minimum food requirements. If an affluent minority throughout the world continues to expand its consumption of livestock products, grain prices may be pulled out of reach of the poorest quarter of mankind. And if Americans continue to drive large automobiles, consuming a disproportionately large share of the world's available energy supplies, then world energy supplies will become more scarce, and farmers in India and elsewhere in the developing world may be unable to obtain fuel to operate their irrigation pumps.

The world food problem has many new dimensions, but none is more complex or difficult to deal with than the moral one. □



As this chart illustrates, over the past three decades North America has emerged as the world's breadbasket, including wheat, feed grains, and rice. The exports of Australia, the only other net exporter of importance, are only a fraction of North America's. Indeed, North America today controls a larger share of the world's exportable surplus of grains than the Middle East does of current oil exports. (Source: *By Bread Alone*, p. 61).

Source: U.S.D.A. data, adapted by Lester Brown

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Archaeological Excavations at the Temple Mount in Jerusalem

3000 years of Jerusalem's history comes to light after seven years of extensive excavations at the cradle of Western Civilization, the center of three great world religions.

by Professor Binyamin Mazar

Photos and Art — Human Potential

Since February, 1968, archaeological excavations have been taking place to the south and west of the Temple Mount of Jerusalem under the sponsorship of Hebrew University and the Israel Exploration Society. We have worked without interruption, gradually expanding the field of operation to the south, to the City of David, and to the west, to the Tyropoeon Valley, the central valley of Jerusalem. The main aim of this archaeological project is to provide scientific evidence for constructing developments in the history of the 5,000-year-old city, as well as to reveal the greatness and the monumental splendor of Jerusalem in the biblical times and later periods, a privilege which has been denied to mankind for 1900 years from the destruction by Titus until the modern excavations.

It is for us a privilege that this important project is continuously supported — technically, manually, morally, spiritually and, may I say in addition, enthusiastically *— by a prominent institution of learning, Ambassador College, headed by its distinguished Chancellor, Mr. Herbert Armstrong.*

Every year, every summer, a group of able and interested students with their teachers from Ambassador College in Pasadena and in Texas, are helping us as volunteers, working at the excavations from early in the morning until the afternoon, or giving us technical assistance in engineering and photography. It is a wonderful opportunity to express my gratitude and appreciation to Mr. Armstrong and to the authorities and the students of Ambassador College for the most welcome cooperation and collaboration and for a great deal of help and support, and let me say in Hebrew todahrabah [*thank you very much*].

It is also an extraordinary occasion to say a few words about my dear friend, Mr. Armstrong. He is rather a unique personality in a world of tensions, animosity, prejudices, and evil inclinations as all of us experience daily. Mr. Armstrong is a cosmopolitan in the best sense of the word, humanitarian, a sponsor of eternal, universal world ideas. He is a great believer in the ideas of world peace and brotherhood between nations and, therefore, he is often using the Hebrew term "shalom."

Professor Binyamin Mazar

"Professor Mazar is the President of the Israel Exploration Society, and dean of all the archaeologists in Israel. The excavations he is conducting in Jerusalem have an historic meaning, not only for the culture and science of our country but for the entirety of the world."

Moshe Kol, Minister of Tourism, Israel

I would now like to review the findings of our excavations period by period.

Judaean Monarchy:

The period of the First Temple is represented by a series of rock-hewn tombs (8th-7th century B.C.), mostly reused in later periods, to the west of the Western Wall.

One tomb contained a concentration of some 250 pottery vessels; three of these bearing what appears to be private names written in pre-exilic Hebrew.

The structures from this period were demolished when the enormous project of King Herod was realized. Nevertheless, some remains indicate that the area was densely settled in the period of the Judaean Monarchy (including a cistern near the Triple Gate which contained 8th century pottery).

The Herodian Period:

The decisive changes made in the topography of this region were the result of King Herod's project to expand the sacred precincts by building of enormous walls around the Temple Mount. The descriptions given by Josephus Flavius of Herod's project seem to be in general accurate and fitting the results of our excavations. Especially interesting is the description of the Royal Stoa along the Southern Wall, facing the southern side of the Outer Temple Court, as the most noteworthy structure under the sun.

In the west of the Temple Mount a broad stairway was found to lead from the main street along the Western Wall up to the Royal Stoa. The stairs were supported by a series of arches ascending from the south and then turning eastward towards the "Robinson Arch" giving access to the gate — entrance of

(Continued on page 58)


A
B
C
D

Ancient Jerusalem was also known as the city of David. There King David of Israel established his throne and built his palace. On that site a tremendously important and exciting archaeological excavation has been under way for the past seven years.

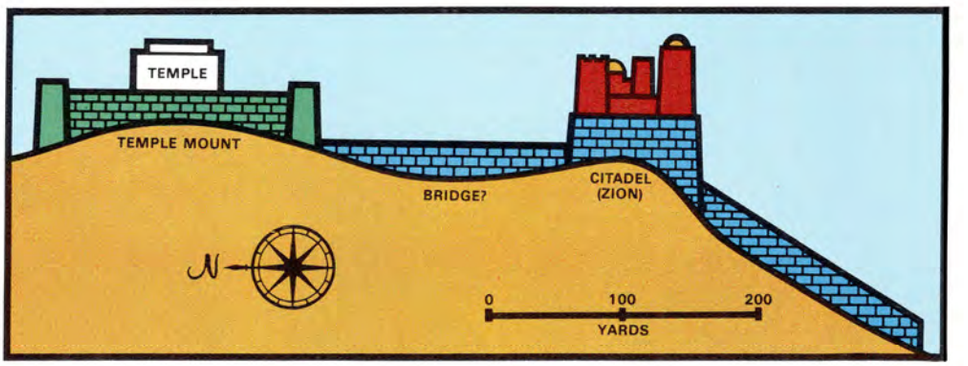
The Ambassador International Cultural Foundation is in joint participation with the Hebrew University of Jerusalem and the Israel Exploration Society in this important scientific project uncovering 3000 years of history.

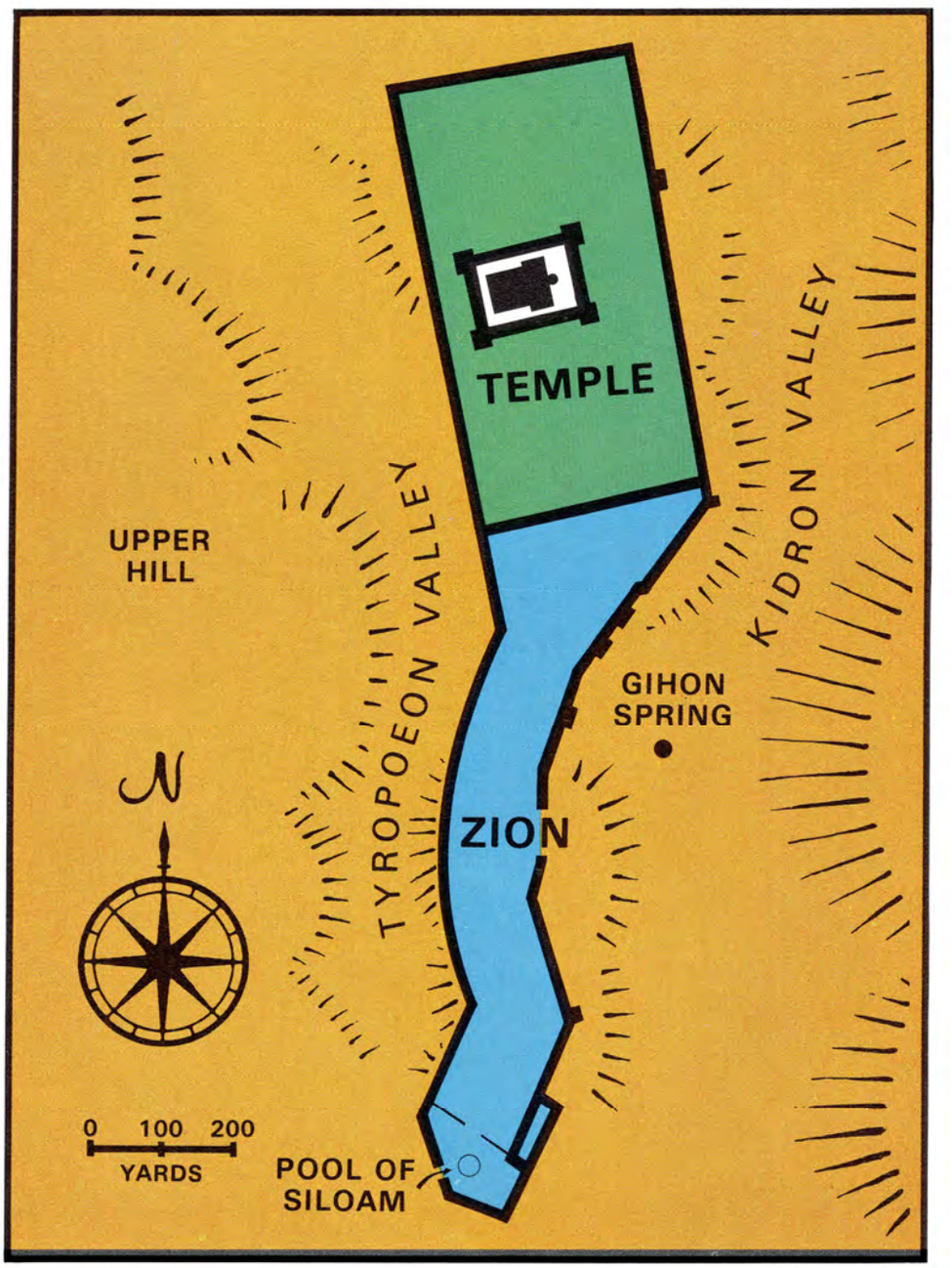
The site of this ''big dig'' is the South Wall of the Temple Mount, extending south from that wall (D and E), and also west of the Western Wall (C) just south of the plaza where Jews from all over the world gather to pray at the ''Wailing Wall'' (B).

Solomon's Temple, and later the Second Temple, was built on Mount Moriah immediately north of the City of David on the general site occupied today by the Dome of the Rock (A). In Herod's day the temple court was enlarged and walled in. This is known today as the Temple Mount. Most of the present Jerusalem extends north and west of the Temple Mount.

''It may well be,'' stated world-renowned archaeologist, Dr. Binyamin Mazar, the director of the excavations, ''that, as we continue and extend our excavations, we shall encounter remains of the royal citadel of the Davidic monarchy. Many surprises may be in store for us, as we study Jerusalem's topography and history, in the days of the First and Second Temples.''

OPPOSITE PAGE: Schematic diagram of Jerusalem in the time of Herod.
BELOW: Hypothetical profile of Jerusalem at same time. Some kind of causeway may have connected the citadel of Zion with the Temple Mount.
BOTTOM: Plan of Jerusalem in the time of David and Solomon.





the Royal Stoa. This stairway is mentioned by Josephus; from the base of the stairway one could reach the Upper City (in the West) across the Tyropoeon Valley by a stairway, which partly survived.

Most interesting is also the broad monumental stairway leading up to the Western Huldah gate in the Southern Wall. This stairway is of considerable width and is built of huge paving stones. It is this stairway which led from the City of David to one of the two gates in the Southern Wall.

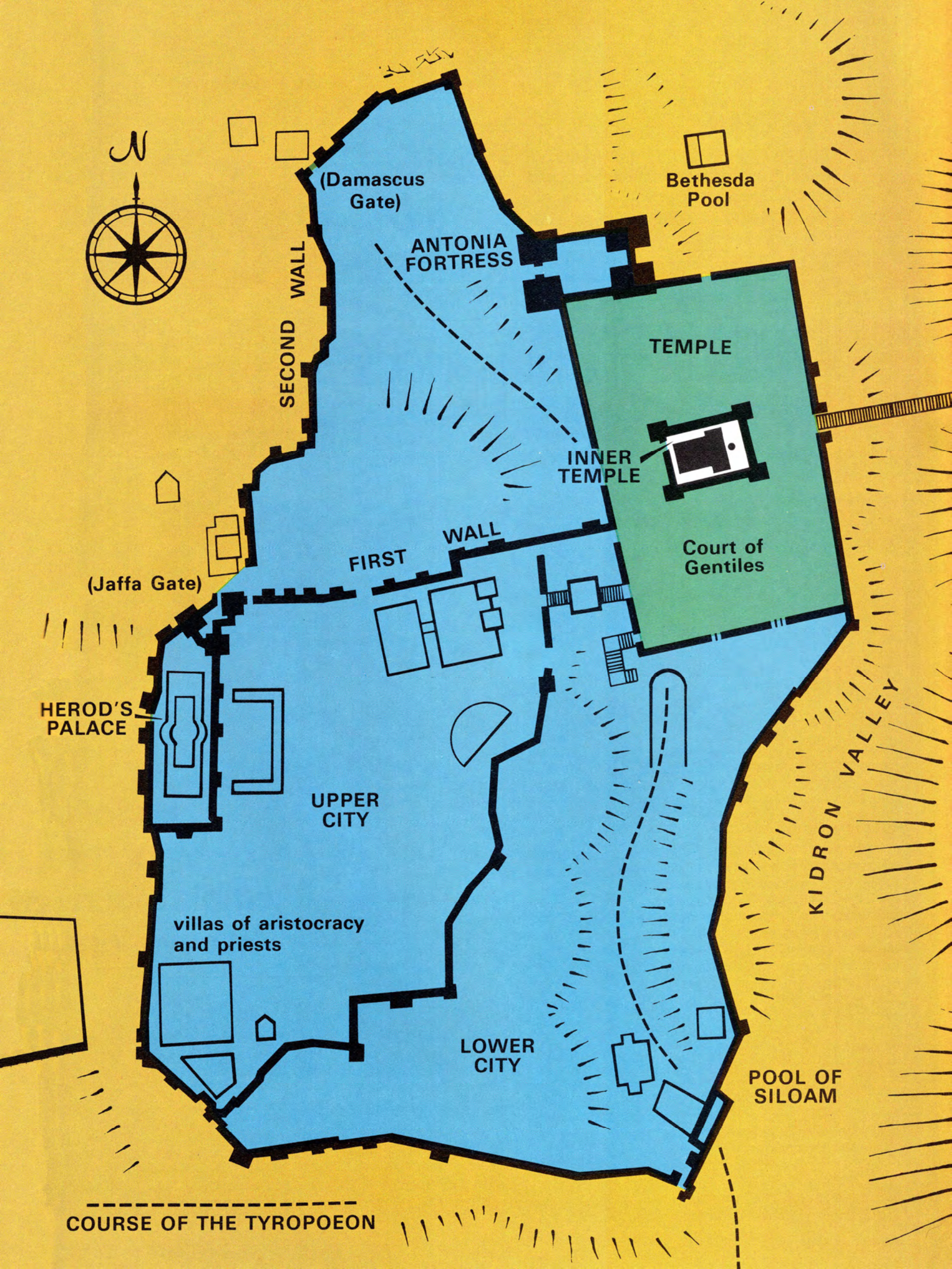
Not less interesting are the many architectural fragments including capitals, architraves, friezes, panels, etc., as well as two sundials from the exterior of the walls, from the Royal Stoa and the gates. These fragments are ornamented in the style typical of the Herodian period, including a rich corpus of floral and geometrical patterns, but no human motifs. Typical of the area is also the assemblage of stone objects, stone weights, some of them inscribed in Greek, dating from the period of Agrippa I, as well as an abundance of pottery and coins of the Herodian period. Most of the inscriptions from this period are in Hebrew, including the inscription on a corner stone from the southwestern corner of the Temple Mount, which mentions the "Place of Trumpeting to announce," namely the place from which the priest used to announce the *beginning of the Sabbath at Friday* afternoon.

Roman Period:

Jerusalem was destroyed by the Romans in 70 A.D. A most interesting fragment of a column bears a Latin inscription mentioning Emperor Vespasian and his son Titus, the destroyer of Jerusalem, as well as the commander of the Tenth Roman Legion, which stationed in the ruined city as an occupational force.

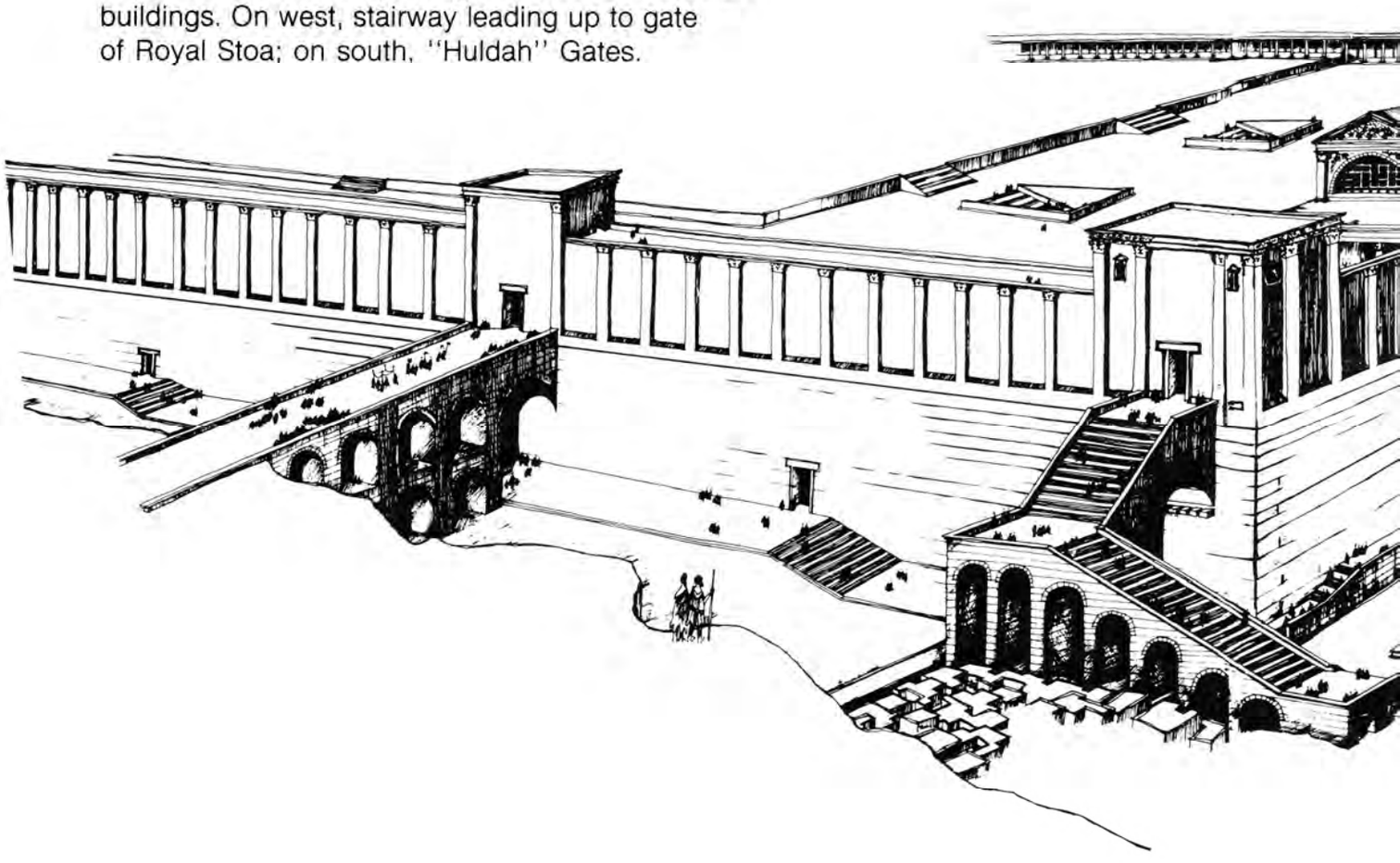
Several structures are from the period of Aelia Capitolina, the Roman Colony established by Emperor Hadrian. The finds include large quantities of rooftiles and bricus stamped with the mark of the Tenth Legion, a monumental inscription in Latin as well as numerous coins (including several of the "Judaea

(Continued on page 60)


N
(Damascus Gate)
Bethesda Pool
ANTONIA FORTRESS
SECOND WALL
TEMPLE
INNER TEMPLE
FIRST WALL
Court of Gentiles
(Jaffa Gate)
HEROD'S PALACE
UPPER CITY
KIDRON VALLEY
villas of aristocracy and priests
LOWER CITY
POOL OF SILOAM
COURSE OF THE TYROPOEON

HERODIAN

Reconstruction of southern and western walls of Temple Mount portrays magnificence of Herodian buildings. On west, stairway leading up to gate of Royal Stoa; on south, "Huldah" Gates.



Capta" type commemorating the Roman victory over the Jews), pottery vessels, *bronze figurines, seals, gems,* etc.

Byzantine Period:

In the time of Constantine the Great, Jerusalem became a Christian city. A group of buildings from this ante-dynasty time (Early Byzantine period, 4th century) was discovered near the southwestern corner of the Temple Mount. It was in this early phase of the Byzantine period that a Hebrew inscription was incised on a stone of the Western Wall quoting Isaiah 66:14. It expresses the feelings of the Jews, apparently in the days of Emperor Julian, in order to restore the Temple to its former splendor. Well-preserved are the Byzantine buildings of the 5th-6th century and the beginning of the 7th century. It is even possible to ascertain the plan of the empire quarter. Some of the buildings contained many interesting finds, including gold and bronze objects, an abundance of pottery, glass and coins. Some of the mosaic floors are decorated. Interesting is the green mosaic inscription, "Happy are those who live in this house." Most of the buildings were destroyed during the Persian invasion in 614 A.D.

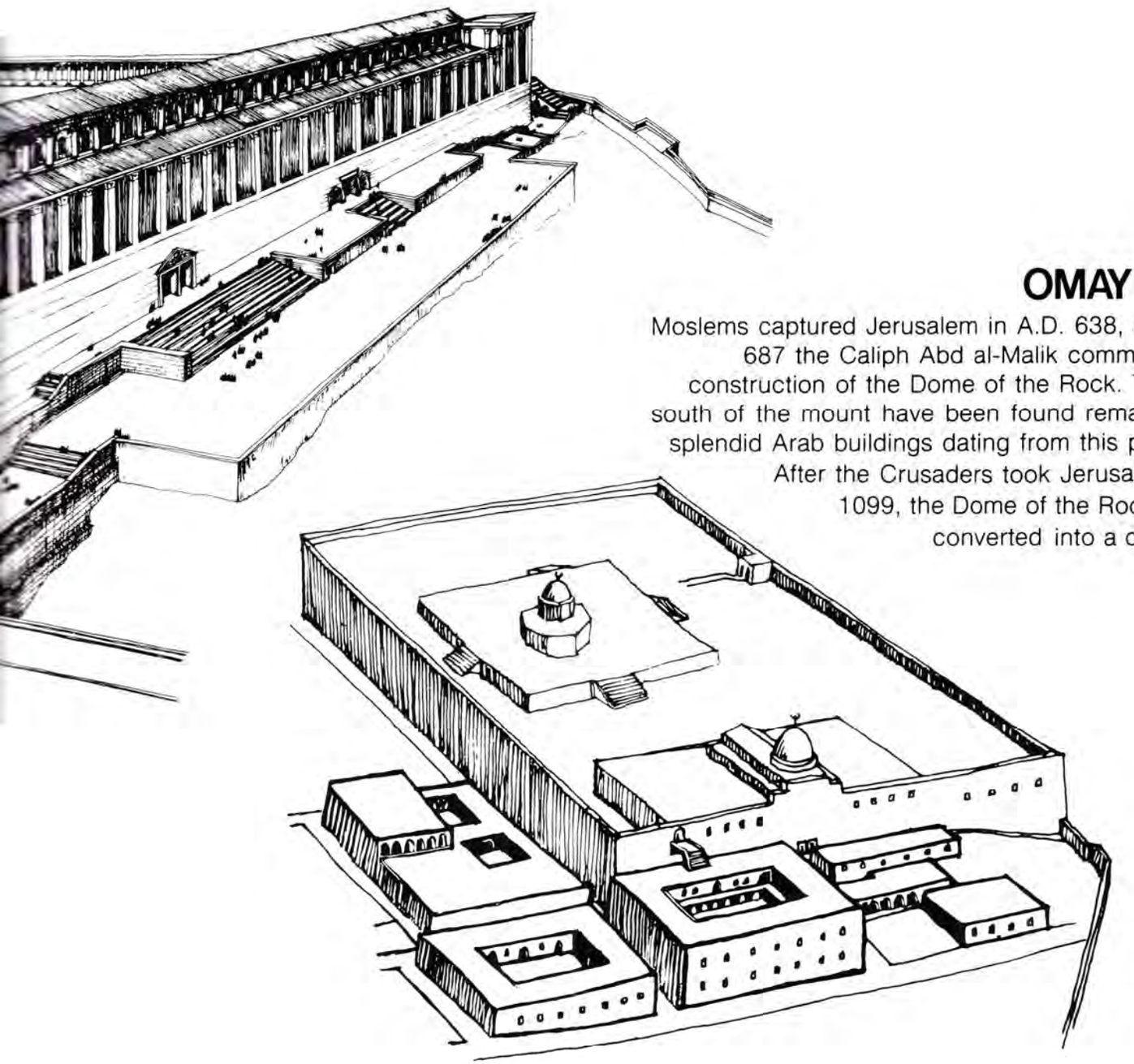
Early Islamic Period (8th-11th century):

In the period of the great Omayyad period, most of the area was occupied by enormous buildings (first half of the 8th century). These structures of unified plan are similar to the palaces erected by the Omayyad caliphs throughout Western Asia. It seems that the structures were used by the caliphs, their families and the aristocracy as palaces and dormitories on the various occasions when they visited the holy places in the Temple Mount. These buildings were destroyed by earthquakes, apparently in 848 A.D.

From this time on the area became more and more desolated and declined entirely in the period of the Crusaders, when new city walls were erected and most of the excavated area remained outside the city. □

History of the Temple Mount Excavations

Archaeological interest in Jerusalem's magnificent Temple Mount has not just been confined to recent years. From well before the turn of the twentieth century, Sir Charles Warren conducted a substantial examination of Mount Zion's rich historic heritage. From 1867 to 1870 he dug a series of deep narrow shafts down to the natural bedrock. The work was slow, costly, and beset with constant difficulties. Danger of collapse was a constant threat. Nonetheless, his finds turned out to be accurate and have been of value



OMAYYAD

Moslems captured Jerusalem in A.D. 638, and in 687 the Caliph Abd al-Malik commenced construction of the Dome of the Rock. To the south of the mount have been found remains of splendid Arab buildings dating from this period. After the Crusaders took Jerusalem in 1099, the Dome of the Rock was converted into a church.

to the present excavations. Since then, many archaeological excavations have been conducted in Jerusalem, representing many countries and institutions. The most recent endeavor, before the present excavating, was in 1961 when the British School of Archaeology in Jerusalem, under the direction of the well-known archaeologist Miss Kathleen Kenyon, began trench-method excavations in the City of David. The work revealed, near the Temple Mount, a small section of pavement, a portion of a large building, and a column.

Then in 1967, after the unification of Jerusalem, the archaeological institutions of Israel began considering the feasibility of a full-scale excavation of the entire Southern Wall area. With encouragement from the mayor of Jerusalem and the Israel Exploration Society, the present "Big Dig" was launched in 1968.

The actual work began on February 28, 1968, with workmen mostly from the Jerusalem area supplied by the Ministry of Labor, plus students from Hebrew University. Other young volunteers from Israel were serving as partial fulfillment of their military service requirements. Quite a number of personnel also came from abroad to work at the site. From the very start the "Big Dig" was a mammoth project. In its present extent it occupies more than five acres of land and in many places has been excavated to a depth of more than fifty feet.

The manpower and finances required to move all the accumulated debris by hand are significant. So from

(Continued on page 65)

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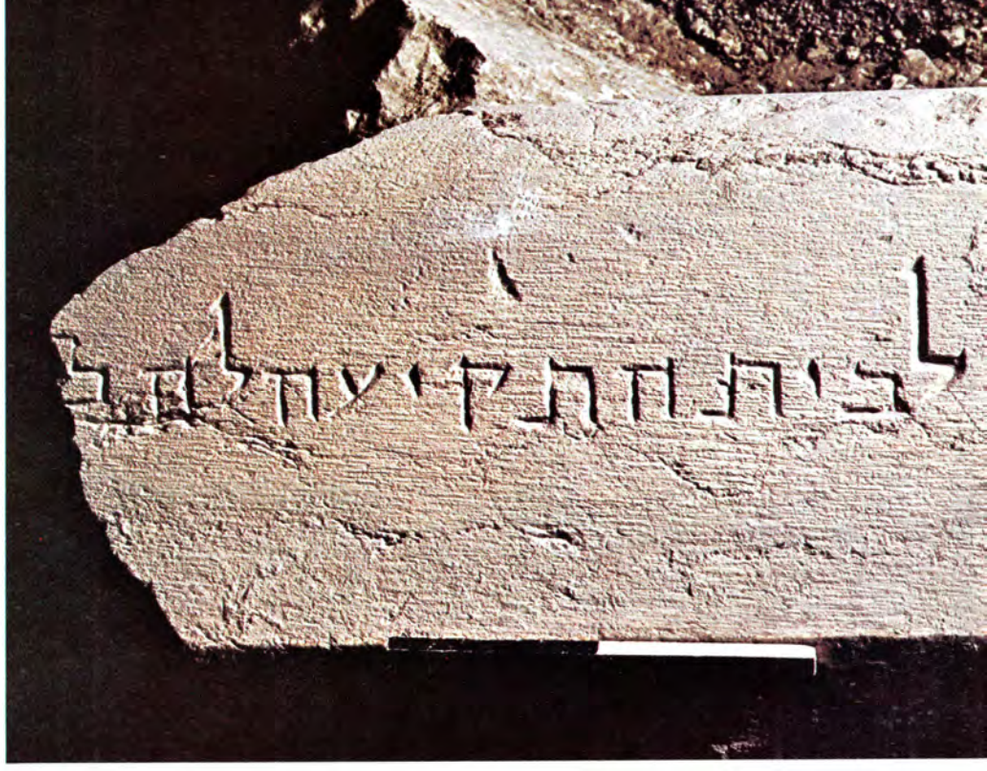

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1. Candelabra from a Byzantine building, dating from the 6th century A.D.
2. Stone with Hebrew inscription from top of the southwest corner. From this corner, the priest announced beginning of Sabbath on Friday afternoon by a trumpet blast. Inscription reads, "The place of the trumpeting to . . ." (stone broken at top point).
3. Golden ring discovered in a Byzantine building, decorated with what seems to be a representation of the Holy Sepulcher. A most recent find.
4. Coin depicting Emperor Vespasian.
5. Silver coin from the second year of the Jewish-Roman war.
6. Among the thousands of artifacts are these gold coins from the early Arabic period.
OPPOSITE PAGE: An Herodian aqueduct.

BELOW: Ambassador College student surveying near the Triple Gate of the temple area.
BOTTOM: Assistant in laboratory making architectural drawings.

BELOW: Students excavating near southern wall.
BOTTOM: Students viewing and receiving explanation of Byzantine building near Triple Gate.

BELOW: A Byzantine mozaic floor with Greek inscription.

the onset, for reasons of economy, work was initially to be suspended during the winter season.

In the first winter recess, Ambassador College entered into the project jointly with Hebrew University and the Department of Antiquities. Beginning December of 1968, Ambassador began providing assistance to put the project on a full-time continuous basis, and in 1969 began to provide summertime student manpower. Work has continued unbroken since that time.

In May of 1974, UNESCO issued a report on the excavations following two investigations made for the Director General of UNESCO (in December 1973 and April 1974). An excerpt follows: "Criticisms levelled at the methods used in the excavations are groundless. The excavations are being carried out by a perfectly well-qualified team of experts . . . who are extremely attentive to all aspects and to all the periods of which remains have been found on the site. The same care is expended on the preservation of remains of the Omayyad palaces as on those of the Herodian period. Carried out with the utmost care and employing the most expert methods, these excavations have already led to discoveries of the greatest importance in relation to the history of Jerusalem."

The Israeli representative to UNESCO is Dr. Avraham Biran, who has recently become Director of the Nelson Glueck School of Biblical Archaeology. Professor Biran stated: "Archaeology is for all people — for humanity. To discover our past is to know ourselves — who we are and from where we have come. As Jerusalem continues to be excavated, there may well be significant discoveries affecting man's understanding of his heritage, and of himself. Archaeology in Israel is not concerned with the Jewish past only, but with digging up the past of mankind. Archaeology reveals the physical evidence of the past as recorded in history, and corrects misconceptions. Anything we discover in this country is of vital significance to Jews, Christians and Moslems alike."

Israel's Minister of Tourism Moshe Kol summed it up well: "Our excavations have an historic meaning for the culture of the world." □

SUGAR RAY'S STILL FIGHTIN'

by Brian Knowles

Photo: Sugar Ray Robinson Foundation

"That's a sweet fighter you've got there, a real sweet fighter," said Jack Case, sports editor of the Watertown, New York newspaper. Case was talking to George Gainford, trainer of a young fighter named Walker Smith, Junior, who was fighting amateur bouts under the name Ray Robinson. At 118 pounds Robinson was "sweet as sugar" in the ring. In 85 amateur bouts 69 opponents hit the canvas for the ten count. It was the beginning of a brilliant career in the ring.

Sugar Ray Robinson launched his professional boxing career October 4, 1940 by knocking out Joe Echeverria in the second round. He never lost a bout as a professional until Jake Lamotta — "the Bull" — defeated him in ten in Detroit, February 5, 1943. Then two weeks later Sugar Ray avenged his defeat by gaining a win over Lamotta in ten rounds in New York City. Ray continued his winning ways, defeating opponent after opponent, until he finally took the world welterweight boxing title in December of 1946 with a win over Tommy Bell in New York.

Robinson held that title for five years, then, in 1950, he took the Pennsylvania version of the middleweight title in a fifteen round bout with Robert Villemain in Philadelphia. In a grueling brawl in Chicago, February 14, 1951, Sugar Ray faced "the Bull," Jake Lamotta, once again. Lamotta went down and out in the thirteenth, giving Ray the world middleweight boxing crown.

In all, Sugar Ray Robinson held six world boxing titles in a brilliant career that spanned some twenty-five years as a professional. His record is outstanding; 202 pro bouts, 109 of which he won by knockout. 66 bouts were taken by decision. Pound for pound, Robinson has been called "the best boxer ever to enter the ring."

On December 10, 1965 Sugar Ray announced his final retirement from the ring. After twenty-five years of thrills, excitement and not a few tears, the king of the ring was stepping down. At age 45 Sugar Ray Robinson kissed the squared circle goodbye with the words "A tout à l'heure!" (I'll see you later.) The Garden audience gave Ray a well-deserved standing ovation.

Robinson earned over 4 million dollars in the ring but he took little of it with him when he left the game. Between his entourage, the government and his own big spending it was all but gone.

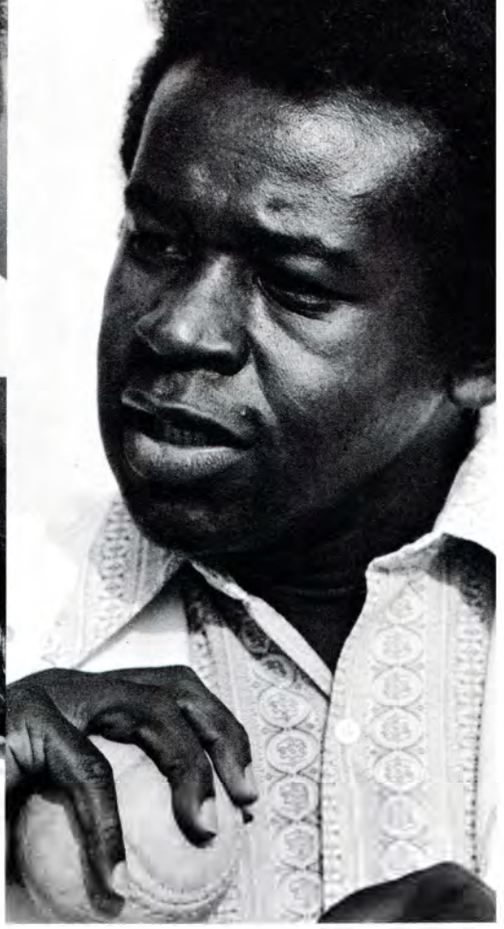
Instead of retiring from ring glories to a life of ease the boxer cast about for a new career.

"His program keeps us occupied. It keeps us from doing what the kids on the street are doing."

"He's helped us meet new people, go places, do things we wouldn't get to do otherwise."

"Sugar Ray teaches us to 'get up and out of it,' to change it and make it better."

". . . then the kids forget about their ethnic differences. That's truly rewarding."



Photos: Dave Conn

A new career

At first he thought he'd found it in motion pictures. Sugar Ray's first role was with Ben Gazzara in the now defunct "Run For Your Life" television series. After that Danny Thomas used Ray on his television show. This was followed by work with Mickey Rooney, Tony Randall and Gary Crosby in "The Odd Couple" at Caesar's Palace in Las Vegas.

Frank Sinatra gave the former middleweight king a part in his motion picture *The Detective.*

Later Robinson went to Rome for a part in the movie *Candy* with Richard Burton and Marlon Brando.

Toward the end of his biography *Sugar Ray,* Robinson writes:

"To be honest, I wish I were still having big fights. I see my name in the newspapers, 'Sugar Ray Robinson, the former champion . . .' and I try to visualize it without *former.* Once you've had acclaim as a world champion, once you move into that sphere, you never want to move out."

But Sugar Ray Robinson has since entered into a more important arena — the arena of life on the streets of Los Angeles. Robinson is still fighting — but not for himself. Today he is looked on as Champion for thousands of underprivileged children of all races and creeds who need a break in life.

In 1969, four years after his last pro fight in the ring, Sugar Ray's Youth Foundation was created. Today thousands of youths participate in athletic programs sponsored by the Foundation, which stresses the imparting of values through sports. Athletic programs include basketball, soccer, volleyball, football, drill teams, gymnastics, bodybuilding workshops and field trips to local sporting events.

Each quarter the Foundation sponsors playoffs featuring the sport of the season. These playoffs are called "the Junior Olympics" and are regarded as a test of whether the Foundation is able to carry out its goals and purposes. So far they have been eminently successful. In a sense, every child or youth is a winner. Everyone benefits. Each learns to develop a sense of accomplishment and thereby self-respect. Everyone gets an award. Sugar Ray says, "I feel that it is important for them to feel they have been recognized for their accomplishments and efforts."

Documented reports of a dramatic change in behavioral attitudes and a reduction in acts of vandalism on school property where the program is in operation have been attested to by school principals in the Compton and Central and South Central Los Angeles areas. Respect for adult authority has improved and many children have acquired qualities of leadership as a result of their participation in Foundation programs.

Sugar Ray and his administrative assistant Mel Zolkover told us in an exclusive interview for *Human Potential* that some 75% of the children in the program have only one parent. Robinson speaks affectionately of his "half-wives" — the many women who are struggling valiantly to raise their children without the help of a husband. "I just try to fill in for their husbands in giving the kids direction. I'm thankful too, because it has been helping."

Recognition is important, claims Sugar Ray. Every boy needs to be recognized — to be looked up to for his own worth. Ray says, "The basic concept of the Foundation is to build up a youth's personal worth. All activities are geared toward gaining the youth's confidence so that we are able to give him a positive direction with as little resistance as possible."

Each year the Foundation sponsors the "Miss Sugar Ray Teen Pageant," for Foundation girl members between 13 and 16. Unlike most beauty pageants this one has no swim suit competition. All talent performances must be "in good taste" and contestants are judged on "wholesome, fresh, youthful appearance, a radiant smile, good posture and bearing." The pageant is an outgrowth of the "Miss Sugar Ray" Teen Personal Development Program. The overall objective of the program is to teach participating girls to achieve their personal goals by learning their own potentials and making them work.

Sugar Ray Robinson is no mere figurehead. His entire life is dedicated to

achieving its goals and purposes. He told us, "I'm a Christian believer in God, and I truly believe all my life has been a preparation for this. I believe I was blessed with a talent that helped introduce me to people. For this reason I'm doing my work with children, and I'll go to my grave trying to help this cause." Today Sugar Ray still maintains this attitude of dedication and singleness of purpose. With the help of his lovely wife Millie, Sugar Ray is daily involved with the activities of the Foundation. Boys between 8 and 16 from all over the Los Angeles area look to Sugar Ray as their hero. He is at once a father figure and a big brother to thousands of would-be delinquent children of all races and creeds.

Every dollar that comes into the Foundation goes into its programs for the children. "There's never been a paid man on our Board of Trustees, myself or anyone else," says Robinson. (Information on Foundation activities may be obtained by writing to *Sugar Ray's Youth Foundation*, 1905 10th St., Los Angeles, California 90018. The phone number is (213) 731-2418.)

Sugar Ray was bitterly attacked by black militants in the late 50s and 60s for appearing to be indifferent to the struggle for racial equality in the United States. But Robinson's work in the Foundation belies that accusation. Referring to recent riots over busing in Boston, Sugar Ray told us, "Things like that can be very dangerous . . . racial tension. I've seen it happen back in the 30s and it's a thing that can build. What better way for the enemies of your nation to hurt you than to get you hurting and killing yourself within?" Sugar Ray believes in bringing about harmony between the various racial and ethnic groups that coexist within the big cities of the United States. In Foundation programs children of all backgrounds learn to work and play together with little sense of racial consciousness. Children from primarily black areas such as Compton are introduced into Mexican-American communities. Oriental children learn to participate in sports activities with white, Mexican and black children. And the philosophy *works* — the results speak for themselves.

Sugar Ray places much of the responsibility for juvenile delinquency and vandalism on the parents. He echoes the commonly believed axiom, "there are really no bad kids, there are bad parents." Neglect on the part of parents is one of the greatest reasons for wayward youth in modern society.

Sugar Ray has received cooperation from other leading sports figures such as basketball star Wilt Chamberlain, baseball great Henry Aaron and others. One of the big events of the last season for the Foundation was a Celebrity Basketball Game in which the Los Angeles Rams played the Sugar Ray All Stars. Playing for Sugar Ray's team were such notables as Pat Boone, Jim Brown, Wilt Chamberlain, Bill Cosby, Don Meredith and even Don Rickles! Naturally the event was an outstanding success.

In addition to sports activities the Foundation also sponsors arts and crafts activities and involves itself in the performing arts. Robinson himself had a brief but highly successful career as a dancer prior to one of his well-known boxing comebacks. At one point Sugar Ray earned more per week as a dancer than even Fred Astaire and Gene Kelly! The Foundation has programs in dance workshop, drama workshop and band and combo repertory workshop. In addition there are arts and crafts projects and even karate classes. Talent shows and competitions are held to reward achievement in all of the above areas.

Sugar Ray Robinson has had a full life. World champion boxer, dancer, actor and now head of Sugar Ray's Youth Foundation, Robinson is helping to provide a full life for thousands of Los Angeles' youth. He is a fulfilled man, a happy man. He is doing what he feels he was meant to do in life. He is optimistic about the future. He says, "I've always believed you could think positive just as well as you can think negative." His personal love, warmth and affection are manifested in his dedication to the Foundation.

Sugar Ray Robinson is one of those unique individuals in the world who is realizing his own human potential — and helping thousands of underprivileged youths to do the same. □

UNLOCKING YOUR HUMAN POTENTIAL

by Arthur C. Mokarow

HUMAN NEEDS

Man has conquered all but himself. He has harnessed the potential of the around. But, like an illiterate puzzling over a musical score, he's a novice in *self* discovery. With all of his activity, man has neglected the place where true answers lie — his own mind.

Technical knowledge has transformed the face of the earth, remaking it into a new world. Human and animal muscle have been replaced by hydraulic and mechanical muscle. Machines now toil and overheat while horses graze in green pastures and men bask in air-conditioned suites. Even many aspects of human mentality have been assigned to the printed circuits of clerical machinery and to the binary switches of computers.

We have reached a unique time in human development. We have arrived at a point of release from much of the physical and mental burdens that our fathers had to bear.

Arnold Toynbee, in his ten-volume work, *A Study of History,* points out that true growth takes place when men have *overcome* the *material obstacles* and are thereby released and free to invest their time and energy on a higher plane of human endeavor.

CHALLENGE

When man's survival and security needs are satisfied, he is free to develop his human capacity.

Furthermore, Toynbee states that growth takes place as the result of *successful responses to challenges.* For example, the U.S. space program successfully put men on the moon as a response to the challenge of the Russian Sputnik orbiting the earth in 1957. The momentum would never have been generated without the challenge.

Abraham Maslow, in his psychology of the "Third Force," analyzed what he called *self-actualized* people — those who have attained a greater degree of tapping their human potential. He studied Abraham Lincoln, Thomas Jefferson, Albert Einstein, Eleanor Roosevelt, Ralph Waldo Emerson and many other historical figures. The study of the personalities, habits and characteristics of these individuals led Maslow to his theory of human motivation and mental health.

He views human beings as being faced with a challenging *hierarchy of needs* — survival, safety, belongingness, love, respect and self-esteem. As each is fulfilled, we are free to rise to fulfill the next — much like climbing a ladder.

PROPER RESPONSE

Take the Eskimos living in the far reaches of the tundras of the icy north. The survival need itself takes up practically their total energy reserves. Life for many of them is purely survival-oriented. Progress up Maslow's ladder to self-actualization is almost non-existent.

In Toynbee's scheme of things each area of *human need* is a challenge. If a successful response is produced, growth is experienced. The response, however, must be positive, not negative.

Maslow found if man attains a certain need-level successfully, then the motivation of accomplishment is there and a comfortable, confident psyche develops. An actual increase in personal power and enthusiasm is apparent.

Conversely, if the need is not conquered, a negative attitude follows, and if the struggle for attainment is too arduous, confidence and positive motivation deteriorate.

As Toynbee and Maslow verify, man is a goal-oriented creature. The spark which ignites man is the successful attainment of these human needs.

B. F. Skinner, in his work on reward and punishment, found that man is accelerated toward positive motivation when he is *rewarded.* Rewards are successful attainments of desired personal goals.

Maslow has discovered that all of mankind have a common denominator of human needs. As these needs are filled — survival, safety, social recognition or self-actualization, man loses his feelings of inferiority. He loses himself and his ego depressions and begins to produce — not only for the self, but for

CONTROL ENVIRONMENT

the good of society, as he becomes engrossed and committed to further goals and accomplishment. Man finds purpose. He realizes he is a useful being and has a meaningful, powerful, necessary place in this universe.

Toynbee's and Maslow's findings are quite apparent in viewing child development. The child who can be successful in the games he plays is exhilarated. Watch children playing in the schoolyard. In a game of tag, if one is nimble enough to evade his pursuer, his desire to continue to play is heightened while the one caught frequently becomes disenchanted and loses his desire to play.

Games continue to affect all of the life cycle positively or negatively, depending on the success or failure of achieving the goal.

Games are still exhilarating and stimulating during adulthood. Take professional football. Watch a player cross the goal line with the ball and begin to jump up and down and toss the football in the air with excitement and glee. A goal has been successfully achieved.

DeRopp, in his book, *The Master's Game,* suggests that all of life is like a game. The same requirements are there — rules, goals and rewards. If development of the human potential is there, great exhilaration and positiveness occur even when confronting all the obstacles life presents. In fact, the joy is even greater when obstacles are overcome and success, like that oasis in the desert, is finally reached!

The primary step is establishing *concrete* and *realistic* goals. We must determine where we want to go. It has been said that only one out of 2,000 people have definite goals. We must determine what we want to accomplish — whether socio-economic, health-related, spiritual or romantic goals — or whatever our drive may be at the time.

Now for the catalyst which triggers the positive-motivation circuit within us.

Measurement!

If we can't determine how to measure the attainment of our goals, we won't know if we are getting there. It is the unknown — our own confusion — which destroys the power of growth. We need a specific plan — with objectives on the way to our goal. Objectives are like short-term goals which spur us on because we know where we are going. We get excited about a game because there are objectives. If our team makes more touchdowns, we are winning — and we know it. If the team maintains the lead until the end of the game — it's a victory, the goal accomplished.

Life is the same. Each individual must determine his personal goals. He must set objectives because they measure how far along the way he has come. The broader the opportunities accepted as challenges in developing gifts and skills, the more motivated one becomes to self-actualize — tapping his human potential.

As Toynbee observed, *it is the positive response to a challenge which produces growth.* Even though there may be a negative environment, a proper response can produce a very successful result.

A friend tells of his parents who had to live through the horrendous experience of Auschwitz (about as hostile as an environment can be). His mother set a goal to survive. Not only for herself, but her husband as well. To accomplish this she set up a survival "business."

Periodically in the camp an inspection was held of the males to determine if they were fit to continue to live. When the announcement was made, a demand for razor blades rose. The men would shave and appear to be in a better state of health. The result was continued existence.

Before inspections were due, the wife would sacrifice the meager food she had for razor blades. After inspection time came, she exchanged her surplus blades for food. This way she had more food to survive and was able to supply her husband with blades to keep alive. This was a very negative environment, yet by establishing goals with a definite measurable objective, they won. When the Allies arrived, they were alive — and are living to this day.

Challenges (goals), positive responses (attainment of objectives), and control of one's environment can develop a capacity to tap the human potential. This positive effect can produce some extremely favorable benefits to the human mind.

We've all had personal experiences of the subconscious at work. Ask a hundred-words-a-minute typist where a certain letter on the keyboard is. She will probably have to rattle her fingers over the keys to find the position of the letter you asked about. This information has been shifted long ago from her conscious mind to the labyrinth of her subconscious mind.

It is in the subconscious mind that mankind's *self-images* are stored. The subconscious image may be erroneous or distorted — it makes no difference to the subconscious. It continues to feed the conscious mind with these erroneous or distorted views about itself.

However, if the success pattern of successful responses to challenges is achieved, then this new image is programmed into the subconscious. One's self-image becomes positive and achieving. Forging ahead in spite of failure due to errors or hostile environment produces a maturity which sparks human growth.

Maslow defines the self-actualization process as the *discovery* of the true self and the development of existing and latent potential. This recipe for human development can give life real meaning — giving man hope and purpose for his existence.

Man is beginning to progress — as there is growing awareness that man is unique and has a distinct role to play in the universe.

Is it possible for man to *voluntarily* program into his subconscious good social, moral, constructive behavior? Can he sublimate selfish drives for the good of all? Can society self-actualize as a whole?

The times declare that we set ourselves to the task. The times are auspicious to finally realize the magnitude of earth's greatest resource — the human potential! □

ESP RESEARCH TODAY

by J. Gaither Pratt

Ask anyone today, "What do you think of ESP?" You will rarely get the answer, "What is ESP?"

In the thirty-five years since the term "extrasensory perception" was introduced into the language, its three-letter abbreviation has become widely familiar and understood. Almost everybody of high school age or older knows what ESP means. But this particular alphabet-soup word (in contrast, say, to LSD) remains largely a part of the written language or the language of private thought. People apparently do not easily use the expression ESP in their everyday speech.

Why not?

In part the reason is that few individuals know what to think *about* ESP. Should they believe in it or regard it as a superstition, a passing scientific fad? Should they consider it proved — or impossible? Is it a legitimate subject for scientific investigation? If so, what should be the goal of its scientific study? To discover the facts, obviously — but what does that mean in this instance? Are the research workers who are delving into ESP going eventually to show that there is another level of reality in the universe — a reality that is outside the laws of nature with which physicists and chemists work? Or is parapsychology (to use a more technical scientific name for the field) concerned with problems that are really only on the frontiers of physics?

There is still another possible interpretation of what ESP investigators are doing, one that probably would be preferred by a majority of the scientists working today in the orthodox branches of research. This is that parapsychologists are not really engaged in science at all, because they are only dealing with unreal issues. For persons who hold this opinion, what parapsychologists call research is nothing more than effort to dignify superstitions and delusions by treating them with methods borrowed from legitimate areas of science. For those holding this low opinion of ESP research there can be only one final outcome of all this effort. Eventually, they say, it will become clear to everyone that the whole ESP enterprise is no more than all genuine scientists knew it to be all along, a quest that leads nowhere.

With such a wide diversity of opinions being held today about ESP, most persons hesitate to talk about it because they are not certain what those to whom they are speaking think about the topic. When anyone talks as if he takes ESP seriously, he runs the risk that his listeners will consider him to be to some degree "off his rocker." Or when anyone speaks of ESP in a way that shows disapproval, he risks being considered ignorant or narrow-minded. So ideas about ESP usually remain a part of each person's private world of inner thoughts.

Many times after I have given a talk about parapsychology, members of the audience have privately told me about their own psychical experiences. Almost always they say that they do not ordinarily talk about these things for fear people might think they are peculiar, or even crazy. But they are eager to share information with someone who obviously considers these matters important, who looks upon them as being quite normal, and whom they feel they can trust.

Evidence of widespread interest in these matters can be found in abundance. The daily papers frequently contain news stories about psychical events, and the Sunday supplements offer numerous general articles on ESP topics. There are even popular magazines that deal exclusively with psychical matters. The number of books now available on parapsychological topics is amazing. The best seller lists of the past decade have rarely been without a title dealing with some aspect of ESP. Whatever one may think of the phenomena these books describe, there can be no doubting that the interest they are trying to serve is itself phenomenal. The *New York Times* recently took notice of this new development in the publication world in a feature article with the title, "Prophets for Profits."

Almost all of these books have been written by journalistic authors who are expert at making technical topics interesting for the general reader. These writers are obviously eager to apply their skills in covering the ESP field. So why should an active research worker in parapsychology also write a book about his research and thus add to the deluge? The reason is that parapsychologists today desperately need to have what they are doing both known and understood — *well* known and *properly* understood. All too frequently we are made painfully aware that this need is not completely filled by professional journalists. No matter how skillful and conscientious they may be, they are rarely able to present the research from the point of view of the investigator. If what they say about ESP is all that the general reader has to go on, he will inevitably get a distorted picture of parapsychology. I think it is important, therefore, that ESP research should be presented to the public from the research worker's point of view.

Sometime ago I met a psychologist who asked me about my line of work. When I told him that I was engaged in research on extrasensory perception he said, "Oh yes, ESP. Very fascinating! It's a pity you didn't have my mother as a subject in your experiments." He went on to say that his mother was a person whom we would call in everyday language strongly psychic. There were many times in her life when she knew about something happening at a distance that she couldn't possibly have known in any ordinary way, through any of the recognized senses. He mentioned two cases, one connected with his brother and the other with himself when they were in different branches of the service during World War II.

Case 1. The mother wrote to his brother saying that she dreamed that his plane was hit and she saw him grab his foot as if it had been hurt. Then she saw the plane crash in a narrow valley and she was thankful that he had escaped further injury. The son replied that the plane on which he was a bombardier had indeed been hit and a fragment of a shell had torn away a part of one of his shoes. He grabbed his foot to see if it was all there and found it was only scratched. The plane crashed in a narrow valley; and he had miraculously escaped further injury.

Case 2. The second incident was concerned with an accident my informant had while he was on shipboard. He had a slight injury to one shoulder and his arm was put in a cast to speed up the recovery. To avoid worrying the family, he was careful not to mention the matter in any of his letters. But his mother wrote to him and asked why he hadn't said that his shoulder was hurt and his arm in a cast.

Both of these cases, taken only as illustrations, suggest ESP of something occurring in the present. The dreamer could have been reacting to the thoughts or emotional states of the distant sons (telepathy), to the physical events in which they were involved (clairvoyance), or to both. And they are examples of experiences that, according to generally-accepted scientific principles, simply cannot occur — at least, not as they appear to do if taken at face value. Yet such things do happen, far more commonly than we ordinarily suppose. And a large number of persons who have such experiences do take them at face value. A Gallup Poll was devoted to this question, and ten percent of those asked admitted having had one or more experiences that convinced them that ESP occurs. Parapsychology is the new branch of science that investigates what lies back of experiences like the two described and of a variety of others, all linked together by a bond of similarity. These experiences all suggest that man has the capability of interacting with hidden or remote objects or events in the world. Thus the mother in these two cases knew what was happening to her sons who were far away. The knowledge was *direct* in that she could not have received the information through the senses.

If parapsychologists had been compelled to depend entirely upon collecting anecdotes about spontaneous cases from everyday life, the difficulties encountered in trying to study such experiences scientifically would have been great — perhaps too great to be overcome. But the investigators discovered, shortly after organized research along these lines began nearly a century ago, that they did not have to wait for persons to tell them about strange and unexpected things that happened to them. The scientists and scholars who began looking into this area found that they could take the initiative in research on this frontier of human nature. They found that some persons could demonstrate ESP occasionally on demand. Thus, it became possible to study these mysterious psychical powers by preparing a test with concealed objects or events and asking a subject to try to use ESP and say what they were. Over the decades during which this has been done, success has been achieved repeatedly under conditions that have grown in variety and degree of safeguarding. There can be no doubting, therefore, that parapsychology has become an experimental science.

A great deal of experimental work on ESP has been done during the past ninety years. By far the largest amount of this work has been accomplished since the early thirties, when the Parapsychology Laboratory was organized at Duke University by Dr. J. B. Rhine with the encouragement and help of Professor William McDougall, head of the Department of Psychology. In the testing procedure developed there and subsequently widely used throughout the world, subjects were tested with hidden packs of shuffled cards to see how many they could name correctly. In hundreds of experiments the results indicated that some individuals were able to name more of the cards than could reasonably be attributed to chance and under conditions that left ESP as the only available explanation of their successful scores.

The emphasis upon the experimental approach has tended to obscure the fact that parapsychology began as an effort to deal with the questions raised by things that happened to persons in everyday life. Finding the meaning of psychical experiences as they affect our everyday lives is still the primary, though long-range objective of the field. As successful as the laboratory research has been, it has not brought quick and easy solutions to all of the puzzles presented by psychical experiences. As a result, research workers have felt during recent years the need to look again and more closely at reports of spontaneous cases. These puzzling experiences are still the touchstone by which the relevance of the experimental research must be measured.

Parapsychologists now realize also that many phenomena occur in nature which cannot be brought into the laboratory. A poltergeist, for example, cannot be made to perform upon demand. For this reason, many investigators now accept the necessity of working with some phenomena in their natural setting. Thus, aspects of psychical experience that were previously largely neglected have increasingly been brought under scientific scrutiny under natural conditions. As a result, a broadening of parapsychology as a scientific enterprise has occurred during the last few years. Indeed, this diversification of the field best characterizes the research of the sixties and early seventies and represents the greatest change from the work of the preceding two decades. □

Dr. J. G. Pratt

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MODERN PARAPSYCHOLOGY A PANORAMIC VIEW

The following summaries are taken from Chapter II of ESP Research Today, *by J. Gaither Pratt (Scarecrow Press, Metuchen, N.J., 1973)*

SUBJECTS

The accounts of psychical occurrences in everyday life were what initially called attention to the questions that needed to be answered. The spontaneous psychical occurrences that were reported most frequently were those in which persons knew about things happening at a distance when they could not have learned of them through the ordinary channels of sense. Less frequently, disturbances of physical objects occurred for which there was no discoverable normal cause and under circumstances suggesting that the mysterious happenings had some special psychological or personal meaning.

Naturally, the scientists who had become interested began by taking a serious look at those claims. Their efforts revealed that psychical experiences were not evenly distributed over the whole population. Those who could not recall ever having had a convincing ESP experience formed the largest group. Then there were many (though still a minority group) who remembered only one or two such events in their lifetime. A still smaller number claimed to have had many ESP experiences. This uneven distribution of psychic events led investigators to take a special interest in persons who seemed to be strongly gifted along these lines, especially when it was discovered that some of those claiming special talents could produce evidence of their psychic abilities more or less upon demand in test situations provided by the investigators. The first stage of parapsychology as an experimental science was one in which the emphasis was placed upon testing special *subjects.* Today, however, most research workers in the field assume that parapsychological (or psi) abilities are present in everyone and the choice of the subjects to be used in the research becomes more or less a practical matter of selecting the most suitable persons for each experiment.

METHODOLOGY

The history of parapsychology until 1960 might suggest that these three types of approach — case studies, the investigation of special subjects, and the carrying out of experiments with unselected subjects — are somehow opposed to one another and do not flourish side by side. The strong interest in spontaneous psychical experiences that characterized the initial stage of the research done in this field faded away as the interest in working with selected subjects moved to the center of the research stage.

Then came the period, starting in the late thirties and continuing through the forties and fifties, when experiments designed to deal with particular questions were emphasized. The occasional ESP investigators during those decades who thought that psi research should be done with gifted subjects were only the exceptions that proved the rule.

A look at parapsychology during the sixties reveals that this historical impression about the field no longer applies. Today all three approaches are used in the research. Let us, for convenience, call these three general kinds of emphasis the case-study approach, the subject-centered approach, and the process-oriented approach.

The fact that all three types of research are being actively pursued today in this field provides the main contrast with the research situation in parapsychology during the preceding decades. The current period is characterized by an active, vigorous pursuit of new knowledge about ESP, a drive for better understanding for psi on a much broader research front.

Investigators are displaying more boldness for looking into claims or problems that were previously bypassed or ignored. There is no longer a general willingness to regard certain areas as being out of bounds for scientific study in parapsychology. As a consequence, the field at this time is both more varied in the questions that are raised and more interesting in the scope of work being done. There is a willingness on the part of workers in the field to grant to one another freedom to choose the questions to be researched. The field is once more on the move, and has become a more exciting branch of scientific activity.

HYPNOSIS

A number of investigations have looked for possible connections between ESP and other states of mind. This appears to be a reasonable quest in the research, because psychical experiences themselves are so unpredictable that they may depend on special states of mind. If so, it may be possible to discover the special mental states that will release or strengthen ESP performance. This search is being pressed on several fronts. Consider, for example, the investigation of the connection between hypnosis and ESP. The investigators during the early years of organized psychological research were deeply concerned with this question. In fact, hypnosis itself was at one time considered to be a special form of psychic function, one that deserved study in its own right as a parapsychological phenomenon.

Even after the investigators came to recognize that this was not the case, they continued to think that perhaps the hypnotic state might be used to increase ESP performance.

In two recent surveys of all the studies on hypnosis and ESP (Honorton and Krippner, and Van de Castle), there was a marked increase [since the beginning of the sixties] in the number of research reports published on the topic, especially of those that involved a direct experimental comparison between ESP success with hypnosis and without it. The authors of both of these surveys conclude that hypnosis increases the amount of ESP ability the test subjects are able to demonstrate. But they also emphasize the need for further research to bring out more clearly the connection between hypnosis and ESP. They stress particularly the need to find out just how the use of hypnotic suggestion can improve ESP performance.

DRUGS

The discovery of drugs for the prevention or cure of diseases of the body has played the major role in the story of modern medicine. Not surprisingly, therefore, the discovery of tranquilizers, followed by the discovery of the psychedelic drugs that more directly alter consciousness, were widely regarded as the forerunners of a comparable revolution in the treatment of diseases of the mind. The question also arose whether substances like psilocybin or LSD, which produce such marked subjective changes in experience, would prove effective in releasing ESP. Several investigations seeking an answer to this question have been made. These studies have produced no clear evidence that any of the drugs now available increase ESP performance.

Certainly there have been some slight indications of some effects from a few studies, but in combination they do not encourage the expectation that drugs provide any master key to unlock hidden ESP powers.

EMOTION

Most ESP experiences in everyday life are linked with crisis situations. Individuals who report that they know about something happening at a distance usually describe events that were personal crises or threatening situations. This feature of these experiences suggests that emotional states may be closely linked with ESP. Yet most of the methods used for testing ESP in the laboratory have involved routine procedures, making use of repeated guessing of a limited set of numbers or symbols. The usual ESP test seems more likely to dull all sensibility than to arouse the subject's emotions.

To Mrs. Thelma Moss, a graduate student in psychology at the University of California at Los Angeles, it appeared that new insights into how ESP works might be gained if more emphasis were placed upon the emotional aspects of the test. She wanted to make the laboratory situation more like the circumstances in everyday life under which ESP usually operates. To accomplish this, she planned an investigation in which subjects were brought into the laboratory two at a time. One member of each pair was placed in a carefully soundproofed room while the other was asked to sit relaxed in an easy chair with a microphone and tape recorder. The subject in the soundproof situation, the "sender," was then subjected to a series of strongly emotional situations: putting his bare foot in a bucket of ice water for a minute: looking at pictures of Nazi concentration camp atrocities; looking at photographs of the assassination and funeral of President Kennedy; watching a series of slides showing seductively clothed pinups; and the like. While these events were taking place, the other subject, the "receiver," spoke into the microphone any thoughts that ran through his mind.

After the session, the tape was transcribed and judges were asked to infer from this record the order in which the isolated subject had endured the series of contrasting emotional experiences. The outcome of the investigation, based upon the results from thirty pairs of subjects, showed that the judges were successful in using the impressions running through the receiver's mind to identify to some degree the emotional experiences of the sender at those particular times. The level of success achieved in the matching procedure was so high that it would have been expected on a purely chance basis only one time in one thousand such experiments.

Since strong emotional situations can be studied under controlled conditions in ESP tests, Dr. Moss's approach adds a new dimension to the research seeking a better understanding of the complex factors that jointly govern ESP.

ANIMALS

The interest of parapsychologists in animals has gone further and the question has been raised in the research whether organisms lower in the evolutionary scale than man possess psi abilities. Thus far this question has been studied only as regards whether ESP may be a factor in shaping animal behavior. A recent survey of the work done in this area, published by Dr. R. L. Morris, reveals that the interest in the problem of ESP in animals goes back many years, but that really active investigation of the question began only around the middle of the century in the Parapsychology Laboratory of Duke University. Close attention was given at that time to three distinct kinds of animal behavior: the reports about pet animals that trailed their owners long distances and found them in new locations where the animals have never been before; the homing of pigeons over long distances from different directions when they were released in strange territory without previous flight training; and experimental studies of cats in forced-choice situations without adequate sensory cues for making "right" and "wrong" choices. All of these programs of research gave results supporting the hypothesis of ESP in animals, but the investigators did not reach

the point for a final conclusion.

A new and seemingly more promising line of investigation has recently been reported from the zoological laboratory of a French university. Their research involved the use of a fully automated test situation which recorded the behavior of a mouse in a cage in which a mild electric current was applied at regular intervals on a random basis to one or the other half of the floor. The mouse could move from one side of the cage to the other by jumping over a low dividing partition. The object of the test was to see whether the mouse would show a significant tendency to be in the part of the cage that would enable it to escape the shock when the current was applied.

The French investigators found that the mouse could indeed act to a statistically significant degree in a way that avoided the shock when it was not incapacitated through having been shocked on the preceding trial.

One point seems so surprising from a commonsense point of view that it must be made explicit here. The ESP ability that these laboratory animals are using is not one by which they are adapting to an existing situation, but to a future event that will be randomly determined after the choice has been made.

The mice are apparently using precognition occasionally, since there is no other explanatory hypothesis that can reasonably account for their success in avoiding the half of the cage that will be electrified a moment later.

REPEATABLE EXPERIMENTS?

Many parapsychologists feel frustrated or embarrassed by the general lack of control over psi performance or the slowness of progress toward this goal. Indeed, some research workers are calling for a major effort to achieve a repeatable experiment, but others have characterized this objective as one derived from the physical sciences and one that may not be attainable in parapsychology. Such a division of opinion among parapsychologists is normal and healthy, whichever group eventually proves to be right. As long as there are some investigators committed to finding a repeatable experiment, this goal will eventually be reached if it is a possible one. On the other hand, if those who say that this objective is unobtainable are correct, the other directions in which they will, by choice, concentrate their efforts should thereby eventually prove more effective for the advancement of knowledge in parapsychology.

LIFE AFTER DEATH

In yet another area, the problem of survival after death, major efforts in research have been made. During the first half of the ninety-year history of parapsychology investigators gave more attention to this problem than to any other. Their work mainly involved studies with special mediums or sensitives who claimed to transmit information from persons who had died. A number of outstanding scientists and scholars, such as William James, Oliver Lodge, and F. W. H. Myers, took part in these investigations and became convinced that the mediums were accurate in their statements beyond the degree that could be explained by chance or the clever use of inference. They agreed, in other words, that the medium was giving correct information that she could not have known in any normal, sensory way. But they did not find it possible to say definitely whether it was coming from surviving personalities or was obtained by the medium through her own ESP abilities. Conceivably, she could have picked up relevant facts from the observers by telepathy or from old letters or other records by clairvoyance. Then she would only need to dramatize her message as if it was coming from deceased persons.

After research on ESP was launched in 1930 at Duke University in what became the first sustained work in parapsychology in a university laboratory, the emphasis of investigators shifted for several decades away from mediumistic studies toward controlled experimental research. Recently the span of attention of parapsychologists has widened to include once more the claims of mediumship. This does not mean that there has been a swing away from laboratory research back to this type of investigation. Rather, some research workers in the field have once more shown an interest in the survival problem that makes further study of the claims of mediumship relevant, while others choose to continue to work entirely along strictly experimental lines.

Here we have one further respect in which the field is broadening in scope so that the research is enriched instead of being merely redirected along other narrow channels.

SLEEP

Another special state of mind now being considered in relation to ESP is so common that we are inclined to take it as quite ordinary. This is the state of normal sleep and its recurrent by-product, the dream state. These conditions are so universal in man and among most other species of multi-cellular organisms that we lose our curiosity about them. For centuries scientists neglected the problem of the nature of sleep and dreaming. But this fact was largely, it is true, due to the lack of a method by which these processes could be studied.

Parapsychologists have special reason to be interested in dreams. Collections of accounts of spontaneous psychical experiences from daily life show that the majority of these experiences occur as dreams. This fact suggests that the dream state may be one that is especially favorable for the expression of ESP abilities.

Current research, considered only in terms of the stage already reached, has shown that science must now take seriously some of the old and persistent beliefs about dreams that have heretofore been classed as folklore and superstition. On the basis of hard data

and solid scientific evidence, we can now accept it as demonstrated fact that one person's thoughts can in some way, directly and at a distance, influence another person's dreams. If we had only this simple fact from the field of psi research, the scientific implications would be tremendous. But parapsychology offers this finding and many others as well.

HAUNTINGS

As another example of the special areas that parapsychologists are exploring, we may look briefly at research on *hauntings*. The phenomena themselves vary widely. Footsteps may be heard when no person was present who could have made them, or footprints may be left where no one could have been. Noises of different kinds have been reported. An apparition of a human figure may be seen, sometimes appearing as vague and insubstantial, at other times being so lifelike as to be mistaken for a living person. Strange odors, unexplainable changes in temperature, vague feelings of an unseen presence, or some other form of malaise may be reported. The range of unexplained happenings classed as hauntings is almost endless. Obviously, if such claims can be taken at all seriously, the problem they present is one for parapsychological investigation.

As has been the case with mediumship and several other special claims, parapsychologists largely ignored reports of hauntings for several decades. But the wide span of research attention operating among the investigators has also brought this particular sector of the research frontier under close scientific scrutiny. In taking a new look at hauntings, parapsychologists have shown such imagination and initiative that they have carried the investigation of the problem beyond the point reached in earlier attacks upon it. In addition to simply collecting the testimony of witnesses to a haunting case, the investigators have made a systematic psychological study of the location where the effects occurred.

As in so many other things parapsychologists are concerned with today, the important consideration at this stage of the research is not whether final conclusions have been reached. What really matters is the fact that the investigations are being pursued vigorously and with imagination and that the results obtained indicate the importance of continuing the research. If this is done, the time for drawing conclusions will come naturally.

OUT-OF-THE-BODY EXPERIENCES

A type of experience that persons have quite commonly but are generally reluctant to discuss is the feeling of leaving their own bodies. Sometimes this feeling is limited to an experience of being separated from one's body by a short distance, such as of being above the body and of being able to look down upon it. At other times the person having an "out-of-the-body" experience feels that he has traveled to some distant point. He is usually convinced that he is able to observe what is going on there and occasionally to cause some physical effect. Almost always, however, he was not able to cause other persons to see him while he was out of the body nor to make his presence known in other ways. He is nevertheless generally convinced that he actually "traveled" in some unusual sense of the word and would be able to prove it by giving an accurate account of what happened.

The claim for out-of-the-body experiences is one that challenges investigation by parapsychologists for obvious reasons. Several writers have devoted a great deal of attention to this type of experience, but they have limited themselves to reporting their own experiences or to collecting the accounts of others. A more objective, controlled type of study is needed to show to what degree the claim of being able to travel outside one's own body is real in the objective sense. Only recently has a start been made toward conducting the kind of investigation needed to settle this issue.

SPACE

In 1963 Professor . Evelyn Hutchinson, an eminent Yale University zoologist, said (in an invited address to the Annual Convention of the Parapsychological Association): "... I would remind you that within the next few years we may be in a position to do ESP experiments over a far longer range in space than is possible on earth, so that the uncertainty as to whether the phenomena are independent of distance may well be settled by much better experiments, involving the distance from the moon to the earth, than have hitherto been possible. It is obviously a matter of great importance that parapsychology be well enough developed in that time to take advantage of such an opportunity."

In February, 1971, during the flight of Apollo 14, the news coverage of that event included references to an ESP experiment performed in outer space. One of the astronauts, Captain Edgar Mitchell, had carried out this test on his own initiative during his "free time" on the journey to and from the moon. Before the launching of Apollo 14 he had arranged for four persons on earth who claimed to have outstanding psychic abilities to attempt to "receive" the ESP test symbols that he would "send" from space. In analyzing his results, there were some indications that ESP had successfully spanned the distance between the earth and the space ship. But the success achieved was not outstanding as compared with many other ESP experiments — on a conservative basis of evaluation, about one time in twenty the total score made on the experiment would have been expected by chance — and the question of the relation of ESP to distance was certainly not fully and finally answered. But a new trail was blazed and this is enough to have accomplished on this first exploration ESP as a possible means of communication on a universal scale. Indeed, it requires no great stretch of imagination to think that Apollo 14 will be remembered in history as the historic occasion on which the first ESP test in outer space was made.

THE PLEASURE BOND

A NEW LOOK AT SEXUALITY AND COMMITMENT

William H. Masters, Virginia E. Johnson, with Robert J. Levin

Co-directors of the Reproductive Biology Research Foundation in St. Louis, William H. Masters, M.D., and Virginia E. Johnson (Masters) have written two medical textbooks, *Human Sexual Response* and *Human Sexual Inadequacy.*
Their third book, *The Pleasure Bond* has been subtitled *A New Look at Sexuality and Commitment.* Its introductory chapter, "Sexual Responsibility," is reprinted here with kind permission by Masters and Johnson and their publishers, Little, Brown and Company.

For many people, "responsibility" has the somewhat onerous connotation of carrying someone else's burden. Along with "reliability," "dependability" and "obligation," it may be perceived as a value that is oppressive and somewhat unrewarding. Unfortunately, this attitude also prevails in sexual relationships, where interpretation of sexual responsibility has been additionally prejudiced by time-honored, cultural misconceptions of sexual roles. Historically, the male has been assigned the role of sexual responsibility while the female has been confined to a role of sexual acceptance — stereotypes that show little knowledge or regard for the natural capabilities of either sex.

It is not surprising that generations of adult men and women have found it virtually impossible to live with or live up to the sexual roles to which they were culturally conditioned as adolescents: roles which suggest that men are satyrs who ravish innocent, but grateful, females. These roles were transmitted to young men and women through innuendo and through sly, incomplete or silent response to their need to know what meaning and function sex will have in their lives.

These cultural roles were established at a time when there was no knowledge of individual psychosexual limitations or of natural variations in male or female sexual capacity. Although they have not withstood the realities of either sexual or social needs, they remain woven into the sexual mores of society.

As individuals frustrated by almost unbelievable sexual ignorance, we cope with the disparity between our own sexual needs and our sexual roles in a variety of ways. Some people reduce all sexuality to a dirty joke, while others decry or repress anything that hints of

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sex. Currently, a small but clamorous number of people are immersing themselves in any or all styles of sexual expression in an attempt to break the mold of sexual inhibition and dissatisfaction. Still others just endure. Fortunately, there always seems to be a heartening number of people who, despite their cultural handicaps, are able to develop a realistic, comfortable attitude toward sex. These individuals, together with their sexual partners, have learned that sexual responsibility can be shared.

Our double-standard society, in its early stages of development, maintained a tacit acceptance of sex as a hearty source of mutual pleasure for those men and women who discovered this for themselves and confined its practice within certain prescribed boundaries. Practical, earthy levels of sexual awareness apparently fared best. Husbands and wives in the then predominantly rural society found both the need and the opportunity for achieving sexual unity within their particular lifestyles.

With the advent of the industrial revolution, however, the double standard soon became the means by which men and women were separated sexually as well as socially. The concept of sex as a source of mutual pleasure (and therefore an area for mutual responsibility) faded as men and women found their lives rigidly divided by both the work ethic and social demands. As they pursued separate goals, husbands and wives lost sight of their need for one another. As an additional heritage, the omnipresent religious orthodoxies, social intolerances and ignorance of sexual matters by health-care professionals, contributed immeasurably to our culture's lack of comprehension of sexual response as a natural physiologic process, a process comparable to other natural functions such as respiratory, bowel or bladder function.

When sexual response was separated in our thinking from its rightful place as a natural function, sexual misconceptions and even taboos inevitably became integral parts of the social structure. The concept of sex as sin, and sex for reproduction only, firmly overruled the concept of sex for human warmth or sex for mutual pleasure. As a consequence, hundreds of thousands of men and women have been tied into severely neurotic or even openly psychotic patterns of behavior.

With sexual functioning firmly established in our culture as something apart from other natural processes, there were sexual roles to assign, sexual practices to establish, sexual restrictions to impose. All were done out of hand by an omnipotent social arbitration that communicated to the individual not only what his or her sexual pattern should be — but what it *must* be.

It was decided — who knows by whom? — that the male was the sex expert. Perhaps this decision evolved from man's historic role as protector and provider. Or it could have derived from a male fear of the unknown or the misunderstood sexual potential of the female. In any event, man was clearly acknowledged as the fount of all sexual knowledge. As adolescents, boys were allowed, even encouraged, to honor their sexuality. "Boys will be boys," followed by a suggestive snicker or a benign smile, became a popular cliché. After all, they did need experience, didn't they? Tacit permission was given to go-do-it, but, of course, to be circumspect. And as long as they remained "gentlemen" — didn't talk too much, didn't mention names and didn't practice on girls they might wish to marry — there was no cause for concern.

Woman's sexual role? This was another matter. During the eighteenth, nineteenth and well into the twentieth century, the woman's sexual role was even easier to define. She had none — other than that of seminal receptacle. Woman's sexual responsivity was not only denied, but actually obliterated as a possibility by male arbiters in a chauvinistic society. Everyone knew — or at least all men knew and most women pretended — that "nice" women had no sexual feelings, that respected wives only submitted in the hope of conceiving and that "those women" who freely responded sexually simply weren't the kind you married.

Intercourse was woman's burden and a true gentleman insisted upon the "marital privilege" as infrequently as possible — at least with his wife. And so, while sexual feelings and freedom to react sexually were acknowledged as male prerogatives, these rights were denounced or denied for the female.

Typical of the many decades of scientists' and physicians' negation of woman's sexual feelings is a passage from a gynecologic textbook published in the late 1950s. The editor, a male, of course — stated unequivocally that not only were women nonorgasmic, they rarely, if ever, had sexual feelings and certainly little sexual interest. And he didn't even distinguish between "nice" women and the "other kind." Yet another example of society's rigidity in the control of woman's natural sexual function is the fact that more than ninety-five percent of everything that has ever been published on the subject of female sexual response has been written by men, most of whom objectively and all of whom subjectively hadn't the vaguest idea of what woman's orgasmic experience is all about.

Until almost halfway through this century, sex was something that everyone knew the man, after marriage, was going to do *to* his wife on their wedding night. Not only did the husband believe that the wedding night was committed to his pleasure, but his wife, too, was prepared for duty — with her role exclusively that of sexual servant. The prize for virginity (real or feigned) was to be her sacrificial offering to her new husband. An unruptured hymen was not only accepted as proof positive of a wife's sexual innocence but was usually required as a symbol of her sexual ignorance and his sexual prowess. Social mores demanded that her fund of sexual knowledge, her degree of sexual experience and her evidence of sexual interest, if any, were to be defined and controlled by her husband.

In short, the prize of the intact hymen was assigned to the head of the household. It was for the taking: how, when and where obviously were his responsibility — his sexual responsibility. Our culture had decreed that brides were to be virgins. Therefore, women who had made the fearful mistake of offering this prize in prior sexual encounter must do their best on their wedding nights to conceal its loss. Yet despite having to play the role of sacrificial lamb at marriage, the virgin bride had one very real advantage over her husband: other than

being available, she had no sexual responsibility.

Of course, there is the other side of the coin to the virginal bride. The culture also presumed that there was no such thing as a man with little or no sexual experience at marriage — a man who wasn't a fount of sexual knowledge. So many men who married, having only insignificant, if any, sexual experience, inwardly quaked and outwardly faked the expected expertise — and because of their discomfort, many more wives suffered.

Back then to the subject of the husband doing something *to* his wife on their wedding night. This was sexual responsibility — his to do to her; hers only to be done to. And for generations we played our culturally assigned sexual roles of expert and virgin; but sexually we hardly prospered.

Then in the 1950s, with Kinsey's good help, some light was shed on the impasse created by our sexual ignorance. As soon as we learned a little about sexual functioning, both male and female sexual roles altered significantly; men assumed a different level of sexual responsibility, and woman benefited not only from male role change but from the sexual "permissiveness" the new knowledge brought to the marriage bed.

Professionals (still predominantly male, of course), slowly gaining confidence, began assuring the public that women not only had real sexual feelings and legitimate sexual interest, but also could and should be orgasmic — something that millions of women (even "nice" women) could have revealed had they ever been asked and been assured that their answers would have been accepted without being judged.

So the knowledgeable man who married in the 1950s and early 1960s, instead of doing something *to* his wife sexually, was prepared to do something *for* her sexually. Fortified by his newly acquired sexual wisdom, he felt fully capable of providing her with sexual release. She was now allowed to respond sexually — only on his terms, of course, but at least she had permission to respond. The culture had grudgingly consented to this change in status. Women's sexual feelings no longer need be hidden — or even apologized for — certainly no longer denied. But sexual responsibility, of course, remained with the husband. He continued to be the arbiter, he became the coach, and he remained stage center in all sexual matters. Unfortunately, in the role of doing *for* rather than just doing *to,* he had to assume even more sexual responsibility.

Woman's sexual lot improved; her role was no longer simply that of providing service. She had been granted a small part, actually more than a walk-on, in the sexual scene. But she was still expected to acknowledge her husband's natural expertise in all things sexual, particularly after he had granted her the privilege and pleasure of orgasm.

Of course, the husband's sexual burden continued unrelieved, or perhaps became even heavier. For whether he was still doing something *to* his wife or had knowledgeably switched to doing something *for* his wife, he alone carried the responsibility for achieving successful sex. The social insanity of proclaiming the male the sex expert led many a man to his functional downfall. When things went wrong in the marriage bed, automatically the fault, *the responsibility,* was his. If he was a premature ejaculator, if he was impotent or if he had a low level of sexual interest, he alone was to blame. If his wife was nonorgasmic, vaginismic (involuntary contraction of the outer third of the vagina) or sexually aversive (inability to participate in sexual activity without a feeling of revulsion), he also assumed a major share of the blame. It should be noted, however, that this degree of sexual responsibility was rarely accepted by men who culturally were conditioned in the role of "do-to" husbands; it developed, rather, as a corollary to the "do-for" concept. As time passed woman's sexual role was amplified while men strained to fulfill their new responsibilities. And still we did not prosper sexually.

How has sexual responsibility fared in the last decade? Finally, the pendulum is swinging — woefully late — but, as always, better late . . .

Has definitive research supplied sufficient knowledge of sexual functioning to significantly alter cultural concepts of sexual roles and responsibilities? Are professionals taking new looks at old problems of both male and female sexual dysfunctions? And are new answers to treatment of these dysfunctions available?

Yes, fortunately. We cannot help but prosper from the recently accorded privilege of being able to evaluate human sexual functioning as accurately and objectively as we are able to research and evaluate any other natural body function.

Slowly, as secure information replaces palpable ignorance, misconception, or myth, our society is not only developing an infinitely greater comfort factor with the subject of sexual functioning, but we, as individuals, are growing from informed adolescence into more viable sexual adulthood. Today, sexual responsibility is being assumed by the individual — man and woman alike — never again to be assigned to one sex. For now we know that there is no way that a man can be responsible for a woman's sexual functioning, nor can she assume control over his sexual response patterns. In truth, there is no way that a man can "give" his wife an orgasm, or that a wife can provide her husband with an ejaculation. There simply is no way that one individual can assume responsibility for the other's natural physical processes. We can't breathe for the other person, we can't eat for the other person, and we can't respond sexually for the other person.

Effective sexual functioning is something that transpires between two people. To be effective it must be done together. It is something that sexually functional couples do *with* each other, not to or for each other. So woman's sexual role has accomplished a hundred-and-eighty-degree turn — from that of sexual servant to sexual equal, all in the last ten to twenty years. There remains only for her to explore and exercise this potential and for her sexual partner to share in her experience.

While she is beginning to do so, it is not surprising to find that her initial attempts are often still grounded in the old assumptions. For example, although we lack conclusive statistics, there is little doubt that when a marriage is jeopardized by sexual conflicts, in the vast majority of cases it's the wife who seeks counseling. She may go at her husband's urging or with his agreement or perhaps without his knowledge. But in

THE PLEASURE BOND

any event the implicit assumption seems clear: if sex is a problem in marriage, it's the wife who needs help.

So widespread and deeply rooted is this assumption that it goes unquestioned by most women. As a result they all too often accept — or even volunteer for — the role of scapegoat. More than once couples have come to our clinic for therapy on the basis of the wife's inability to experience orgasm, genuinely unaware that there is one important factor they aren't taking into consideration — the husband's sexual incapacity. For example, he may suffer from premature ejaculation, which at the very least contributes to his wife's unresponsiveness, if in fact it isn't the basic cause. But when first seeking help, they will have no doubt that it's the wife who requires treatment.

This traditional attitude sustains the male in a heads-I-win, tails-you-lose approach to sexual disharmony. If he is impotent, his wife worries: "What's wrong with me?" And if she is nonorgasmic, he wonders: "What's wrong with her?" He then sends her off to a doctor or psychiatrist and hopes she will come back "fixed."

This approach is doubly regrettable. For one thing, it is almost certainly doomed to fail. A wife cannot be treated for a malady that afflicts the marriage relationship itself, any more than she can go for lessons by herself to learn how to dance with her husband — who isn't very graceful, can't keep time and has never enjoyed dancing.

For another thing, therapy for the wife alone will not only fail to solve the problem but will probably make it worse. After all, once the doctor or counselor has conscientiously dispensed advice and the marital relationship remains unchanged, how can a wife avoid feeling that she is a total failure, a hopeless case? This further erodes her self-esteem. Consequently, there is less chance than ever that she and her husband can overcome their sexual disharmony.

The destructiveness goes even deeper. When a wife alone seeks help, she is conforming to the prevalent idea that the female role is to learn how to gratify the male. She is expected to adapt herself, sublimate her wishes, inhibit her desires or even distort her natural drives so that she can please a man who will therefore choose her, or keep her, as his mate. In the drama of life it is only as his mate that she can play the most rewarding parts that her society assigns to females — those of wife and mother.

To play these parts many women have paid the required price — the suppression of their sexual natures. This price, it becomes increasingly clear, is exorbitant. It leads to sexual bankruptcy in many marriages, and both husband and wife understandably feel cheated. Ironically, their dissatisfaction flows directly from the very principle that was supposed to bring them the rewards of sex — the idea that if a young girl obeyed society's strictures and learned to accommodate herself to the male, both would benefit in marriage.

In effect, this turns a woman into a puppet, a term the dictionary defines as "a person whose actions are prompted and controlled by another or others." Certainly in the past women were trained to be sexual marionettes. But many men today belatedly realize that being married to a female puppet is not at all what they want. The responsive, fully functioning man wants a responsive, fully functioning wife — a woman who has discovered her natural sexual capacity and who enjoys it.

In rightfully assuming a "full voting partnership" in the sexual relationship, however, women must be careful to avoid making the same kind of mistake men have made for a long time. The mistake can be found in the remark of a wife who said in no uncertain terms that she was just as "entitled" to sexual satisfaction as her husband was. To be entitled to something means to have the right to claim it and expect that it will be provided. No matter how gently she may let him know, this wife is in effect saying to her husband: "I should be enjoying intercourse more than I am, and I would like you to do something about it."

Unwittingly and ironically, she has flipped to its opposite side the same coin the male has been using for generations, the coin of sexual service — one person is expected to satisfy the needs of the other. In the past, of course, it was the female who served the male as part of her marital obligation. Today's young women have grown up believing that sexual satisfaction is something one partner is capable of giving to the other. More explicitly, and quite logically, they believe that since, as they have been told, a wife's compliance is all that a husband needs to obtain the orgasm he wants, she should have the right to expect him to do the same for her.

Unfortunately, the coin is counterfeit. In a continuing relationship sex-as-service rarely leads to sustained pleasure and is very unlikely to bring a woman the fulfillment she desires. It is no different for the man. Contrary to one of the most widespread of all sex misconceptions, the fact is that sex-as-service has failed to reward most men with the erotic gratification they anticipated.

It has failed because it is based on fallacy — the notion that the male animal is biologically endowed to function sexually at will as long as he has a female at his disposition. And regardless of whether she is eager, indifferent or even reluctant to accommodate him, and regardless of whether she participates actively or passively, he will have the pleasure he wants.

This is a myth, one of the most deceptive and destructive ever to dominate the intimate lives of men and women. Many a man has married believing the myth and convinced that as long as his wife accepts him whenever he chooses to have sex, he will be satisfied and their sexual relationship will be rewarding. Sooner or later, however, and more often sooner than later, he learns that he was wrong. Even though his wife may willingly remain available, if all she does, or all she is permitted to do by the moral codes that govern their lives, is to receive him without responding, his satisfactions eventually fade and so does desire. Availability is not enough.

This truth is reflected in the crude and hostile jokes of men, such as the complaint that "the two most overrated things in this country are home cooking and home loving." It is reflected in the dismal number of husbands who function poorly in the marriage bed or do not function there at all. And it is directly confirmed by the testimony of those men who seek professional help with sexual problems.

What these men must learn is that if a husband is to perform effectively over the years, he requires more of his wife than that she merely be compliant. No

matter how the feelings are communicated, a man no less than a woman wishes to believe that his marriage partner values him and needs him and desires him.

To the extent that his wife makes him aware that she sees him as an individual and is emotionally committed to him — not just economically dependent — she fortifies his esteem. And it is this pride in himself both as an individual and as a man that he expresses with vigor in their sexual union. If asked, she may well say that the woman's role is to yield to her husband whenever he desires her; and he may insist that he expects his wife to be willing. They may say that and even believe it, echoing old codes fashioned out of the double standard — but their marriage is in fact a contradiction of what they say.

They are not living on the basis of services duly rendered. The wife is not a servant in the home, not in the kitchen or in the bedroom. The husband is not her employer, who gets only what he pays for and must pay for whatever he wants. Their sexual relationship mirrors their personal relationship, in which each is responsive to the other's wishes, each takes pleasure in pleasing the other and each values having the respect of the other. Since emotionally stable human beings are not split personalities, how they feel about each other and how they act toward each other is essentially no different at night from what it is by day.

But the yearning of a young wife today for greater physical fulfillment than she now experiences is certainly understandable. In these transitional times, when society is slowly but inevitably learning to honor the sexuality of the female as it has always honored that of the male, women's changing expectations can be satisfied only by those men who are capable of changing their attitudes and who want to change them.

They are unlikely to be motivated by a sense of obligation. Any wife who lets her husband know that she feels "entitled" to a sexual climax and expects him to bring it about may find that even if he wants to oblige her, he will probably fail more often than not. And the more emotional pressure she exerts on him, the less physical pleasure she is likely to experience.

She will be learning the same lesson that men are beginning slowly to comprehend: sex-as-service does not produce the desired pleasure. The mistake men made was to think of the female as a receptacle. The mistake women must avoid making is to think of the male as an instrument — for she risks paying a greater penalty for her error. While a man with an unresponsive woman may still manage to secure a release of sexual tension, a woman with an unresponsive man can expect only greater tension, because his impotence will increase her frustration.

If flipping the coin to the other side is no solution, if sex-as-service is even more self-defeating a principle for the female, how, then, can a sexually emancipated woman succeed in securing the fulfillment that is her birthright?

In the same way — the only way — the male can secure his own birthright: together with a partner who is committed to the principle of mutual pleasure. More is required, of course, than simply having the right outlook, but it is indispensable as a starting point. To translate the wish and the will into the achievement, however, involves both husband and wife in the negotiation of their differences on the basis of genuine equality.

As equals they accept responsibility for mutual cooperation in the bedroom, and for mutual creation of the emotional environment needed for the sexual relationship. The term "with" implies this mutual cooperation, just as the terms "to" or "for" carry the connotation of active-versus-passive sexual roles. Perhaps the best means of encouraging mutual cooperation consists of communicating one's sexual needs confidently and openly to one's partner. Free flow of both verbal and nonverbal communication between cooperating sexual partners is the cornerstone of effective sexual function. In essence, accepting sexual responsibility means informing and cooperating: one partner must never presume knowledge or attempt to control the other partner's sexual needs.

Conversely, mutual cooperation also includes the necessity of an ear constantly attuned to a partner's expression of sexual interest. It matters little how clearly a partner sends a message of sexual need, if one's own reception of the message is confused or prejudiced. The willingness to send and receive is as vital in sexual communication as in any other kind of communication. Each partner is sexually responsible for keeping both capacities in good working order.

In recent years, there has been a more social interpretation of sexual responsibility that bears at least passing scrutiny: that of responsibility for conception. The sense of commitment between partners does not end with their mutual concern for the pleasures of sexual encounter but carries over to include their mutual obligation in exercising control of conception or accepting responsibility for the results of their union — pregnancy.

The introduction of contraceptive information into our culture approximately forty years ago helped to liberate the woman from her role as a sexual servant. Whether one is committed to the contraceptive technique of "rhythm" or to that of the "pill," or to any step in-between, sexual parity would never have been possible without the opportunity that contraceptive knowledge alone provides for both sexes to assume full responsibility for every potential of sexual interaction.

To repeat: sexual responsibility has a twofold implication in today's world. Primarily, we are responsible only for ourselves in our sexual commitments, for full communication of our sexual wants and, subsequently, for physical expression of our sexual drives. Also, we are committed to remaining fully attuned to partner communication and to the cooperation necessary to enable one's partner to satisfy his or her sexual needs. Secondarily, our sexual responsibility extends not only to full obligation for pregnancy, but to adequate control of conception.

The potential rewards from parity of sexual roles are limitless. For a man, alleviation of the fears of sexual performance that were so ingrained in his socially assigned role of doing to or for his wife, inevitably will be of major consequence to his sexual function. And the freedom to be and do sexually as a full partner will immeasurably improve the quality of a woman's sexual expression.

But the largest dividend will come to the culture. No longer will sex be accepted as a thing apart, an isolated entity, a sexist privilege or an exploitable commodity. With each individual assuming responsibility for himself or herself alone, sex finally will be returned to the only position from which it can be viewed with comfort, and experienced with reliable fulfillment — that of a natural function. □

It's All in Your Head

(well, almost all)

by Robert Lawrence Kuhn

It's a short word — but it evokes strong reactions. "Sex" always has — and it undoubtedly always will. But how do sexual feelings and responses "work"? Virtually all have experienced "sex drives," "sex desires," "sex feelings." But why do we feel the way we feel? Attempts to explain sexual desires and feelings usually focus on the genital region. But is this the right place to start? Is sexuality centered in the male and female genitalia? Surprising as it may seem, the very strongest sexual feelings are produced not by stimulation of the external genitalia — but rather from deep within the brain! This article explains the physiological basis for that unique set of "feelings" that are so difficult to express in many words, but so easy to express in one word: SEX.

Dr. Kuhn received an A.B. in human biology from Johns Hopkins University and a Ph.D. in brain research from the University of California at Los Angeles. He is now one of the executive directors of the Ambassador International Cultural Foundation and the editor of *HUMAN POTENTIAL*.

Sexual activity within the nervous system can be discussed at eight levels: 1) at the periphery, the sex organs; 2) spinal cord; 3) autonomic nervous system; 4) hypothalamus or "sex center"; 5) reticular formation; 6) limbic system; 7) cerebral cortex; 8) frontal cortex.

Peripheral Nervous System

It is no great revelation that sexual sensations originate from the external genitalia. All sensations are first picked up in the skin by specialized parts of the nerve fibers called "receptors." Different receptors monitor different types of sensations (e.g., touch, pressure, cold, heat, pain, etc.). In the sex organs, four types of these specialized receptors can be distinguished: (a) free nerve endings: receiving general touch and pain sensations; (b) Meissners corpuscles: sensitive to localized touch; (c) Pacinian corpuscles: signaling pressure and changes in blood flow; (d) genital corpuscles: located deeper beneath the surface of the skin, they are apparently fully activated by increased blood flow during sexual excitation and may mediate a more specific sexual sensation. Obviously, the genitals are well endowed with a full array of sensors — which when activated in specific combinations and in proper proportions produce unique sexual sensations.

But is this information being transmitted to the brain already "sexual"? Not at all! Sensation coming into the central nervous system (spinal cord and brain) is simply in the form of nerve impulses — much like Morse Code traveling along a wire. It is only in the central nervous system that these impulses are "interpreted" as sexual and given real meaning.

Spinal Cord

The spinal cord is the line of communication between the body and the brain. Together with the brain it forms the central nervous system. It is also the area where *reflexes* are generated. Reflexes work without any conscious control from the brain (e.g., knee-jerk, withdrawal from pain, etc.).

Erection and *ejaculation* are two examples of "spinal reflexes." This means that both can occur in animals and humans with *severed* spinal cords. But the spinal mechanisms for erections and ejaculations are distinct. Ejaculation results specifically from sensations coming from the genitalia, but erection is not as specific in origin. There are two types of erections: *reflex* erection, which can be caused quite unconsciously by genital stimulation; and *psychic* erection, caused quite consciously!

Autonomic Nervous System

The "autonomic nervous system" is that part of the nervous system that extends beyond the brain and spinal cord into all regions of the body and controls all *in*voluntary bodily functions. It is divided into two systems: sympathetic and parasympathetic, working together in a form of biological counterpoint. The sympathetic system is in charge of the massive general reactions accompanying anger, athletic energy, emotional actions, etc. The parasympathetic system is in charge of specific functions such as digestion, excretion — and it controls erection and sexual arousal.

When the mind gets excited about sex, the parasympathetic nerve fibers send impulses that cause erectile tissue to congest. Blood vessels of the penis and clitoris open up, causing the gorging of blood with resultant swelling and hardness.

The sympathetic system, on the other hand, shrinks the blood vessels, returning the organs to their flaccid states. When the sympathetic nervous system is activated, the parasympathetic system is inhibited. This means that the engagement of the sympathetic system (for example, by athletic activity) will naturally suppress sexual activity. (This is the physiological basis behind one solution to sexual drives — run around the track, get into a squash game, or start a fight!)

Hypothalamus

We tend to think of sensations from the genitals as being the cause of sexual arousal and behavior. But this is simply *not* so. Experiments in cats show that when genital sensation is completely removed (in both males and females), normal sexual behavior is *still* present. Even when the male is deprived of the ability to have an erection, sexual interest doesn't diminish — though ability for intercourse is obviously removed. This conclusively demonstrates that peripheral genital sensation is *not* the most important factor in sexual behavior — and, as a matter of fact, isn't really necessary.

Where then do all of these sensations become "sexual"? In the *hypothalamus.*

The hypothalamus is located deep within the middle of the brain. Although only one cubic centimeter in size, it consists of some 10-15 subdivisions, each extraordinarily important. Some deal with hunger and satiation. If the subdivision — or the "nucleus" — controlling hunger is destroyed, the animal will never be hungry and consequently starve to death. If the nucleus regulating satiation is destroyed, the animal will never stop eating and consequently blow up like a balloon. Other areas of

BRAIN STIMULATION EXPERIMENTS

One of the most interesting areas of brain research has been self-stimulation. An animal (rat, cat, monkey, etc.) is put into a cage that has a bar which the animal can freely press. The bar is attached to equipment which administers an electrical current through wires in the animal's brain every time the animal presses the bar. Therefore, the animal can freely decide, *if, when,* and *how often* to give his own brain an electrical stimulus. If these impulses are delivered to most areas of the brain, the animal will randomly press the bar — not caring one way or the other. In some areas, the animal will carefully avoid pressing the bar at all — these are "painful" or "stressful" areas. And in others the animal will fervently — even wildly and obsessively — press this bar. All the animal wants to do is to press that bar and deliver the electrical current to these very localized areas of the brain.

Which areas? The SEX CENTER, the hypothalamus primarily, and the EMOTION center, the limbic system secondarily. These experiments are extraordinarily important. They show that the direct activation of the sex and emotion centers in the brain is the most powerful desire that an animal can have — even more desirable than a sexually-receptive mate right alongside!

Animals can easily press the bar over 5000 times per hour — never stopping until total exhaustion is reached and the animal collapses. Similar experiments have begun in humans during neurosurgical procedures. Patients report extremely pleasurable feelings, *sexual* feelings, when stimulated in the appropriate area. (And people thought they could achieve the ultimate high with drugs!)

HOW SEXUAL STRENGTH IS TESTED

Scientists studying the physiological basis for sexual behavior need techniques to compare differences in the strength of sexual drives. Three of the more well-known are: (1) the quicker an animal will learn a simple problem in order to have, as a reward, a sexually-receptive mate is directly related to sexual strength; (2) the faster an animal will run to an area where the receptive mate is located is also directly related to sexual desire; (3) the stronger the electrical shock that an animal will endure (running across an electrified grill) in order to reach a mate, the stronger the sexual desire. Experimenters have been amazed at the painfully-large doses of electrical current that an animal will voluntarily absorb in order to reach a sexually-receptive mate — much more than for food or water. For the extrapolation of this data to humans, simply use your imagination — and be honest!

CATEGORIES OF SEXUAL BEHAVIOR

Sexual behavior can be divided into three general categories: 1) *Arousal reaction:* external stimuli are received and interpreted as "sexual"; naturally the senses and the cerebral cortex are of primary importance. 2) *Integrative reaction:* all the stimuli are united with memories of sexual experience; the desire for immediate sexual behavior blooms. This integrative reaction occurs in the hypothalamus or sex center. 3) *Consummatory* or *completion reaction:* once the actual sexual behavior begins, the pattern of action becomes more stereotyped (much more so in animals than in man); the process of ejaculation is primarily a spinal mechanism.

the hypothalamus are concerned with thirst, body temperature, etc.

The hypothalamus is also the "sex center." It integrates sensations from the body with information from the eyes, ears, nose — even from memories! The effect of sex hormones are also felt and integrated here.

The hypothalamus is the KEY area. If even minute sections of it are destroyed, sex arousal and normal sex behavior become impossible. On the other hand, artificial stimulation in the hypothalamus, either by electrical currents or by sex hormones, will induce full sexual arousal and behavior. In no other area of the brain will such a remarkable reaction occur. Here then is where "sex is at." Here is the real origin of sexual feelings: sexual response without any external sexual stimulus.

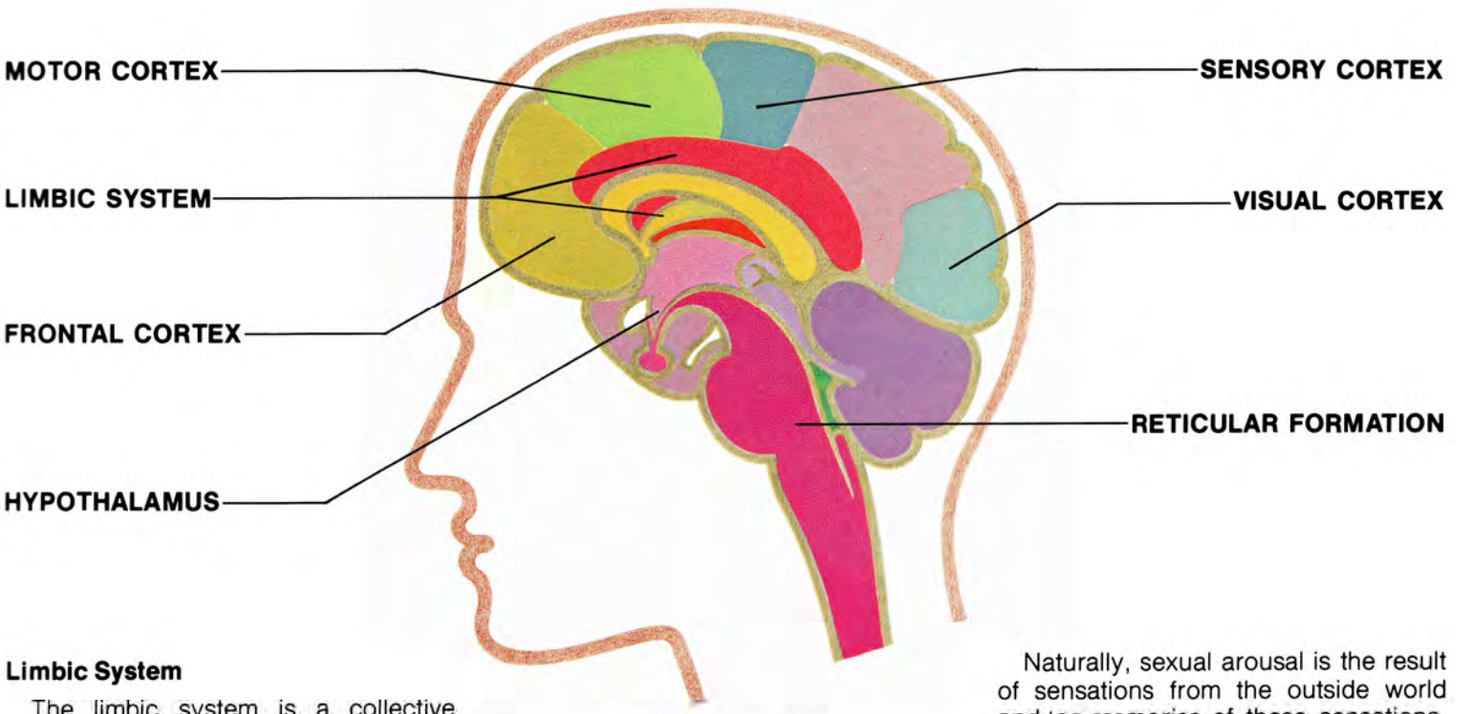
During normal sexual stimulation, massive electrical activity is found in certain sections of the hypothalamus. Although also found in other areas of the brain at the same time, the electrical activity is always largest and lasts the longest in this sex center.

Other studies of the hypothalamus involve "lesions." This consists of making specific destructions of areas of the brain and determining the loss of function resulting. The conclusion that can be drawn is that the brain structures which are destroyed are normally involved in the functions which were lost following the lesion. The evidence is dramatic. Destruction of very large areas of the brain may have no effect on sexual arousal and behavior. However, even the very smallest lesions in the hypothalamus can completely eliminate normal sexual arousal and behavior.

It is interesting to note that studies also show that *separate centers* within the hypothalamus exist for sexual behavior and ovulation in the female. So sexual activity can exist without ovulation (reproduction) and vice versa.

Reticular Formation

The reticular system is the name for the portion of the brain just above the spinal cord. It is the system which activates the brain and maintains the person's attention; it is also the region which controls all unconscious "visceral" mechanisms (heart rate, breathing rate, etc.), as well as mediating sleep and wakefulness. These functions are indirectly related to sexual behavior. Heart and breathing rates are quickened during states of sexual excitement as attention to the sexual stimuli is increased, while attention to other extraneous stimuli is lessened. (The old husband-wife joke, "Marvin, the ceiling needs painting" indicates a lack of sexual attention caused by a lack of sexual arousal.)



Illustrations: Alain Moreau

Limbic System

The limbic system is a collective name for a large group of brain structures which control emotion: rage, aggressiveness, placidity, fear, and anger. Removal of parts of the limbic system results in bizarre sexual behavior — animals seek sexual partnerships indiscriminately with males, females, other species and even inanimate objects. Some investigators speculate that one part of the limbic system may mediate the "idea" or "imagination" of the mate and mating, while another part evaluates the possibility for "action." The artificial stimulation (electrical) of some limbic system areas produces erection and ejaculation.

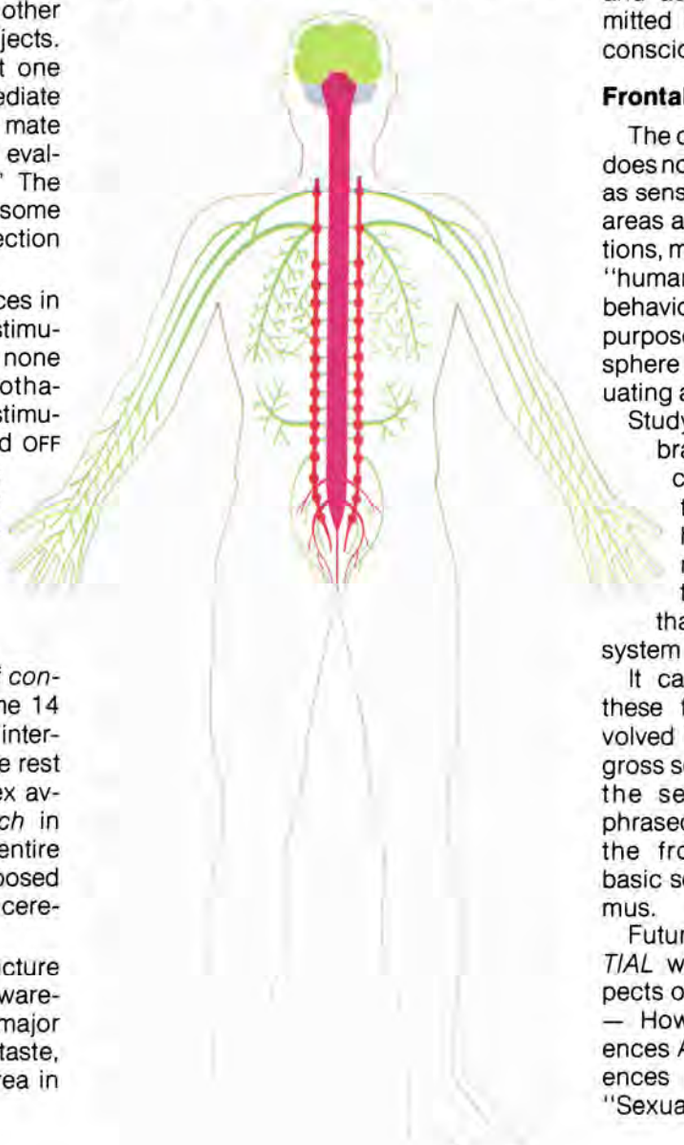
There are a large number of places in the brain where direct electrical stimulation results in erection (though none as dramatically as in the hypothalamus). This indicates that the stimulation is not simply turning ON and OFF an unconscious reflex. Rather, a good deal of the brain (especially this limbic system) must be involved in sexual awareness, arousal, and behavior.

Cerebral Cortex

The cerebral cortex is the seat of *consciousness.* It is composed of some 14 billion neurons (nerve cells), all interconnecting with each other and the rest of the body. Human cerebral cortex averages about *one-sixth of an inch* in thickness and surrounds the entire brain. Whenever one views an exposed brain, most of what is seen is the cerebral cortex.

The cerebral cortex is the structure responsible for the conscious awareness of all sensations: all of the major senses (hearing, smell, vision, taste, touch) have their own localized area in the cortex.

Schematic view of the autonomic nervous system in relationship to the spinal cord.



Naturally, sexual arousal is the result of sensations from the outside world and/or *memories* of these sensations. In either case, impulses (relaying the "message") come from these cortical areas to the hypothalamus and limbic system where these sexual transmissions are integrated into sexual arousal and activity per se and then retransmitted back to the cerebral cortex for conscious perception.

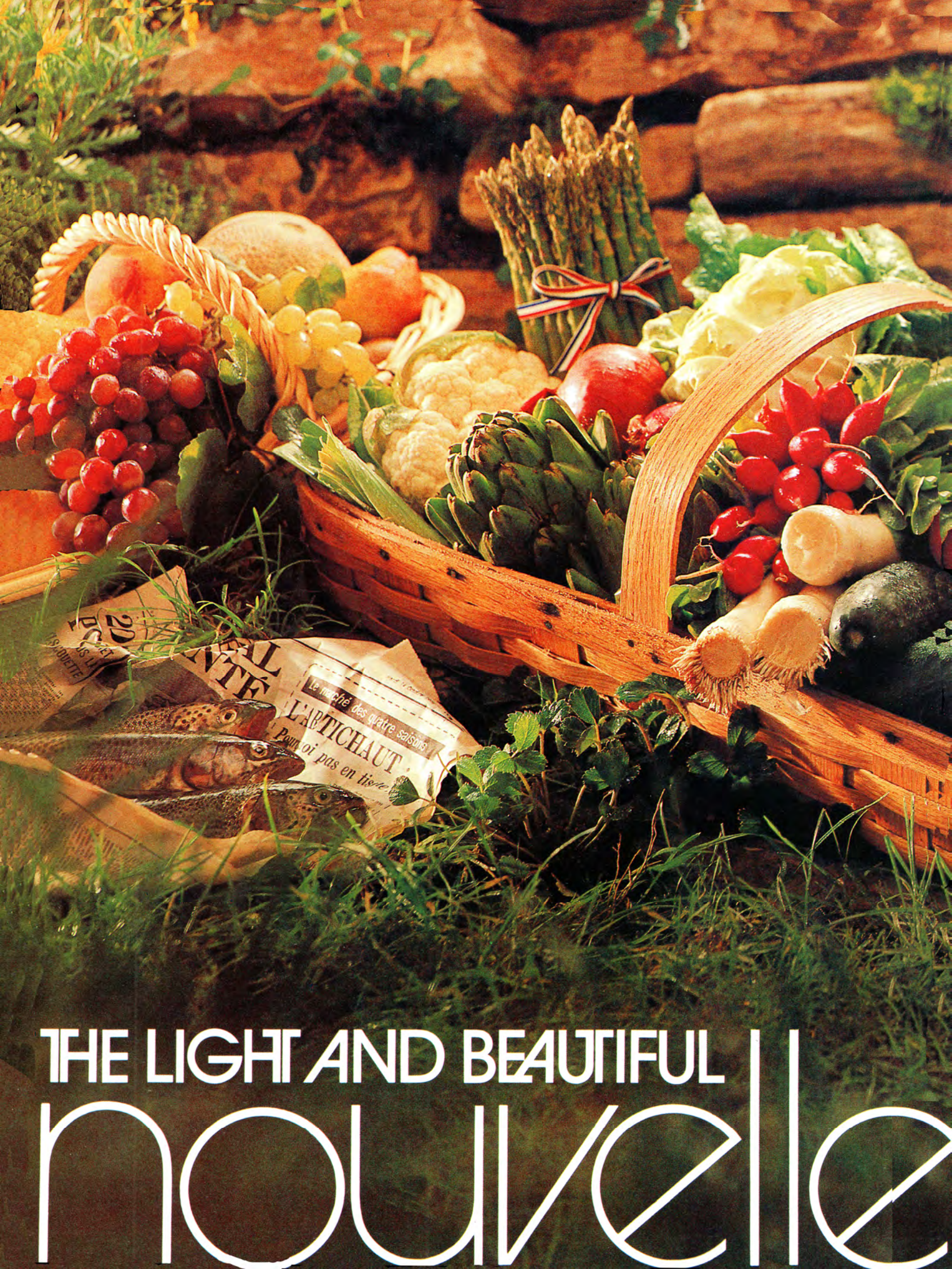
Frontal Cortex

The cerebral cortex of the frontal lobes does not have any *specific* purpose (such as sensory or movement). Rather, these areas are involved in "unspecific" functions, most of which are considered to be "human" in quality: 1) control of social behavior; 2) the determination of goals, purpose, or intention; 3) thinking in the sphere of time, planning ahead; 4) evaluating alternatives; 5) the "will."

Study of the electrical activity of the brain has shown that the frontal cortex is a very powerful inhibiting system. Anatomical research has shown that there are a huge number of connections between the frontal cortex and the hypothalamus (or sex center) and limbic system (emotional center).

It can therefore be suggested that these frontal cortical regions are involved in inhibiting and controlling the gross sexual drives which emanate from the sex and emotion centers. Or phrased in another way, the "will" of the frontal cortex can control the basic sexual impulses of the hypothalamus.

Future articles in *HUMAN POTENTIAL* will explore other fascinating aspects of sexuality: e.g., "Sex Hormones — How They Work," "Sexual Differences Among Animals," "Sexual Differences Between Men and Women," "Sexual Changes During Life," etc. □



THE LIGHT AND BEAUTIFUL nouvelle

cuisine

by Gary Alexander
Photographs by George de Gennaro

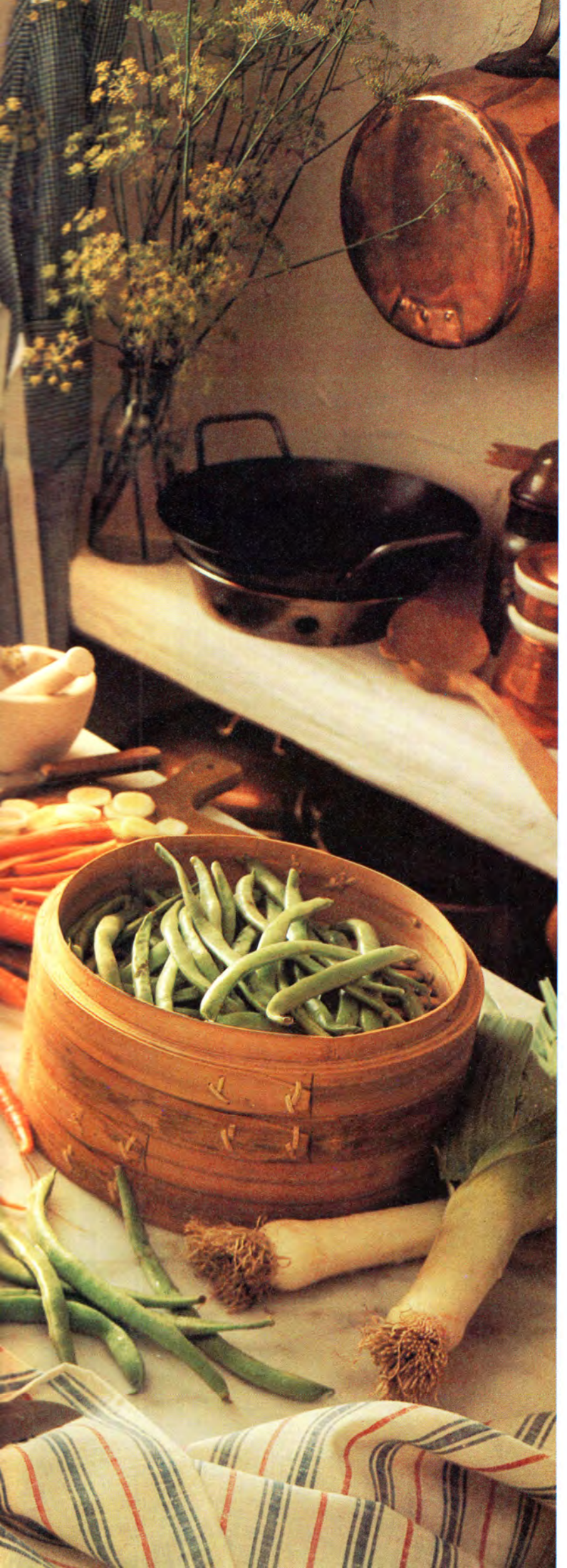
A food revolution is quietly simmering within the kitchens of southern France. La grande cuisine — for two centuries the domain of heavy cream sauces, marinated meats and buttery bouillabaisse — is now giving way to what is variously called *cuisine minceur,* or, more appropriately and appetizingly, *la nouvelle cuisine.* As pioneered by Michel Guerard and as publicized by the "lion of Lyons," Paul Bocuse, *la nouvelle cuisine* provides all the gourmet delights of *grande cuisine,* but without the high calories and sense of satiety so long associated with heavy starches, sauces and meats.

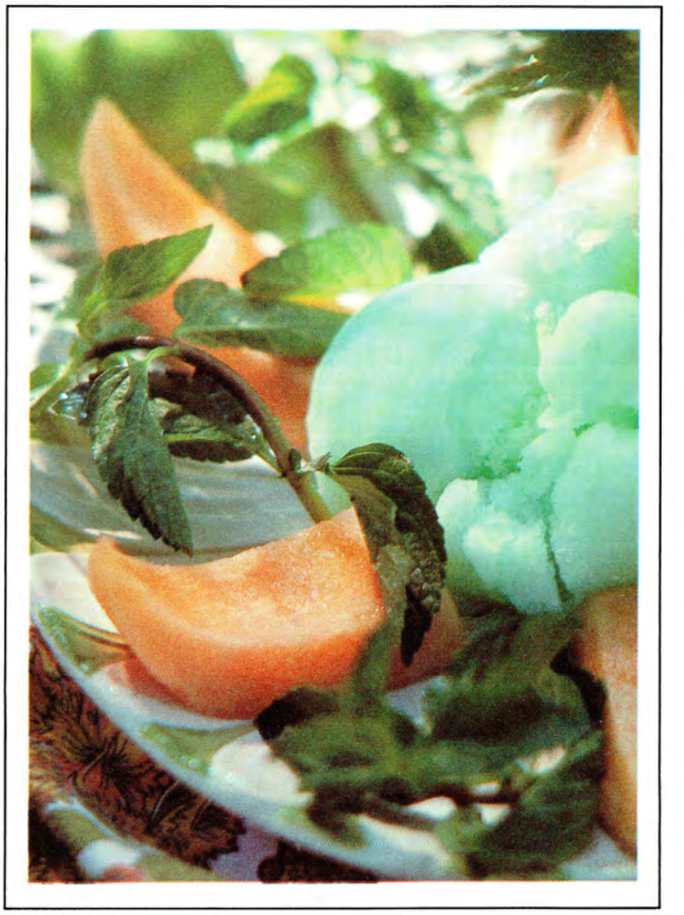
The beauty of *la nouvelle cuisine* is that it is fundamentally *healthy.* It is light, balanced, refreshing, leaving one's mind and body relaxed but energized, rather than drugged and sedated. Wise diners now realize that, weight watcher or not, *la nouvelle cuisine* is the diet we *all* need to eat.

The delights of *la nouvelle cuisine,* however, are by no means limited to fashionable bistros in Paris or New York. The ingredients are all easily procured, attractively priced natural foods, and they can be enjoyed just as much at *your* house (*chez vous,* as the French would say).

Try your hand at *la nouvelle cuisine.* First, you must do as the top French chefs do — select the most succulent fresh fruits and vegetables early in the morning, from your own garden or a local farmer's market. Then garnish with spices (not sauces), cook lightly to retain crispness, and top off each meal with a chilled fresh fruit dessert.

The delicious dishes shown on the following pages are representative of what has been called a new food *revolution.* So, cooks of the world UNITE! You have nothing to lose but your waistlines.



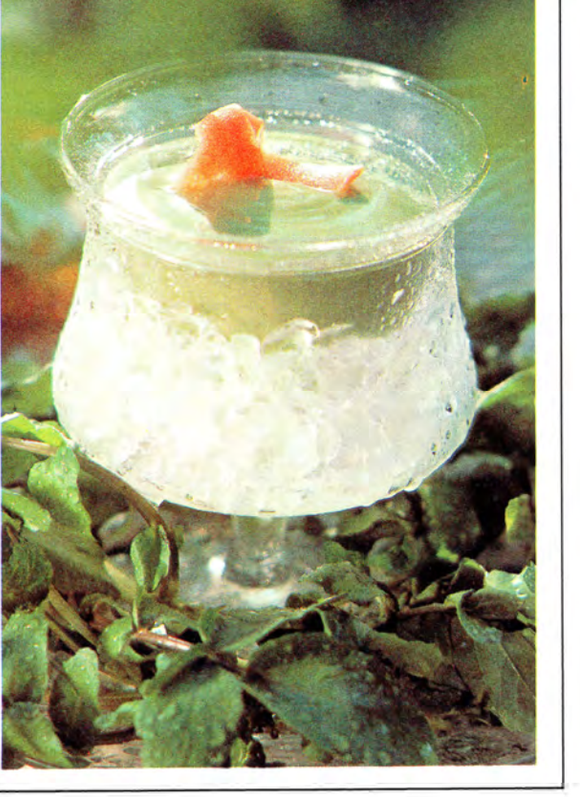


Main dishes in *la nouvelle cuisine* usually consist of white meat, such as the poultry pictured on this page or the fresh fish on the following page. Since red meat has double the calories per ounce, is often harder to digest, and is considerably more expensive, white meat fits the fundamental philosophy of *la nouvelle cuisine* better: *lightness.*

The roasting chicken pictured at the left has been garnished with generous amounts of fresh tarragon and rosemary, accompanied by carrot sticks and sliced leeks, and cooked in a shallow bed of chicken bouillon to add moistness. Those who count calories might consider removing the skin of the chicken before cooking.

At the rear of the table, in full view of the garden from which they were picked just hours before, are the appetizers. You might prefer a simple tossed salad with oil and vinegar, or a more sumptuous repast of artichokes dipped in a freshly-ground mild mustard mix.

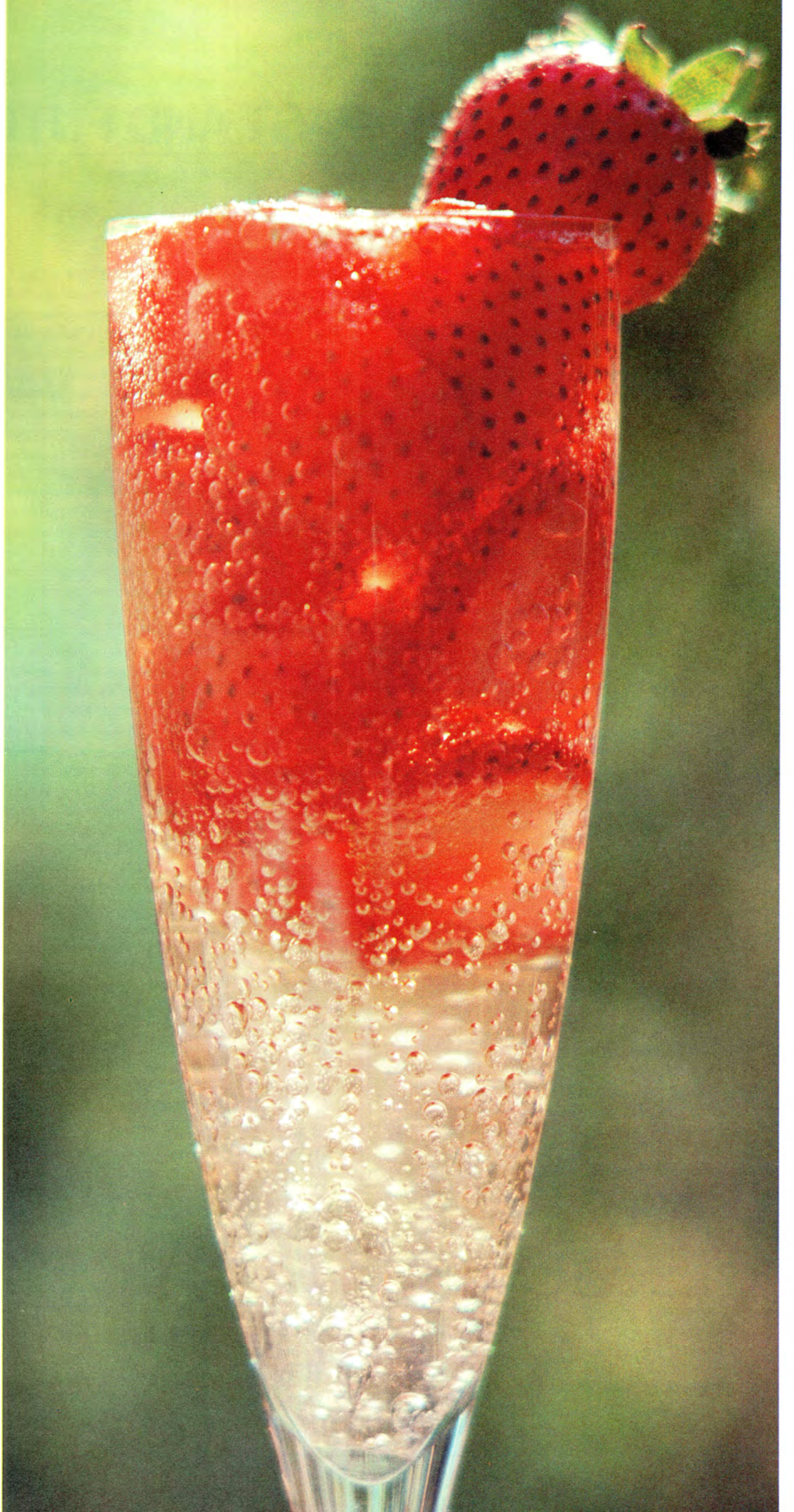
For dessert, you might try fresh lime ice and melon wedges, garnished with fresh mint (pictured above) — a refreshing conclusion to a succulent symphony of tastes. Total calories for all three courses? About 500.



Very few *grande cuisine* recipes cannot be cooked in a *nouvelle cuisine* manner. The blender is an indispensible tool in this regard. Instead of starchy sauces, the blender can provide pureed pleasures out of such normally mundane ingredients as cauliflower, buttermilk, cabbage, canteloupe and watercress — a moderately pungent salad leaf. Pictured above is just such a puree of watercress soup, blended with a base of chicken broth, and topped with a carrot shaving. A generous garnish of fresh watercress sets off the soup's appearance in just the right balance. Freshly caught whole cleaned trout cannot be excelled as a light low calorie entree, and, when poached with fresh dill and lemon slices in a marinade of white burgundy, the *taste* cannot be excelled.

The wine sauce which permeates the fish, the table wine and the champagne which accompanies the sliced fresh strawberries (right) are the heaviest caloric component of an otherwise light meal, but wine used in moderation (four ounces or less) is under 100 calories, and it provides just the right contrast to the natural foods on the menu.

Like great music, art and literature, creative cooking and delicious dining are important expressions of the human potential, so . . . *Bon appetit!*



ARAB CIVILIZATION – PAST AND FUTURE

by Adli Muhtadi

THE recorded history of the Middle East is filled with drama. It is a panorama of the rise and fall of empires; of the growth and decline of great cities; of the ascendancy and eclipse of peoples; of wars, invasions and deportations; of kings and emperors who had their brief place in the sun; of treachery and intrigue, and of great triumphs and disasters. The story contains examples of rulers who were cruel and ruthless, but it also contains examples of others who were noble and humane. It is a record not only of destructive warfare, but also of constructive achievements which greatly contributed to the spread of civilization.

The Arabian Peninsula has always had its own centers of civilization, its oasis gardens and its towns, whose people were involved in trade and commerce. The people built dams to impound and conserve the floods of the rainy periods, and their system of irrigation provided their basic means of support.

The populous and thriving Southern Arabia, known to the Romans as Arabia Felix, or Happy Arabia, was one of the principal sources of frankincense and myrrh, which were used extensively in perfumes and by the Romans in the cremation of royal and noble persons. Southern Arabia was also a focal region for trade in spices, silks, ivory and other valuable goods in which the Arabs had a practical monopoly.

One of the most amazing episodes in the experience of mankind was the birth of a new faith, Islam. From humble beginnings it first enkindled the town and desert peoples of the Arabian Peninsula and then swept over much of the civilized world. It brought forth one of the most brilliant periods of art and culture that the world has known.

At the time of Muhammad's birth at Mecca, about 570 A.D., the western world was in a state of decadence and unrest. The Roman Empire, which dominated the first few centuries of the Christian era, had succumbed long since to the onslaught of European barbarians. Its successor, the Christian Byzantine Empire centered at Constantinople, had been engaged with the Sassanid Empire of Persia in wars which had exhausted both. Muhammad's teachings spread not only because they were propagated with zeal by his followers, but also because they offered a refreshing new outlook to many misgoverned and disheartened people.

Late in life, Muhammad began thinking of extending his work beyond the borders of Arabia, and his followers, headed by the Khalifah, or successor, proceeded to put this idea into effect. Under the leadership of Khalid ibn al-Walid, one of the most brilliant generals in history, the Muslim armies struck east toward Sassanid Persia and north toward the Eastern Roman province of Syria. The Byzantine army was defeated in 636 near the Yarmuk River, east of the Sea of Galilee. The Muslims won all of Iraq and Persia between 637 and 650. Jerusalem, the third holiest city in Islam, was taken in 638, and Egypt in 640. The conquests continued for over 100 years. By 750 the Muslims had swept over North Africa and Spain and over central Asia toward China.

The Abbasids (caliphs) moved the capital of the empire in 750 to Baghdad, the scene of the golden age of the Arabs. This age brought together the art, skill, philosophy, learning, law, science and culture developed by many great civilizations.

The accumulation of learning encouraged the Arabs to carry on energetic research in various fields of knowledge. They welcomed, sponsored and stimulated learned men, scientists, artists, musicians and poets from many places. Significantly, many of these were Jews who flourished in this Arabian golden age and made major contributions to science, education and culture.

Schools were established in which the knowledge and wisdom of great scholars and philosophers could be studied. The works of such men — Greek, Roman, Syrian, Persian and Indian — were translated into Arabic, and thus were preserved for future civilizations. The Arabs also made contributions of their own in medicine and other sciences and literature, especially poetry. They invented algebra and chemistry, the names of which are derived from Arabic words. They greatly advanced the knowledge of astronomy. The Arabic numerals were brought to Baghdad from India.

The Arabs had an important role in advancing the manufacture and use of paper, originally devised in China. They introduced this more practical substitute for earlier writing materials — such as clay and tablets, papyrus and parchment — through Spain into Europe in time to facilitate the rapid development of printing with movable type.

The *Tales of the Arabian Nights* provide an insight into life and culture of the brilliant age of the Caliph Harun al-Rashid. These tales are widely known in the western world even though the real significance of these days has been largely forgotten: namely, that the Arabs not only brought to fruition the accumulated knowledge of world experience but also kept the torch of knowledge burning during the Dark Ages in Europe.

The Crusades, although highly dramatized in the West, did not have much effect upon the general course of events in the Middle East. However, by bringing Europeans into contact

THE BABYLON EXCAVATIONS
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In cooperation with the Iraqi-Italian Institute in Baghdad, the University of Turin, and the University of California at Los Angeles' Institute of Archaeology, directed by Dr. Giorgio Buccellati, the Ambassador International Cultural Foundation is proud to announce its participation in excavations at the city of ancient Babylon and in a regional project covering the entire area of Babylonia. Future issues of HUMAN POTENTIAL *will graphically cover these most significant archaeological activities.*

with Middle Eastern civilization and culture, the Crusades contributed to the Renaissance in Europe.

Following the fall of the great Arab Empire, the Middle East — at one time the center of the civilized world — became isolated and eclipsed. During the disastrous Mongol invasion in 1258 A.D., whole populations were slaughtered, and irrigation systems upon which they depended were destroyed. Thus was ended a civilization which had lasted for centuries.

From that time until the modern era of industrial development, the Middle East has lived largely in poverty. During the period when western countries were making rapid progress in the arts, commerce and industry, the peoples of the Middle East had little to contribute either to their own prosperity or to world affairs. Their long history of civilization and culture, however, had left upon them a stamp of tradition which manifested itself in gracious hospitality and social relations, in a deep sense of responsibility for their acts and for their relations with family and neighbors, and in an age-old wisdom of religion and custom.

Today and into the future, in their vast oil resources, these peoples have a new basis of wealth. Once again they have something to contribute to world trade and economy. They have the means to develop irrigation works and transport systems, to modernize their cities, to obtain goods they themselves cannot produce, and to revive once again in their lands, education, medicine, science, and culture, in which they were once the leaders of the world. □

ADLI MUHTADI

Adli Muhtadi is a Palestinian Arab from a long-established Jerusalem family. He was educated at the College of Journalism, Cairo. In 1951 he joined the Hashemite Broadcasting Corporation of Jordan, and from 1962 to 1971 was Director of the TV and Radio Commercial Department, Jordanian Ministry of Information. He has also served as consultant for the Associated Business Consultants of Beirut, and is presently Director of Circulation for HUMAN POTENTIAL *in the Arab world.*

ACHIEVING WORLD ORDER

by Dr. Nagendra Singh

The ancient Central Asian principle for maintaining peace and prosperity was the creation of one sun in the sky, for two suns in one sky must clash and destroy peace. In the ancient world, the concept of Pax Romana or later, in the Middle Ages, of Dar-ul-Islam and, in more recent times, of Pax Britannica, suggest a theory that if the world is ruled by one man or one state or one "ism," there will be no room for a conflict. Thus a possible method of achieving world order would be to establish the supremacy of one single rule whether theocratic, or political or "ism"-ic, whose writ would run round the world unopposed. Such a method has certain fundamental defects apart from having been historically impossible of achievement. Julius Caesar, Chenghis Khan, Hitler and several others tried but miserably failed in the end. Moreover, it has a highly objectionable feature in being based on conquest and ruthless suppression and subjugation of rivals. Even a rule of one ideology or "ism" is historically impracticable since humanity could not have even one common religion in spite of crusades, jehads, proselytization and conversions and it would, therefore, be difficult to visualise the establishment of one "ism" throughout the world. This is so clearly demonstrated by the inter se conflicts in one religion or church or one political-ideology or "ism."

Another method which has suggested itself to the practical politician is the elimination of war by disarmament. This has also been proved to be impossible of achievement because all the disarmament conferences which have taken place in the present century have helped but led to no effective or substantial results. States, on the other hand, have been actively increasing the quality or potency and quantity of weapons and making armaments more destructive than ever before. Moreover, even if efforts at disarmament were to succeed and all states were to agree to scrap their weapons, it would still be doubtful if war could be eliminated since the possibility of a conflict with police weapons which have to be permitted for the maintenance of internal law and order, could not be ruled out.

Another method suggested by jurists for the elimination of war, the arch enemy of public order, has been to ban war by law. Such an express written prohibition does exist ever since the Peace Pact of Paris was signed in 1928. It was reinforced in 1945 by the signing of the U.N. Charter. However, the existence of the express letter of the law has not prevented breaches of the peace, indicating that something more than a clear statement of law is still necessary.

Again, the political thinker more than the practical politician has suggested the establishment of a super-state or a supra-national organisation for establishing world peace. The concept of the super-state is, however, at once objectionable for the reasons already stated. The creation of a supra-national state based on extensive territorial sovereignty would involve violence and lead to warfare.

Thus a world body representing all states in the form of an international organisation which, though not having vast territories of its own, would be endowed with the strength and the power derived from all its members, could alone on a democratic pattern discharge those obligations which are necessary for the maintenance of public order.

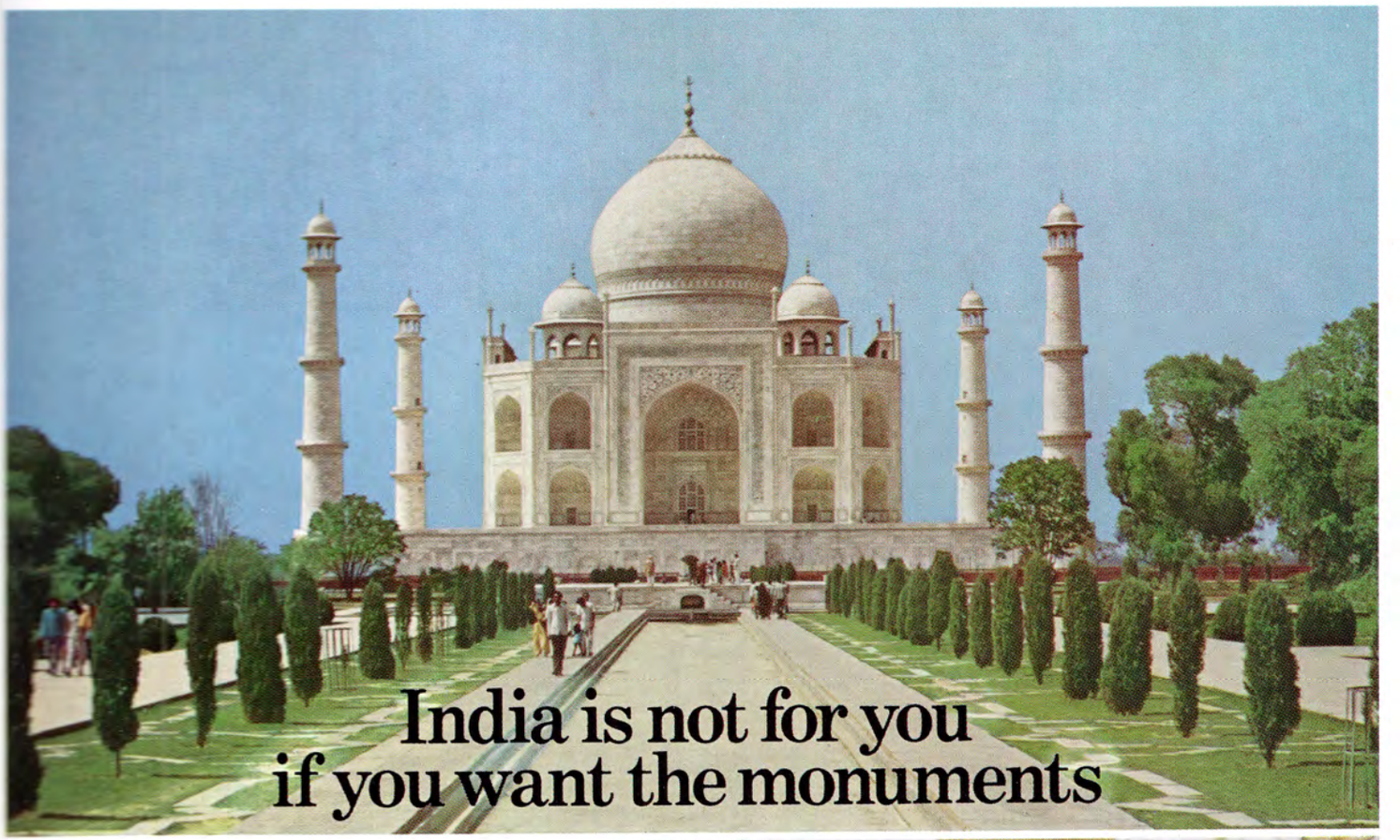
For the establishment of public order, accepting the municipal analogy of the national state, two basic pillars are necessary: namely, *first* the existence of a proper law and *second* the machinery for enforcing it which includes the sanction behind the law. Thus law and authority are necessary for the maintenance of public order just as the left and right foot are needed for walking. The same prescription applies with equal force to the evolution of international public order. Though law exists to guide and regulate interstate relationship among members of the community of sovereign States, it can be said that authority or the sanction behind the inter-State law is somewhat lacking. However, both these pillars for the evolution of public order have found a regular seedbed today in the global international organisations of the inter-governmental type. Thus, for example, the codification of international law has been seriously undertaken by the International Law Commission which is an organ of the United Nations. The only democratic method which can bring about evolution of public order by installing a proper authority is the agency of an international organisation of the universal type. In this direction, the United Nations furnishes the true path which can yield results. Even if the allegation is made that the U.N. has achieved nothing at all, there is no doubt that its existence has given a public platform for the focussing of world public opinion and the latter has definitely evolved itself into a modern sanction behind the law. There are numerous sanctions of international law today such as reciprocal advantage, mutual self-interest, fear of reprisals which enable the law to be respected rather than violated. To this list must be added the sanction of world public opinion and I have no doubt that gradually the very existence of the United Nations will be a fountain-source of more and more sanctions to enforce the law.

In this connection, it is not so much the physical authority that matters because it is the *awe* behind the authority that goes for the observance of the law and the maintenance of public order.

That awe of authority can only emanate from an international organisation with its democratic and hence acceptable character based on the egalitarian principle of one-State-one-vote. Any concept of authority that does not emanate from an international organisation, such as the U.N., would tend to be oppressive and tyrannical. Let us, therefore, as citizens of the world, build a better world based on the edifice of an intergovernmental international organisation like the United Nations, which works on a democratic basis and which merits to be strengthened on all counts in the best interests of mankind. □

Nagendra Singh

Dr. Nagendra Singh is a Judge of the International Court of Justice at the Hague and is widely recognized as a learned and leading exponent of achieving world peace through international law. His remarks are from a convocation address delivered at the Kurukshetra University (Haryana State) in India on February 15, 1975.



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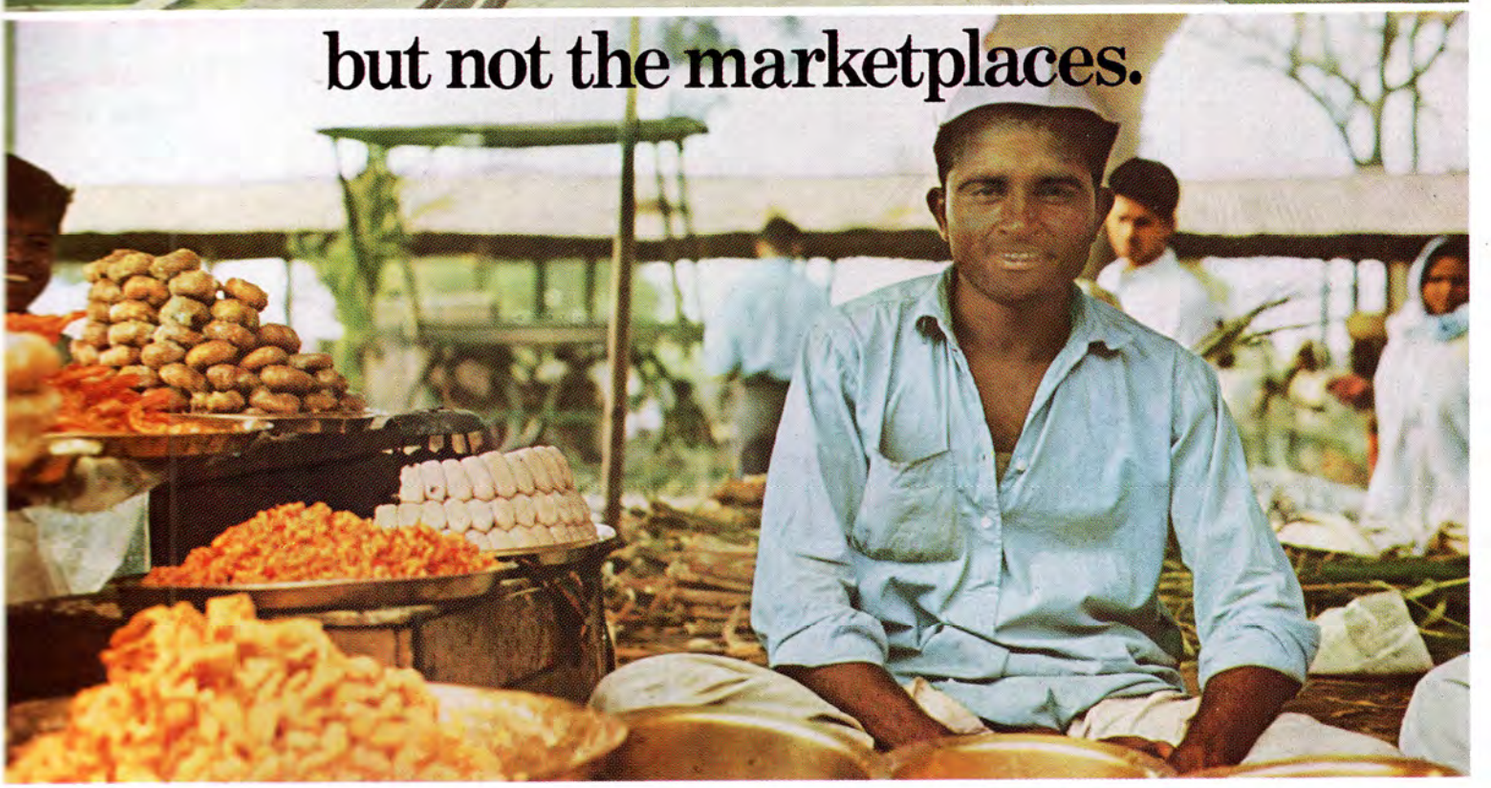

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